Final Environmental Impact Statement

Sunridge Properties

Rancho Cordova, California ID SPK-2009-00511

October 2010

Volume II Appendices A - G



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Appendix A

A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, June 2004

A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

June 2004

In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts.

Strategy Principles and Standards:

1. <u>Maintain natural (existing) watershed integrity and flows to downstream reaches</u> (distribution, frequency and duration), including restricting summer nuisance flows.

2. <u>Maintain corridors and large areas for wildlife and the propagation of flora</u>. Preserve vernal pool hydrology and integrity to benefit listed plants and invertebrates. Establish interconnected conservation areas that are managed in perpetuity and tie into existing local and regional planning efforts. Provide for meaningful conservation of sensitive plant habitats for species integrity and long-term survival.

3. <u>Manage stormwater to retain the natural flow regime and water quality</u> including not altering baseline flows in the receiving waters, not allowing untreated discharges to occur into existing aquatic resources, and not using existing aquatic resources for detention or transport of flows above current hydrology, duration, and frequency. All stormwater flows generated on-site and entering preserve boundaries would be pre-treated to reduce oil, sediment, and other contaminants.

4. <u>Use elevated roads, arched crossings and other practices for transportation corridors that must</u> <u>traverse Preserve Areas</u> to minimize direct and indirect impacts to aquatic resources and maintain the integrity of Preserve Areas. Hydrologic and biologic functions and values of the Preserve Areas would not be significantly impacted by road crossings.

5. <u>Use conservation design elements</u>. These elements include construction techniques such as using single-loaded roads where housing abuts Preserve Areas, designing roadside landscaping to drain (surface and subsurface) toward urban features and not toward the preserve boundary, and orienting houses such that the front living area faces the Preserve Area. Fences would be low and not restrict visibility into the Preserve Area. Impervious surfaces would be minimized. Stormwater/water runoff plans would be designed to maintain watershed integrity by employing such means as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat stormwater and water runoff from the large increases in impervious surfaces.

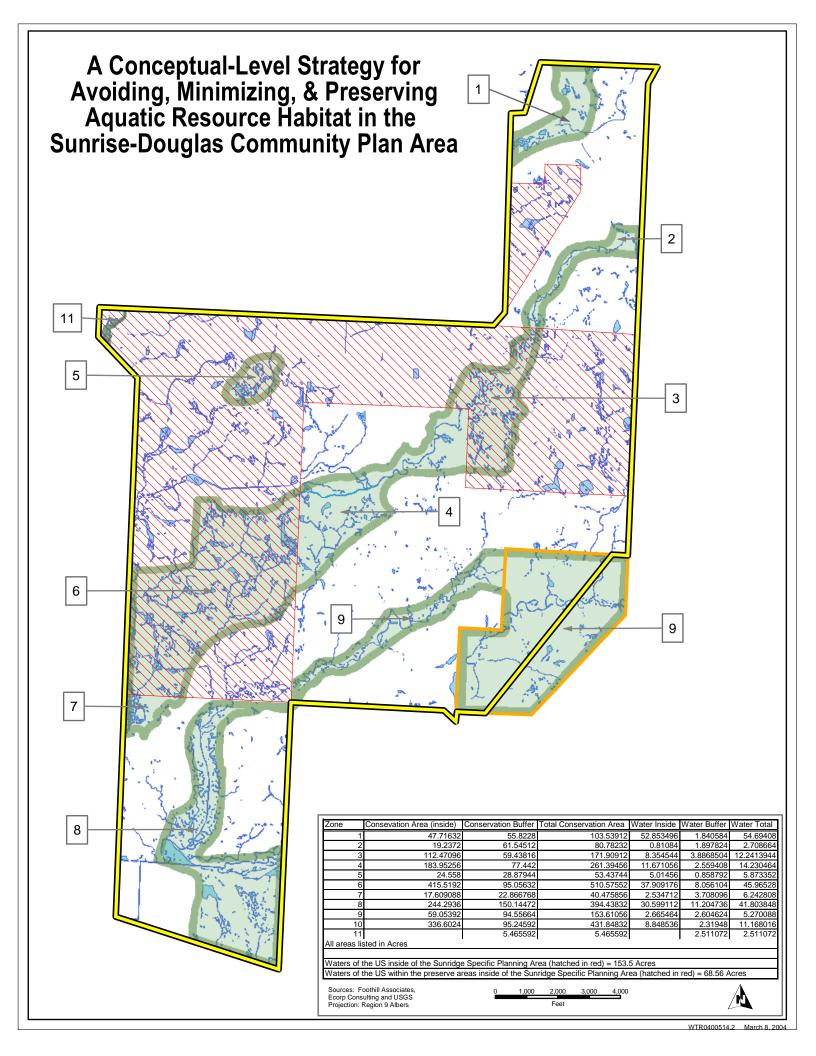
6. <u>Locate compatible land uses next to preserves</u>. Acceptable land uses include parks, hiking trails, athletic fields, and other forms of open space. Developed trails would be outside the preserve boundary. Any irrigated fields or landscaping must not drain toward preserves. Cut and fill activities adjacent to the preserve boundaries would be minimized.

7. <u>Mow-only firebreaks may be located at the outer edges of Preserve Areas.</u> Mowing within the Preserve Areas should be conducted consistent with achieving the goals of the preserve management plan, including promoting native/discouraging non-native species. Firebreaks that necessitate herbicide application or tilling, plowing or other soil disturbance would be located outside of the Preserve Areas.

8. <u>Ensure Preservation Areas are protected in perpetuity</u>. This includes establishing buffers and not locating lot lines within the preserve boundary. Areas would be protected in perpetuity through conservation easement that is adequately funded for maintenance and managed by a conservation-oriented third-party. Preserve Areas would be fenced and signed.

9. <u>Implement mitigation measures (avoidance, minimization, and compensation) that adequately offset direct and indirect impacts to aquatic resources and listed species</u>. In general, establishing the Preserve Areas is considered a regional measure to achieve impact avoidance and minimization. Vernal pools that are directly impacted by projects should be mitigated at ratios equal to or greater than 2:1 for preservation and 1:1 for creation/restoration. Vernal pools indirectly affected should be mitigated at ratios equal to or greater than 1:1 for preservation and 1:1 for creation/restoration. Vernal pools in the same watershed but not within, or in a way that would affect, existing wetland complexes. On a case-by-case basis, preservation credit may be given for vernal pools in the Preserve Areas (except for the 250-foot wide indirect impact zone). Excellent opportunities exist in or near the SDCPA for the establishment of a vernal pool conservation bank(s) and a wetland compensatory (i.e., restoration/creation) mitigation bank(s).

10. <u>Recognize the realities and constraints placed on construction design due to infrastructure and market-driven forces</u>.



Appendix B

Department of the Army Permit Decision Documents

DEPARTMENT OF THE ARMY PERMIT EVALUATION AND DECISION DOCUMENT

Applicant: Sunridge, L.L.C., Mark Enes Application No: 199400210

This document constitutes my Environmental Assessment, Statement of Findings, and review and compliance determination according to the Section 404(b)(1) guidelines for the proposed work initially described in the attached Public Notice (Appendix A) as Anatolia IV (Application 200000336) (hereafter referred to as "Anatolia IV" or "Project"), and as revised subsequent to the Public Notice as described below.

Additionally, the Corps incorporates by reference the following documents: 1) Section 3.0, Environmental Setting, Impacts, and Mitigation Measures of the November 9, 2005, Anatolia IV Mitigated Negative Declaration (Appendix D); 2) November 2004 Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California (Appendix E); 3) January 13, 2005 Clean Water Act 404(b)(1) Alternatives Analysis and On-site Minimization Measures, Sunrise Douglas Anatolia IV Property, Sacramento County, California (Appendix F); July 29, 2005 Addendum to the Alternatives Analysis, Sunrise Douglas Anatolia IV Property, Sacramento County, California (Appendix G).

I. Proposed Project: The proposed project is located within the SunRidge Specific Plan Area, which is within the larger Sunrise Douglas Community Plan Area, in Sections 3, 8, & 10, Township 8 North, Range 7 East, M.D.B.&M., in Sacramento County, California. The maps of the site and the description of the proposed work are in the attached Public Notice, and further described below.

The Project would consist of filling 1.36 acres of waters of the U.S. to construct 134 singlefamily homes (19.20 acres), a neighborhood park (2.57 acres), and road improvements (2.11 acres) on a 25-acre parcel. Anatolia IV lies within the County's approved 6,042-acre Sunrise Douglas Community Plan (Community Plan) area and approved 2,632-acre SunRidge Specific Plan (Specific Plan) area.

The site is comprised of level to gently rolling terrain, consisting mainly of non-native grasslands. Vernal pools lie within the grasslands. The majority of the site has been used historically as grazing land. There are no structures situated on the site.

Prior Environmental Review in the Sunrise Douglas Area

The Sunrise Douglas area in southeast Sacramento County is generally comprised of the area bounded by Douglas Road to the north, Sunrise Boulevard to the west, Grant Line Road to the east and the Jackson Highway to the south. This area has been the subject of extensive land use planning and attendant environmental review processes under the California Environmental Quality Act ("CEQA") and, to a lesser degree, the National Environmental Policy Act ("NEPA").

Beginning in 1987, the Sammis Company ("Sammis") initiated a development project in the Sunrise Douglas area that became known as the Sunrise Douglas Project (herein referred to as the "SD Project"). The SD Project was originally planned as an industrial project covering approximately 1,225.5 acres of land owned/controlled by Sammis, bounded on the west by Sunrise Boulevard, and on the north and south by Douglas Road and Keifer Boulevard, respectively. Sammis applied for County approvals for the industrial development, but changed its proposal to a predominantly residential project about two years later (in 1989), after the announcement of the potential closure of adjacent Mather Field. The residential project required a General Plan amendment, zoning change, and permit from the Corps for fill of jurisdictional areas within the SD Project area. Sammis' request for General Plan amendment was the last of its kind in the Sunrise Douglas area because the County subsequently imposed a moratorium on general plan amendments pending its 1993 revision of the County General Plan.

The Corps and the County identified potentially significant environmental impacts associated with the SD Project, and as Lead Agencies, prepared a joint Environmental Impact Statement/Environmental Impact Report for the project under NEPA and CEQA, respectively (the "SD Project EIS/EIR").

A. The SD Project EIS/EIR

The Final SD Project EIS/EIR, published in January, 1992, evaluated the impacts of a primarily residential project on approximately 1,225 acres. According to the EIS/EIR, the information therein was intended for use by all agencies concerned with major developments in the County. The EIS/EIR determined the project area contained 82.14 acres of jurisdictional waters, including 68.06 acres of vernal pools. The development as proposed would impact approximately 38.15 acres, including 26.97 acres of vernal pools. The Corps considered this a substantial impact without appropriate mitigation. The SD Project EIS/EIR proposed a combination of avoidance and on-site creation of wetlands and vernal pools within a 482-acre reserve in the SD Project EIS/EIR required a minimum of 27.01 acres of vernal pool creation (3.8 acres on-site and 23.2 acres off-site) and 14.08 acres of wetland creation on- and off-site. The SD Project EIS/EIR concluded that these on-site and off-site measures, together with provisions of the Wetlands Compensation Plan authorized for the wetland/vernal pool reserve, would at least maintain wetland and vernal pool functions and values in the area, thus sufficiently mitigate impacts to wetlands and vernal pools on site.

The SD Project EIS/EIR considered all other potentially substantial impacts from the development of the project and proposed mitigation measures to reduce all but a few impacts to below substantial levels. As the SD Project EIS/EIR noted, for this particular project, the

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Corps limited its jurisdiction to waters of the United States, and analysis of direct, indirect and cumulative impacts and required mitigation associated with the Corps' action, the section 404 permit. (Final SD Project EIS/EIR, p. B-16). For other potentially substantial impacts, the County as CEQA lead agency analyzed and enacted sufficient mitigation measures to reduce potential impacts to below levels of significance in all but eight categories. The SD Project has been substantially constructed.

B. Sunrise Douglas Community Plan Sunridge Specific Plan EIR

In 1993, at about the same time as the certification of the SD Project EIS/EIR, the County initiated a Specific Plan process for the greater Sunrise Douglas area, encompassing over 5,000 acres of land, including the SD Project. The County then modified its approach and adopted a more conceptual Community Plan for the greater Sunrise Douglas area, encompassing approximately 6,042 acres, while reducing the area covered by the detailed Specific Plan to include approximately 2,632 acres, including the SD Project already covered by the SD Project EIS/EIR. The County prepared the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR (herein, "Community Plan/Specific Plan EIR"). For the Community Plan area, the Community Plan/Specific Plan EIR analyzed an overall conceptual framework and policy direction for urbanization of the area covered by the Community Plan. Conceptual land uses were assumed for the Community Plan area outside of the Specific Plan area in order to evaluate the cumulative impacts of future urban development of this area. For the Specific Plan area, the EIR analyzed detailed land use and public facilities plans and corresponding zoning for near-term urban development within the Specific Plan area. The Community Plan/Specific Plan EIR also considered the findings and mitigation measures of the SD Project 404 permit because the SD Project is within the boundaries of the Specific Plan area. Thus, after the certification of the Community Plan/Specific Plan EIR in 2002, development proposed for 1,255 of the 2,632 total acres of the Specific Plan had been covered by the Corps' EIS/EIR and the entirety had been covered by a subsequently prepared EIR.

The City of Rancho Cordova issued the Mitigated Negative Declaration (MND) for the Anatolia IV on November 9, 2005. The City relied on the Sunrise Douglas Community Plan/SunRidge Specific Plan Final Environmental Impact Report, which was certified by the Sacramento Board of Supervisors on June 19, 2002.

C. Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

In May 2002, prior to its certification of the Community Plan/Specific Plan EIS/EIR, the County initiated meetings regarding potential wetlands and endangered species permitting strategies for the entire Community Plan area. The U.S. Fish and Wildlife Service, the Corps and U.S. Environmental Protection Agency (the "Federal Agencies" or "Agencies"), the California Department of Fish and Game, and a majority of landowners and interested developers within the Specific Plan area attended these meetings. No resolution was reached. On July 17, 2002, the County approved both the Community Plan and the

SunRidge Specific Plan. The conditions of approval for the Specific Plan require individual applicants to obtain any necessary Corps permit for fill of waters of the United States. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the Community Plan area came under the City's land use jurisdiction.

In early 2004, Congressman Doug Ose asked that all parties come together for further meetings among the stakeholders. The goal of these meetings was to cooperatively develop a conceptual on-site avoidance and off-site mitigation strategy that would satisfy the mandates of federal law administered by the Federal Agencies while allowing for development of the Specific Plan according to existing land use plans. As a result, the Corps, US Fish and Wildlife Service and the US Environmental Protection Agency developed a strategy that in concept would result in a workable framework for the planned development in the Community Plan and be consistent with the requirements under the Clean Water Act, the Endangered Species Act and other applicable laws.

The Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June 12, 2004 (herein, "Conceptual Strategy," incorporated by this reference) sets out 10 principles and standards to assist property owners in identifying alternatives that minimize individual and cumulative effects on aquatic resources and sensitive species. Together with the 10 standards and principles, the Agencies released a Conceptual Strategy map for the Community Plan area. This map and the existing preserve established within the SD Project area, creates a concept for managing aquatic resource habitat within the Community Plan/Specific Plan area. The Conceptual Strategy preserve area would be protected and managed in perpetuity according to an Agencies-approved preserve management plan. The map, together with the 10 principles and standards and an agency approved preserve management plan, is a mitigation strategy designed to ensure that the functions of preserved aquatic resource habitat will be maintained. These measures were designed to protect the conditions of aquatic resource habitat within the Specific Plan, and to minimize both the project-by-project and cumulative effects associated with the development of the Specific Plan.

As part of the Conceptual Strategy process, the Corps addressed its approach to NEPA compliance within the Community Plan area. For the unpermitted area of the SunRidge Specific Plan (the Sunridge Specific Plan area excluding the SD Project), the permit applicants prepared an analysis of potential cumulative impacts and an evaluation of the practicability of different preserve designs. This information applied to seven individual applications for permits that were pending before the Corps, including four projects noticed together in the same Public Notice as the Project. (see Public Notice No. 200000336).

The City of Rancho Cordova and the Corps are in the process of preparing an EIS/EIR for the SunCreek Specific Plan portion of the Community Plan.

Based on implementation of the Conceptual Strategy and Regional Alternatives Information (discussed below), the US Environmental Protection Agency (US EPA) by letter dated April 26, 2004, and the US Fish and Wildlife Service (US FWS) by their Biological Opinion for

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the Anatolia IV Project dated December 9, 2004, confirmed their decision not to elevate the Corps' 404 permit decisions on Anatolia IV and other applications pending at the SunRidge 1 ' Sit Specific Planning Area, pursuant to the 404(q) Memorandum of Agreement is tween the Federal Agencies. The Corps confirmed its concurrence of the Conceptual Strategy by letter dated October 29, 2004, to Mr. John Hodgson in response to his summary of the negotiations.

The Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California, dated November 2004 (referred to herein as the "Alternatives Information Document") addresses regional and sub-regional cumulative impacts that may occur from the plan developed by the Agencies. The Alternatives Information Document analyzes the Conceptual Strategy map and eight other alternative reserve configurations according to criteria for minimizing jurisdictional impacts and providing connected reserve area(s), in light of cost, logistics and existing technology. The Corps incorporates the Alternatives Information Document into, and makes it a part of, this Environmental Assessment by reference.

II. Environmental and Public Interest Factors Considered:

Α. Purpose and need: The overall project purpose is to construct a small residential development in southeast Sacramento County. Construction resultant from the fill would provide additional housing to accommodate job growth and help address the existing housing shortage within Sacramento County.

Β. Alternatives [33 CFR 320.4(b)(4), 40 CFR 230.10]

The applicant submitted an alternatives analysis (dated August 27, 2004) and addendum to the alternatives analysis (dated July 29, 2005) for the Project prepared pursuant to the 404(b)(1) guidelines, incorporated by reference. In summary, the analysis first reviewed the potential alternative project locations within the Specific Plan area. All alternative locations within the Specific Plan area that met the acreage requirement of the applicant also contained at least as much, but typically greater, acreage of jurisdictional wetlands than Anatolia IV. In addition, as part of its analysis of potential alternate locations for the project, the analysis reviewed the conclusions of the Alternatives Information Document as applicable to the proposed project. The Alternatives Information Document concluded there were no practicable alternative locations for construction of the remaining Specific Plan Area projects; including Anatolia IV, that would meet the project purpose of constructing residential subdivisions within the southeast Sacramento area with any less damaging result for aquatic ecosystems.

The applicant provided alternatives information for three on-site design alternatives, including the proposed Project. The alternatives information discussed the multi-agency Conceptual Strategy as it applies to the project. The applicant discussed the project within the framework of the ten principles and standards discussed in the Conceptual Strategy, and

analyzed its level of compliance with the principles and the associated preserve map created for the entire Specific Plan area.

1. No action. The no permit alternative is the same as the no fill alternative discussed in the applicant's alternatives analysis. To avoid direct and indirect impacts to wetlands, the no permit alternative would require avoidance of all waters of the U.S., including a 250-foot buffer. This would require avoidance of 19.07 acres of land area (out of the 25 acres total), with 6.07 acres remaining for development. The remaining developable acreage would be further constrained by the size and sprawling pattern of the wetlands, including vernal pools, across the site. This alternative would not leave sufficient contiguous land to feasibly construct a residential development. In considering alternatives that would avoid all jurisdictional waters, the applicant considered the use of bridges and Conspan-type structures to avoid fill of waters, yet issues of maintaining safe and efficient circulation patterns still remain, making this alternative logistically infeasible and therefore not a practicable alternative.

2. Other project designs (smaller, larger, different, etc.). The applicant provided information on three different avoidance alternatives, of varying levels of avoidance, between the proposed Project, a conceptual partial avoidance alternative and no-fill alternative. The applicant did not provide a specific partial avoidance alternative, but instead provided a conceptual analysis of the practicability of on-site avoidance of wetlands. The applicant determined that any on-site preserve configuration would result in an isolated preserve. Additionally, the applicant indicated that any on-site preserve consistent with the principles and standards of the Conceptual Strategy would reduce the acreage available for development to a point that would preclude construction of a development consistent with the project purpose.

The applicant also participated in extensive discussions with the Federal Agencies in developing the Conceptual Strategy and accompanying Map for projects within the Specific Plan area. The Conceptual Strategy and Map identify: (1) wetlands and vernal pool avoidance areas within the Specific Plan, and (2) ten principles and strategies necessary to create an aquatic resource habitat avoidance and preserve area within the Specific Plan area that ensures overall project consistency with the requirements of the Endangered Species Act and Clean Water Act. The applicant has demonstrated that, as proposed, Anatolia IV complies with the Conceptual Strategy and Map.

3. Other sites available to the applicant: The applicant was unable to identify any sites within the Specific Plan area which were available and of sufficient size.

4. Other sites not available to the applicant (40 CFR 230.10): The 404(b)(1) Alternatives Analysis for Anatolia IV considered eight potential alternative sites within the Specific Plan area. As discussed in the Regional Alternatives Document, these sites did not meet the availability criterion because they were currently under development by other owners, and/or did not meet the environmental criterion because they were not less environmentally damaging as they were likely to have equal or greater impacts to aquatic

ecosystems on their sites.

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5. Corps selected an mative: The Corps' selected alternative is the applicant's preferred alternative with inclusion of the following special conditions:

1. The Project shall comply with the provisions of the Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

2. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., and Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-04-F-0339, dated December 9, 2004), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 1.36 acres of waters of the United States, you shall construct at least 1.36 acres of vernal pool and swale habitat at a Corps approved location.

5. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

6. You shall complete construction of the compensatory mitigation no later than October 1, 2006.

7. To insure that mitigation is completed as required, you shall notify the District Engineer of the date you start construction $\alpha \in \omega$ authorized work and the start date and completion date of the mitigation construction in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, preserve(s) containing the 1.36 acres of created/restored vernal pool habitat required by "Special Condition 4" and 2.72 acres of preserved vernal pool habitat at a Corps and U.S. Fish and Wildlife Service approved location(s).

10. To minimize external disturbance to preserved or created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland vegetation surrounding the entire perimeter of all created, preserved, and avoided waters of the United States, including wetlands within the proposed off-site preserves. This buffer shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans. These buffer widths shall be explicitly approved in writing by the Corps prior to any work in waters.

11. To insure that the preserves are properly managed, you shall develop a specific and detailed preserve management plan for the off-site mitigation, preservation, and avoidance areas. This plan shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area(s) and the long term funding and maintenance of each of the preserve areas.

12. To protect the integrity of the preserve and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

13. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2006, install fencing and appropriate signage around the entire perimeter of the off-site preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term

viability of mitigation, preservation, and avoidance areas:

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a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas.

b. Designate a Corps approved conservation-oriented third part entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be approved by the Corps of Engineers prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by October 1 of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

C. Physical/chemical characteristics and anticipated changes (check applicable blocks and provide concise description of impacts).

(X) Substrate: The substrate primarily consists of Red Bluff loam (2-5% slopes) and Redding gravelly loam (0-8% slopes). These are well to moderately well drained soils found on high terraces and terrace remnants. Both of these soils contain a single unnamed hydric inclusion found in depressional areas. The project would affect all soils on the 25.14-acre site, including all 1.36 acres of waters of the U.S. (vernal pools). This fill does not

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constitute a substantial impact because it will be mitigated through the creation of 1.36 acres of waters of the U.S. and the preservation of 2.72 acres. The anpact on substrate overall is adverse but considered minor.

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(X) Currents, circulation or drainage patterns: Site drainage flows into the vernal pool swale and flows off the western portion of the project site. Filled areas will be developed as part of the Corps Selected Alternative and drainage from these areas will be rerouted to the extent necessary to comply with post-construction stormwater plans for the Project site. Runoff from the Corps Selected Alternative will be re-routed to a storm water detention basin to be located within the Project and conveyed off-site via storm drain. The applicant is expected to comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to avoid the potential for substantial adverse nuisance flows from the Project to enter into waters of the United States. As a result, off-site impacts will be avoided.

(X) Suspended particulates; turbidity: Wetlands on-site likely have slightly turbid water during the rainy season. There is potential for increased turbidity during and after project construction. This potential will be minimized through compliance with the City of Rancho Cordova's MS-4 permit. Water quality BMPs required under the City's MS-4 permit will avoid substantial adverse impacts resultant from the entrance of suspended particulates and turbid runoff into waters of the United States. Only minimal impacts are expected provided the applicant complies with State Water Quality Certification (Appendix B).

(X) Water quality (temperature, salinity patterns and other parameters): Filled areas developed as part of the Project have the potential to contribute urban pollutants to runoff from the site into waters of the United States. These pollutants could include hydrocarbons, nitrates and ammonia, and heavy metals. As with turbidity, the Project is required to implement construction and operational BMPs that will avoid substantial adverse effects from polluted urban runoff into waters of the United States. Minimal impacts are expected provided the applicant complies with State Water Quality Certification (Appendix B).

- () Flood control functions: None
- () Storm, wave and erosion buffers: None
- () Erosion and accretion patterns: None

(X) Aquifer recharge: Limited groundwater recharge in the Project area occurs on the Project site. Soils and underlying hardpan on the Project site result in little infiltration from the remaining, undeveloped portions of the Project area. Aquifer recharge from the Project site is minimal because of these site conditions. Runoff from new impervious

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surfaces created as a result of the permitted fill would be collected and diverted through onsite drainage controls and ultimately released downstream. Some infiltration from these features would occret. Recharge would probably still occur, but at different locations and at different rates than under existing conditions, however no substantial adverse effects would likely occur.

() Baseflow: None

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Additionally, for projects involving the discharge of dredged material:

() Mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification discharge vessel speed and direction; rate of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing.

D. Biological characteristics and anticipated changes (check applicable blocks and provide concise description of impacts)

(X) Special aquatic sites (wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45): The project site currently contains 1.36 acres of vernal pools. The project, as proposed, will impact all 1.36 acres of vernal pools.

Compensatory mitigation will consist of restoration/creation of 1.36 acres of vernal pools which provides a 1:1 ratio of impacted to created wetlands. Areas restored or created will retain similar functions as wetland areas impacted in the Project site, assuring no net loss of wetland acreage and functions as a result of the permitted fill.

The proposed preservation component will consist of preserving a minimum 2.72 acres of high functioning vernal pool habitat. As discussed above, the functions associated with wetlands, including vernal pools on this site are similar or greater than those permitted for fill under this decision document.

(X) Habitat for fish and other aquatic organisms: Wetland and vernal pool habitat for the Federally listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*) will be affected by the permitted fill.

The applicant has proposed mitigation measures designed to mitigate impacts to aquatic habitat from the proposed fill. Mitigation includes off-site preservation of high quality wetland and vernal pool habitat, in addition to creation of vernal pool and wetland habitat. The preserved habitat will be located geographically and hydrologically similar to those areas impacted. Mitigation ratios are 1:1 for off-site creation and 2:1 for off-site preservation. Finally, the preservation and creation sites in which mitigation acreage are to be established will be maintained and preserved in perpetuity as habitat resources. The funding and

management of these areas provides environmental benefits in the form of habitat restoration, creation, and preservation. Thus, these measures will mitigate the effects of the proposed fill on aquatic habitat to below substantial levels.

(X) Wildlife habitat (breeding, cover, food, travel, general): The areas of proposed fill provide minimal foraging habitat for raptors and other birds due to absence of suitable habitat. Impacts to these habitat types will be offset by off-site preservation and off-site restoration/creation of greater quality wetland foraging habitat for bird species, and thus will not affect wildlife habitat.

(X) Endangered or threatened species: As discussed previously, the vernal pools subject to fill are assumed by the applicant to contain the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and the endangered vernal pool tadpole shrimp (*Lepidurus packardi*). The Service issued a no-jeopardy biological opinion (1-1-04-F-0339), dated December 9, 2004 on the proposed fill activities for the Anatolia IV project. The Service concluded that the fill activities of the Corps' Selected Alternative will not jeopardize the continued existence of the listed vernal pool crustaceans because mitigation proposed as part of the Project, plus compliance with the agencies' Conceptual Strategy and Map will offset impacts to the listed species and their habitats. The Biological Opinion requires that mitigation measures proposed by the applicant be implemented through the 404 permit, and the implementation of those mitigation measures is included as a condition of the permit issued. Based on the conclusions of the no-jeopardy opinion, and the likelihood of success of planned mitigation, the permitted fill will not have substantial effects on endangered or threatened species, as mitigated.

(X) Biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities, or other sources: According to the City of Rancho Cordova's MND, on page _____, the project site has no known past hazardous materials involvement. Additionally, although there is documented groundwater contamination in the plan area, the project does not include the use of on-site wells. Therefore, the potential for the project to result in exposure to the groundwater contamination is unlikely.

E. Human use characteristics and impacts (check applicable blocks and provide concise description of impacts):

(X) Existing and potential water supplies; water conservation: Water present in

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the areas of proposed fill consists of annual precipitation, and does not represent a potential water supply. The proposed fill would not have an effect on existing or potential water supplies, nor would it cause an effect with regard to water conservation.

() Recreational or commercial fisheries: No effect.

() Other water related recreation: No effect.

(X) Aesthetics of the aquatic ecosystem: Aesthetics of the aquatic ecosystem have the potential to be adversely affected by development in and around waters of the United States on the project site.

() Parks, national and historic monuments, national seashores, wild and scenic rivers, wilderness areas, research sites, etc.: No effect.

(X) Traffic/transportation patterns: Current traffic and transportation patterns in the area of the proposed project exhibit growth underway in Sacramento County. Small collector roads connect to large arterial roadways. Potential traffic impacts were addressed in the Traffic Circulation Section of the Sunrise Douglas Community Plan and Sunridge Specific Plan (SDCP/SRSP) Master Environmental Impact Review (EIR). The SRSP would increase A.M. and P.M peak hours and daily vehicle trips compared to existing traffic conditions. The SDCP/SRSP EIR identified traffic and circulation mitigation measures for development projects to adopt. The traffic impacts resulting from the Corp's action may be adverse but are considered minor overall when incorporating mitigation measures.

(X) Energy consumption or generation: Fill of jurisdictional areas would require energy for grading and fill, and would require additional energy for construction, operation and maintenance of improvements directly associated with filled jurisdictional areas. There is adequate capacity available to serve these future energy needs, and the impacts are not substantial.

() Navigation: No effect.

(X) Safety: The project will implement construction safety measures such that there is no potential for a substantial effect to safety.

(x) Air quality: The proposed permit has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

(x) Noise: Fill of these areas, and improvements directly associated with this fill, are not expected to generate noise impacts in any substantial amount. In this case, land uses proposed on all portions of the applicant's project, particularly those improvements directed associated with jurisdictional areas to be filled, are expected to meet the County Noise Level Performance Standards (NLPSs) and County Land Use Compatibility standards set by the County's General Plan Noise Element (Community Plan/Specific Plan EIR, pp. 12.9e). These indicators are a common threshold used for assessment of significant noise impacts, and indicate the permitted fill will not result in substantial noise impacts.

(X) Historic properties (Section 106 National Historic Preservation Act): The project site does not appear to contain any sites listed, or eligible for listing, on the National Register of Historic Places. No previously recorded prehistoric or historic resources exist within the project site. Therefore, the proposed action is not expected to have an effect on historic properties.

(X) Land use classification: The proposed fill activity will occur in conjunction with construction of residential development on lands previously used for agricultural activities. These lands are located within the General Plan Urban Policy Area and are shown as a new Urban Growth Area in the Sacramento County General Plan, indicating the County's intent to plan for the urbanization of this area within the 20-year time frame of the General Plan.

(X) Economics: Construction associated with the project will provide jobs and may generate revenue for the local economy. In the long term, the project will help to address growing housing demand in the Sacramento County area. Housing shortage in the area has the potential to negatively affect continued economic growth in the southeast County area, and the greater Sacramento County area as a whole.

(X) Prime and unique farmland (7 CFR Part 658): The California Department of Conservation's Farmland Mapping and Monitoring Program designated the project site as grazing land and farmland of local importance, not as prime or unique farmland. According to the City of Rancho Cordova's MND, neither the grazing or farmland of local importance designation qualifies the project site as prime and unique farmland.

- () Food and fiber production: No effect.
- (X) General water quality: The existing quality of water in wetlands and other

waters of the United States on the Project site results from local precipitation, drainage from adjacent areas and residues of agricultural applications on site. Fill of wetlands and construction of the applicant's proposed project has the potential to add urban pollutant runoff.

Pursuant to Section 401 of the Clean Water Act, the applicant has obtained certification from the Central Valley Regional Water Quality Control District, issued December 30, 2004 (File No. 5A34CR00182). The 401 Certification concluded that the proposed project has proposed sufficient measures to adequately protect the identified beneficial uses of surrounding and downstream water courses. The applicant will comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to prevent substantial impacts to the water quality of surrounding and downstream argas.

(X) Mineral needs: Current activities at the project site do not require mineral needs. Construction of the project will necessitate the importation of aggregate, concrete, and asphalt. These materials will likely be supplied locally. No negative impacts are expected.

(X) Consideration of private property: The project area is currently private property owned by the applicants. The project is being permitted as proposed and the applicant's use of private property has been given appropriate consideration.

(X) Minority and Low Income Populations: The proposed action has been evaluated in accordance with Title VI of the Civil Rights Act and Executive Order 12898 regarding environmental justice populations. Impacts to the minority and low-income populations in the permit area will not be disproportionately high.

() Other:

F. Summary of secondary and cumulative effects: The Service estimates that any jurisdictional wetland or vernal pool habitat within 250 feet of project development will be indirectly impacted due to increased human presence, changes to hydrology or other created conditions. Habitat to the east is divided from the Project Site by a major roadway and therefore indirect impacts are not anticipated. Because lands to the north, west, and south are within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan area, habitat in these areas would be directly removed and offset by adjacent proposed development. Therefore, separate Section 7 consultation will be initiated on lands adjacent to the project site and indirect impacts to these areas are expected to be offset through this process. The Service did not include indirect wetland impacts in its issuance of its no-

jeop: y Biological Opinion for the permitted fill, and concluded that the applicant's reproposed mitigation measures sufficiently offset direct impacts to wetland and vernal pool habitat.

Cumulative effects are the incremental effects of the agency's proposed action, and past, present and reasonably foreseeable future actions in the locale of the agency's action. For analysis of cumulative impacts, the Corps has focused on the larger 1,345 acre subarea of the SunRidge Specific Plan area because a number of actions are currently pending in this area that could have potentially substantial cumulative effects. The City of Rancho Cordova has completed the land use entitlement process for each of these projects within this area, and the proposed actions are well-defined and the potential impacts are foreseeable. Moreover, each of the 404 permit applications pending in the SunRidge subarea are for geographically contiguous jurisdictional features and the permitted actions are planned to occur roughly during the same time frame. Because of the certainty of the land use entitlements, and the related geography and timing of the effects, they have the potential to be cumulative.

The Conceptual Strategy, and the detailed analysis in the Regional Alternatives Information address potential cumulative effects to both aquatic and non-aquatic resources in the subarea. The collaborative effort of the Federal Agencies and the numerous applicants participating in the Conceptual Strategy resulted in a plan to preserve wetlands and vernal pools in the area that collectively reduced direct loss of jurisdictional waters from almost 60 acres under the adopted Specific Plan, to just over 44 acres, while preserving 41.2% of vernal pool habitat within the Specific Plan. Each project has agreed to demonstrate consistency with the Conceptual Strategy and to incorporate mitigation that will ensure no net loss of wetlands. It is estimated that over 50% of the waters within the Community Planning Area will be protected under the conceptual preserve design. This is a substantial reduction of impacts to waters of the US as compared to the proposed level of development from the County of Sacramento. Thus, the Conceptual Strategy strives to avoid adverse cumulative effects by (1) increasing avoidance and preservation of wetlands and vernal pools within the subarea from what was initially proposed under the Specific Plan, (2) strategically identifying avoidance areas in a manner that minimizes edge effects and maximizes connectivity (3) coalescing these individual projects' avoidance and minimization efforts into a regional reserve designed to connect to the previously approved and existing Anatolia Preserve, thereby increasing connectivity between project avoidance areas and connectivity to downstream wetlands and vernal pools, and (4) creating large, intact corridors supporting the Morrison and Laguna Creek watersheds and associated vernal pools in the Specific Plan area. The Conceptual Strategy also sets out principles and standards for development surrounding the avoided wetlands and vernal pools that will reduce urban edge effects on these areas and to promote long-term retention of wetland and vernal pool functions. Last, the Conceptual Strategy areas are required to be monitored and managed in perpetuity according to preserve management plan to be submitted for the Federal Agencies' approval. The measures

specified in the Conceptual Strategy for the creation of a reserve according to the map will minimize cumulative impacts to jurisdictional wetlands and vernal pools within the Specific Plan area.

Future projects in the Sun Creek portion of the Community Plan area are as yet too uncertain to include within a cumulative impacts assessment at this time. The Corps has not received any applications for development in this area. However, the Corps and the City are planning to prepare a joint EIS/EIR for development in this area, which will further consider potential cumulative effects. The Community Plan/Specific Plan EIR does not provide more than conceptual information on jurisdictional impacts within the SunCreek area. The current EIS/EIR process will modify and refine land uses in this area, including the creation of a jurisdictional wetland and vernal pool preserve within the SunCreek area. Although impacts to wetlands are likely, because the EIS/EIR process is at an early stage it is not reasonably foreseeable to predict the impacts that could result from that future project. Subsequent applications for fill for projects within the Community Plan area will also be appropriately evaluated under NEPA and the conceptual strategy.

Together, past measures taken to reduce impacts at the Anatolia project (SD Project) combined with measures specified in the Conceptual Strategy for the SunRidge Specific Plan area, assure that adverse effects to jurisdictional wetland and vernal pool areas are not cumulatively substantial.

In addition to potential cumulative impacts to jurisdictional wetlands and vernal pools, the development of the Project, in conjunction with development of other projects noticed in Public Notice# 200000336 and others within the Specific Plan area, may have cumulative impacts to other categories of the human environment. The County's Community Plan/Specific Plan EIR discusses potentially substantial cumulative effects from development in the Specific Plan area. The County identified mitigation measures through the Specific Plan EIR, and incorporated land use planning policies within the Specific Plan that are designed to address cumulative impacts in these other categories such as traffic, noise, air quality and groundwater resources. The mitigation measures in the City of Rancho Cordova's MND for the Anatolia IV Project, in addition to measures implemented by the County's adoption of the SD Project EIS/EIR Mitigation and Monitoring Program, and future mitigation measures created for the SunCreek Specific Plan area, will assure adequate treatment of these categories of cumulative impacts.

The growth inducing effects of the permitted fill are expected to be minimal, due to the small size of the impacts resultant from the permitted fill, and more importantly because this area has already been designated as an urban growth area by the County's 1993 General Plan.

III. Findings:

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A. Other authorizations:

1. Water quality certification: The applicant obtained water quality certifications from the Central Valley Regional Water Quality Control Board on December 28, 2004, File No. 5A34CR00182. The 401 certifications, including special conditions, are attached hereto as Appendix B.

Date: December 28, 2004 Issued: X_____ Denied: ______ Waived:

Special Conditions Yes X No (If yes see attached)

2. State and/or local authorizations (if issued): None

B. A complete application was received on January 7, 2004. A public notice describing the project was issued on February 6, 2004, and sent to all interested parties (mailing list) including appropriate state and Federal agencies (Public Notice No. 200000336). All comments received on this action have been reviewed and are summarized below.

- 1. Summary of comments received.
- a. Federal agencies:
- 1) U. S. Environmental Protection Agency (EPA):

EPA responded by letter dated April 26, 2004. EPA believed the 5 permit applications, as discussed in the Public Notice, would collectively cause unacceptable impacts to Aquatic Resources of National Importance (ARNI). However, EPA believed that implementation of the proposed Conceptual Strategy and creation of a large aquatic resource habitat reserve according to the Conceptual Reserve map created by the agencies would resolve Clean Water Act issues.

2) U. S. Fish and Wildlife Service (FWS):

FWS commented by letter dated April 26, 2004. The Service requested preparation of an Alternatives Analysis in compliance with the 404(b)(1) guidelines. The Service did not concur with the conclusions of the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR regarding the identification of an environmentally superior alternative. The Service

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commented on proposed recreated stream channels to be constructed within portions of the Specific Plan area. The Service believed impacts to water quality due to increased urban runoff were inadequately addressed. The Service recommended against in-stream storm water detention ponds. The Service believed proposed development within the Community Plan area would likely impact the Stone Lakes National Wildlife Refuge downstream of the Community Plan area. The Service commented on the potential of off-line water quality basins to impact the hydrology of streams running through the site. The Service commented that development within the Community Plan area would impact special status species. The Service commented that development within the Community Plan area would result in unacceptable impacts to ARNI. The Service commented that a comprehensive on-site mitigation strategy for wetlands and vernal pools in the Community Plan area was necessary. The Service commented that wetland mitigation and monitoring plan for the entire Community Plan area should be submitted to the federal agencies for their review. The Service believed that all interrelated projects receiving Nationwide Permits within the Community Plan area should instead be considered through the Individual Permit process. The Service recommended the adoption of the Conceptual Strategy and Conceptual Reserve map created by the agencies. The Service requested that the Corps initiate consultation under Section 7 of the Endangered Species Act.

- 3) National Marine Fisheries Service (NMFS): Not applicable.
- 4) Other: Not applicable.
- b. State and local agencies:

California Department of Transportation ("CalTrans") commented by letter dated March 25, 2004. CalTrans requested that any runoff from the proposed development not contribute a contaminant load to storm waters entering the State Highway System (SHS) right-of-way, and that all runoff entering the SHS meet Regional Board standards for clean water. CalTrans requested that increased flows to the SHS be mitigated. CalTrans requested the incorporation of environmental Best Management Practices to mitigate adverse drainage impacts.

c. Organizations:

The California Native Plant Society (CNPS) commented by letter dated March 30, 2004. CNPS commented that the fill proposed under the Public Notice would impact an unusually high concentration and diversity of vernal pools in Sacramento County. CNPS commented it was inappropriate for the Corps to evaluate the proposed fill permits as individual actions because they are part of a single planning area (Specific Plan). CNPS commented that a piecemeal approach would discount significant cumulative project area effects on vernal pools. CNPS commented that an Environmental Impact Statement was needed to assess the combined effect of Plan-area development and alternatives. CNPS commented that a County-wide study had shown the Community Plan area to have a high concentration and diversity of vernal pools. CNPS commented that the area hosted several listed species. CNPS requested that the permit applicants be required to include on-site preservation as part of their mitigation package for approved fill, and that it was not possible to fully mitigate for lost wetland area through preservation in distant areas of the County. CNPS requested that the Community Plan area contain a large core preserve area with inter-connected wildlife corridors. CNPS requested that vernal pool creation be avoided, especially within undisturbed vernal pool landscapes.

Stone Lakes National Wildlife Refuge Association (Stone Lakes) commented by letter on March 3, 2004. Stone Lakes made similar comments as CNPS, and commented that mitigation of impacts through preservation of vernal pools should preserve vernal pools with comparable geology, soil types, sizes, depths and densities. Stone Lakes requested that all rare plant occurrences be preserved, particularly Slender Orcutt Grass. Stone Lakes comments that the public has not had an opportunity to comment on a specific reserve mitigation plan for the SunRidge area until this point.

Barbara Vlamis, Executive Director of the Butte Environmental Council (BEC) commented by letter dated April 24, 2004. BUC commented that the applicants failed to provide alternatives to the project under 42 U.S.C. Part 4332(2)(c)(Vi), & (E). BEC commented that it was inappropriate for the Corps to evaluate the proposed permit actions noticed under the Public Notice as individual projects, and that such an approach would ignore the significant cumulative effects of the projects and others in the Community Plan area on the vernal pool ecosystem in Sacramento County. BEC commented that the Public Notice does not provide a cumulative impact analysis for public view. BEC requested that a more thorough mitigation and monitoring proposal be submitted for public review, and that preservation of intact vernal pools off-site was not adequate mitigation. BEC requested that permit processing be suspended until an EIS was prepared.

Citizens Committee to Complete the Refuge (CCCR) commented by letter dated April 26, 2004. CCCR commented that vernal pools in the Community Plan area should be considered ARNI. CCCR commented that fill proposals noticed in the Public Notice were for related and depended projects through their reliance on shared existing and proposed community infrastructure, and should therefore be considered as a single project. CCCR commented that the applicants should prepare an Alternatives Analysis under the 404(b)(1) guidelines to rebut the presumption that a practicable alternative exists to the proposed fill. CCCR commented that the applicants had made no attempt to minimize impacts. CCCR commented that the Corps should prepare an EIS prior to rendering a permit decision, and that impacts from the applicants' proposed fill be considered in concert. CCCR commented that minimal information regarding mitigation for impacts to jurisdictional waters had been provided to the

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d. Individuals: Many individuals submitted form comment letters regarding the proposed permits noticed under the Public Notice. The Corps reviewed and considered each letter, regardless of whether it was a form letter, but in the instance of a form letter, the comments set out by the first letter entered into the record for this Public Notice will be summarized and responded to herein, and the individual authors whom submitted version of each form letter are noted in Appendix C herein. Response to the first form letter shall be deemed response to each form received. Also noted in Appendix C are authors of numerous letters received in support of the Public Notice. Their comments have been reviewed and noted, if not specifically responded to herein.

Mr. David Wyatt commented by letter dated March 26, 2004. Mr. Wyatt commented that the fill applications covered in the Public Notice be considered cumulatively for significant impacts on natural communities in the impact area. Mr. Wyatt commented that sensitive species surveys should be conducted to determine the presence/absence of listed species within the areas proposed for fill. Mr. Wyatt commented that the Corps' no net loss policy for wetlands required the consideration of creation of large preserves. Mr. Wyatt suggested a 250-foot buffer for vernal pool preserve areas

Ms. Mary Beth Metcalf, M.D. commented by letter dated March 24, 2004. Ms. Metcalf requested that an EIS be prepared, that public hearings be arranged to disseminate additional information collected on environmental impacts.

Joan E. Berry commented by letter dated March 22, 2004. Ms. Berry commented that the Corps should preserve natural habitat in the Specific Plan area rather than approve development.

Irma Acevedo commented by letter dated March 26, 2004. The second page of Ms. Acevedo's letter was missing when admitted to the record. Ms. Acevedo commented that it is inevitable and logical to deduce that by evaluating their applications as individual projects the U.S. Army Corps of Engineers would fail to prove true protection. Ms. Acevedo requested an analysis of alternatives to development within the Specific Plan area and public hearings be held on the subject.

Rob Millberry commented by letter dated March 26, 2004. Mr. Millberry commented that the vernal pool habitat within the Community Plan area, despite its subtlety should be saved because of their rarity and high quality.

Sara M. Lee commented by letter dated March 26, 2004. Ms. Lee commented that 10 percent of the remaining vernal pools in Sacramento County are included in the Community.

Plan area and the Corps should not approve their fill. Ms. Lee expressed concern that authorized fill of wetlands would result in negative impacts to water quality and greater demands on water supply. Ms. Lee commented that proposed fill would threaten the survival of vernal pool fairy shrimp. Ms. Lee requested that the Service be consulted on the proposed fill and that mitigation should not be in the form of creation. Ms. Lee expressed concern that the proposed fill for the Community Plan area would cause additional off-site impacts to hydrology of unfilled wetland areas.

M. Nasseri commented by letter dated March 12, 2004. M. Nasseri requested that the EPA, the Service and the Corps create a strategy for preserving wetlands and vernal pools in the SunRidge Specific Plan and Community Plan areas.

Elizabeth Kuehner commented by letter dated March 10, 2004. Ms. Kuehner commented that the vernal pool species in the Community Plan area were worthy of preservation.

Adrian A. Barnett commented by letter dated March 10, 2004. Mr. Barnett commented that the Corps should take action to preserve the Mather Field Vernal Pools.

Patricia Foulk commented by letter dated March 5, 2004. Ms. Foulk commented that potential fill of wetlands within the Specific Plan and Community Plan area would lead to irreversible fragmentation of vernal pools in these areas. Ms. Foulk commented that the fill proposed under the Public Notice would result in substantial loss of listed species. Ms. Foulk commented that development within the Community Plan area would impact hydrology in the Community Plan area and surrounding areas, and result in a loss of diversity of vernal pool types. Ms. Foulk commented that the success of creation mitigation is not scientifically supported and is not adequate mitigation for natural habitat. Ms. Foulk commented that the Specific Plan EIR did not sufficiently analyze wetland impacts and that an EIS should be prepared. Ms. Foulk commented that existing traffic conditions indicate the necessity of an EIS. Ms. Foulk commented that small, "vest pocket" preserves would not sufficiently preserve vernal pool habitat and species.

Jean V. Shepard commented by letter dated March 3, 2004. Ms. Shepard commented that all applications for fill covered by the Public Notice should be considered in concert as one application. Ms. Shepard requested that a large, connected wetland preserve be created in the area of the projects covered by the Public Notice.

Carin High commented by letter dated March 15, 2004. Ms. High submitted questions on behalf of Florence LaRiviere, Chairperson of Citizens Committee to Complete the Refuge, whose comments are summarized above.

Bonnie Tran commented by letter dated March 4, 2004. Ms. Tran submitted comments

regarding another application for fill, and requested that a vernal pool preserve be established in the Mather Field area.

Alexandra Lamb commented by letter dated March 22, 2004. Ms. Lamb commented that off-site preservation would not mitigate for potential impacts of the fill proposed in the Public Notice. Ms. Lamb commented that the Corps should preserve all vernal pools proposed for impact under the Public Notice and prepare an EIS covering the proposed fill.

Patricia Jones commented by letter dated March 1, 2004. Ms. Jones expressed concern over use of creation as a method for mitigating impacts to wetlands and vernal pools. Ms. Jones requested the preparation of an EIS for the fill proposed under the Public Notice.

2. Evaluation:

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I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this permit application as well as the stated views of other interested agencies and the concerned public. In doing so, I have considered the possible consequences of this proposed work in accordance with regulations published in 33 CFR Parts 320 to 330 and 40 CFR Part 230. The following paragraphs include my evaluation of comments received and how the project complies with the above cited regulations.

a. Consideration of comments:

(1) US EPA responded by letter dated April 26, 2004. EPA believed the permit applications as discussed in the Public Notice would collectively cause unacceptable impacts to Aquatic Resources of National Importance (ARNI). Since 2002, the Corps, EPA, USFWS and other state and local agencies and landowners met to resolve the significant environmental concerns associated with the Sunrise Douglas Community Plan/SunRidge Specific Plan. As a result, the agencies produced a plan (A Conceptual-Level Strategy for Avoiding, Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Planning Area dated March 8, 2004) to significantly reduce impacts to waters by outlining large preserve areas along with a strategy for conservation. EPA stated in their letter dated that implementation of the conceptual-level strategy referenced above serves as a baseline for environmental protection. Properly implemented, it would resolve EPA's CWA issues through avoidance of aquatic resources and minimization of impacts. The proposed Anatolia IV project complies with the Conceptual Strategy created for the SunRidge Specific Plan Area.

Consistent with the Conceptual Strategy, the applicant proposes to compensate for impacts to wetlands through preservation off-site, and through restoration/creation of high quality wetlands. These actions will take place pursuant to a Mitigation and Monitoring Plan

the Corps and the Service for review and approval. Thus,

prepared for and submitted to the Corps and the Service for review and approval. Thus, these measures offset any impacts to wetlands and vernal pools on the site and address EPA's concerns.

(2) The United States Fish and Wildlife Service (Service) commented by letter dated April 26, 2004. The Service requested preparation of an Alternatives Analysis in compliance with the 404(b)(1) Guidelines. The applicant has submitted an individual alternatives analysis for the Project, and has participated in the creation of the Regional Alternatives Document. The Alternatives Analysis submitted by the applicant determined that the Project site is the least environmentally damaging practicable alternative site of comparable size and availability within the Specific Plan area, and determined that the proposed Project design was the least environmentally damaging practicable, considering cost, logistics and existing technology.

The Service did not concur with the conclusions of the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR regarding the identification of an environmentally superior alternative. However since their comment, the Service has participated in the finalization of the Conceptual Strategy and Conceptual Reserve map for the Specific Plan area.

The Service commented on proposed re-created stream channels to be constructed within portions of the Specific Plan area. This comment relates to development within the Community Plan area generally. Fill permitted pursuant to the Anatolia IV application will not be used to create any re-created stream channels, nor are there any proposed within the entire Project.

The Service believed impacts to water quality due to increased urban runoff were inadequately addressed. Impacts to water quality from the permitted fill for the Project will be minimal. The applicant will be required to comply with all requirements of the City's MS-4 permit in assuring adequate treatment of urban runoff, including implementation of water quality BMPs on the project site.

The Service recommended against in-stream storm water detention ponds. Fill permitted pursuant to the Anatolia IV application will not be used to create any in-stream detention ponds, nor are there any proposed within the entire Project.

The Service believed proposed development within the Community Plan area would likely impact the Stone Lakes National Wildlife Refuge downstream of the Community Plan area. Since Anatolia IV is not within the Upper Morrison Creek sub-watershed, any off-site flows resultant from fill permitted for the Project are not likely to reach the Stone Lakes Refuge, and therefore would have minimal impact on the Refuge. 1.

hydrology of streams running through the site. Fill activities permitted pursuant to the Anatolia IV application will not contribute to the creation of any off-line water quality basins, nor are there any proposed within the entire project. The Project will otherwise implement adequate water quality BMPs to assure minimization of impacts to water quality from permitted fill for the Project.

The Service commented that development within the Community Plan area would impact special status species. The Service has subsequently issued a no-jeopardy biological opinion for proposed fill of the project, concluding that mitigation measures proposed for impacts to jurisdictional waters are sufficient to offset impacts to listed species and their habitat.

The Service commented that development within the Community Plan area would result in unacceptable impacts to ARNI. Please see our response to EPA's similar comment regarding ARNI, in d.(1) above. Subsequent to this comment, the Service has assisted in finalizing the Conceptual Strategy and accompanying Conceptual Reserve map, which enumerate protections necessary to adequately protect wetlands and vernal pools within the Specific Plan area.

The Service commented that a comprehensive on-site mitigation strategy for wetlands and vernal pools in the Community Plan area was necessary. Since this comment, the Service has assisted in finalizing the Conceptual Strategy and accompanying Conceptual Reserve Map for wetlands in the Specific Plan area. The Anatolia project complies with the principles and standards of the Conceptual Strategy and complies with the Conceptual Reserve Map through preservation. Landowners in the remaining area of the Community Plan outside the Specific Plan have agreed to prepare an EIS to further analyze impacts to wetlands in that portion of the Community Plan.

The Service commented that a wetland mitigation and monitoring plan for the Community Plan area should be submitted to the federal agencies for their review. The areas of permitted fill on the Anatolia project will be mitigated off-site at preserve areas approved by the Service.

The Service believed that all interrelated projects receiving Nationwide Permits within the Community Plan area should instead be considered through the Individual Permit process. In this case, the proposed fill related to the Anatolia Project is being considered under the individual permit process. Additionally, the applicant has requested authorization for all fill reasonably related to the Project, and therefore has complied with Corps regulations requiring the inclusion of fill activities necessary for a particular project under one permit application.

The Service recommended the adoption of the Conceptual Strategy and Conceptual Reserve map created by the agencies. Subsequent to this comment, the Service assisted in finalizing the Conceptual Strategy and Conceptual Reserve Map, and has been requiring compliance with them as a condition of its biological opinions, including the no-jeopardy opinion for Anatolia IV.

The Service requested that the Corps initiate consultation under Section 7 of the Endangered Species Act. The Corps has completed a section 7 consultation with the Service for the permitted fill on the Anatolia project, receiving a no-jeopardy biological opinion on December 9, 2004.

(3) Caltrans requested that any runoff from the proposed development not contribute a contaminant load to storm waters entering the State Highway System (SHS) right-of-way, and that all runoff entering the SHS meet Regional Board standards for clean water. Caltrans requested that increased flows to the SHS be mitigated. Caltrans requested the incorporation of environmental Best Management Practices to mitigate adverse drainage impacts.

The applicant will minimize impacts to water quality that could result from permitted fill through implementing applicable pre- and post-construction BMPs and otherwise complying with the requirements of the City's MS-4 permit. Additionally, the Anatolia IV project will abide by the conditions of the Clean Water Act Section 401 Water Quality Certifications for Anatolia IV, dated December 28, 2004.

(4) The California Native Plant Society (CNPS) commented that the fill proposed under the Public Notice would impact an unusually high concentration and diversity of vernal pools in Sacramento County. The proposed 404 permit for Anatolia IV will affect approximately 1.36 acres of vernal pools. These features are dispersed throughout the Project site, unlike other portions of the Specific Plan area that retain high concentrations of pools and wetlands in large vernal pool and wetland complexes. The site's off-site connections to the east have been cut off by the existing Jaeger Road. Given the small amount of vernal pool on the site, Anatolia IV does not provide a high concentration of high quality vernal pool habitat that may be characteristic of other areas of Sacramento County.

CNPS commented it was inappropriate for the Corps to evaluate the proposed fill permits as individual actions because they are part of a single planning area (the Specific Plan). The Anatolia project and the remaining Specific Plan development have been evaluated under the Conceptual Strategy.

The CEQ's NEPA regulations also require that federal agencies consider "connected" or "cumulative" actions under the same NEPA review, and grant the Corps discretion to consider similar actions together under a single review. (40 C.F.R. Part 1508.25.) Under

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the guidelines, federal actions are connected if they, for example, automatically trigger other actions, cannot proceed unless other actions are taken previously or simultaneously, or are otherwise interdependent parts of a larger action and depend on the large action for their justification. Cumulative actions must also be included if, when viewed with other proposed actions, have cumulatively significant impacts that can be discussed in the same impact statement. Similar actions may be considered together when the best way to adequately assess the combined impacts of the similar actions would be to do so under one impact statement.

The Sacramento District uses an "independent utility" test to determine whether its actions are connected to other actions. An action is said to have independent utility, thus not connected, if it would take place with or without any other actions. Applying this standard, the fill necessary for Anatolia IV has independent utility since it could move forward regardless of whether the other applications under the Public Notice are approved or the associated projects constructed. The applicant has included all fill necessary to construct required roadway, potable water, wastewater disposal and other infrastructure that it cannot otherwise obtain from currently existing infrastructure in the area.

Under the CEQ NEPA regulations, separate federal actions that have a cumulatively significant impact should also be included under the same NEPA review. This requirement is subject to a rule of reason: where projects that may ultimately necessitate Corps' permit actions are insufficiently detailed to contribute to a meaningful analysis of their environmental impacts, the Corps is not required to include them. In this instance, all those activities within the Specific Plan area that have sufficient detail to be included in a cumulative analysis discussion, i.e., those that have submitted 404 permit applications, have been included within the cumulative impacts discussion of section V.F, above, in addition to earlier discussions of cumulative impacts in the area in the SD Project EIS/EIR and Community Plan/Specific Plan EIR. Using information from those previous studies as well as information in the current record, the cumulative impacts discussion in this Permit Evaluation concluded that this permit action would not result in cumulatively substantial impacts that would warrant the preparation of an EIS.

CNPS commented that a piecemeal approach would discount significant cumulative effects on vernal pools of proposed fill under the Public Notice, and that an Environmental Impact Statement was needed to assess the combined effect of development and alternatives. NEPA and its implementing regulations do not require an EIS for this permit decision. Under NEPA and federal law applying NEPA, a federal agency must review its proposed action to determine whether it will significantly affect the human environment, including cumulatively, and should prepare an EIS when, in the agency's determination, significant effects will occur that warrant the preparation of an intensive study of the agency's action and its effects, and when such an intensive study would provide additional meaningful information to the public

and the decision-making igency. The potentially significant cumulative impacts of development of the entire Specific Plan and Community Plan areas have already been addressed by the County's publicly available Specific Plan EIR, as discussed in these findings. Preparation of an EIS for effects occurring as the result of the permitted fill would not provide additional information to the public or to the Corps. The preparation of an EIS does not have the potential to provide the Corps with additional information on impacts that are within its authority or ability to control. Last, the Corps, EPA, Service and other state and local agencies and landowners met to resolve the significant environmental concerns associated with the Sunrise Douglas Community Plan/SunRidge Specific Plan. As a result, the agencies produced a plan (A Conceptual-Level Strategy for Avoiding, Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Planning Area dated March 8, 2004) to significantly reduce impacts to waters by outlining large preserve areas along with a strategy for conservation, thereby obviating the need to prepared an EIS.

CNPS commented that a County-wide study had shown the Community Plan area to have a high concentration and diversity of vernal pools. The applicant responded to the Service's similar comment in response to comment (2), above.

CNPS commented that the area hosted several listed species. However, the Service, through section 7 consultation with the Corps, has determined that mitigation proposed by the applicant will offset impacts to listed species from the permitted fill.

CNPS requested that the permit applicants be required to include on-site preservation as part of their mitigation package for approved fill, and that it was not possible to fully mitigate for lost wetland area through preservation in distant areas of the County. The Conceptual Strategy and Conceptual Reserve map creates a reserve system for the Specific Plan area that includes on-site avoidance through the Specific Plan. According to the Conceptual Reserve map, on-site avoidance is not necessary at Anatolia IV, particularly because the preservation of vernal pools on site would further degrade through time due to surrounding urban development, are small in acreage and lack habitat connectivity.

CNPS requested that the Community Plan area contain a large core preserve area with interconnected wildlife corridors. The Service, the Corps and EPA have collaborated to create such an area through the final Conceptual Strategy and Conceptual Reserve map.

CNPS requested that vernal pool creation be avoided, especially within undisturbed vernal pool landscapes. Anatolia proposes an off-site creation/restoration component to its mitigation proposal. The Corps and the Service both have final approval authority over mitigation proposal to assure that created wetlands and vernal pools do not damage existing features and are created and managed appropriately.

(5) Stone Lakes National Wildlife Refuge Association (Stone Lakes) submitted similar comments as CNPS. Responses to the CNPS comments, at section (4) above, are applicable to Stone Lakes' comments. In addition, Stone Lakes commented that mitigation of impacts through preservation of vernal pools should preserve vernal pools with comparable geology, soil types, sizes, depths and densities. The applicant intends to preserve existing high quality vernal pool habitat offsite.

Stone Lakes comments that the public has not had an opportunity to comment on a specific reserve mitigation plan for the SunRidge area until this point. However, specific mitigation proposals are not typically contained in the public notice or circulated for comment.

(6) Butte Environmental Council (BEC) commented that the applicants failed to provide alternatives to the project under 42 U.S.C. Part 4332(2)(c)(Vi), & (E). However, Corps regulations do not require publication of alternatives in a Public Notice. (33 C.F.R. Part 325.3.) Additionally, the Public Notice provides sufficient information for the public to consider and suggest possible fill alternatives to the Corps for consideration as part of the public interest review.

BEC commented that it was inappropriate for the Corps to evaluate the proposed permit actions noticed under the Public Notice as individual projects, and that such an approach would ignore the significant cumulative effects of the projects and others in the Community Plan area on the vernal pool ecosystem in Sacramento County. The applicant responded to similar comments from CNPS at section (4), above.

BEC commented that the Public Notice does not provide a cumulative impact analysis for public view. This document analyses potential cumulative impacts from the permitted fill. In addition, information on the cumulative impacts of proposed wetland and vernal pool fill has been available to the commenter through the Community Plan and Specific Plan EIR since 1998.

BEC requested that a more thorough mitigation and monitoring proposal be submitted for public review, and that preservation of intact vernal pools off-site was not adequate mitigation. The applicant responded to similar comments from CNPS and Stone Lakes at sections (4) and (5), above. The applicant's mitigation proposal for permitted fill has been reviewed by the Service, who determined that it offset impacts to listed vernal pool species and their habitats to be filled as part of the Project.

BEC requested that permit processing be suspended until an EIS was prepared. We responded to a similar comment from CNPS at section (4), above. We do not believe an EIS is warranted for this permit action.

(7) Citizens Committee to Complete the Refuge (CCCR) commenced that vernal pools in the Community Plan area should be considered ARNI. EPA identified them as an ARNI.

CCCR commented that fill proposals noticed in the Public Notice were related by dependency on shared existing and proposed community infrastructure, and should therefore be considered as a single project. We have responded to a similar comment from CNPS, at section (4) herein. The Anatolia IV project was given full consideration under the Conceptual Strategy.

CCCR commented that the applicants should prepare an Alternatives Analysis under the 404(b)(1) guidelines to rebut the presumption that a practicable alternative exists to the proposed fill. We responded to a similar comment from the Service at section (2), above. The applicant has submitted an alternatives analysis, as discussed in section I of this decision document.

CCCR commented that the applicants had made no attempt to minimize impacts. The submitted 404(b)(1) analyzed seven on-site avoidance alternatives. As discussed in this decision document, the alternatives analysis concluded that the applicant's proposed project was the least environmentally damaging practicable alternative.

CCCR commented that the Corps should prepare an EIS prior to rendering a permit decision, and that impacts from the applicants' proposed fill be considered in concert. We responded to a similar comment from CNPS in section (4) above.

CCCR commented that minimal information regarding mitigation for impacts to jurisdictional waters had been provided to the public. The applicant has submitted a mitigation plan for review, which contains both an offsite creation and preservation component.

(8) Mr. David Wyatt commented that the fill applications covered in the Public Notice be considered cumulatively for significant impacts on natural communities in the impact area. The applicant responded to a similar comment from CNPS in section (4), above. In addition, this decision document has considered the potential cumulative impacts of the permitted fill, consistent with the request of the commenter.

Mr. Wyatt commented that sensitive species surveys should be conducted to determine the presence/absence of listed species within the areas proposed for fill. The applicant responded to a similar comment from CNPS at section (4) above. The Service has issued a no-jeopardy biological opinion concerning the permitted fill for the Project, and has concluded that the applicant's proposed mitigation offsets impacts to listed species and their habitats.

Mr. Wyatt commented that the Corps' no net loss policy for wetlands required the consideration of creation of large preserves. The agencies' Conceptual Strategy and Conceptual Reserve map is intended to create a large preserve of vernal pool and wetland habitat. As proposed, the Anatolia IV project complies with the Conceptual Strategy and Conceptual Reserve map.

Mr. Wyatt suggested a 250-foot buffer for vernal pool preserve areas. Comment noted. The Conceptual Strategy created by the agencies incorporates buffer requirements for the created reserve.

(9) Ms. Mary Beth Metcalf, M.D. requested that an EIS be prepared, that public hearings be arranged to disseminate additional information collected on environmental impacts. The applicant responded to similar comments from CNPS and Stone Lakes at sections (3) and (4), above.

(10) Joan E. Berry commented that the Corps should preserve natural habitat in the Specific Plan area rather than approve development. The Corps, together with EPA and the Service, have identified large blocks of vernal pool and wetland habitat to be preserved in the Specific Plan area through the Conceptual Strategy, while still allowing reasonable economic use of private land within the Specific Plan area.

(11) Irma Acevedo commented that it is inevitable and logical to deduce that by evaluating their applications as individual projects the U.S. Army Corps of Engineers would fail to provide true protection. We responded to similar comments from CNPS at section (4), above. The applicant has submitted an application which includes all fill necessary for its single and complete Project. Ms. Acevedo requested an analysis of alternatives to development within the Specific Plan area and that public hearings be held on the subject. We responded to similar comments from BEC and Stone Lakes, at sections (5) and (6) above.

(12) Rob Millberry commented that the vernal pool habitat within the Community Plan area, despite its subtlety should be saved because of their rarity and high quality. We responded to similar comments from Ms. Berry at section 10, above.

(13) Sara M. Lee commented that 10 percent of the remaining vernal pools in Sacramento County are included in the Community Plan area and the Corps should not approve their fill. We have responded to similar comments from Ms. Berry, in section (10) above. The Conceptual Strategy and Conceptual Reserve map was conceived in large part due to the agencies recognition of comments such as Ms. Lee's. The Strategy developed for the Specific Plan area permits compliance with Endangered Species Act and Clean Water Act protections for vernal pools in this area in conjunction with permitting reasonable development on private lands within the Specific Plan area. In this case, the permitted cll for Anatolia IV will impact vernal pools that are not scheduled for protection under the agencies' Conceptual Reserve map.

Ms. Lee expressed concern that authorized fill of wetlands would result in negative impacts to water quality and greater demands on water supply. We have responded to similar comments from the Service regarding water quality at section (2), above. We did not conclude that the permitted fill would cause significant water quality or water supply impacts, and that the impact of the permitted fill for these categories of environmental impacts is adequately mitigated.

Ms. Lee commented that proposed fill would threaten the survival of vernal pool fairy shrimp. We responded to similar comments from the Service, at section (2), above, noting that the Service issued a no-jeopardy biological opinion for vernal pool fairy shrimp for the permitted fill covered by the Permit Evaluation, concluding that mitigation proposed by the applicant adequately offset impacts to fairy shrimp and its habitat resulting from the permitted fill.

Ms. Lee requested that the Service be consulted on the proposed fill and that mitigation should not be in the form of creation. We responded to similar comments from the Service at section (2) above.

Ms. Lee expressed concern that the proposed fill for the Community Plan area would cause additional off-site impacts to hydrology of unfilled wetland areas. The Service, in its no-jeopardy opinion, evaluated the potential for indirect impacts to wetlands and vernal pools into account.

(14) M. Nasseri requested that the EPA, the Service and the Corps create a strategy for preserving wetlands and vernal pools in the Specific Plan area. The Conceptual Strategy and Conceptual Reserve plan was designed to address this comment.

(15) Elizabeth Kuehner commented that the vernal pool species in the Community Plan area were worthy of preservation. We addressed similar comments from Ms. Lee and Ms. Berry at section (10) and (13), above.

(16) Adrian A. Barnett commented that the Corps should take action to preserve the Mather Field Vernal Pools. The permitted action will not impact vernal pools at Mather Field. The agencies are implementing the Conceptual Strategy to protect vernal pools in the Specific Plan area.

(17) Patricia Foulk commented that potential fill of wetlands within the Specific Plan and

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Community Plan area would lead to irreversible fragmentation of vernal pools in these areas. Compliance with the agencies' Conceptual Strategy and Conceptual Reserve map will assure that large, intact areas of vernal pools and wetlands are preserved through the Specific Plan area. The Anatolia IV project is consistent with these plans.

Ms. Foulk commented that the fill proposed under the Public Notice would result in substantial loss of listed species. We have responded to similar comments from the Service in section (2), the CNPS in section (4), and Mr. Wyatt in section (8), above. The Corps has received a no-jeopardy biological opinion from the Service covering the permitted fill.

Ms. Foulk commented that development within the Community Plan area would impact hydrology in the Community Plan area and surrounding areas, and result in a loss of diversity of vernal pool types. As discussed in this decision document, the permitted fill for Anatolia IV does not have the potential to significantly impact vernal pool hydrology in the Community Plan area. The agencies' Conceptual Strategy is designed to reduce impacts to wetlands and vernal pools within the SunRidge Specific Plan unpermitted areas. For the remainder of the Community Plan area, to the south, the agencies and landowners have agreed to prepare an Environmental Impact Statement to address impacts to vernal pools and vernal pool species. Together, these actions will assure that permitting actions in the Community Plan area will not significantly impact wetlands hydrology.

Ms. Foulk commented that the success of creation mitigation is not scientifically supported and is not adequate mitigation for natural habitat. We have responded to similar comments from CNPS at section (4), above.

Ms. Foulk commented that the Specific Plan EIR did not sufficiently analyze wetland impacts and that an EIS should be prepared. We have addressed similar comments from CNPS at section (4) above. In this case, the permitted fill for the Montelena project will not result in significant impacts to wetlands, either individually or cumulatively. As discussed, the permitted fill is considered the least environmentally damaging practicable alternative for this site, and will not result in jeopardy to listed wetland and vernal pool species. It is also consistent with the Conceptual Strategy and will contribute to preservation of areas identified on the Conceptual Reserve map. These measures will assure that the permitted fill for the Project will not have a cumulative impact to wetlands in the area.

Ms. Foulk commented that existing traffic conditions indicate the necessity of an EIS. Traffic decision document addresses the potential impacts to traffic from the permitted fill. As discussed, the permitted fill is not expected to contribute to any roadways or intersections expected to be significantly impacted due to traffic.

Ms. Foulk commented that small, "vest pocket" preserves would not sufficiently preserve

vernal pool habitat and species. The permitted fill in this case would not contribute to the creation vest pocket preserves. The Conceptual Strategy further addresses this concern through the creation of a larger reserve stretching across multiple properties in the Specific Plan area.

(18) Jean V. Shepard commented that all applications for fill covered by the Public Notice should be considered in concert as one application. We addressed a similar comment from CNPS and the Service at sections (3) and (4), above. Ms. Shepard requested that a large, connected wetland preserve be created in the area of the projects covered by the Public Notice. We addressed a similar comment from Ms. Foulk in (17), above.

(19) Carin submitted questions on behalf of Florence LaRiviere, Chairperson of Citizens Committee to Complete the Refuge. Responses the CCCR comments are set out above at section (7), above.

(20) Bonnie Tran submitted comments regarding another application for fill noticed in the Public Notice.

(21) Alexandra Lamb commented that off-site preservation would not mitigate for potential impacts of the fill proposed in the Public Notice. Ms. Lamb commented that the Corps should preserve all vernal pools proposed for impact under the Public Notice and prepare an EIS covering the proposed fill. We addressed similar comments from CNPS at section (4), above.

(22) Patricia Jones expressed concern over use of creation as a method for mitigating impacts to wetlands and vernal pools. Ms. Jones requested the preparation of an EIS for the fill proposed under the Public Notice. We responded to similar comments from CNPS at section (4), above.

b. Evaluation of Compliance with Section 404 (b)(1) guidelines (restrictions on discharge, 40 CFR 230.10). (A check in a block denoted by an asterisk indicates that the project does not comply with the guidelines.):

1) Alternatives test:

Yes No X i) Based on the discussion in II B, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the United States" or at other locations within these waters?

Yes X No'_______ ii) Based on II B, if the project is in a special aquatic site

and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Special restrictions. Will the discharge:

Yes* No_X	i)	Violate state water quality standards?
Yes <u>No X</u> Act)?	ii)	Violate toxic effluent standards (under Section 307 of the
Yes [*] No <u>_X</u> critical habitat?	iii)	Jeopardize endangered or threatened species or their
Yes [*] No X protect marine sanctuaries?	iv)	Violate standards set by the Department of Commerce to

Yes_ No[•] X v) Evaluation of the information in II C and D above indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s).

(X) based on the above information, the material is not a carrier of contaminants.

() the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

() acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

3) Other restrictions. Will the discharge contribute to significant degradation of "waters of the United States" through adverse impacts to:

Yes No X i) Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife, and special aquatic sites?

Yes^{*} No X ii) Life states of aquatic life and other wildlife?

Yes^{*}_ No X iii) Diversity, productivity and stability of the aquatic ecosystem, such as loss of fish or wildlife habitat, or loss of the capacity of wetlands to

assimilate nutrients, purify water or reduce wave energy?

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Yes^{*} No X iv) Recreational, aesthetic and economic values?

4) Actions to minimize potential adverse impacts (mitigation).

Yes X No[•] Will all appropriate and practicable steps (40 CFR 230.70-77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?

Refer to Section II(b) (5) for special conditions.

c. General Evaluation [33 CFR 320.4 (a)]:

1) The relative extent of the public and private need for the proposed work. The project will address a public need for housing opportunities in an area with existing housing shortages. It will address the private need of the project proponent to realize the gain from project implementation.

2) The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work. Alternative sites were considered, however these sites were found to be impracticable (see IV.B. above). Pursuant to these findings, the proposed fill is the least environmentally damaging practicable location and amount needed to affect the project purpose.

3) The extent and permanence of the beneficial and/or detrimental effects the proposed structures or work may have on the public and private uses to which the area is suited. The extent and permanence of the beneficial and/or detrimental effects of proposed structures or work may have on the public and private uses to which the area is suited. The loss of 1.36 acres of waters in the Project area will be effectively permanent and detrimental. The mitigation created by the applicant will be permanent, with dedication of conservation easement or other appropriate legal instruments over mitigation areas. As identified in the County's General Plan, Community Plan and Specific Plan, the area has been chosen for urban residential development as it is proximate to regional job centers and transportation. Permitted fill will have a beneficial effect on meeting housing demand, and on the public and private uses for which this area has been designated through the County's zoning and land use designations.

d. Significant National Issues: None.

Parts 320 to 330, and 40 CFR Part 230 is not contrary / is contrary to the public interest.

-ате: 7*Rb 0*В Colonel Ronald N. Light

DATE: 3 Feb. 2006

DATE: 7 Feb 06

Colonel Ronald N. Light District Engineer

PREPARED BY:

David Leput Project Manager

REVIEWED BY:

Will Ness Chief, Sacramento Office

REVIEWED BY:

DATE: 3Fel UC

Thomas Cavanaugh Chief, Central California/Nevada Section

DATE: 3 FEBOG **REVIEWED BY:** Andrew Rosenau

Chief, Regulatory Branch

REVIEWED BY:

DATE: 3Febole nichen Grah

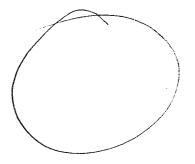
Michael Mahoney / Chief, Construction-Operations Division

DEPARTMENT OF THE ARMY PERMIT

Permittee:	Mark Enes Sunridge, L.L.C. 7700 College Town Drive, Suite 101 Sacramento, California 95826-2303
Permit Number:	199400210
Issuing Office:	U.S. Army Engineer District, Sacramento

Corps of Engineers 1325 "J" Street

Sacramento, California 95814-2922



NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description: To construct a residential subdivision, which contains 134 single-family homes (19.20 acres), a neighborhood park (2.57 acres), and roads including improvements (2.11 acres). The construction of the project will result in the permanent loss of 1.36 acres of waters of the United States (1.36 acres of vernal pools).

All work is to be completed in accordance with the attached plan(s).

Project Location: The project is located to the west of Jaeger Road and to the south of Douglas Road, in the SunRidge Specific Plan Area, in Sections 3, 8, & 10, Township 8 North, Range 7 East, M.D.B.&M, in Sacramento County, California.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2010. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity

authorized by this permit, you must a simulately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The Project shall comply with the provisions of the Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

This Corps permit does not authorize you to take any threatened or endangered species, in particular the 2. vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., and Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-04-F-0339, dated December 9, 2004), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 1.36 acres of waters of the United States, you shall construct at least 1.36 acres of vernal pool and swale habitat at a Corps approved location.

5. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

5. You shall complete construction of the compensatory mitigation no later than October 1, 2006.

7. To insure that mitigation is completed as required, you shall notify the District Engineer of the date you start construction of the authorized work and the start date and completion date of the mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, preserve(s) containing the 1.36 acres of created/restored vernal pool habitat required by "Special Condition 4" and 2.72 acres of preserved vernal pool habitat at a Corps and U.S. Fish and Wildlife Service approved location(s).

10. To minimize external disturbance to preserved or created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland vegetation surrounding the entire perimeter of all created, preserved, and avoided waters of the United States, including wetlands within the proposed off-site preserves. This buffer shall be proposed within the compensatory mitigation and monitoring plan <u>and</u> the preserve management plans. These buffer widths shall be explicitly approved in writing by the Corps prior to any work in waters.

11. To insure that the preserves are properly managed, you shall develop a specific and detailed preserve management plan for the off-site mitigation, preservation, and avoidance areas. This plan shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area(s) and the long term funding and maintenance of each of the preserve areas.

12. To protect the integrity of the preserve and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

13. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2006, install fencing and appropriate signage around the entire perimeter of the off-site preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of mitigation, preservation, and avoidance areas:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas.

b. Designate a Corps approved conservation-oriented third part entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed

deed restriction and conservation easement language shall be approved by the Corps of Engineers prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by October 1 of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

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a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

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Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Page 6

Permittee

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Colonel Ronald N. Light, District Engineer Date

Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

Cett (916) 712-9995

July 29, 2005

Will Ness U.S. Army Corps of Engineers 1325 J Street, Room 1444 Sacramento, California 95814

Re: Anatolia IV Project; Corps Number 199400210 (Public Notice No. 200000336)

Dear Will:

On behalf of Sunridge, LLC, the enclosed On-site Addendum to the Alternatives Analysis is submitted for the Anatolia IV Project, Corps No. 199400210 (Public Notice No. 200000336.) This addendum is provided as a supplement to the Alternatives Analysis and On-Site Minimization Measures report provided to the Corps in November 2004, in support of the application for a Department of the Army Permit pursuant to Section 404 of the Clean Water Act.

This document provides an analysis of three on-site design alternatives, including the Proposed Project. This supplement applies the principles and standards of the Conceptual Strategy, as well as the Guidelines. Other documents previously provided include the Off-Site Alternatives outside the Specific Plan area, and a discussion of the Anatolia IV project with respect to the ten principles and standards set out in the Conceptual Strategy. The intention of the previously provided documents, and this one, is to assist the Corps in establishing the Least Environmentally Damaging Practicable Alternative, thereby complying with the Guidelines.

Please consider this addendum, along with the previously submitted documents, to complete the processing of the Anatolia IV permit application. Please call me if you require additional information, or for any questions.

Sincerely,

Peggy Lee

Enclosures

cc: Niki Doan, AKT Development Ellen Berryman, Berryman Ecological Clean Water Act §404(b)(1) Alternatives Analysis Addendum: On-Site Alternatives Anatolia IV Project; Corps File No. 199400210 Public Notice 200000236 Sacramento County, California

> **Prepared for:** Army Corps of Engineers

On Behalf of:

AKT Development 7700 College Town Drive, Suite 101 Sacramento, California 95826

Submitted by: Berryman Ecological 985 Meadow Gate Road. Meadow Vista, California 95722 (530) 852-4834

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404(b)(1) ALTERNATIVES ANALYSIS FOR THE ANATOLIA IV PROPERTY (Supplement)

SACRAMENTO COUNTY, CALIFORNIA

I. INTRODUCTION

Section 404 of the Federal Water Pollution Control Act (the "Clean Water Act" or "CWA") regulates the discharge of dredged or fill materials into waters of the United States ("Waters"). The Clean Water Act vests authority in the Army Corps of Engineers ("Corps") to regulate such discharges via a program of reviewing and selectively permitting requests for fill authorization. (33 U.S.C. § 1344 (d).)

In the course of its permitting authority, the Corps must make a finding that its authorization to fill Waters complies with the environmental protection guidelines established by the Environmental Protection Agency at 40 CFR Part 230, known as the *Section 404(b)(1) guidelines*, ("Guidelines"). In part to address their responsibilities under the Guidelines, the Corps and EPA, together with the U.S. Fish and Wildlife Service (the "Service," together the "agencies"), crafted a Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise Douglas Community Plan Area (herein the "Conceptual Strategy," submitted previously under separate cover).

The Conceptual Strategy is designed to result in a regional avoidance and preserve concept that meets the agencies' requirements under the Clean Water Act, the Endangered Species Act and other applicable laws, and provides a workable framework for the planned development in the Sunrise-Douglas Community Plan ("Community Plan") area and SunRidge Specific Plan ("Specific Plan") area. In conjunction with the Conceptual Strategy, the agencies prepared a Conceptual Reserve map of vernal pool and wetland avoidance within the Community Plan area designed to minimize direct and cumulative impacts to vernal pool and wetland functions and values within the area. The agencies' Conceptual Strategy also sets out 10 principles and standards to guide property owners in identifying project designs that minimize individual and cumulative effects on aquatic resources and sensitive species. Property owners within the unpermitted subarca of the Specific Plan area also prepared and submitted to the Corps a Regional Alternatives Information document that analyzed the Preserve identified by the Conceptual Strategy, and eight alternative preserve alignments, according to selection criteria including logistics, environmental, cost and compatibility with existing land use designations. Of the proposed alternative preserve alignments, the Conceptual Preserve alternative best met the requirements of the selection criteria.

This 404(b)(1) Alternatives Analysis document is provided as a supplement to the Conceptual Strategy and Regional Alternatives Information, as requested by the Corps.¹ This document provides an analysis of three on-site design alternatives, including the Proposed Project. This supplement applies the principles and standards of the Conceptual Strategy, as well as the Guidelines, to AKT Investments' 404 permit applications for its Anatolia IV project. Other documents previously provided include Off-Site Alternatives outside the Specific Plan area, and a discussion of the Anatolia IV project with respect to the ten principles and standards set out in the Conceptual Strategy. The intention of the previously provided documents, and this one, is to assist the Corps in establishing the Least Environmentally Damaging Practicable Alternative, thereby complying with the Guidelines.

II.

PROPOSED PROJECT

As proposed, Anatolia IV will develop approximately 19.20 acres of residential development, 2.11 acres of major roads, 1.26 acres of landscape corridors, and a 2.58 acre neighborhood park. Off-site improvements related to the project include widening the west side of Jaeger Road, and construction of Chrysanthy Boulevard. Anatolia IV lies within the County's approved Specific Plan area, and is compatible with the land use designations set out for the Sunridge Park site by the Specific Plan.

III IMPACTS TO WATERS OF THE UNITED STATES

The Proposed Project will impact 1.36 acres of jurisdictional waters, which are all vernal pool. The project will have no on-site preservation.

IV.

ANALYSIS OF ALTERNATIVE ON-SITE DESIGNS

SCREENING CRITERIA FOR ON-SITE ALTERNATIVES

Three on-site design alternatives, a no-fill alternative, the proposed project and a discussion of a partial avoidance alternative. Table 1, attached hereto, summarizes the costs, logistics, and environmental criterion of each alternative.

The following criteria are used to evaluate on-site designs for the Anatolia IV Project.

Project Purpose

• The alternative designs must accommodate the project purpose of a residential community including resident-serving public service components (a

¹ The Corps requested "on-site alternatives information to be provided by each applicant regarding the proposed steps to be taken on the project site to comply with the Conceptual Strategy." Letter from M. Jewell to J. Hodgeson, October 29, 2004.

neighborbood park), beginning in fall 2005, of approximately the same developable acreage as the proposed project.

• The alternative designs must comply with the principles and standards of the Conceptual Strategy

Logistics

- The alternative designs must provide for safe, efficient internal circulation, adequate access to adjacent road networks, and permit the necessary widening of adjacent Jaeger Road and construction of Chrysanthy Boulevard.
- The alternative designs must provide for adequate distribution of infrastructure and utilities.

Cost

• The alternative designs must have a cost per net developable acre that is approximately the same or less than that of the proposed Project.

Environmental

- The alternative designs must have significantly less impacts to aquatic resources than the proposed Project, without having other significant adverse environmental impacts.
- The alternative designs must have significantly less adverse impacts on federally-listed species than the Propose Project.
- The alternative designs must be consistent with the principles and standards of the Conceptual Strategy, which were conceived to create a viable Regional Preserve for vernal pool and wetland habitat designed to minimize the cumulative effects associated with developing the Plan Subarea. The principles and standards include:
 - Preserve designs with a low preserve perimeter to area ratio,
 - Preservation of contiguous vernal pool and wetland features that provide (or contribute to) large, contiguous open space areas,
 - Designs allowing for a minimum of 250' buffers between vernal pool and wetland features and adjacent development that limit potential indirect impacts.

Overall

• An alternative is not a practicable alternative unless it meets all of the above criteria.

ANALYSIS OF ON-SITE ALTERNATIVES

Alternative One: No Fill Alternative

The No Fill Alternative would avoid 1.36 acres of jurisdictional waters on the Anatolia IV site, consisting entirely of vernal pool. Incorporating adequate buffers of 250 feet to assure construction would not directly impact the avoided areas; the No Fill Alternative would leave 6.07 acres of developable area. Smaller buffers of 50 feet are also considered. The site with avoided area, showing buffers of 250 feet and 50 feet, is shown on Figure 3, attached.

Project Purpose

The No Fill Alternative does not leave sufficient acreage to construct a residential project and a neighborhood park. The No Fill alternative, with 250-foot buffers, reduces the developable acreage to 6.07 acres out of the total 25.14 acres on the Project Site. The remaining net developable acreage is insufficient to fulfill the project purpose of a residential development and neighborhood park.

If the buffers are reduced to 50 feet, the amount of land required for avoidance is 7.57 acres, and the remaining acreage available for the project is 17.57 acres. The remaining developable acreage would be further constrained by the size and sprawling pattern of the wetlands across the site. The area in the center of the large central vernal pool would be inaccessible. The land remaining between the wetlands on the west border and the central vernal pool is very narrow and would have limited development potential. The land on the northeast section is likewise restricted. With the exception of the southeast portion of the site, build-out of the land surrounding the vernal pools results in isolated pockets of development requiring bridges or Conspan-type structures. The increase in costs due to the bridging would be prohibitive when measured against the gain in developable acreage. Therefore, this alternative would not leave sufficient contiguous land to feasibly construct a residential development which is similar in scope to the proposed project.

The No Fill Alternative does not comply with the Preserve design created under the Conceptual Strategy and does not fully comply with the principles and standards set out in the Conceptual Strategy, as discussed further in the Environmental Criterion section below. Therefore, the No Fill Alternative does not accomplish the Project Purpose.

Logistics

Mitigation Measures included in the Sunrise Douglas Community Plan/Sunridge Specific Plan, (November 2001) require the construction of Chrysanthy Boulevard, and widening of Jaeger Road. The No Fill Alternative would require the use of bridges for the two road improvements to avoid impacts to jurisdictional features. With bridging, the No Fill Alternative could meet the logistics criterion.

Cost

Because the No Fill Alternative would not fully comply with the Conceptual Strategy and would not be significantly less damaging to aquatic ecosystems, no specific cost numbers have been created for this analysis. Bridging required for the expansion of Jaeger Road, and construction of Chrysanthy Road under the No Fill Alternative will result in an increase in project costs. Additional bridging would be required to access development between the wetlands along the western border and the central vernal pool. The increase in costs and the reduction in the available net developable acreage under the No Fill Alternative result in a significant increase in the cost per net developable acreage over that of the proposed project.

Environmental

As discussed below, avoidance of jurisdictional waters on the Anatolia IV site under the No Fill Alternative would not result in significantly less effects to aquatic ecosystems because of indirect impacts associated with development of the project.

The avoided areas remaining under the No Fill Alternative are not likely to continue to possess vernal pool and/or wetland functions and values in the long term, as they are vulnerable to indirect impacts from surrounding development, including altered hydrology, urban runoff, disturbance by residents and introduced exotic plant species. The 250 foot buffer No Fill Alternative leaves 6.07 acres net developable acreage, and is therefore impracticable. Reducing the buffers to 50 feet in order to increase the net developable acreage creates a preserve area that does not comply with the principles and standards for vernal pool habitat preservation set forth in the Conceptual Strategy. The vegetation in wetland areas bridged by the construction of Chrysanthy Boulevard and Jaeger Road would suffer impacts from severely reduced sunlight. Due to the sprawling shape of the wetlands, all of the vernal pools would have extremely high perimeter to area ratios leaving the pools vulnerable to edge effects and ruin the hydrology supporting the wetland functions.

Additionally, the avoided areas remaining under the No Fill Alternative are not likely to retain optimal functions and values in the long term as they are scattered throughout the site and generally not linked to the large, contiguous open space/preserve areas designed in the Conceptual Strategy. General sizing criterion for viable vernal pool avoidance areas—set both by federal resource agencies and widely accepted local studies of vernal pool preservation and management—favor large, densely populated avoidance areas since larger areas are more effective at preserving vernal pool ecosystem functions and values.² This qualitative criterion is reflected in the Conceptual Strategy and the Specific Plan EIR.³ Left unconnected, the avoided areas remaining under the No Fill Alternative

² See Jones and Stokes Associates, Inc. 1990. Sacramento County Vernal Pools: Their Distribution, Classification, Ecology and Management. Prepared for the County of Sacramento, Planning and Community Development Department; and California Department of Fish and Game. 1998. California Vernal Pool Assessment Preliminary Report (available at

http://www.dfg.ca.gov/whdab/wetlands/vp_asses_rept/southeastern.htm, last modified 1/31/05); and U.S. Fish and Wildlife Service, *Determining Vernal pool Preservation Credits Mainpage*, available at http://sacramento.fws.gov/es/documents/vp_asses_rept/southeastern.htm, last modified 1/31/05); and U.S. Fish and Wildlife Service, *Determining Vernal pool Preservation Credits Mainpage*, available at http://sacramento.fws.gov/es/documents/vp_bank_cr.htm, last viewed on July 20, 2005.)

³ Specific Plan EIR at p. 14.23: "Areas with dense concentrations of wetlands should be considered candidates for preservation. Preservation should be planned in relatively large contiguous blocks. Where

would not meet the acreage requirements for functioning vernal pool and wetland preserve areas, and would likely retain reduced functions and values as a result.

The small, unconnected avoided areas remaining under the No Fill Alternative are not likely to perform wetland ecosystem functions in the long term. The No Fill Alternative does not conform to the 10 principles and standards of the Conceptual Strategy and would not be consistent with the Conceptual preserve design. Therefore, the No Fill Alternative would not result in significantly less impacts on aquatic resources or listed vernal pool species.

Overall

The No Fill Alternative would not meet the project purpose as it would not comply with the agencies' Conceptual Preserve design and would not fully comply with the 10 principles and standards of the Conceptual Strategies. The No Fill Alternative meets the logistics criterion if bridging were employed to avoid jurisdictional features. However, it fails to meet the cost criterion because the reduction in net developable acreage and the increase in costs for bridging for major roads and connections between separate development areas significantly increase the cost per net developable acre over those of the Proposed reject alternative. The No Fill Alternative would not meet the environmental criterion as the small, unconnected avoided areas on the project site would likely not remain viable in the long term. Thus avoidance would not result in significantly less impacts to aquatic ecosystems. Avoided areas under the No Fill Alternative would not be consistent with the Preserve created by the Conceptual Strategy or the principles and standards of the Strategy. Thus, the No Fill Alternative cannot be considered the least environmentally damaging practicable alternative.

wetland acreage is diffuse and preservation is impractical, impacts should be mitigated by a combination of on-site construction to the extent appropriate and off-site/mitigation bank preservation."

Alternative Two: Partial Avoidance Alternative

This Addendum does not provide a specific partial avoidance alternative, but instead provides a conceptual analysis of the practicability of partial on-site avoidance. Figure 3 shows the Project site wetlands with 50-foot and 250-foot buffers. There are three distinct groups of wetlands to consider avoiding: (1) the small circular vernal pools adjacent to the east border along Jaeger Road, (2) the singular vernal pool adjacent to the western border, and (3) the central vernal pool spanning the site from the north border south and southwest to the western border of the site.

A vernal pool is considered to be directly affected when a portion of it is filled. Therefore, the most logical scenario for a Partial Avoidance Alternative is to preserve the whole large, central vernal pool, and allow impacts to the wetlands on the west and east borders. However, preservation of the central pool would still fail to be the least environmentally damaging practicable alternative because it would be subject to the same indirect impacts listed above for the No Fill Alternative, and not be ecologically viable in the long term.

Chrysanthy Boulevard could be bridged over the north border of the preserve; however, a portion of the pool would be shaded in that section. If the buffer was 250 feet, consistent with the principles and standards listed in the Conceptual Strategy, the net developable acreage on the Project site would be insufficient to meet the project purpose of a residential community of a similar developable acreage to the Proposed Project. Further, the large decrease in developable acreage would substantially increase the cost per net developable acre over that of the Proposed Project.

Buffers of 50 feet would increase the net developable acreage, but the smaller buffers would not provide sufficient protection from surrounding land uses, and do not provide enough surrounding upland to maintain the hydrology necessary to sustain the ecological functions of the wetland. Due to the sprawling shape and narrow length on the southern portion, the pool has a high perimeter to area ratio, and would be highly vulnerable to edge effects from surrounding development. Left unconnected, the avoided areas remaining under a Partial Avoidance Alternative would not meet the acreage requirements for functioning vernal pool and wetland preserve areas, and would likely retain reduced functions and values as a result.

As with the No Fill Alternative, the small, unconnected avoided areas remaining under the Partial Avoidance Alternative are not likely to perform wetland ecosystem functions in the long term. The wetland is not contiguous with, and does not contribute to the Regional Preserve Area set out in the Conservation Strategy. It does not conform to the 10 principles and standards of the Conceptual Strategy and would not be consistent with the Conceptual preserve design. Therefore, the Partial Avoidance Alternative would not result in significantly less impacts on aquatic resources or listed vernal pool species.

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Alternative Three: Proposed Project

The Proposed Project Alternative design includes 19.20 acres of residential development, and a 2.57 acre neighborhood park site. There is no avoidance under the Proposed Project Alternative. The Proposed Project Alternative is shown on Figure Four, attached.

Project Purpose

The Proposed Project will fully develop the site in order to build the residential development and park site. It also provides land for the construction of Chrysanthy Boulevard and the widening of Jaeger Road. The Proposed Project retains 25.14 acres of developable acreage, including 19.20 acres for the residential subdivision, 2.11 acres for major road improvements, and a 2.57 acres neighborhood park. The Project Purpose criterion is met.

Logistics

The Proposed Project Alternative meets logistical requirements by providing for efficient internal circulation within the Project Area in accordance with the planned roadway alignments of the Specific Plan. The design allows for the widening of Jaeger Road, and construction of Chrysanthy Boulevard as required by the Community Plan EIR. Further, the Proposed Project meets the Specific Plan requirements for inclusion of the public service component of a neighborhood park.

Environmental

The wetland and vernal pool features impacted under the Proposed Project Alternative would result in the on-site loss of 1.36 acres of vernal pools. The vernal pools impacted under the Proposed Project Alternative retain a sprawling pattern and scattered distribution through the Project site. They do not meet the environmental criterion for low preserve perimeter to area ratios, and have no direct connection to any larger wetlands complexes set forth in the Conceptual Strategy Preserve Area. The on-site wetlands, including vernal pools, are not connected to the Regional Preserve, do not impact any tributaries or direct connections to vernal pools and wetlands within the Preserve area, and the on-site wetlands do not help to maintain or contribute to its ecological functioning.⁴

Wetlands to the east are divided from the Project Site by a major roadway; the land contiguous on the southern border has received a 404 permit, and is under construction. The Sunridge Ranch project borders the north and west boundaries of the Project Site, and is currently seeking a 404 permit in order to construct a residential development and other urban land uses. The Project Site is surrounded by land designated by the Sunridge Specific Plan as urban land use. Allowing impacts to the wetlands on the Project Site is consistent with the Conceptual Strategy objective

Overall

⁴ The U.S. Fish and Wildlife Service has issued a no-jeopardy Biological Opinion for the Proposed Project.

The Proposed Project meets the project purpose, logistics, costs and environmental criterion. It retains adequate developable area while providing for safe and efficient internal circulation, connection to regional roadways and required expansion of Jaeger Road and the construction of Chrysanthy Boulevard. The Proposed Project site has no connectivity to the any jurisdictional features necessary to maintain connectivity between portions of the Regional Preserve to the north, east and south of the Project. This avoidance assures that the Project is consistent with the regional preservation of wetland and vernal pool habitat within the Specific Plan Subarea pursuant to the Conceptual Strategy. Therefore, the Proposed Project is considered to be the least environmentally damaging practicable alternative.

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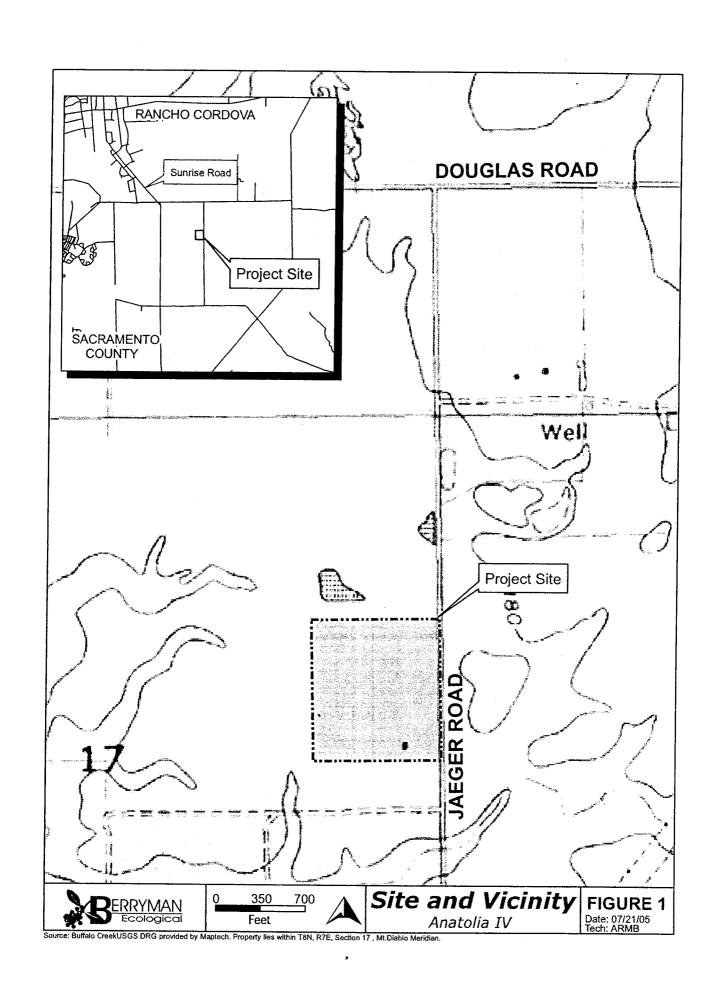
Alternatives
of On-Site
Assessment of
Table 1.

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DESIGN ALTERNATIVE	PROJECT PURPOSE Does the alternative contain approximately 25 acres of developable area available for residential housing, a park and usable open space corridors and also comply with the Conceptual Strategy?	COST Does the alternative have a development cost per net developable acre that is approximately the same as or less than that of the Proposed Project Alternative?	LOGISTICS Does the alternative conform to the Land Use Plan infrastructure, internal circulation elements, and the widening of Jaeger Road, and Chrysanthy Blvd.?	ENVIRONMENTAL Does the alternative have significantly less impacts on aquatic resources than the Proposed Project Alternative and contribute to a viable Regional Preserve for vernal pool and wetland habitat?	LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE
Proposed Project Alternative	Yes	п/а	Ycs	п/а	Yes
Alternative 1: Full avoidance ålternative	No This alternative does not provide adequate developable acreage within the project for proposed uses, and the configuration of the on- site avoidance areas do not comply with the principles and standards of the Conceptual Strategy	No Increased costs due to the elevation of Jaeger Road and Chrysanthy Blvd to bridge wetlands, potential bridging in other areas of plan to provide adequate access and circulation, and reduction of net developable acreage	Yes Would meet logistics criterion with bridging for avoided areas associated with the road projects, and potential additional bridging to provide internal circulation and access within plan.	No Fails to contribute to a viable Regional Preserve as high -perimeter to area ratios indicate small, isolated features that lack connectivity to other preserve areas in the region.	No Not significantly less damaging. Not practicable. Avoided areas not likely to be ecologically viable in the long terrn, and would not contribute to planned preserves which support the Conceptual Strategy.
Alternative 2: Partial avoidance alternative	No The alternative does not provide adequate developable acreage for residential housing within the plan. It within the plan. It conforms with some but not all principles of the Conceptual Strategy.	No The overall reduction in developable acreage significantly increases the cost of developing the project.	Yes It complies with the logistics criteria listed above.	No While providing buffer areas around most of the avoided habitat and aquatic resources, the alternative does not contribute to a viable Regional Preserve and was not identified as a key preservation area on any of the Conceptual Strategy preserve maps.	No Not significantly less damaging. Not practicable.

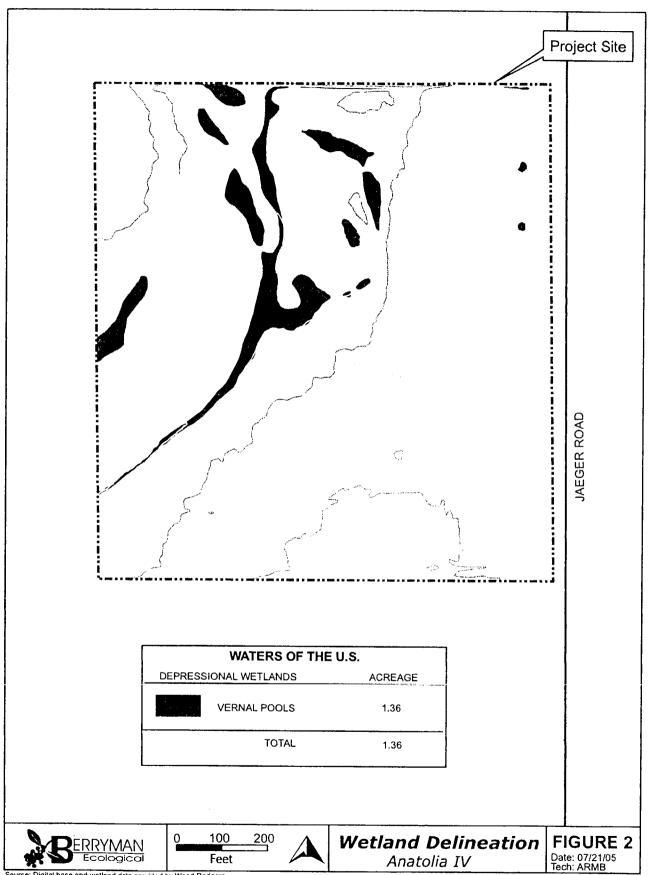
404(b)(1) Alternatives Analysis Addendum: On-Site Alternatives

Anatolia IV



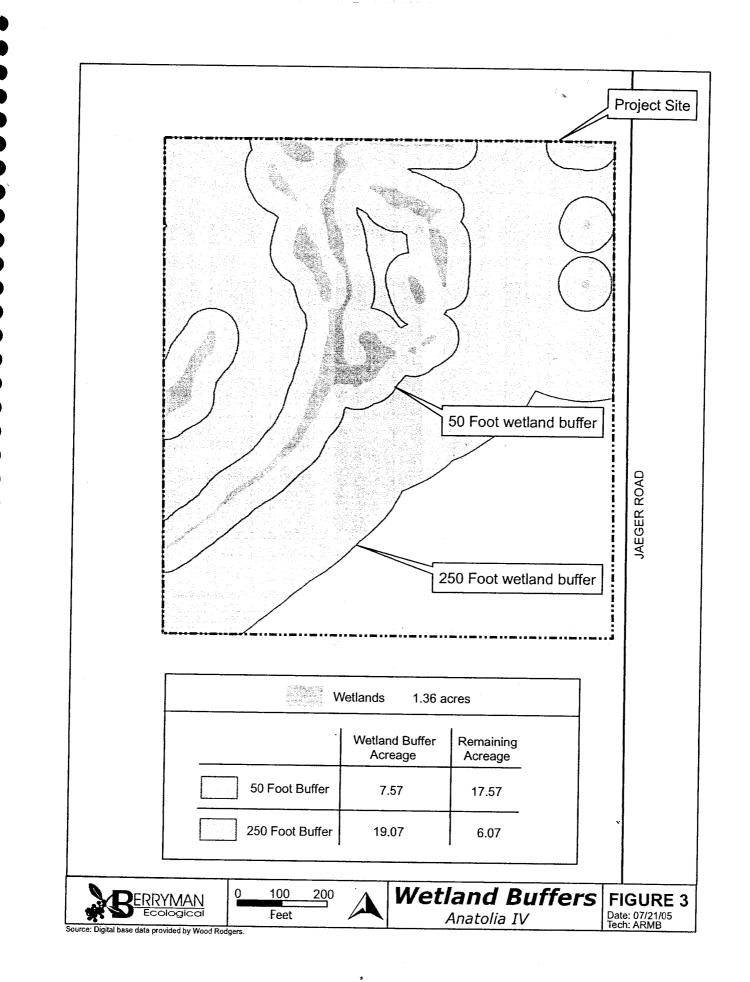
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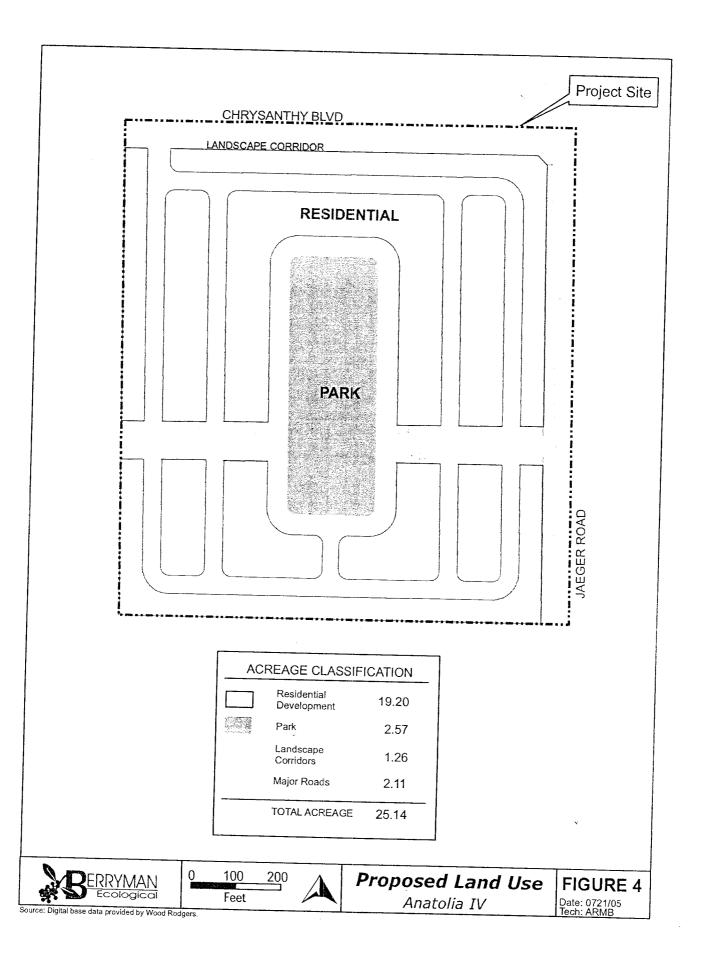


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Source: Digital base and wetland data provided by Wood Rodgers.



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DEPARTMENT OF THE ARMY PERMIT EVALUATION AND DECISION DOCUMENT

Applicant: Cresleigh Homes Corporation

Application No: 200100230

This document constitutes my Environmental Assessment, Statement of Findings, and review and compliance determination according to the Section 404(b)(1) guidelines for the proposed work (applicant's preferred alternative) described in the public notice (Appendix A) as Sunridge Village J (Application No. 200100230) (hereafter referred to as "Sunridge Village J" or "Project"), and as revised subsequent to the Public Notice as described below.

Additionally, the Corps incorporates by reference the following documents: 1) Section 401 Water Quality Certification Permit, issued by the California Regional Water Quality Control Board on December 28, 2004 (Appendix B); 2) Biological Opinion (BO) issued by the U.S. Fish and Wildlife Service (USFWS) (1-1-02-F-0357, dated December 22, 2004) and Amendment (1-1-06-F-0232, dated August 30, 2006) (Appendix C); 3) SunRidge Park and SunRidge Jot J, Addendum to the Mitigated Negative Declaration (Appendix D); 4) November 2004 Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California (Appendix E); 5) January 17, 2005 Clean Water Act 404(b)(1) Alternatives Analysis and On-site Minimization Measures, Sunridge Village J Property, Sacramento County, California (Appendix F); 6) January 13, 2006 Addendum to the Alternatives Analysis, Sunridge Village J Property, Sacramento County, California (Appendix G); 7) A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area (Appendix H).

I. Proposed Project: The proposed project is located within the SunRidge Specific Plan Area, which is within the larger Sunrise Douglas Community Plan Area, in Section 17, Township 8 North, Range 7 East, M.D.B.&M., in Sacramento County, California and can be seen on the U.S.G.S. "Buffalo Creek" 7.5' quadrangle. The maps of the site and the description of the proposed work are in the attached Public Notice, and further described below.

The Project would consist of filling 2.99 acres of waters of the U.S., including wetlands, to construct 369 single-family homes (68.23 acres), three (3) neighborhood parks (8.63 acres), and road construction/improvements (4.30 acres) on a 81.25-acre parcel. The Project lies within the County's approved 6,042-acre Sunrise Douglas Community Plan (Community Plan) area and approved 2,632-acre SunRidge Specific Plan (Specific Plan) area.

The site is comprised of level to gently rolling terrain, consisting mainly of non-native grasslands. Vernal pools, swales, and a pond lie within the grasslands. The majority of the site has been used historically as a rural residential with horse boarding facilities (watering areas, barns, and stables).

The Sunrise Douglas area in southeast Sacramento County is generally comprised of the area bounded by Douglas Road to the north, Sunrise Boulevard to the west, Grant Line Road to the east and the Jackson Highway to the south. This area has been the subject of extensive land use planning and attendant environmental review processes under the California Environmental Quality Act ("CEQA") and, to a lesser degree, the National Environmental Policy Act ("NEPA").

Beginning in 1987, the Sammis Company ("Sammis") initiated a development project in the Sunrise Douglas area that became known as the Sunrise Douglas Project (herein referred to as the "SD Project"). The SD Project was originally planned as an industrial project covering approximately 1,225.5 acres of land owned/controlled by Sammis, bounded on the west by Sunrise Boulevard, and on the north and south by Douglas Road and Keifer Boulevard, respectively. Sammis applied for County approvals for the industrial development, but changed its proposal to a predominantly residential project about two years later (in 1989), after the announcement of the potential closure of adjacent Mather Field. The residential project required a General Plan amendment, zoning change, and permit from the Corps for fill of jurisdictional areas within the SD Project area. Sammis' request for General Plan amendment was the last of its kind in the Sunrise Douglas area because the County subsequently imposed a moratorium on general plan amendments pending its 1993 revision of the County General Plan.

The Corps and the County identified potentially significant environmental impacts associated with the SD Project, and as Lead Agencies, prepared a joint Environmental Impact Statement/Environmental Impact Report for the project under NEPA and CEQA, respectively (the "SD Project EIS/EIR").

A. The SD Project EIS/EIR

The Final SD Project EIS/EIR, published in January, 1992, evaluated the impacts of a primarily residential project on approximately 1,225 acres. According to the EIS/EIR, the information therein was intended for use by all agencies concerned with major developments in the County. The EIS/EIR determined the project area contained 82.14 acres of jurisdictional waters, including 68.06 acres of vernal pools. The development as proposed would impact approximately 38.15 acres, including 26.97 acres of vernal pools. The Corps considered this a substantial impact without appropriate mitigation. The SD Project EIS/EIR proposed a combination of avoidance and on-site creation of wetlands and vernal pools within a 482-acre reserve in the SD Project EIS/EIR required a minimum of 27.01 acres of vernal pool creation (3.8 acres on-site and 23.2 acres off-site) and 14.08 acres of wetland creation on- and off-site. The SD Project EIS/EIR concluded that these on-site and off-site measures, together with provisions of the Wetlands Compensation Plan authorized for the wetland/vernal pool reserve, would at least maintain wetland and vernal pool functions and values in the area, thus sufficiently mitigate impacts to wetlands and vernal pools on site.

The SD Project EIS/EIR considered all other potentially substantial impacts from the development of the project and proposed mitigation measures to reduce all but a few impacts to below substantial levels. As the SD Project EIS/EIR noted, for this particular project, the Corps limited its jurisdiction to waters of the United States, and analysis of direct, indirect and cumulative impacts and required mitigation associated with the Corps' action, the section 404 permit. (Final SD Project EIS/EIR, p. B-16). For other potentially substantial impacts, the County as CEQA lead agency analyzed and enacted sufficient mitigation measures to reduce potential impacts to below levels of significance in all but eight categories. The SD Project has been substantially constructed.

B. Sunrise Douglas Community Plan Sunridge Specific Plan EIR

In 1993, at about the same time as the certification of the SD Project EIS/EIR, the County initiated a Specific Plan process for the greater Sunrise Douglas area, encompassing over 5,000 acres of land, including the SD Project. The County then modified its approach and adopted a more conceptual Community Plan for the greater Sunrise Douglas area, encompassing approximately 6,042 acres, while reducing the area covered by the detailed Specific Plan to include approximately 2,632 acres, including the SD Project already covered by the SD Project EIS/EIR. The County prepared the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR (herein, "Community Plan/Specific Plan EIR"). For the Community Plan area, the Community Plan/Specific Plan EIR analyzed an overall conceptual framework and policy direction for urbanization of the area covered by the Community Plan. Conceptual land uses were assumed for the Community Plan area outside of the Specific Plan area in order to evaluate the cumulative impacts of future urban development of this area. For the Specific Plan area, the EIR analyzed detailed land use and public facilities plans and corresponding zoning for near-term urban development within the Specific Plan area. The Community Plan/Specific Plan EIR also considered the findings and mitigation measures of the SD Project 404 permit because the SD Project is within the boundaries of the Specific Plan area. Thus, after the certification of the Community Plan/Specific Plan EIR in 2002, development proposed for 1,255 of the 2,632 total acres of the Specific Plan had been covered by the Corps' EIS/EIR and the entirety had been covered by a subsequently prepared EIR.

The City of Rancho Cordova is reviewing their application for a Mitigated Negative Declaration (MND) (Appendix D) for the Project. The City relied on the Sunrise Douglas Community Plan/SunRidge Specific Plan Final Environmental Impact Report, which was certified by the Sacramento Board of Supervisors on June 19, 2002.

C. Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area (Appendix H)

In May 2002, prior to its certification of the Community Plan/Specific Plan EIS/EIR, the County initiated meetings regarding potential wetlands and endangered species permitting strategies for the entire Community Plan area. The U.S. Fish and Wildlife Service, the Corps and U.S. Environmental Protection Agency (the "Federal Agencies" or "Agencies"),

the California Department of Fish and Game, and a majority of landowners and interested developers within the Specific Plan area attended these meetings. No resolution was reached. On July 17, 2002, the County approved both the Community Plan and the SunRidge Specific Plan. The conditions of approval for the Specific Plan require individual applicants to obtain any necessary Corps permit for fill of waters of the United States. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the Community Plan area came under the City's land use jurisdiction.

In early 2004, Congressman Doug Ose asked that all parties come together for further meetings among the stakeholders. The goal of these meetings was to cooperatively develop a conceptual on-site avoidance and off-site mitigation strategy that would satisfy the mandates of federal law administered by the Federal Agencies while allowing for development of the Specific Plan according to existing land use plans. As a result, the Corps, USFWS, and the U.S. Environmental Protection Agency (USEPA) developed a strategy that in concept would result in a workable framework for the planned development in the Community Plan and be consistent with the requirements under the Clean Water Act, the Endangered Species Act and other applicable laws.

The Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June 12, 2004 (herein, "Conceptual Strategy," incorporated by this reference) sets out 10 principles and standards to assist property owners in identifying alternatives that minimize individual and cumulative effects on aquatic resources and sensitive species. Together with the 10 standards and principles, the Agencies released a Conceptual Strategy map for the Community Plan area. This map and the existing preserve established within the SD Project area, creates a concept for managing aquatic resource habitat within the Community Plan/Specific Plan area. The Conceptual Strategy preserve area would be protected and managed in perpetuity according to an Agencies-approved preserve management plan. The map, together with the 10 principles and standards and an agency approved preserve management plan, is a mitigation strategy designed to ensure that the functions of preserved aquatic resource habitat will be maintained. These measures were designed to protect the conditions of aquatic resource habitat within the Specific Plan, and to minimize both the project-by-project and cumulative effects associated with the development of the Specific Plan.

As part of the Conceptual Strategy process, the Corps addressed its approach to NEPA compliance within the Community Plan area. For the unpermitted area of the SunRidge Specific Plan (the Sunridge Specific Plan area excluding the SD Project), the permit applicants prepared an analysis of potential cumulative impacts and an evaluation of the practicability of different preserve designs. This information applied to seven individual applications for permits that were pending before the Corps, including four projects noticed together in the same Public Notice as the Project. (see Public Notice No. 200000336).

The City of Rancho Cordova and the Corps are in the process of preparing an EIS/EIR for the SunCreek Specific Plan portion of the Community Plan.

Based on implementation of the Conceptual Strategy and Regional Alternatives Information (discussed below), the USEPA by letter dated April 26, 2004, and the USFWS by their BO for the Project dated December 22, 2004, confirmed their decision not to elevate the Corps' 404 permit decisions on SunRidge Village J and other applications pending in the SunRidge Specific Planning Area, pursuant to the 404(q) Memorandum of Agreement between the Federal Agencies. The Corps confirmed its concurrence of the Conceptual Strategy by letter dated October 29, 2004, to Mr. John Hodgson in response to his summary of the negotiations.

The Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California (Appendix E), dated November 2004 (referred to herein as the "Alternatives Information Document") addresses regional and sub-regional cumulative impacts that may occur from the plan developed by the Agencies. The Alternatives Information Document analyzes the Conceptual Strategy map and eight other alternative reserve configurations according to criteria for minimizing jurisdictional impacts and providing connected reserve area(s), in light of cost, logistics and existing technology. The Corps incorporates the Alternatives Information Document into, and makes it a part of, this Environmental Assessment by reference.

A. Changes to the proposed project since circulation of the public notice: No changes to the wetland impact areas were proposed. However, the road alignment and lot sizes were changed.

B. Specific activity that requires a Department of the Army permit: The applicant has proposed to place fill material in waters of the U.S., including wetlands, which would result in the loss of 2.99 acres of waters of the U.S., including wetlands.

II. Environmental and Public Interest Factors Considered:

A. Purpose and need: The overall project purpose is to construct a residential development in the southeast Sacramento area. Construction resultant from the fill would address the existing housing demand within Sacramento County.

B. Alternatives [33 CFR 320.4(b)(4), 40 CFR 230.10]

The applicant submitted an alternatives analysis for the SunRidge Community Plan (Appendix E), alternatives analysis and on-site minimization measures analysis (Appendix F), dated January 18, 2005, and addendum to the alternatives analysis (Appendix G), dated January 30, 2006, for the Project prepared pursuant to the 404(b)(1) guidelines, incorporated by reference.

In summary, the analysis first reviewed the potential alternative project locations within the Specific Plan area. All alternative locations within the Specific Plan area that met the acreage requirement of the applicant also contained at least as much, but typically greater, acreage of jurisdictional wetlands than Sunridge Village J. In addition, as part of its analysis of potential alternate locations for the project, the analysis reviewed the conclusions of the

Information Document concluded there were no projects; including Sunridge Village J, that would meet the project purpose of constructing residential subdivisions within the southeast Sacramento area with any less damaging result for aquatic ecosystems.

The applicant provided alternatives information for on-site design alternatives, including the proposed Project. The alternatives information discussed the multi-agency Conceptual Strategy as it applies to the project. The applicant discussed the project within the framework of the ten principles and standards discussed in the Conceptual Strategy, and analyzed its level of compliance with the principles and the associated preserve map created for the entire Specific Plan area.

1. No action: No permit would be issued. The no permit alternative is the same as the no fill alternative discussed in the applicant's alternatives analysis. To avoid direct and indirect impacts to wetlands, the no permit alternative would require avoidance of all waters of the U.S., including a 250-foot buffer. This would require avoidance of 53.46 acres of land area, with 27.79 acres remaining for development. The remaining developable acreage would be further constrained by the size and sprawling pattern of the wetlands, including vernal pools, across the site. This alternative would not leave sufficient contiguous land to feasibly construct a residential development. In considering alternatives that would avoid all jurisdictional waters, the applicant considered the use of bridges and conspan-type structures to avoid fill of waters, yet issues of maintaining safe and efficient circulation patterns still remain, making this alternative logistically infeasible and therefore not a practicable alternative.

2. Other project designs (smaller, larger, different, etc.): The applicant provided information on two different avoidance alternatives, a partial avoidance alternative and no-fill alternative. The applicant determined that any on-site preserve configuration would result in an isolated preserve, which would result in indirect adverse effects to the wetland features in the preserve. Additionally, the applicant indicated that any on-site preserve consistent with the principles and standards of the Conceptual Strategy would reduce the acreage available for development to a point that would preclude construction of a development consistent with the project purpose.

The applicant also participated in extensive discussions with the Federal Agencies in developing the Conceptual Strategy and accompanying Map for projects within the Specific Plan area. The Conceptual Strategy and Map identify: (1) wetlands and vernal pool avoidance areas within the Specific Plan, and (2) ten principles and strategies necessary to create an aquatic resource habitat avoidance and preserve area within the Specific Plan area that ensures overall project consistency with the requirements of the Endangered Species Act and Clean Water Act. The applicant has demonstrated that, as proposed, Sunridge Village J complies with the Conceptual Strategy and Map.

3. Other sites: The applicant was unable to identify any sites within the Specific Plan area which were available and of sufficient size.

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4. Other sites not available to the applicant (40 CFR 230.10): The 404(b)(1) Alternatives Analysis for Sunridge Village J considered 15 potential alternative sites within the Specific Plan area. As discussed in the Regional Alternatives Document, these sites did not meet the availability criterion because they were currently under development by other owners, and/or did not meet the environmental criterion because they were not less environmentally damaging as they were likely to have equal or greater impacts to aquatic ecosystems on their sites.

5. Corps selected alternative: The Corps' selected alternative is the applicant's preferred alternative with the inclusion of special conditions (see below).

C. Physical/chemical characteristics and anticipated changes (check applicable blocks and provide concise description of impacts for the proposed project, other evaluated alternatives, and the no action).

(X) Substrate: The substrate primarily consists of Red Bluff loam (2-5% slopes) and Redding gravelly loam (0-8% slopes). These are well to moderately well drained soils found on high terraces and terrace remnants. Both of these soils contain a single unnamed hydric inclusion found in depressional areas. The project would affect all soils on the 81.25-acre site, including all 2.99 acres of waters of the U.S. (vernal pools and seasonal drainage) on-site and indirectly affect 0.39 acres of waters to the south of the project site. This fill does not constitute a substantial impact because it will be mitigated through the creation of 2.99 acres of waters of the U.S. and the preservation of 9.18 acres. The impact on substrate overall is adverse but considered minor.

(X) Currents, circulation or drainage patterns: Site drainage flows into the riverine seasonal wetland and flows off the western portion of the project site. Filled areas will be developed as part of the Corps Selected Alternative and drainage from these areas will be re-routed to the extent necessary to comply with post-construction stormwater plans for the Project site. Runoff from the Corps Selected Alternative will be re-routed to a storm water detention basin to be located within the Project and conveyed off-site via a storm drain. The applicant is expected to comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to avoid the potential for substantial adverse nuisance flows from the Project to enter into waters of the United States. As a result, off-site impacts will be avoided.

(X) Suspended particulates; turbidity: Wetlands on-site likely have slightly turbid water during the rainy season. There is potential for increased turbidity during and after project construction. This potential will be minimized through compliance with the City of Rancho Cordova's MS-4 permit. Water quality BMPs required under the City's MS-4 permit will avoid substantial adverse impacts resultant from the entrance of suspended particulates and turbid runoff into waters of the United States. Only minimal impacts are expected provided the applicant complies with State Water Quality Certification (Appendix

B).

(X) Water quality (temperature, salinity patterns and other parameters): Filled areas developed as part of the Project have the potential to contribute urban pollutants to runoff from the site into waters of the United States. These pollutants could include hydrocarbons, nitrates and ammonia, and heavy metals. As with turbidity, the Project is required to implement construction and operational BMPs that will avoid substantial adverse effects from polluted urban runoff into waters of the United States. Minimal impacts are expected provided the applicant complies with State Water Quality Certification (Appendix B).

() Flood control functions: None.

() Storm, wave and erosion buffers: None.

() Erosion and accretion patterns: None.

(X) Aquifer recharge: Limited groundwater recharge in the project area occurs on the Project site: Soils and underlying hardpan on the Project site result in little infiltration from the remaining, undeveloped portions of the Project area. Aquifer recharge from the Project site is minimal because of these site conditions. Runoff from new impervious surfaces created as a result of the permitted fill would be collected and diverted through onsite drainage controls and ultimately released downstream. Some infiltration from these features would occur. Recharge would probably still occur, but at different locations and at different rates than under existing conditions, however no substantial adverse effects would likely occur.

() Baseflow: None.

Additionally, for projects involving the discharge of dredged material:

() Mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification discharge vessel speed and direction; rate of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing: No effect.

D. Biological characteristics and anticipated changes (check applicable blocks and provide concise description of impacts for the proposed project, other evaluated practicable alternatives, and the no action):

(X) Special aquatic sites (wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45): The project site currently contains 0.22 acres of riverine seasonal wetland, 1.88 acres of vernal pools, and a 0.89-acre pond. The project, as proposed, will impact all 2.99 acres of wetland and also indirectly impact 0.36 acre of wetlands off-site.

Compensatory mitigation for direct and indirect impacts will consist of restoration/creation of 3.38 acres of vernal pools. Areas restored or created will retain similar functions as wetland areas impacted on the Project site, assuring no net loss of wetland acreage and functions as a result of the permitted fill.

The proposed preservation component will consist of preserving a minimum 9.18 acres of functioning wetland habitat. As discussed above, the functions associated with wetlands, including vernal pools on this site are similar or greater than those permitted for fill under this decision document.

(X) Habitat for fish and other aquatic organisms: Wetland and vernal pool habitat for the Federally listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*) will be affected by the permitted fill. The applicant has proposed mitigation measures designed to mitigate impacts to aquatic habitat from the proposed fill. Mitigation includes off-site preservation of high quality wetland and vernal pool habitat, in addition to creation of vernal pool and wetland habitat. Mitigation ratios are 1:1 for off-site creation (both indirect and direct impacts) and 4:1 for off-site preservation. Finally, the preservation and creation sites in which mitigation acreage are to be established will be maintained and preserved in perpetuity as habitat resources. The funding and management of these areas provides environmental benefits in the form of habitat restoration, creation, and preservation. These measures will mitigate the effects of the proposed fill on aquatic habitat to below substantial levels.

(X) Wildlife habitat (breeding, cover, food, travel, general): The site provides forage, cover, and nesting habitat for insects, songbirds, amphibians, reptiles, mesomammals, and small mammals (including some foraging habitat for bats). The site also provides habitat for foraging raptors. Construction of the proposed project will permanently reduce most wildlife habitat at this location. The parks and open spaces (proposed in the project) may provide some habitat to wildlife, however most likely a mono-culture non-native grasses will be planted. Some trees may be planted which would provide perching structures and a food source for wildlife. The 80-acre site probably provides adequate habitat for smaller animals such as frogs and microtene rodents, however the site may be too small to meet the size requirements for populations of larger animals, such as coyotes (*Canis latrans*) and black-tailed jackrabbits (*Lepus californicus*).

The site is bordered by two roads (Jaeger Road to the west and Douglas Road to the north). These roads already inhibit dispersal and travel for larger animals, and cause increased mortality to both small and larger animals. A development (Sunridge Park) has been proposed east of the project area, and a preserve (Sunridge) will be established to the south of the project area. Thus, the site will be isolated and inhibit the useage as a wildlife travel corridor. Any preserves located within the project area would only provide limited habitat to meet most wildlife's biological requirements. Temporal impacts to these habitat types will be offset by off-site preservation of existing habitat and off-site restoration/creation of similar wetland and upland habitat. Only small temporal impacts are anticipated.

(X) Endangered or threatened species: As discussed previously, the vernal pools subject to fill are assumed by the applicant to contain the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and the endangered vernal pool tadpole shrimp (*Lepidurus packardi*). The Service issued a no-jeopardy BO (1-1-02-F-0357, dated December 22, 2004) and Amendment (1-1-06-F-0232, dated August 30, 2006) on the proposed fill activities for the Sunridge Village J project. The Service concluded that the fill activities of the Corps' Selected Alternative will not jeopardize the continued existence of the listed vernal pool crustaceans because mitigation proposed as part of the Project, plus compliance with the agencies' Conceptual Strategy and Map will offset impacts to the listed species and their habitats. The Biological Opinion requires that mitigation measures proposed by the applicant be implemented through the 404 permit, and the implementation of those mitigation measures is included as a condition of the permit issued. Based on the conclusions of the no-jeopardy opinion, and the likelihood of success of planned mitigation, the permitted fill will not have substantial effects on endangered or threatened species, as mitigated.

(X) Biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities, or other sources: According to the City of Rancho Cordova's MND, the project site has no known past hazardous materials involvement. Additionally, although there is documented groundwater contamination in the plan area, the project does not include the use of on-site wells. Therefore, the potential for the project to result in exposure to the groundwater contamination is unlikely.

E. Human use characteristics and impacts (check applicable blocks and provide concise description of impacts for the proposed project, other evaluated practicable alternatives, and the no action):

(X) Existing and potential water supplies; water conservation: Water present in the areas of proposed fill consists of annual precipitation, and does not represent a potential water supply. The proposed fill would not have an effect on existing or potential water supplies, nor would it cause an effect with regard to water conservation.

- () Recreational or commercial fisheries: No effect.
- () Other water related recreation: No effect.
- (X) Aesthetics of the aquatic ecosystem: The project will have a permanent

negative effect on the aesthetics of the project. The site will be converted from an annual grassland with seasonal wetland features to a residential housing complex. The project has proposed three (3) small park sites. However, this will only provide minimal open space that will mitigate for the loss of most of the site's naturalness.

(X) Parks, national and historic monuments, national seashores, wild and scenic rivers, wilderness areas, research sites, etc.: Three (3) parks have been proposed for the site. This should provide limited recreation opportunities for local residences. Current recreational opportunities for the public are unknown.

(X) Traffic/transportation patterns: Current traffic and transportation patterns in the area of the proposed project exhibit growth underway in Sacramento County. Small collector roads connect to large arterial roadways. Potential traffic impacts were addressed in the Traffic Circulation Section of the Sunrise Douglas Community Plan and Sunridge Specific Plan (SDCP/SRSP) Master Environmental Impact Review (EIR). The SRSP would increase A.M. and P.M peak hours and daily vehicle trips compared to existing traffic conditions. The SDCP/SRSP EIR identified traffic and circulation mitigation measures for development projects to adopt. The traffic impacts resulting from the Corp's action may be adverse but are considered minor overall when incorporating mitigation measures.

(X) Energy consumption or generation: The proposed development would require energy for grading and fill, and would require additional energy for construction, operation and maintenance of improvements. There is adequate capacity available to serve these future energy needs, and the impacts are not substantial.

() Navigation: No effect.

(X) Safety: The project will implement safety measures such that there is relatively low potential for substantial effect to safety (temporarily and permanently).

(X) Air quality: The proposed permit has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

(X) Noise: The proposed construction is not expected to generate noise impacts in any substantial amount. In this case, land uses proposed on all portions of the applicant's project are expected to meet the County Noise Level Performance Standards (NLPSs) and

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County Land Use Compatibility standards set by the County's General Plan Noise Element (Community Plan/Specific Plan EIR, pp. 12.9c). These indicators are a common threshold used for assessment of significant noise impacts, and indicate the permitted fill will not result in substantial noise impacts.

(X) Historic properties (Section 106 National Historic Preservation Act): During the pedestrian survey, one (1) historic resource was located. This office initiated consultation with the State Historic Preservation Officer. On April 7, 2006, we received concurrence that the project is not eligible for listing and that the proposed project would not impact a historic or pre-historic site.

(X) Land use classification: The proposed fill activity will occur in conjunction with construction of residential development on lands previously used for agricultural activities. These lands are located within the General Plan Urban Policy Area and are shown as a new Urban Growth Area in the Sacramento County General Plan, indicating the County's intent to plan for the urbanization of this area within the 20-year time frame of the General Plan.

(X) Economics: Construction associated with the project will provide temporary jobs and may generate revenue for the local economy. In the long term, the project will help to address growing housing demand in the Sacramento County area. Housing shortage in the area has the potential to negatively affect continued economic growth in the southeast County area, and the greater Sacramento County area as a whole.

(X) Prime and unique farmland (7 CFR Part 658): The California Department of Conservation's Farmland Mapping and Monitoring Program designated the project site as grazing land and farmland of local importance, not as prime or unique farmland. According to the City of Rancho Cordova's MND, neither the grazing or farmland of local importance designation qualifies the project site as prime and unique farmland.

() Food and fiber production: No effect.

(X) General water quality: The existing quality of water in wetlands and other waters of the United States on the Project site results from local precipitation, drainage from adjacent areas and residues of agricultural applications on site. Fill of wetlands and construction of the applicant's proposed project has the potential to add urban pollutant runoff.

Pursuant to Section 401 of the Clean Water Act, the applicant has obtained certification from the Central Valley Regional Water Quality Control District, issued December 28, 2004 (File No. 5A34CR00185). The 401 Certification concluded that the proposed project has

proposed sufficient measures to adequately protect the identified beneficial uses of surrounding and downstream water courses. The applicant will comply with all postconstruction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to prevent substantial impacts to the water quality of surrounding and downstream areas.

(X) Mineral needs: Current activities at the project site do not require mineral needs. Construction of the project will necessitate the importation of aggregate, concrete, and asphalt. These materials will likely be supplied locally. No negative impacts are expected.

(X) Consideration of private property: The project area is currently private property owned by the applicants. The project is being permitted as proposed and the applicant's use of private property has been given appropriate consideration.

(X) Environmental justice (Title VI of the Civil Rights Act and Executive Order 12898): The proposed action is not expected to negatively impact any community, and therefore is not expected to cause disproportionately high and adverse impacts to minority or low-income communities.

() Other:

F. Summary of secondary, indirect, and cumulative effects: Indirect impact from the fill of on-site wetlands over the southern boundary of the project site would include offsite impacts to an additional 0.03 acres of seasonal wetland and 0.36 acres of vernal pool (total of 0.39 acres of jurisdictional waters of the United States), as estimated by the USFWS's BO. The USFWS took these 0.39 acres into account in the issuance of its nojeopardy BO for the permitted fill, and concluded that the applicant's proposed mitigation measures sufficiently offset direct and indirect impacts to wetland and vernal pool habitat. The USFWS estimates that any jurisdictional wetland or vernal pool habitat within 250 feet of project development will be indirectly impacted due to increased human presence, changes to hydrology or other created conditions. Habitat to the west and north is divided from the project site by major roadways and therefore indirect impacts are not anticipated. Because land to the east is within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan area, habitat in these areas would be directly removed and offset by the adjacent proposed development.

Cumulative effects are the incremental effects of the agency's proposed action, and past, present and reasonably foreseeable future actions in the locale of the agency's action. For analysis of cumulative impacts, the Corps has focused on the larger 1,345 acre subarea of the SunRidge Specific Plan area because a number of actions are currently pending in this area

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that could have potentially substantial cumulative effects. The City of Rancho Cordova has completed the land use entitlement process for each of these projects within this area, and the proposed actions are well-defined and the potential impacts are foreseeable. Moreover, each of the 404 permit applications pending in the SunRidge subarea are for geographically contiguous jurisdictional features and the permitted actions are planned to occur roughly during the same time frame. Because of the certainty of the land use entitlements, and the related geography and timing of the effects, they have the potential to be cumulative.

The Conceptual Strategy, and the detailed analysis in the Regional Alternatives Information address potential cumulative effects to both aquatic and non-aquatic resources in the subarea. The collaborative effort of the Federal Agencies and the numerous applicants participating in the Conceptual Strategy resulted in a plan to preserve wetlands and vernal pools in the area that collectively reduced direct loss of jurisdictional waters from almost 60 acres under the adopted Specific Plan, to just over 44 acres, while preserving 41.2% of vernal pool habitat within the Specific Plan. Each project has agreed to demonstrate consistency with the Conceptual Strategy and to incorporate mitigation that will ensure no net loss of wetlands. It is estimated that over 50% of the waters within the Community Planning Area will be protected under the conceptual preserve design. This is a substantial reduction of impacts to waters of the US as compared to the proposed level of development from the County of Sacramento. Thus, the Conceptual Strategy strives to avoid adverse cumulative effects by (1) increasing avoidance and preservation of wetlands and vernal pools within the subarea from what was initially proposed under the Specific Plan, (2) strategically identifying avoidance areas in a manner that minimizes edge effects and maximizes connectivity (3) coalescing these individual projects' avoidance and minimization efforts into a regional reserve designed to connect to the previously approved and existing Anatolia Preserve, thereby increasing connectivity between project avoidance areas and connectivity to downstream wetlands and vernal pools, and (4) creating large, intact corridors supporting the Morrison and Laguna Creek watersheds and associated vernal pools in the Specific Plan area. The Conceptual Strategy also sets out principles and standards for development surrounding the avoided wetlands and vernal pools that will reduce urban edge effects on these areas and to promote long-term retention of wetland and vernal pool functions. Last, the Conceptual Strategy areas are required to be monitored and managed in perpetuity according to preserve management plan to be submitted for the Federal Agencies' approval. The measures specified in the Conceptual Strategy for the creation of a reserve according to the map will minimize cumulative impacts to jurisdictional wetlands and vernal pools within the Specific Plan area.

Future projects in the Sun Creek portion of the Community Plan area are as yet too uncertain to include within a cumulative impacts assessment at this time. The Corps has received applications for development in this area. Currently, the Corps and the City are preparing a joint EIS/EIR for development in this area, which will further consider potential cumulative

effects. The Community Plan/Specific Plan EIR does not provide more than conceptual information on jurisdictional impacts within the SunCreek area. The current EIS/EIR process will modify and refine land uses in this area, including the creation of a jurisdictional wetland and vernal pool preserve within the SunCreek area. Although impacts to wetlands are likely, because the EIS/EIR process is at an early stage it is not reasonably foreseeable to predict the impacts that could result from that future project. Subsequent applications for fill for projects within the Community Plan area will also be appropriately evaluated under NEPA and the conceptual strategy.

Together, past measures taken to reduce impacts at the Sunridge Village J project (SD Project) combined with measures specified in the Conceptual Strategy for the SunRidge Specific Plan area, assure that adverse effects to jurisdictional wetland and vernal pool areas are not cumulatively substantial.

In addition to potential cumulative impacts to jurisdictional wetlands and vernal pools, the development of the Project, in conjunction with development of other projects noticed in Public Notice# 200000336 and others within the Specific Plan area, may have cumulative impacts to other categories of the human environment. The County's Community Plan/Specific Plan EIR discusses potentially substantial cumulative effects from development in the Specific Plan area. The County identified mitigation measures through the Specific Plan EIR, and incorporated land use planning policies within the Specific Plan that are designed to address cumulative impacts in these other categories such as traffic, noise, air quality and groundwater resources. The mitigation measures in the City of Rancho Cordova's MND for the Sunridge Village J Project, in addition to measures implemented by the County's adoption of the SD Project EIS/EIR Mitigation and Monitoring Program, and future mitigation measures created for the SunCreek Specific Plan area, will assure adequate treatment of these categories of cumulative impacts.

The growth inducing effects of the permitted fill are expected to be minimal, because this area has already been designated as an urban growth area by the County's 1993 General Plan.

G. Summary of proposed mitigation measures: The applicant has reduced impacts to the aquatic environment by following the "Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area".

The applicant has proposed to create 3.38 acres of vernal pools at a Corps-approved off-site location and preserve 9.18 acres of vernal pools at a Corps-approved location.

H. Special Conditions added to the permit:

1. The Project shall comply with the provisions of the Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

2. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., and Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-02-F-0357, dated December 22, 2004) and Amendment (1-1-06-F-0232, dated August 30, 2006), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. As compensatory mitigation for the direct loss of 2.99 acres of waters of the United States and indirect impacts to 0.39 acres (3.38 acres total), you shall construct at least 3.38 acres of vernal pool habitat at the Gill Ranch Mitigation Area (off-site mitigation area). Also, to fulfill wetland preservation requirements you shall purchase 9.18 acres of vernal pool crustacean habitat at the Bryte Ranch Conservation Bank.

4. You shall develop a final comprehensive compensatory mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of any construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

5. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

6. You shall complete construction of the compensatory mitigation no later than November 15th of the year project construction is initiated.

7. To insure that the compensatory mitigation is completed as required, you shall notify the District Engineer of the date you start construction of the authorized work and the start date and completion date of the mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed compensatory mitigation work, you shall provide two (2) complete sets of as-builts of the completed work within the off-site mitigation area to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, a preserve (compensatory mitigation area) containing the 3.38 acres of created/restored aquatic habitat required by "Special Condition 4".

10. To minimize external disturbance to created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland vegetation surrounding the entire perimeter of all created/restored waters of the United States, including wetlands within the proposed off-site preserve. This buffer shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans. These buffer widths shall be explicitly approved in writing by the Corps prior to any work in waters.

11. To insure that the preserve (compensatory mitigation area) is properly managed, you shall develop a specific and detailed preserve management plan for the off-site compensatory mitigation area. This plan shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area and the long term funding and maintenance of each of the preserve area.

12. To protect the integrity of the compensatory mitigation area and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

13. To prevent unauthorized access and disturbance, you shall, within one (1) year of starting the compensatory mitigation construction, install fencing and appropriate signage around the entire perimeter of the compensatory mitigation area and the approved buffer.

All fencing shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of the compensatory mitigation area:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site compensatory mitigation area.

b. Designate a Corps approved conservation-oriented third part entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be approved by the Corps of Engineers prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

15. To assure success of the created waters of the United States, you shall monitor the compensatory mitigation area for five (5) years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three (3) consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit compensatory mitigation area monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by October 1st of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

18. All terms and conditions of the December 28, 2004 Section 401 Water Quality

Certification are expressly incorporated as conditions of this permit.

III. Findings:

A. Other authorizations or compliance determinations:

1. Water quality certification: The applicant obtained water quality certifications from the Central Valley Regional Water Quality Control Board on December 28, 2004, File No. 5A34CR00185. The 401 certifications, including special conditions, are attached (Appendix B).

Date: December 28, 2004 Issued: X_____ Denied: ______ Waived:

Special Conditions Yes X No _____ (If yes see attached)

2. Compliance with Section 106 of the National Historic Preservation Act: Concurrence was received by the SHPO on April 7, 2006.

3. Compliance with the Endangered Species Act: A BO (1-1-02-F-0357, on December 22, 2004) and Amendment (1-1-06-F-0232, dated August 30, 2006) were issued.

4. State and/or local authorizations (if issued):

B. We received a complete application on November 30, 2001. We issued a public notice describing the project on February 11, 2002, and sent the notice to all interested parties (mailing list) including appropriate state and Federal agencies. All comments received on this action have been reviewed and are summarized below.

1. Summary of comments received.

a. Federal agencies:

1) U. S. Environmental Protection Agency (EPA): EPA responded by letter dated April 26, 2004. EPA believed the 5 permit applications, as discussed in the Public Notice, would collectively cause unacceptable impacts to Aquatic Resources of National Importance (ARNI). However, EPA believed that implementation of the proposed Conceptual Strategy and creation of a large aquatic resource habitat reserve according to the Conceptual Reserve map created by the agencies would resolve Clean Water Act issues.

U. S. Fish and Wildlife Service (USFWS): USFWS 2) commented by letter dated April 26, 2004. They requested preparation of an Alternatives Analysis in compliance with the 404(b)(1) guidelines. The Service did not concur with the conclusions of the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR regarding the identification of an environmentally superior alternative. The USFWS commented on proposed recreated stream channels to be constructed within portions of the Specific Plan area. The USFWS believed impacts to water quality due to increased urban runoff were inadequately addressed. The USFWS recommended against in-stream storm water detention ponds. The USFWS believed proposed development within the Community Plan area would likely impact the Stone Lakes National Wildlife Refuge downstream of the Community Plan area. The USFWS commented on the potential of off-line water quality basins to impact the hydrology of streams running through the site. The USFWS commented that development within the Community Plan area would impact special status species. The USFWS commented that development within the Community Plan area would result in unacceptable impacts to ARNI. The USFWS commented that a comprehensive on-site mitigation strategy for wetlands and vernal pools in the Community Plan area was necessary. The USFWS commented that wetland mitigation and monitoring plan for the entire Community Plan area should be submitted to the federal agencies for their review. The USFWS believed that all interrelated projects receiving Nationwide Permits within the Community Plan area should instead be considered through the Individual Permit process. The USFWS recommended the adoption of the Conceptual Strategy and Conceptual Reserve map created by the agencies. The USFWS requested that the Corps initiate consultation under Section 7 of the Endangered Species Act.

applicable.

3) U. S. National Marine Fisheries Service (NMFS): Not

4) Other: Not applicable.

b. State and local agencies:

California Department of Transportation ("CalTrans") commented by letter dated March 25, 2004. CalTrans requested that any runoff from the proposed development not contribute a contaminant load to storm waters entering the State Highway System (SHS) right-of-way, and that all runoff entering the SHS meet Regional Board standards for clean water. CalTrans requested that increased flows to the SHS be mitigated. CalTrans requested the incorporation of environmental Best Management Practices to mitigate adverse drainage impacts.

c. Organizations and Individuals:

The California Native Plant Society (CNPS) commented by letter dated March 30, 2004. CNPS commented that the fill proposed under the Public Notice would impact an unusually high concentration and diversity of vernal pools in Sacramento County. CNPS commented it was inappropriate for the Corps to evaluate the proposed fill permits as individual actions because they are part of a single planning area (Specific Plan). CNPS commented that a piecemeal approach would discount significant cumulative project area effects on vernal pools. CNPS commented that an Environmental Impact Statement was needed to assess the combined effect of Plan-area development and alternatives. CNPS commented that a County-wide study had shown the Community Plan area to have a high concentration and diversity of vernal pools. CNPS commented that the area hosted several listed species. CNPS requested that the permit applicants be required to include on-site preservation as part of their mitigation package for approved fill, and that it was not possible to fully mitigate for lost wetland area through preservation in distant areas of the County. CNPS requested that the Community Plan area contain a large core preserve area with inter-connected wildlife corridors. CNPS requested that vernal pool creation be avoided, especially within undisturbed vernal pool landscapes.

Stone Lakes National Wildlife Refuge Association (Stone Lakes) commented by letter on March 3, 2004. Stone Lakes made similar comments as CNPS, and commented that mitigation of impacts through preservation of vernal pools should preserve vernal pools with comparable geology, soil types, sizes, depths and densities. Stone Lakes requested that all rare plant occurrences be preserved, particularly Slender Orcutt Grass. Stone Lakes comments that the public has not had an opportunity to comment on a specific reserve mitigation plan for the SunRidge area until this point.

Barbara Vlamis, Executive Director of the Butte Environmental Council (BEC) commented by letter dated April 24, 2004. BUC commented that the applicants failed to provide alternatives to the project under 42 U.S.C. Part 4332(2)(c)(Vi), & (E). BEC commented that it was inappropriate for the Corps to evaluate the proposed permit actions noticed under the Public Notice as individual projects, and that such an approach would ignore the significant cumulative effects of the projects and others in the Community Plan area on the vernal pool ecosystem in Sacramento County. BEC commented that the Public Notice does not provide a cumulative impact analysis for public view. BEC requested that a more thorough mitigation and monitoring proposal be submitted for public review, and that preservation of intact vernal pools off-site was not adequate mitigation. BEC requested that permit processing be suspended until an EIS was prepared.

Citizens Committee to Complete the Refuge (CCCR) commented by letter dated April 26, 2004. CCCR commented that vernal pools in the Community Plan area should be considered

ARNI. CCCR commented that fill proposals noticed in the Public Notice were for related and depended projects through their reliance on shared existing and proposed community infrastructure, and should therefore be considered as a single project. CCCR commented that the applicants should prepare an Alternatives Analysis under the 404(b)(1) guidelines to rebut the presumption that a practicable alternative exists to the proposed fill. CCCR commented that the applicants had made no attempt to minimize impacts. CCCR commented that the Corps should prepare an EIS prior to rendering a permit decision, and that impacts from the applicants' proposed fill be considered in concert. CCCR commented that minimal information regarding mitigation for impacts to jurisdictional waters had been provided to the public.

Many individuals submitted form comment letters regarding the proposed permits noticed under the Public Notice. The Corps reviewed and considered each letter, regardless of whether it was a form letter, but in the instance of a form letter, the comments set out by the first letter entered into the record for this Public Notice will be summarized and responded to herein.

Mr. David Wyatt commented by letter dated March 26, 2004. Mr. Wyatt commented that the fill applications covered in the Public Notice be considered cumulatively for significant impacts on natural communities in the impact area. Mr. Wyatt commented that sensitive species surveys should be conducted to determine the presence/absence of listed species within the areas proposed for fill. Mr. Wyatt commented that the Corps' no net loss policy for wetlands required the consideration of creation of large preserves. Mr. Wyatt suggested a 250-foot buffer for vernal pool preserve areas

Ms. Mary Beth Metcalf, M.D. commented by letter dated March 24, 2004. Ms. Metcalf requested that an EIS be prepared, that public hearings be arranged to disseminate additional information collected on environmental impacts.

Joan E. Berry commented by letter dated March 22, 2004. Ms. Berry commented that the Corps should preserve natural habitat in the Specific Plan area rather than approve development.

Irma Acevedo commented by letter dated March 26, 2004. The second page of Ms. Acevedo's letter was missing when admitted to the record. Ms. Acevedo commented that it is inevitable and logical to deduce that by evaluating their applications as individual projects the U.S. Army Corps of Engineers would fail to prove true protection. Ms. Acevedo requested an analysis of alternatives to development within the Specific Plan area and public hearings be held on the subject.

Rob Millberry commented by letter dated March 26, 2004. Mr. Millberry commented that

the vernal pool habitat within the Community Plan area, despite its subtlety should be saved because of their rarity and high quality.

Sara M. Lee commented by letter dated March 26, 2004. Ms. Lee commented that 10 percent of the remaining vernal pools in Sacramento County are included in the Community Plan area and the Corps should not approve their fill. Ms. Lee expressed concern that authorized fill of wetlands would result in negative impacts to water quality and greater demands on water supply. Ms. Lee commented that proposed fill would threaten the survival of vernal pool fairy shrimp. Ms. Lee requested that the Service be consulted on the proposed fill and that mitigation should not be in the form of creation. Ms. Lee expressed concern that the proposed fill for the Community Plan area would cause additional off-site impacts to hydrology of unfilled wetland areas.

M. Nasseri commented by letter dated March 12, 2004. M. Nasseri requested that the EPA, the Service and the Corps create a strategy for preserving wetlands and vernal pools in the SunRidge Specific Plan and Community Plan areas.

Elizabeth Kuehner commented by letter dated March 10, 2004. Ms. Kuehner commented that the vernal pool species in the Community Plan area were worthy of preservation.

Adrian A. Barnett commented by letter dated March 10, 2004. Mr. Barnett commented that the Corps should take action to preserve the Mather Field Vernal Pools.

Patricia Foulk commented by letter dated March 5, 2004. Ms. Foulk commented that potential fill of wetlands within the Specific Plan and Community Plan area would lead to irreversible fragmentation of vernal pools in these areas. Ms. Foulk commented that the fill proposed under the Public Notice would result in substantial loss of listed species. Ms. Foulk commented that development within the Community Plan area would impact hydrology in the Community Plan area and surrounding areas, and result in a loss of diversity of vernal pool types. Ms. Foulk commented that the success of creation mitigation is not scientifically supported and is not adequate mitigation for natural habitat. Ms. Foulk commented that the Specific Plan EIR did not sufficiently analyze wetland impacts and that an EIS should be prepared. Ms. Foulk commented that small, "vest pocket" preserves would not sufficiently preserve vernal pool habitat and species.

Jean V. Shepard commented by letter dated March 3, 2004. Ms. Shepard commented that all applications for fill covered by the Public Notice should be considered in concert as one application. Ms. Shepard requested that a large, connected wetland preserve be created in the area of the projects covered by the Public Notice.

Carin High commented by letter dated March 15, 2004. Ms. High submitted questions on behalf of Florence LaRiviere, Chairperson of Citizens Committee to Complete the Refuge, whose comments are summarized above.

Bonnie Tran commented by letter dated March 4, 2004. Ms. Tran submitted comments regarding another application for fill, and requested that a vernal pool preserve be established in the Mather Field area.

Alexandra Lamb commented by letter dated March 22, 2004. Ms. Lamb commented that off-site preservation would not mitigate for potential impacts of the fill proposed in the Public Notice. Ms. Lamb commented that the Corps should preserve all vernal pools proposed for impact under the Public Notice and prepare an EIS covering the proposed fill.

Patricia Jones commented by letter dated March 1, 2004. Ms. Jones expressed concern over use of creation as a method for mitigating impacts to wetlands and vernal pools. Ms. Jones requested the preparation of an EIS for the fill proposed under the Public Notice.

d. Requests for public hearings: Ms. Mary Beth Metcalf, M.D. requested a public hearing be arranged to provide additional information to disseminate information from the EIS, if conducted. Since an EIS was not required, thus request was not held. Ms. Irma Acevedo requested an alternatives analysis be conducted and public hearings be held for discussion. An alternatives analysis was conducted however it was determined that demand was not high enough to hold a public hearing.

2. Evaluation:

I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this permit application as well as the stated views of other interested agencies and the concerned public. In doing so, I have considered the possible consequences of this proposed work in accordance with regulations published in 33 CFR Parts 320 to 330 and 40 CFR Part 230. The following paragraphs include my evaluation of comments received and how the project complies with the above cited regulations.

a. Consideration of comments:

(1) US EPA responded by letter dated April 26, 2004. EPA believed the permit applications as discussed in the Public Notice would collectively cause unacceptable impacts to Aquatic Resources of National Importance (ARNI). Since 2002, the Corps, EPA, USFWS and other state and local agencies and landowners met to resolve the significant environmental concerns associated with the Sunrise Douglas Community Plan/SunRidge Specific Plan. As a result, the agencies produced a plan (A Conceptual-Level Strategy for Avoiding, Minimizing and

Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, dated June 2004) and a map (Sunrise-Douglas Community Planning Area dated March 8, 2004) to significantly reduce impacts to waters by outlining large preserve areas along with a strategy for conservation. EPA stated in their letter dated that implementation of the conceptual-level strategy referenced above serves as a baseline for environmental protection. Properly implemented, it would resolve EPA's CWA issues through avoidance of aquatic resources and minimization of impacts. The proposed Anatolia IV project complies with the Conceptual Strategy created for the SunRidge Specific Plan Area.

Consistent with the Conceptual Strategy, the applicant proposes to compensate for impacts to wetlands through preservation off-site, and through restoration/creation of high quality wetlands. These actions will take place pursuant to a Mitigation and Monitoring Plan prepared for and submitted to the Corps and the Service for review and approval. Thus, these measures offset any impacts to wetlands and vernal pools on the site and address EPA's concerns.

(2) The United States Fish and Wildlife Service (Service) commented by letter dated April 26, 2004. The Service requested preparation of an Alternatives Analysis in compliance with the 404(b)(1) Guidelines. The applicant has submitted an individual alternatives analysis for the Project, and has participated in the creation of the Regional Alternatives Document. The Alternatives Analysis submitted by the applicant determined that the Project site is the least environmentally damaging practicable alternative site of comparable size and availability within the Specific Plan area, and determined that the proposed Project design was the least environmentally damaging practicable, considering cost, logistics and existing technology.

The Service did not concur with the conclusions of the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR regarding the identification of an environmentally superior alternative. However since their comment, the Service has participated in the finalization of the Conceptual Strategy and Conceptual Reserve map for the Specific Plan area.

The Service commented on proposed re-created stream channels to be constructed within portions of the Specific Plan area. This comment relates to development within the Community Plan area generally. Fill permitted pursuant to the Project application will not be used to create any re-created stream channels, nor are there any proposed within the entire Project.

The Service believed impacts to water quality due to increased urban runoff were inadequately addressed. Impacts to water quality from the permitted fill for the Project will be minimal. The applicant will be required to comply with all requirements of the City's MS-4 permit in assuring adequate treatment of urban runoff, including implementation of water quality BMPs on the project site.

The Service recommended against in-stream storm water detention ponds. Fill permitted pursuant to the Project application will not be used to create any in-stream detention ponds, nor are there any proposed within the entire Project.

The Service believed proposed development within the Community Plan area would likely impact the Stone Lakes National Wildlife Refuge downstream of the Community Plan area. Since the Project is not within the Upper Morrison Creek sub-watershed, any off-site flows resultant from fill permitted for the Project are not likely to reach the Stone Lakes Refuge, and therefore would have minimal impact on the Refuge.

The Service commented on the potential of off-line water quality basins to impact the hydrology of streams running through the site. Fill activities permitted pursuant to the Project application will not contribute to the creation of any off-line water quality basins, nor are there any proposed within the entire project. The Project will otherwise implement adequate water quality BMPs to assure minimization of impacts to water quality from permitted fill for the Project.

The Service commented that development within the Community Plan area would impact special status species. The Service has subsequently issued a biological opinion for proposed fill of the project, concluding that mitigation measures proposed for impacts to jurisdictional waters are sufficient to offset impacts to listed species and their habitat.

The Service commented that development within the Community Plan area would result in unacceptable impacts to ARNI. Please see our response to EPA's similar comment regarding ARNI, in d.(1) above. Subsequent to this comment, the Service has assisted in finalizing the Conceptual Strategy and accompanying Conceptual Reserve map, which enumerate protections necessary to adequately protect wetlands and vernal pools within the Specific Plan area.

The Service commented that a comprehensive on-site mitigation strategy for wetlands and vernal pools in the Community Plan area was necessary. Since this comment, the Service has assisted in finalizing the Conceptual Strategy and accompanying Conceptual Reserve Map for wetlands in the Specific Plan area. The Project complies with the principles and standards of the Conceptual Strategy and complies with the Conceptual Reserve Map through preservation. Landowners in the remaining area of the Community Plan outside the Specific Plan have agreed to prepare an EIS to further analyze impacts to wetlands in that portion of the Community Plan.

The Service commented that a wetland mitigation and monitoring plan for the Community

Plan area should be submitted to the federal agencies for their review. The areas of permitted fill on the Project will be mitigated off-site at preserve areas approved by the Service.

The Service believed that all interrelated projects receiving Nationwide Permits within the Community Plan area should instead be considered through the Individual Permit process. In this case, the proposed fill related to the Project is being considered under the individual permit process. Additionally, the applicant has requested authorization for all fill reasonably related to the Project, and therefore has complied with Corps regulations requiring the inclusion of fill activities necessary for a particular project under one permit application.

The Service recommended the adoption of the Conceptual Strategy and Conceptual Reserve map created by the agencies. Subsequent to this comment, the Service assisted in finalizing the Conceptual Strategy and Conceptual Reserve Map, and has been requiring compliance with them as a condition of its biological opinions, including the no-jeopardy opinion for the Project.

The Service requested that the Corps initiate consultation under Section 7 of the Endangered Species Act. The Corps has completed a section 7 consultation with the Service for the permitted fill on the Project, receiving a no-jeopardy biological opinion on December 22, 2004.

(3) Caltrans requested that any runoff from the proposed development not contribute a contaminant load to storm waters entering the State Highway System (SHS) right-of-way, and that all runoff entering the SHS meet Regional Board standards for clean water. Caltrans requested that increased flows to the SHS be mitigated. Caltrans requested the incorporation of environmental Best Management Practices to mitigate adverse drainage impacts.

The applicant will minimize impacts to water quality that could result from permitted fill through implementing applicable pre- and post-construction BMPs and otherwise complying with the requirements of the City's MS-4 permit. Additionally, the Project will abide by the conditions of the Clean Water Act Section 401 Water Quality Certifications for the Project, dated December 28, 2004.

(4) The California Native Plant Society (CNPS) commented that the fill proposed under the Public Notice would impact an unusually high concentration and diversity of vernal pools in Sacramento County. The proposed 404 permit for the Project will affect approximately 2.24 acres of vernal pools. These features are dispersed throughout the Project site, unlike other portions of the Specific Plan area that retain high concentrations of pools and wetlands in large vernal pool and wetland complexes. The site's off-site connections to the west have been cut off by the existing Jaeger Road. Given the small amount of vernal pool on the site,

Anatolia IV does not provide a high concentration of high quality vernal pool habitat that may be characteristic of other areas of Sacramento County.

CNPS commented it was inappropriate for the Corps to evaluate the proposed fill permits as individual actions because they are part of a single planning area (the Specific Plan). The Project and the remaining Specific Plan development have been evaluated under the Conceptual Strategy.

The CEQ's NEPA regulations also require that federal agencies consider "connected" or "cumulative" actions under the same NEPA review, and grant the Corps discretion to consider similar actions together under a single review. (40 C.F.R. Part 1508.25.) Under the guidelines, federal actions are connected if they, for example, automatically trigger other actions, cannot proceed unless other actions are taken previously or simultaneously, or are otherwise interdependent parts of a larger action and depend on the large action for their justification. Cumulative actions must also be included if, when viewed with other proposed actions, have cumulatively significant impacts that can be discussed in the same impact statement. Similar actions may be considered together when the best way to adequately assess the combined impacts of the similar actions would be to do so under one impact statement.

The Sacramento District uses an "independent utility" test to determine whether its actions are connected to other actions. An action is said to have independent utility, thus not connected, if it would take place with or without any other actions. Applying this standard, the fill necessary for the Project has independent utility since it could move forward regardless of whether the other applications under the Public Notice are approved or the associated projects constructed. The applicant has included all fill necessary to construct required roadway, potable water, wastewater disposal and other infrastructure that it cannot otherwise obtain from currently existing infrastructure in the area.

Under the CEQ NEPA regulations, separate federal actions that have a cumulatively significant impact should also be included under the same NEPA review. This requirement is subject to a rule of reason: where projects that may ultimately necessitate Corps' permit actions are insufficiently detailed to contribute to a meaningful analysis of their environmental impacts, the Corps is not required to include them. In this instance, all those activities within the Specific Plan area that have sufficient detail to be included in a cumulative analysis discussion, i.e., those that have submitted 404 permit applications, have been included within the cumulative impacts discussion of section V.F, above, in addition to earlier discussions of cumulative impacts in the area in the SD Project EIS/EIR and Community Plan/Specific Plan EIR. Using information from those previous studies as well as information in the current record, the cumulative impacts discussion in this Permit Evaluation concluded that this permit action would not result in cumulatively substantial

impacts that would warrant the preparation of an EIS.

CNPS commented that a piecemeal approach would discount significant cumulative effects on vernal pools of proposed fill under the Public Notice, and that an Environmental Impact Statement was needed to assess the combined effect of development and alternatives. NEPA and its implementing regulations do not require an EIS for this permit decision. Under NEPA and federal law applying NEPA, a federal agency must review its proposed action to determine whether it will significantly affect the human environment, including cumulatively, and should prepare an EIS when, in the agency's determination, significant effects will occur that warrant the preparation of an intensive study of the agency's action and its effects, and when such an intensive study would provide additional meaningful information to the public and the decision-making agency. The potentially significant cumulative impacts of development of the entire Specific Plan and Community Plan areas have already been addressed by the County's publicly available Specific Plan EIR, as discussed in these findings. Preparation of an EIS for effects occurring as the result of the permitted fill would not provide additional information to the public or to the Corps. The preparation of an EIS does not have the potential to provide the Corps with additional information on impacts that are within its authority or ability to control. Last, the Corps, EPA, Service and other state and local agencies and landowners met to resolve the significant environmental concerns associated with the Sunrise Douglas Community Plan/SunRidge Specific Plan. As a result, the agencies produced a plan (A Conceptual-Level Strategy for Avoiding, Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, dated June 2004) and a map (Sunrise-Douglas Community Planning Area dated March 8, 2004) to significantly reduce impacts to waters by outlining large preserve areas along with a strategy for conservation, thereby obviating the need to prepare an EIS.

CNPS commented that a County-wide study had shown the Community Plan area to have a high concentration and diversity of vernal pools. The applicant responded to the Service's similar comment in response to comment (2), above.

CNPS commented that the area hosted several listed species. However, the Service, through section 7 consultation with the Corps, has determined that mitigation proposed by the applicant will offset impacts to listed species from the permitted fill.

CNPS requested that the permit applicants be required to include on-site preservation as part of their mitigation package for approved fill, and that it was not possible to fully mitigate for lost wetland area through preservation in distant areas of the County. The Conceptual Strategy and Conceptual Reserve map creates a reserve system for the Specific Plan area that includes on-site avoidance through the Specific Plan. According to the Conceptual Reserve map, on-site avoidance is not necessary at the Project, particularly because the preservation of vernal pools on site would further degrade through time due to surrounding urban development, are small in acreage and lack habitat connectivity.

CNPS requested that the Community Plan area contain a large core preserve area with interconnected wildlife corridors. The Service, Corps and EPA have collaborated to create such an area through the final Conceptual Strategy and Conceptual Reserve map.

CNPS requested that vernal pool creation be avoided, especially within undisturbed vernal pool landscapes. The Project proposes an off-site creation/restoration component to its mitigation proposal. The Corps and the Service both have final approval authority over mitigation proposal to assure that created wetlands and vernal pools do not damage existing features and are created and managed appropriately.

(5) Stone Lakes National Wildlife Refuge Association (Stone Lakes) submitted similar comments as CNPS. Responses to the CNPS comments, at section (4) above, are applicable to Stone Lakes' comments. In addition, Stone Lakes commented that mitigation of impacts through preservation of vernal pools should preserve vernal pools with comparable geology, soil types, sizes, depths and densities. The applicant intends to preserve existing high quality vernal pool habitat offsite.

Stone Lakes commented that the public has not had an opportunity to comment on a specific reserve mitigation plan for the SunRidge area until this point. However, specific mitigation proposals are not typically contained in the public notice or circulated for comment.

(6) Butte Environmental Council (BEC) commented that the applicants failed to provide alternatives to the project under 42 U.S.C. Part 4332(2)(c)(Vi), & (E). However, Corps regulations do not require publication of alternatives in a Public Notice. (33 C.F.R. Part 325.3.) Additionally, the Public Notice provides sufficient information for the public to consider and suggest possible fill alternatives to the Corps for consideration as part of the public interest review.

BEC commented that it was inappropriate for the Corps to evaluate the proposed permit actions noticed under the Public Notice as individual projects, and that such an approach would ignore the significant cumulative effects of the projects and others in the Community Plan area on the vernal pool ecosystem in Sacramento County. The applicant responded to similar comments from CNPS at section (4), above.

BEC commented that the Public Notice does not provide a cumulative impact analysis for public view. This document analyses potential cumulative impacts from the permitted fill. In addition, information on the cumulative impacts of proposed wetland and vernal pool fill has been available to the commenter through the Community Plan and Specific Plan EIR since 1998.

BEC requested that a more thorough mitigation and monitoring proposal be submitted for public review, and that preservation of intact vernal pools off-site was not adequate mitigation. The applicant responded to similar comments from CNPS and Stone Lakes at sections (4) and (5), above. The applicant's mitigation proposal for permitted fill has been reviewed by the Service, who determined that it offset impacts to listed vernal pool species and their habitats to be filled as part of the Project.

BEC requested that permit processing be suspended until an EIS was prepared. We responded to a similar comment from CNPS at section (4), above. We do not believe an EIS is warranted for this permit action.

(7) Citizens Committee to Complete the Refuge (CCCR) commented that vernal pools in the Community Plan area should be considered ARNI. EPA identified them as an ARNI.

CCCR commented that fill proposals noticed in the Public Notice were related by dependency on shared existing and proposed community infrastructure, and should therefore be considered as a single project. We have responded to a similar comment from CNPS, at section (4) herein. The Project was given full consideration under the Conceptual Strategy.

CCCR commented that the applicants should prepare an Alternatives Analysis under the 404(b)(1) guidelines to rebut the presumption that a practicable alternative exists to the proposed fill. We responded to a similar comment from the Service at section (2), above. The applicant has submitted an alternatives analysis, as discussed in section I of this decision document.

CCCR commented that the applicants had made no attempt to minimize impacts. The submitted 404(b)(1) analyzed seven on-site avoidance alternatives. As discussed in this decision document, the alternatives analysis concluded that the applicant's proposed project was the least environmentally damaging practicable alternative.

CCCR commented that the Corps should prepare an EIS prior to rendering a permit decision, and that impacts from the applicants' proposed fill be considered in concert. We responded to a similar comment from CNPS in section (4) above.

CCCR commented that minimal information regarding mitigation for impacts to jurisdictional waters had been provided to the public. The applicant has submitted a mitigation plan for review, which contains both an offsite creation and preservation component.

(8) Mr. David Wyatt commented that the fill applications covered in the Public Notice be considered cumulatively for significant impacts on natural communities in the impact area. The applicant responded to a similar comment from CNPS in section (4), above. In

addition, this decision document has considered the potential cumulative impacts of the permitted fill, consistent with the request of the commenter.

Mr. Wyatt commented that sensitive species surveys should be conducted to determine the presence/absence of listed species within the areas proposed for fill. The applicant responded to a similar comment from CNPS at section (4) above. The Service has issued a no-jeopardy biological opinion concerning the permitted fill for the Project, and has concluded that the applicant's proposed mitigation offsets impacts to listed species and their habitats.

Mr. Wyatt commented that the Corps' no net loss policy for wetlands required the consideration of creation of large preserves. The agencies' Conceptual Strategy and Conceptual Reserve map is intended to create a large preserve of vernal pool and wetland habitat. As proposed, the Project complies with the Conceptual Strategy and Conceptual Reserve map.

Mr. Wyatt suggested a 250-foot buffer for vernal pool preserve areas. Comment noted. The Conceptual Strategy created by the agencies incorporates buffer requirements for the created reserve.

(9) Ms. Mary Beth Metcalf, M.D. requested that an EIS be prepared, that public hearings be arranged to disseminate additional information collected on environmental impacts. The applicant responded to similar comments from CNPS and Stone Lakes at sections (3) and (4), above.

(10) Joan E. Berry commented that the Corps should preserve natural habitat in the Specific Plan area rather than approve development. The Corps, together with EPA and the Service, have identified large blocks of vernal pool and wetland habitat to be preserved in the Specific Plan area through the Conceptual Strategy, while still allowing reasonable economic use of private land within the Specific Plan area.

(11) Irma Acevedo commented that it is inevitable and logical to deduce that by evaluating their applications as individual projects the U.S. Army Corps of Engineers would fail to provide true protection. We responded to similar comments from CNPS at section (4), above. The applicant has submitted an application which includes all fill necessary for its single and complete Project. Ms. Acevedo requested an analysis of alternatives to development within the Specific Plan area and that public hearings be held on the subject. We responded to similar comments from BEC and Stone Lakes, at sections (5) and (6) above.

(12) Rob Millberry commented that the vernal pool habitat within the Community Plan area,

despite its subtlety should be saved because of their rarity and high quality. We responded to similar comments from Ms. Berry at section 10, above.

(13) Sara M. Lee commented that 10 percent of the remaining vernal pools in Sacramento County are included in the Community Plan area and the Corps should not approve their fill. We have responded to similar comments from Ms. Berry, in section (10) above. The Conceptual Strategy and Conceptual Reserve map was conceived in large part due to the agencies recognition of comments such as Ms. Lee's. The Strategy developed for the Specific Plan area permits compliance with Endangered Species Act and Clean Water Act protections for vernal pools in this area in conjunction with permitting reasonable development on private lands within the Specific Plan area. In this case, the permitted fill for Anatolia IV will impact vernal pools that are not scheduled for protection under the agencies' Conceptual Reserve map.

Ms. Lee expressed concern that authorized fill of wetlands would result in negative impacts to water quality and greater demands on water supply. We have responded to similar comments from the Service regarding water quality at section (2), above. We did not conclude that the permitted fill would cause significant water quality or water supply impacts, and that the impact of the permitted fill for these categories of environmental impacts is adequately mitigated.

Ms. Lee commented that proposed fill would threaten the survival of vernal pool fairy shrimp. We responded to similar comments from the Service, at section (2), above, noting that the Service issued a no-jeopardy biological opinion for vernal pool fairy shrimp for the permitted fill covered by the Permit Evaluation, concluding that mitigation proposed by the applicant adequately offset impacts to fairy shrimp and its habitat resulting from the permitted fill.

Ms. Lee requested that the Service be consulted on the proposed fill and that mitigation should not be in the form of creation. We responded to similar comments from the Service at section (2) above.

Ms. Lee expressed concern that the proposed fill for the Community Plan area would cause additional off-site impacts to hydrology of unfilled wetland areas. The Service, in its no-jeopardy opinion, evaluated the potential for indirect impacts to wetlands and vernal pools into account.

(14) M. Nasseri requested that the EPA, the Service and the Corps create a strategy for preserving wetlands and vernal pools in the Specific Plan area. The Conceptual Strategy and Conceptual Reserve plan was designed to address this comment.

(15) Elizabeth Kuehner commented that the vernal pool species in the Community Plan area were worthy of preservation. We addressed similar comments from Ms. Lee and Ms. Berry at section (10) and (13), above.

(16) Adrian A. Barnett commented that the Corps should take action to preserve the Mather Field Vernal Pools. The permitted action will not impact vernal pools at Mather Field. The agencies are implementing the Conceptual Strategy to protect vernal pools in the Specific Plan area.

(17) Patricia Foulk commented that potential fill of wetlands within the Specific Plan and Community Plan area would lead to irreversible fragmentation of vernal pools in these areas. Compliance with the agencies' Conceptual Strategy and Conceptual Reserve map will assure that large, intact areas of vernal pools and wetlands are preserved through the Specific Plan area. The Project is consistent with these plans.

Ms. Foulk commented that the fill proposed under the Public Notice would result in substantial loss of listed species. We have responded to similar comments from the Service in section (2), the CNPS in section (4), and Mr. Wyatt in section (8), above. The Corps has received a no-jeopardy biological opinion from the Service covering the permitted fill.

Ms. Foulk commented that development within the Community Plan area would impact hydrology in the Community Plan area and surrounding areas, and result in a loss of diversity of vernal pool types. As discussed in this decision document, the permitted fill for the Project does not have the potential to significantly impact vernal pool hydrology in the Community Plan area. The agencies' Conceptual Strategy is designed to reduce impacts to wetlands and vernal pools within the SunRidge Specific Plan unpermitted areas. For the remainder of the Community Plan area, to the south, the agencies and landowners have agreed to prepare an Environmental Impact Statement to address impacts to vernal pools and vernal pool species. Together, these actions will assure that permitting actions in the Community Plan area will not significantly impact wetlands hydrology.

Ms. Foulk commented that the success of creation mitigation is not scientifically supported and is not adequate mitigation for natural habitat. We have responded to similar comments from CNPS at section (4), above.

Ms. Foulk commented that the Specific Plan EIR did not sufficiently analyze wetland impacts and that an EIS should be prepared. We have addressed similar comments from CNPS at section (4) above. In this case, the permitted fill for the Project will not result in significant impacts to wetlands, either individually or cumulatively. As discussed, the permitted fill is considered the least environmentally damaging practicable alternative for this site, and will not result in jeopardy to listed wetland and vernal pool species. It is also consistent with the Conceptual Strategy and will contribute to preservation of areas identified on the Conceptual Reserve map. These measures will assure that the permitted fill for the Project will not have a cumulative impact to wetlands in the area.

Ms. Foulk commented that existing traffic conditions indicate the necessity of an EIS. Traffic decision document addresses the potential impacts to traffic from the permitted fill. As discussed, the permitted fill is not expected to contribute to any roadways or intersections expected to be significantly impacted due to traffic.

Ms. Foulk commented that small, "vest pocket" preserves would not sufficiently preserve vernal pool habitat and species. The permitted fill in this case would not contribute to the creation vest pocket preserves. The Conceptual Strategy further addresses this concern through the creation of a larger reserve stretching across multiple properties in the Specific Plan area.

(18) Jean V. Shepard commented that all applications for fill covered by the Public Notice should be considered in concert as one application. We addressed a similar comment from CNPS and the Service at sections (3) and (4), above. Ms. Shepard requested that a large, connected wetland preserve be created in the area of the projects covered by the Public Notice. We addressed a similar comment from Ms. Foulk in (17), above.

(19) Carin submitted questions on behalf of Florence LaRiviere, Chairperson of Citizens Committee to Complete the Refuge. Responses the CCCR comments are set out above at section (7), above.

(20) Bonnie Tran submitted comments regarding another application for fill noticed in the Public Notice.

(21) Alexandra Lamb commented that off-site preservation would not mitigate for potential impacts of the fill proposed in the Public Notice. Ms. Lamb commented that the Corps should preserve all vernal pools proposed for impact under the Public Notice and prepare an EIS covering the proposed fill. We addressed similar comments from CNPS at section (4), above.

(22) Patricia Jones expressed concern over use of creation as a method for mitigating impacts to wetlands and vernal pools. Ms. Jones requested the preparation of an EIS for the fill proposed under the Public Notice. We responded to similar comments from CNPS at section (4), above.

b. Evaluation of Compliance with Section 404 (b)(1) guidelines (restrictions on discharge, 40 CFR 230.10). (A check in a block denoted by an asterisk indicates that the

project does not comply with the guidelines.):

1) Alternatives test:

Yes^{*} No X i) Based on the discussion in II B, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the United States" or at other locations within these waters?

Yes<u>X</u> No^{*}______ ii) Based on II B, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Special restrictions. Will the discharge:

Yes*	No <u>X</u>	i)	Violate state water quality standards?
Yes*	No <u>X</u>	ii)	Violate toxic effluent standards (under Section 307 of the Act)?
Yes [*]	No <u>X</u>	iii)	Jeopardize endangered or threatened species or their critical

Yes No_X iv) Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes No^{*} X v) Evaluation of the information in II C and D above indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s):

(X) based on the above information, the material is not a carrier of contaminants.

() the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

() acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

2) Other restrictions. Will the discharge contribute to significant degradation of "waters of the United States" through adverse impacts to:

Yes^{*} No X i) Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife, and special aquatic sites?

Yes^{*} No X ii) Life states of aquatic life and other wildlife?

Yes^{*} No X iii) Diversity, productivity and stability of the aquatic ecosystem, such as loss of fish or wildlife habitat, or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

Yes^{*} No X iv) Recreational, aesthetic and economic values?

3) Actions to minimize potential adverse impacts (mitigation).

Yes X No^{*} Will all appropriate and practicable steps (40 CFR 230.70-77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem? Refer to permit special conditions listed above.

c. General Evaluation [33 CFR 320.4 (a)]:

1) The relative extent of the public and private need for the proposed work has been considered: The project will address a public need for housing opportunities in an area with existing housing shortages. It will address the private need of the project proponent to realize the gain expected from project implementation.

2) The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work has been evaluated: Alternative sites and layouts were considered; however, the alternatives were considered to be impracticable (see II.B above). Pursuant to these findings, the proposed fill is the least environmentally damaging practicable alternative to meet the project purpose.

3) The extent and permanence of the beneficial and/or detrimental effects the proposed structures or work may have on the public and private uses to which the area is suited has been reviewed: The loss of aquatic functions and values in the project site will be permanent and detrimental. The mitigation created by the applicant should be effectively permanent, with dedication of a conservation easement and in-perpetuity management and monitoring. The permitted project will have a beneficial effect on the existing housing demand, and on the uses for which the area has been designated by the City and County.

d. Significant National Issues: None.

4. Determinations:

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a. Finding of No Significant Impact (FONSI) (33 CFR Part 325). Having reviewed the information provided by the applicant, all interested parties and the assessment of environmental impacts contained in Part II of this document, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement will not be required.

b. Section 404(b)(1) Compliance/Non-compliance Review (40 CFR 230.12):

() The discharge complies with the guidelines.

(X) The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions listed above (in II.H) to minimize pollution or adverse effects to the affected ecosystem.

() The discharge fails to comply with the requirements of these guidelines because:

() There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.

() The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).

() The discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem, namely....

() There is not sufficient information to make a reasonable judgement as to whether the proposed discharge will comply with the guidelines.

c. Section 176(c) of the Clean Air Act: I have analyzed the proposed project for conformity applicability and determined that the proposed activities in this permit action will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors, and are exempt by 40 CFR 93.152. Any later indirect emissions generally cannot be practicably controlled by the Corps of Engineers and, for these reasons, the permit decision does not require a conformity determination.

d. Public interest determination: I find that issuance of a Department of the Army permit (with special conditions), as prescribed by regulations published in 33 CFR Parts 320 to 331, and 40 CFR Part 230 is not contrary to the public interest.

Department of the Army Evaluation and Decision Document - 200100230

PREPARED BY: DATE: 6 Sep 2006 Mr. David Leput

Senior Project Manager

REVIEWED BY:

DATE: <u>9/7/04</u>

<u>.</u>

Will Ness Chief, Sacramento Office

FOR THE DISTRICT ENGINEER:

Kenfur DATE: 9/7/06 APPROVED BY lan Kevin Roukey

Chief, Central California/Nevada Section

DEPARTMENT OF THE ARMY PERMIT EVALUATION AND DECISION DOCUMENT

Applicant: Grantline Investors, LLC

Application No.: PN 199400365

This document constitutes my Environmental Assessment, Statement of Findings and review and compliance determination according to the Section 404(b)(1) guidelines for the proposed work described in the attached Public Notice (Appendix A) as the Grantline 208 Project (Application No. 199400365) (hereafter referred to as "Grantline 208" or "Project").

Additionally, the Corps incorporates by reference the following documents: 1) Section 3.0, Environmental Setting, Impacts, and Mitigation Measures of the August 2005 Sunridge East Projects *Mitigated Negative Declaration*; 2) November 2004 *Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California*; 3) April 2006 Section 404(b)(1) *Supplemental Alternatives Analysis for Grantline* 208.

I. Proposed Project

The proposed project is located within the SunRidge Specific Plan Area within the larger Sunrise Douglas Community Plan Area, in Section 15, Township 8 North, Range 7 East, on the USGS Buffalo Creek 7.5' quadrangle in southeastern Sacramento County, California. The description of the proposed work and maps of the site are in the attached Public Notice and further described below.

The Project site encompasses approximately 210.7 acres. The planned land uses for the Grantline 208 Project include residential, park, parkway, school, and detention basin construction on approximately 130.6 acres; major road improvements, including construction of Americanos Boulevard and the expansion of Grantline Road (approximately 4.8 acres); and the construction of a drainage basin along Grantline Road (approximately 7.2 acres). The Project would also include the establishment of an on-site wetland preserve of approximately 68.1 acres. Grantline 208 lies within the County's approved 6,042-acre Sunrise Douglas Community Plan (Community Plan) area and approved 2,632-acre SunRidge Specific Plan (Specific Plan) area.

The site is comprised of level to gently rolling terrain primarily consisting of non-native grasslands. Vernal pools lie within the grasslands. The majority of the site has been used historically as grazing land, but the hydrology of the project site has not been substantially altered from its historical condition. No structures are situated on the site.

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Prior Environmental Review in the Sunrise Douglas Area

The Sunrise Douglas area in southeast Sacramento County is generally comprised of the area bounded by Douglas Road to the north, Sunrise Boulevard to the west, Grant Line Road to the east and the Jackson Highway to the south. This area has been the subject of extensive land use planning and attendant environmental review processes under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

In 1987, the Sammis Company (Sammis) initiated a development project in the Sunrise Douglas area that became known as the Sunrise Douglas Project (herein referred to as the SD Project). The SD Project was originally planned as an industrial project over approximately 1,225 acres of land bounded on the west by Sunrise Boulevard, on the north by Douglas Road and on the south by Keifer Boulevard. Sammis applied for County approvals for the industrial development, but changed its proposal to a predominantly residential project in 1989 after the announcement of the potential closure of adjacent Mather Field. The residential project required a General Plan amendment, zoning change, and permit from the Corps for fill of jurisdictional areas within the SD Project area. Sammis' request for the General Plan amendment was the last of its kind in the Sunrise Douglas area because the County subsequently imposed a moratorium on general plan amendments pending its 1993 revision of the County General Plan.

The Corps and the County identified potentially significant environmental impacts associated with the SD Project, and as Lead Agencies, prepared a joint Environmental Impact Statement/Environmental Impact Report for the project under NEPA and CEQA, respectively (SD Project EIS/EIR).

A. The SD Project EIS/EIR

The Final SD Project EIS/EIR, published in January, 1992, evaluated the impacts of a primarily residential project on approximately 1,225 acres. According to the EIS/EIR, the information therein was intended for use by all agencies concerned with major developments in the SD Project area. (SD Project EIS/EIR, p. 1-1.) The EIS/EIR determined the project area included 82.14 acres of jurisdictional waters of the United States, including 68.06 acres of vernal pools. The development as proposed would impact approximately 38.15 acres, including 26.97 acres of vernal pools. The Corps considered this to be a significant impact if appropriate mitigation measures were not imposed. For mitigation, the SD Project EIS/EIR proposed a combination of avoidance and on-site creation of wetlands and vernal pools within a 482-acre reserve in the SD Project EIS/EIR required a minimum of 27.01 acres of vernal pool creation (3.8 acres on site and 23.2 acres off site) and 14.08 acres of wetland creation on site and off site. The

SD Project EIS/EIR concluded that these on-site and off-site measures, together with provisions of the Wetlands Compensation Plan authored for the wetland/vernal pool reserve, would at least maintain wetland and vernal pool functions and values in the area, thereby sufficiently mitigating impacts to wetlands and vernal pools on site. (SD Project EIS/EIR, pp. B-42-43.)

The SD Project EIS/EIR considered all other potentially significant impacts from the development of the project and proposed mitigation measures to reduce all but a few impacts to below significant levels, in accordance with the requirements of NEPA and CEQA. As the SD Project EIS/EIR noted, the Corps limited its jurisdiction to waters of the United States, and its analysis of direct, indirect and cumulative impacts to these jurisdictional waters of the U.S. It subsequently determined appropriate mitigation associated with the Corps' action, the issuance of a Department of the Army permit pursuant to Section 404 of the Clean Water Act. (Final SD Project EIS/EIR, p. B-16). For other potentially significant impacts, the County, as CEQA lead agency, analyzed and imposed additional mitigation measures to reduce potential impacts to levels of less than significant in all but eight categories. Subsequent to this federal and County review, several components of the SD Project have been substantially constructed.

B. Sunrise Douglas Community Plan Sunridge Specific Plan EIR

In 1993, at approximately the same time as certification of the SD Project EIS/EIR, the County initiated a Specific Plan process for the greater Sunrise Douglas area, encompassing over 5,000 acres of land, including the SD Project. The County then modified its approach and adopted a more conceptual Community Plan for the greater Sunrise Douglas area, encompassing approximately 6,042 acres, while reducing the area covered by the detailed Specific Plan to approximately 2,632 acres; the Specific Plan area included the SD Project already addressed by the SD Project EIS/EIR.

The County's Sunrise Douglas Community Plan/Sunridge Specific Plan EIR (Community Plan/Specific Plan EIR) assessed environmental impacts related to these planning areas. For the Community Plan area, the Community Plan/Specific Plan EIR analyzed an overall conceptual framework and policy direction for urbanization of the area covered by the Community Plan. Conceptual land uses were assumed for the Community Plan area outside of the Specific Plan area in order to evaluate the cumulative impacts of future urban development of this area. For the Specific Plan area, the EIR analyzed detailed land use and public-facilities plans and corresponding zoning for near-term urban development within the Specific Plan area. The Community Plan/Specific Plan EIR also considered the findings and mitigation measures related to the SD Project Section 404 permit application because the SD Project is within the boundaries of the Specific Plan area. Thus, after the certification of the Community Plan/Specific Plan EIR in 2002, development proposed for 1,225 of the 2,632 total acres of the Specific Plan had been addressed by the Corps' EIS/EIR and the entirety had been covered by a subsequently prepared EIR. The Corps and other federal agencies engaged the County and landowners within the Specific Plan area to create a Conceptual Strategy for wetland preservation which was subsequently adopted by the Corps, EPA and USFWS to serve as a framework within which to assess a proposed project's impacts to existing environmental factors pertinent to their respective authorities and responsibilities.

On March 6, 2006, the City of Rancho Cordova, which now has jurisdiction over the Sunrise Douglas Community Planning area, adopted the Mitigated Negative Declaration (MND) for the Sunridge East Projects, which include the Grantline 208 project. In so doing, the City relied on the Sunrise Douglas Community Plan/SunRidge Specific Plan Final Environmental Impact Report, which was certified by the Sacramento Board of Supervisors on June 19, 2002.

C. Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

In May 2002, prior to its certification of the Community Plan/Specific Plan EIS/EIR, the County initiated meetings regarding potential wetlands and endangered species permitting strategies for the entire Community Plan area to ensure the Specific Plan and Community Plan avoidance strategy would reflect Federal and state requirements for avoidance. The Corps, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency (Agencies), the California Department of Fish and Game, and a majority of landowners and interested developers within the Specific Plan area attended these meetings. However, consensus was not reached at that time. Subsequently, the County approved both the Community Plan and the Sunridge Specific Plan on July 17, 2002. The conditions of approval for the Specific Plan require individual applicants to obtain any necessary Corps permit for fill of waters of the U.S. On July 1, 2003, with the incorporation of the City of Rancho Cordova (City), the Community Plan area came under the City's land use jurisdiction.

In early 2004, Congressman Doug Ose asked that all stakeholders come together for further meetings to cooperatively develop a conceptual avoidance and mitigation strategy that would provide guidance for individual projects needing discrete permit actions to avoid and preserve wetland areas that cumulatively would make up an areawide ecological preserve to satisfy the mandates of federal law administered by the Federal Agencies. This culminated in the Agencies developing a strategy that provided a conceptual framework for planned development in the Community Plan area while also considering the likely federal and state requirements to be imposed on each project within the Community Plan area consistent with the Agencies' responsibilities under the Clean Water Act, the Endangered Species Act and other applicable federal statutes.

The Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, 4 red June 2004, (Conceptual Strategy, incorporated by reference) sets out ten principle and standards to assist property owners in identifying alternatives that minin the individual and cumulative effects on aquatic resources and sensitive species. Together with the ten standards and principles, the Agencies released a Conceptual Reserve map of avoidance within the Community Plan area. The map, together with the ten principles and standards and an agency-approved preserve management plan, was designed to identify a preservation and mitigation strategy for the Community Plan area to ensure that the aquatic resource habitats would be maintained in sufficient amounts to preserve their functions and values. If adopted by prospective project applicants to minimize both the project-specific and cumulative effects associated with the development of projects projected under the Specific Plan, it is anticipated the Conceptual Strategy preserve area would protect remaining aquatic resource values. Furthermore, these aquatic resource values would be managed in perpetuity according to an Agenciesapproved preserve management plan. Each project proposed would then be individually assessed for compliance with the Conceptual Strategy and independently analyzed for any other issues not addressed under the Strategy.

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For the unpermitted area of the Sunridge Specific Plan (the Sunridge Specific Plan area excluding the SD Project), the Corps requested that permit applicants prepare an analysis of potential cumulative impacts and an evaluation of the practicability of different reserve designs. If, based on these analyses and other relevant data, the Corps concluded that the cumulative impacts were not significant or were reduced to level of less than significant, the Corps could act on those pending applications without preparation of an EIS. Applicants for seven individual permits pending before the Corps, including four projects noticed together in the same Public Notice as the Project (Public Notices Nos. 199700006; 200000336; 200100230; and 200100252), submitted the requested analyses.

The applicant provided the Regional Alternatives Information Sunridge Specific Plan Subarea, Sacramento County, California, dated November, 2004 (Alternatives Information Document) to identify regional and sub-regional cumulative impacts that may reasonably be expected to occur based on the Conceptual Reserve plan developed by the Agencies. The Alternatives Information Document analyzes the Conceptual Reserve and eight alternative reserve configurations according to criteria for minimizing jurisdictional impacts and providing connected reserve areas in light of cost, logistics and existing technology. As discussed in Sections IV.F. below, it is our preliminary determination these projects would not likely have cumulatively significant impacts to the environment provided that these projects are developed consistent with the terms of the Conceptual Strategy, including the requirements for implementing the Conceptual Reserve. If any of these projects deviate from the Conceptual Strategy, the Corps will reassess this determination as to the extent and nature of cumulative impacts and

prepare additional project-specific environmental documentation as necessary for the remaining Sunridge Specific Plan projects that require Corps permits.

Jurisdictional Impacts Related to the Grantline 208 Project

The Project site contains approximately 11.10 acres of waters of the United State . This jurisdictional acreage includes 10.07 acres of vernal pools, 0.05 acre of depressional seasonal wetland, 0.66 acre of riverine seasonal wetland, 0.08 acre of seasonal marsh, and 0.24 acre of ephemeral drainages.

The Project would result in the placement of fill material into 5.70 acres of waters of the United States, including 5.22 acres of vernal pools, 0.04 acre of depressional seasonal wetland, 0.36 acre of riverine seasonal wetland, and 0.08 acre of ephemeral drainage. In addition to direct impacts, 0.45 acres vernal pools and seasonal wetlands located within the preserve have upland buffers of less than 250 feet and could be adversely indirectly affected by the surrounding development.

Proposed Mitigation

Of the 11.1 acres of waters of the United States on the project site, 5.4 acres of these waters are within the on-site preserve consistent with the Corps' policy of avoidance, minimization and mitigation. Of these 5.4 acres, 4.65 acres are protected vernal pool branchiopod habitat greater than 250 feet from the proposed development. The applicant proposes additional off-site mitigation based on a combination of preservation and restoration/creation of waters of the United States consistent with the Conceptual Strategy and Preserve Map.

The Applicant would provide additional compensation for impacts to 5.7 acres of jurisdictional waters of the U.S. on the project site, including 5.22 acres of vernal pool habitat, by preserving approximately 6.9 acres of vernal pool branchiopod habitat at the Town Center mitigation site to address the preservation component. The Town Center mitigation site is located in southeast Sacramento County, approximately four miles south southwest from the project site. Wetlands proposed for preservation within the Town Center site include vernal pools, depressional seasonal wetlands and riverine seasonal wetlands, and function similarly to the vernal pools and other habitats impacted on the Project site. The 6.9 acres to be preserved at the Town Center site in addition to the 4.65 acres of on-site vernal pool habitat preservation result in total preservation of 11.55 acres, the great majority of which are vernal pool branchiopod habitat. This provides a preservation mitigation ratio of almost 2:1 acres preserved to acres directly impacted and 1:1 acres preserved to acres indirectly impacted (0.45 acres within 250 feet of the development area). The preserved lands would be monitored in perpetuity to provide for the long-term conservation of aquatic resources and endangered species.

The applicant also proposes to restore wetlands at the Town Center mitigation site at a 1:1 restoration/creation-to-loss ratio. The applicant's proposed restoration/creation component, which is based on 5.70 acres of about impact to waters of the United States and indirect impacts to 0.45 acres of vernal $p \rightarrow^{1}$ brachiopod habitat, would consist of restoration/creation of 6.15 acres of vernal pools and swales at the Town Center mitigation site. Areas restored/created at the Town Center site should retain similar functions to wetland areas impacted at the Project site, substantially assuring no net loss of wetland acreage and function as a result of the permitted fill.

The Mitigation Action Plan and its associated Regulatory Guidance Letter (RGL) 02-02 call for compensation to occur in the watershed of the impact site when practicable. The proposed Town Center Site and the project site are in the Lower Sacramento River watershed. While the Town Center mitigation site is located outside the current City limits of Rancho Cordova, it is within the Grant Line South Planning Area described in the Rancho Cordova General Plan. As such, the conceptual land use plan for the property includes a Village Center at the intersection of Grant Line Road and Jackson Highway as well as Office Mixed Use and Mixed Density Residential on the site. The location of the proposed commercial and office mixed uses corresponds to a high density of existing vernal pools. Placement of a Conservation Easement on the Town Center property removes this property from future development and would preserve high value and high functioning wetlands in perpetuity.

II. Environmental and Public Interest Factors Considered:

A. Purpose and need:

The overall project purpose is to construct a medium-sized, low- to medium-density single-family subdivision and resident-serving public service components (school, neighborhood parks, public open space) proximate to local and regional job centers and existing infrastructure in a manner consistent with the Conceptual Strategy. This project would provide additional housing to help address the existing housing needs within Sacramento County and the immediate region.

B. Alternatives Analysis [33 CFR 320.4(b)(4), 40 CFR 230.10]

The applicant submitted an alternatives analysis for the Project prepared pursuant to the 404(b)(1) guidelines, incorporated by reference. In summary, the Regional Alternatives Analysis considered an analysis of potential alternative locations for the project as applicable to the Grantline 208 site. The Regional Alternatives Analysis concluded there were no practicable alternative locations for construction of the remaining Specific Plan Area projects, including Grantline 208, which would meet the project purpose of constructing residential subdivisions within the southeast Sacramento area with any less damaging impacts on aquatic habitats.

The applicant provided a subsequent alternatives analysis in April 2006 to assess four on-site design alternatives, including the proposed Project. The alternatives analysis discussed the Project and the three other alternatives within the framework of the ten principles and standards discussed in the Conceptual beategy, and analyzed its level of compliance with the principles and the associated preserve map created for the entire Specific Plan area.

- 1. No action. The no-action alternative is that alternative potentially available to the applicant if the Corps were to deny authorization for discharge of fill material into waters of the U.S. within the project area, and is the full avoidance alternative discussed in the applicant's supplemental alternatives analysis. To avoid direct and indirect impacts to wetlands, the no-action alternative would require avoidance of all waters of the U.S., including a 250foot buffer (although the buffer may consist entirely of non-jurisdictional upland habitats, the USFWS maintains that wetlands and vernal pools within this buffer area could incur indirect adverse impacts as a result of residential development). This would require avoidance of 165.9 acres of land area (out of the 210.7 total), with 44.8 acres remaining for development. The remaining developable acreage would be further constrained by the size and pattern of the wetlands across the site. The applicant also evaluated the no-action alternative with a 50-foot buffer. This analysis yielded a remaining net developable acreage (excluding 4.8 acres of major roads and 134.7 acres of open space) of approximately 71.2 acres, resulting in linear, convoluted, or fragmented lands that would be logistically inefficient to develop. Both buffer sizes would result in a no-action alternative that would not leave sufficient contiguous land to feasibly construct a residential development. In considering alternatives that would avoid all jurisdictional waters, the applicant considered the absence of a drainage basin along Grantline Road, which would be required to manage stormwater runoff from drainages east of Grantline Road, as well as the use of bridges and Conspan-type structures to avoid fill of waters to connect portions of the development. However, issues of maintaining safe and efficient circulation patterns still remained. The inability to locate a drainage basin along Grantline Road and to design an efficient circulation pattern made this alternative logistically infeasible and therefore not a practicable alternative.
- 2. Other project designs (smaller, larger, different, etc.). The applicant provided information on four different alternatives with varying levels of avoidance, including the full avoidance alternative discussed above, a partial avoidance alternative, a full impact alternative, and the proposed Project. The partial avoidance alternative would avoid 10.31 acres of jurisdictional area, including 9.53 acres of vernal pool, 0.21 acres of seasonal stream, 0.49 acres of

seasonal wetland, and 0.08 acres of seasonal marsh. This alternative includes open space preserves on the western and eastern ends of the project site, while the scattered resources in the center of the site would be impacted. The applicant determined that with respect to the partial avoidance alternative, in order to maintain a sufficiently large open space preserve area, the amount of developable acreage remaining after avoidance would be substantially decreased and rendering the applicant's project infeasible. Further, logistical constraints related to this alternative, including the location of detention basins and efficient internal circulation, would preclude the alternatives' ability to satisfy the applicant's logistical criteria. Finally, each of the avoidance alternatives would result in isolated preserves or unconnected avoided areas that would run counter to the intentions of the Conceptual Strategy. With respect to the full impact alternative, this alternative would likely not receive authorization because the Applicant already demonstrated an alternative with lesser adverse environmental impacts.

The applicant also participated in extensive discussions with the Federal Agencies in developing the Conceptual Strategy and accompanying Conceptual Preserve Map for projects within the Specific Plan area. The Conceptual Strategy and Preserve Map identify: (1) wetland and vernal pool avoidance areas within the Specific Plan, and (2) ten principles and strategies necessary to create an aquatic habitat avoidance and preserve area within the Specific Plan area that ensures overall project consistency with the requirements and intentions of the Endangered Species Act and Clean Water Act. The applicant has designed the Grantline 208 to comply with the Conceptual Strategy and associated Preserve Map.

- 3. Other project sites (40 CFR 230.10): The 404(b)(1) Alternatives Analysis for Grantline 208 considered eight potential alternative sites within the Specific Plan area. As discussed in the Regional Alternatives Analysis, these sites did not meet the availability criterion because they were currently under development by other owners, and/or did not meet the environmental criterion because they were not less environmentally damaging as they were likely to have equal or greater impacts to aquatic ecosystems on their sites.
- 4. Corps selected alternative: The Corps' selected alternative is the applicant's preferred alternative with inclusion of the following special conditions:
 - a. The permittee shall utilize siltation and turbidity control measures (e.g., silt fences, hay bales) in all areas where disturbed soils may potentially wash into nearby watercourses or adjacent wetlands via rainfall or runoff. Such measures shall remain in place until the project is complete and exposed soils are stabilized.

- b. The permittee shall ensure no debris, soil, silt, sand, rubbish, cement or washings thereof, or petroleum products a stashings thereof, are allowed to enter into or placed where it may be washed by rainfall or runoff into nearby watercourses or adjacent wetlands. When project operations are completed, all excess construction materials, debris, or other excess associated project materials shall be removed to an appropriate off-site location outside of any areas subject to Corps jurisdiction.
- c. The permittee shall ensure staging and storage of equipment and project materials, and fueling and maintenance of equipment, are located in areas outside of the Corps' jurisdiction.
- d. The permittee shall ensure the limits of the project's impact area are delimited by the placement of temporary construction fencing, staking or signage prior to initiation of construction.
- e. The permittee shall ensure the project is in full compliance with the provisions of the *Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* dated June, 2004.
- f. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply. The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-05-F-0305, dated May 18, 2006), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and

conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

- 6. To ensure appropriate replacement of functions and values of the aquatic environment that would be lost through project implementation, the permittee shall develop a final comprehensive mitigation and monitoring plan for his proposed compensatory mitigation at a Corps-approved site. This plan must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004.
- h. To mitigate for the direct loss of 5.70 acres of waters of the United States and indirect impacts to an additional 0.45 acres of waters of the United States that constitute vernal pool branchiopod habitat, the permittee shall construct at least 6.15 acres of vernal pool habitat at a Corps-approved location. The permittee shall complete construction of the compensatory mitigation no later than October 31, 2007.
- i. To ensure compensatory mitigation is completed as required, the permittee shall notify the District Engineer or his representative of the date you start construction of the authorized work and the start date and completion date of the compensatory mitigation construction, in writing and no later than ten (10) calendar days after each date.
- j. To provide a permanent record of the completed compensatory mitigation work, the permittee shall provide two complete sets of as-built plan drawings of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-built plan drawings shall indicate any changes made from the original plans in indelible red ink. These as-built plan drawings shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.
- k. The permittee shall establish and maintain, or cause to be maintained, in perpetuity, compensatory preserves containing not less than 6.15 acres of created and/or restored vernal pool habitat as required by "Special Condition d" at a Corps-approved location, and 6.9 acres of preserved vernal pool branchiopod habitat at a Corps- and USFWS-approved location.

- 1. To minimize external disturbance to avoided waters of the United States, the permittee shall succeptorate buffers consisting of native upland vegetation of suital width from the outer limit of jurisdiction of the entire perimeter of the created, preserved, and avoided waters of the United States, including wetlands within the proposed preserves, when practicable.
- m. To ensure the preserves are properly managed, the permittee shall comply with the preserve management plan for the off-site mitigation, preservation, and avoidance areas at a Corps- and USFWS-approved location. This plan shall be drafted in accordance with the Sacramento District's Open Space Preserve Operations & Maintenance Template, dated May 19, 2003, and shall describe in detail the activities that are proposed within the preserve area and the long term funding and maintenance of the preserve area. To prevent unauthorized access and disturbance, the applicant shall install fencing and appropriate signage around the perimeter of the preserves.
- n. To protect the integrity of the preserves and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or be allowed to occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers and USFWS.
- o. To ensure long-term viability of the mitigation, preservation, and avoidance areas, the permittee shall, prior to initiating any activity authorized by this permit:
 - i. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas;
 - ii. Designate an appropriate conservation-oriented third party entity to function as preserve manager and to hold the required conservation easements;
 - iii. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be provided to the Corps of Engineers for approval prior to recordation; and

- iv. Provide copies of the recorded documents to the Corps of Engineers no.later than 30 days prior to the start of construction of any of the activities authorized by this permit.
- p. The permittee shall engage a biologist familiar with regional vernal pools and seasonal wetlands to monitor all construction activities within 250 feet of the on-site preserve boundary. The monitor shall ensure no unauthorized activities occur within the preserve boundary during project implementation.

- q. To ensure success of the preserved and created waters of the United States, the permittee shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.
- r. The permittee shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by July 31 of each year. The permittee shall submit an additional monitoring report at the end of the final three-year period demonstrating continued success of the mitigation program without human intervention.
- s. The permittee shall allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure it is being or has been accomplished in accordance with the terms and conditions of your permit.
- t. A copy of this permit shall be accessible on the job site at all times during construction. The permittee shall provide a copy of this permit to all contractors and forepersons, and require they read this authorization in its entirety and acknowledge they understand its contents and their responsibility to ensure compliance with all general and special conditions contained herein.
- C. Physical/chemical characteristics and anticipated changes.

(X) Substrate: The substrate primarily consists of Red Bluff-Redding Complex and Redding Gravelly Loam, both of which are well suited for grazing and dry farming. The project site is characterized by flat tecturin and gently sloping topography. The project would affect approximately 137.8 acres (excluding 4.8 acres of major roads) of soils on the 210.7-acre site due to mass grading for residential construction, including road and utility infrastructure. This grading does not constitute a substantial impact because this soil series is not uncommon and is therefore not significant.

(X) Currents, circulation or drainage patterns: Site drainage flows south and southwest through the site. Filled areas would be developed and drainage from these areas would be re-routed to the extent necessary to comply with post-construction stormwater plans for the project site. Runoff would be conveyed off site via storm drain to a stormwater detention basin. The applicant would be expected to comply with all post-construction stormwater treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to avoid potential for substantial adverse nuisance flows from the project site to enter into waters of the United States avoiding substantial off-site impacts. Therefore, modifications to on-site drainage patterns would not be a significant impact.

(X) Suspended particulates; turbidity: Wetlands on the project site likely have slightly turbid water during the rainy season. There is potential for increased turbidity during and after project construction. For those wetlands and vernal pools within the development portion of the project site, this consideration is moot. For the wetlands and vernal pools in the on-site preserve area, however, water quality BMPs required under the City's MS-4 permit, such as use of sediment fencing, would avoid substantial adverse impacts resulting from turbid runoff. It is anticipated that only minimal impacts would occur provided the applicant complies with the City's MS-4 permit and the State Water Quality Certification. Therefore, this impact is determined to be less than significant.

(X) Water quality (temperature, salinity patterns and other parameter): Filled areas developed as part of the proposed project have the potential to contribute urban pollutants to runoff from the site into waters of the United States. These pollutants could include hydrocarbons, nitrates and ammonia, and heavy metals. As with turbidity, the project is required to implement construction and operational BMPs that would avoid substantial adverse impacts from polluted urban runoff into waters of the United States. Minimal impacts are expected provided the applicant complies with the State Water Quality Certification. Therefore, this impact is considered to be less than significant.

(X) Flood control functions: The entire project site is outside the 500-year floodplain and the project does not place housing within any 100-year flood hazard

areas. The Project would include a detention basin to provide flow control functions. The flood control infrastructure for the Project will avoid substantial adverge offects from the permitted fill. The proposed project's impact on flood control functions is less than significant.

(X) Storm, wave and erosion buffers: Jurisdictional areas on the project site currently provide only minimal erosion buffers, consisting primarily of existing vegetation within these areas. The project would completely impact the existing vegetation in the development area, but any impact to erosion buffers, such as they may exist, would be minimized through implementation of construction and operational stormwater BMPs including the timely revegetation of filled areas left exposed, and detention of project runoff to prevent significant adverse erosion off site.

() Erosion and accretion patterns: No effect.

(X) Aquifer recharge: Soils and underlying hardpan result in little infiltration of groundwater in the project area. Aquifer recharge from the project site is minimal because of these site conditions. Post-project, groundwater recharge would occur primarily in the 68-acre on-site preserve area. Runoff from new impervious surfaces created as a result of the permitted fill would be collected and diverted through on-site drainage controls and ultimately released downstream. Some infiltration from these features could be expected. Thus, recharge would still occur, but at different locations and at different rates than under existing conditions, and no substantial adverse effects would likely occur because of the limited affected area. Therefore, this impact is not significant.

() Baseflow: No effect.

Additionally, for projects involving the discharge of dredged material:

() Mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification discharge vessel speed and direction, rate of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing: No effect.

D. Biological characteristics and anticipated changes.

(X) Special aquatic site (wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45): The project site currently contains 11.1 acres of wetlands. The project, as proposed, would impact 5.62 acres of special aquatic sites, including 5.22 acres of vernal pools, and 0.45 acres of seasonal wetlands. The vernal pools are *northern hardpan vernal pools* that occur within depressions on cemented soils in the Central Valley. The seasonal wetlands on

the project site are also typically in depressions but their periods of inundation or insturations are less than for the vernal pools and their plant species assemblage differs outiceably from that found in the on-site vernal pools.

he applicant proposes to provide as mitigation a combination of preservation at 11 storation or creation of waters of the United States consistent with the mitigatic rerecommendations inherent to the Agencies' Conceptual Strategy and Conceptual Preserve Map. The proposed project would otherwise comply with the ten principles and standards of the Conceptual Strategy where applicable.

Areas restored or created are expected to retain similar functions as wetland areas impacted in the project site, assuring no net loss of wetland acreage and functions as a result of the proposed project. The applicant would establish and maintain, in perpetuity, compensatory preserves containing 6.15 acres of created/restored wetland habitat at the Town Center mitigation site, 5.40 acres of waters of the United States (4.65 acres of which are considered protected vernal pool branchiopod habitat) at the on-site preserve area, and 6.9 acres of preserved vernal pool branchiopod habitat at the Town Center mitigation site. Because impacted special aquatic sites on the project site would be mitigated per direction from the Corps and USFWS, it is assumed they are adequately mitigated. Therefore, this impact is considered less than significant.

(X) Habitat for fish and other aquatic organisms: Wetland and vernal pool habitat for the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*) would be affected by the proposed project.

The applicant proposes to mitigate impacts to aquatic habitats with on-site preservation of 5.4 acres of wetlands and vernal pools within the 68.1-acre preserve area and 6.9 acres of off-site preservation and creation or restoration of wetland and vernal pool habitat at the Town Center mitigation site. The off-site preserved habitat would be similar both geographically and hydrologically to those areas impacted, albeit at a location approximately four miles to the south southwest. Mitigation ratios for direct impacts to vernal pool branchiopod habitat are set at 1:1 for off-site creation and 2:1 for a combination of on-site and off-site preservation. Mitigation ratios for indirect impacts to vernal pool branchiopod habitat are set at 1:1 for off-site creation and 1:1 for a combination of on-site and off-site preservation. Finally, the preservation and creation/ restoration sites would be maintained and preserved in perpetuity. The funding and management of these areas would provide environmental benefits in the form of habitat restoration, creation and preservation. Based upon available information, the Corps concludes that these measures will mitigate impacts of the proposed fill on aquatic habitat to a less than significant level.

(X) Wildlife habitat (breeding, cover, travel, general): The existing project site, being open land with herbaceous vegetation, provides foraging habitat for raptors

and other birds, small mammals, and reptiles. Because conversion of other land to similar habitat values is impractical, mitigation for loss of such habitat can only come in the form of preservation of similar habitats of similar or higher functional values. Impacts to these witat types would be partially offset by the 68-acre on-site preserve and off-site preservation at the Town Center mitigation site. Although conversion of approximately 143 acres of open space would not be mitigated by on-site and off-site preservation of similar habitat, loss of this habitat is not a significant impact because of its relatively small area in relation to the total amount of such habitat in the region.

(X)Endangered or threatened species: Wetlands and vernal pools in the project area subject to fill are assumed by the applicant to hold the threatened vernal pool fairy shrimp (Branchinecta lynchi) and the endangered vernal pool tadpole shrimp (Lepidurus packardi). The Service issued a no-jeopardy biological opinion (No. 1-1-05-F-0305), dated May 18, 2006, on the proposed fill activities for the Grantline 208 project. The Service concluded that the fill activities of the proposed project would not jeopardize the continued existence of the listed vernal pool crustaceans because mitigation proposed as part of the project, plus compliance with the agencies' Conceptual Strategy and Conceptual Preserve Map would offset impacts to listed species and their habitats. The Biological Opinion includes non-discretionary terms and conditions that require mitigation measures proposed by the applicant be implemented through the 404 permit, and the terms and conditions would be included as a condition of the any Department of the Army permit issued. Based on the conclusions of the nojeopardy opinion, and the likelihood of success of planned mitigation, the permitted fill would not have significant impacts on endangered or threatened species, as mitigated.

(X) Biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities, or other sources: According to the City of Rancho Cordova's MND, the project site has no known hazardous materials involvement. Additionally, although there is documented groundwater contamination in the plan area, the project does not include the use of on-site wells. Therefore, the potential for the project to result in exposure to the groundwater contamination is unlikely and this impact is not significant.

E. Human use characteristics and impacts:

(X) Existing and potential water supplies; water conservation: The project's water supply does not rely on wells due to documented local groundwater contamination precluding potable uses, instead relying on that provided by the local

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water district. Therefore, the proposed project would result in an incremental draw on available water sources, but it is not expected to have an adverse effect on ultimate water supplies in the foreseeable future. It is also anticipated that in the absence of restrictive use covenants, the residents would be typical users of available water and effects on water conscrvation would be restricted to those imposed by local requirements, such as mandating low-flow showerhead and limited-capacity toilets, restricting landscaping and other outdoor water uses in duration or to certain hours of the day to minimize losses to runoff or evaporation. Impacts to existing and potential water supply or water conservation is determined to be less than significant.

() Recreational or commercial fisheries: No effect.

() Other water related recreation: No effect.

(X) Aesthetics of the aquatic ecosystem: Aquatic resources present on site are primarily shallow depressions that occasionally fill during periods of seasonal precipitation. The aesthetic values particular to these features, while small in area and of an ephemeral nature, still have a certain aesthetic benefit to those who are aware of their interesting ecology on the local and regional level, or simply appreciate seeing such features come and go through the seasons. However, impacts to these aesthetic qualities resulting from the proposed project are less than significant and would be adequately mitigated through consistency with the Conceptual Strategy and Conceptual Reserve.

() Parks, national and historic monuments, national seashores, wild and scenic rivers, and wilderness areas, research sites, etc.: No effect.

(X) Traffic/transportation patterns: Current traffic and transportation patterns in the area of the proposed project exhibit growth underway in Sacramento County. Potential traffic impacts were addressed in the Traffic Circulation Section of the Sunrise Douglas Community Plan and Sunridge Specific Plan (SDCP/SRSP) Master Environmental Impact Report (EIR). The SRSP would increase A.M. and P.M. peakhours and daily-vehicle trips compared to existing traffic conditions. The SDCP/SRSP EIR identified traffic and circulation mitigation measures for development projects to adopt. The traffic impacts resulting from the Corps' action may be adverse but are considered less than significant when incorporating mitigation measures identified in the SDCP/SRSP. The information pertaining to traffic identified in the SDCP/SRSP is hereby incorporated by reference.

(X) Energy consumption or generation: Construction of the proposed project would require fuel energy for the heavy equipment utilized for grading and fill activities, and would require additional energy for construction, operation and maintenance of improvements. Following construction of homes on this property, there would be persistent and long-term consumption of energy by each home, collectively for

on-site infrastructure such as street lighting and traffic lights, continued use of vehicle fuels, etc. There is adequate regional energy capacity available to serve these future needs, and the project's impacts on energy consumption are generation are not significant.

() Navigation: No effect.

(X) Safety: The project would implement standard construction safety measures such that there is no potential for a significant adverse effect on safety beyond what is typically experienced by projects of this sort.

(X) Air quality: The proposed permit has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

(X) Noise: The project is not expected to generate substantial noise impacts given the mitigation measures implemented through the CEQA review process. In this case, land uses proposed on all portions of the applicant's project are expected to meet the County Noise Level Performance Standards and County Land Use Compatibility standards set by the County's General Plan Noise Element (Community Plan/Specific Plain EIR, pp. 12.9c). These indicators are a common threshold used for assessment of substantial noise impacts, and indicate the proposed project will not result in substantial noise impacts. Given the anticipated level of noise generation, the natural attenuation of sound over distance, and the distance to nearby sensitive receptors, it is expected that noise generated by this project would be less than significant.

(X) Historic properties (Section 106 National Historic Preservation Act): The project site does not appear to contain any sites listed, or eligible for listing, on the National Register of Historic Places. No previously recorded prehistoric or historic resources exist within the project site. Therefore, the proposed action is not expected to have any effect on historic properties.

(X) Land Use Classification: The proposed fill activity will occur in conjunction with construction of residential development on lands previously used for agricultural activities. These lands are located within the General Plan Urban Policy Area and are shown as new Urban Growth Area in the Sacramento County General Plan, indicating the County's intent to plan for the urbanization of this area within the

20-year time frame of the General Plan. Issuance of the Corps's permit would have no significant effect on land use classification in the project area.

(X) Economics: Construction associated with the project would create jobs and generate revenue for the local economy in the short term. Ine long term, the project would partially address the growing housing demand in the Sacramento County area, thereby providing a longer-term benefit to the regional economy in a variety of ways directly and indirectly associated with residential development.

(X) Prime and unique farmland (7 CFR Part 658): The California Department of Conservation's Farmland Mapping and Monitoring Program designated the project site as grazing land and farmland of local importance, but not as prime or unique farmland. According to the City's MND, neither the "grazing lands" designation nor the "farmland of local importance" designation qualifies the project site as prime and unique farmland. Therefore, the project's impact on prime or unique farmland would be less than significant.

() Food and fiber production: No effect.

(X) General water quality: The proposed project would directly impact approximately 5.70 acres of waters of the United States, including 5.22 acres of vernal pools, 0.04 acre of depressional seasonal wetland, 0.36 acre of riverine seasonal wetland, and 0.08 acre of ephemeral drainage. In addition to direct impacts, 0.45 acres vernal pools and seasonal wetlands located within the preserve have upland buffers of less than 250 feet and could be adversely indirectly affected by the surrounding development. Mass grading of the development area could contribute sediment to offsite receiving waters if not mitigated, and subsequent uses typical of residential development would likely indirectly contribute contaminants to receiving waters, including fertilizers, pesticides, herbicides, petroleum byproducts, and components thereof.

Pursuant to Section 401 of the Clean Water Act, the applicant has obtained a water quality certification from the Central Valley Regional Water Quality Control District, issued September 16, 2005 (File No. 5A34CR00222). The certification concluded that the proposed project's proposed sufficient measures adequately protect the identified beneficial uses of surrounding and downstream water courses. The applicant must also comply with all post-construction stormwater treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to prevent substantial impacts to the water quality of surrounding and downstream areas.

(X) Mineral needs: The project site is not a commercial source of minerals. Construction of the project will necessitate the importation of aggregate, concrete, and

asphalt. These materials would likely be supplied locally. No negative impacts are expected and this projects impact on mineral needs would be less than significant.

(X) Consideration of private property: The project area is currently provate property owned by the applicants. Issuance of a Department of the Army permit would not affect private property considerations and the effect is less than significant.

(X) Minority and Low Income Populations: The proposed action has been evaluated in accordance with Title VI of the Civil Rights Act and Executive Order 12898 regarding environmental justice populations. Impacts to the minority and low-income populations in the permit area will not be disproportionately high. Therefore, this impact would be less than significant.

() Other: None.

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F. Summary of secondary and cumulative effects:

Federal regulations promulgated by the Council on Environmental Quality (CEQ) require federal agencies to assess the indirect impacts of federal actions in addition to the action's direct impacts. In this case, the federal action is authorization to fill 5.70 acres of waters of the United States for proposed residential development in Sacramento County, California. The land parcel to the east retains habitat types similar to the Grantline 208 project site; but is separated from the project site by a major roadway and indirect impacts to wetland and vernal pool habitats in that area are not considered further. Because lands to the north and south are within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan area, similar habitats in these areas would be directly impacted and those areas are also not considered further. Furthermore, separate Section 7 consultations have been completed on lands adjacent to the project site and indirect impacts to these areas are expected to be addressed through those separate consultations.

In the USFWS Biological Opinion issued for the Grantline 208 project, the Service estimated that any jurisdictional wetland or vernal pool habitat within 250 feet of project development (an additional 0.45 acres of vernal pools and seasonal wetlands) would be indirectly impacted due to increased human presence, changes to site hydrology, or other newly created conditions. The Service addressed these additional 0.45 acres of indirect wetland impacts in its issuance of the no-jeopardy biological opinion for the proposed project, and concluded the Conservation Measures set out in the Biological Opinion would sufficiently offset direct and indirect impacts to wetland and vernal pool habitat.

CEQ regulations also require consideration of cumulative effects of an agency's action. Cumulative effects are the incremental effects of the agency's proposed action, and past, present, and reasonably foreseeable future actions in the general locale of the agency's a lon. For analysis of cumulative impacts, the 1,345 acres of the SunRidge Specific Plan the provides the most appropriate subarea for assessment because the City of Rancola loc lova has completed the land use entitlement process for each of the projects within thus area. Therefore, the proposed actions are reasonably well defined and the potential in pacts are foreseeable. Moreover, each of the 404 permit applications pending in the SunRidge subarea are for geographically contiguous jurisdictional features and the permitted actions are planned to occur during the same approximate time frame. Because of the certainty of the land use entitlements, and the related geography and timing of the effects, it is reasonable to presume their cumulative effects are related.

The Conceptual Strategy and the analysis in the Regional Alternatives Information address potential cumulative effects to both aquatic and non-aquatic resources in the subarea. The collaborative effort of the Federal Agencies and the numerous participants in the Conceptual Strategy resulted in a plan to preserve wetlands and vernal pools in the area that collectively reduce adverse impacts to affected jurisdictional waters from almost 60 acres under the adopted Specific Plan to approximately 44 acres, while preserving 41.2% of vernal pool habitat within the Specific Plan area. Each project must demonstrate consistency with the Conceptual Strategy and incorporate mitigation that will ensure no net loss of wetlands. If participants satisfactorily address the intent of the Conceptual Strategy, it is estimated that more than 50% of the waters in the Community Planning Area would be protected under the conceptual preserve design, reducing adverse cumulative impacts compared to that initially proposed under the Specific Plan. This is consistent with the Mitigation Memorandum between the Corps and EPA that established the Corps' policy to require avoidance of impacts to special aquatic sites, minimization of unavoidable impacts, and finally mitigation for unavoidable impacts to such resources.

Other benefits of the Conceptual Strategy include identifying avoidance areas in a manner that minimizes edge-to-area ratios; coalescing individual projects' avoidance and minimization efforts into a regional reserve designed to connect to the previously approved and existing Anatolia Preserve, thereby increasing connectivity between project avoidance areas and connectivity to downstream wetlands and vernal pools; and creating intact corridors supporting the Morrison Creek and Laguna Creek watersheds and associated vernal pools in the Specific Plan area. The Conceptual Strategy also sets forth principles and standards for development of uplands surrounding the avoided wetlands and vernal pools that would reduce urban edge effects in these areas and promote long-term retention of wetland and vernal pool functions and values. Finally, the Conceptual Strategy areas require monitoring and management in perpetuity according to a preserve management plan to be submitted for Federal Agencies' approval. The measures specified in the Conceptual Strategy for the creation of a reserve according to the Conceptual Reserve map would avoid cumulatively significant impacts to jurisdictional wetlands and vernal pools within the Specific Plan area, but more

importantly would result in preservation of the functions and values of the remaining vernal pools, wetlands and other jurisdictional waters of the U.S. in the Community Planning Area.

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The Sunrise Douglas Community Plan/S_F ecific Plan EIR does not provide more than conceptual information on impacts to jurisdictional waters of the U.S. within the SunCreek area immediately to the south of the Sunridge Specific Plan area. However, several projects in this area are pending and are undergoing separate review. As noted above, the 1,345 acres of the Sunridge Specific Plan area provides the most appropriate subarea for assessment because the City of Rancho Cordova has completed the land use entitlement process for each of the projects within this area. The City has also prepared a draft Specific Plan for the SunCreek portion of the Community Plan area. The Corps and the City anticipate preparing a joint EIS/EIR for the SunCreek Specific Plan for development in this area, which would further consider potential cumulative effects. The NEPA and CEQA processes would likely identify and modify land uses in this area, including the potential creation of a jurisdictional wetland and vernal pool preserve within the SunCreek area. Subsequent applications for fill for projects within the Community Plan area would also be evaluated under NEPA.

Together, past measures taken to reduce impacts of the Sunrise Douglas Project, combined with measures specified in the Conceptual Strategy and Conceptual Preserve for the SunRidge Specific Plan area, substantially address adverse effects to jurisdictional wetland and vernal pool areas to ensure they are not cumulatively significant.

In addition to potential cumulative impacts to jurisdictional wetlands and vernal pools, the development of the Project, in conjunction with development of other projects recently publicly noticed within the Specific Plan area, may have cumulative impacts to other categories of the human environment as discussed in the County's Community Plan/Specific Plan EIR. The County identified mitigation measures through the EIR and incorporated land use planning policies within the Specific Plan that are designed to address cumulative impacts in these other categories including traffic, noise, air quality and groundwater levels. The mitigation measures in the City of Rancho Cordova's MND for the Sunridge East Properties, including the Grantline 208 Project, in addition to measures implemented by the County's adoption of the Sunrise Douglas Project EIS/EIR Mitigation and Monitoring Program, and future mitigation measures created for the SunCreek Specific Plan area, are anticipated to ensure reasonable treatment of these categories of cumulative impacts.

The proposed project would contribute to incremental regional suburban growth as identified in the County's 1993 General Plan. While this incremental addition is relatively small and could be considered minimal, it cannot be discounted.

- III. Findings:
 - A. Other authorizations:
 - Water quality certification: The app cant obtained water quality certifications from the Central Valley Regional Water Quality Control Board on September 16, 2005, File No. 5A34CR00222. The 401 certification, including special conditions, are attached hereto as Appendix B.

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- 2. State and/or local authorizations (if issued): The California Department of Fish and Game (CDFG), pursuant to the State Fish and Game Code, issues Streambed Alteration Agreements if a proposed action alters habitats in certain situations related to rivers, streams, lakes and ponds. Prior to engaging in any work authorized by Department of the Army permit, the applicant is expected to inquire of the CDFG whether a streambed alteration agreement is necessary.
 - B. A complete application for the Grantline 208 project was received on May 16, 2005. The Public Notice was issued on September 30, 2005, and the comment period closed on October 30, 2005.
- 1. Comments Received and Responses to Comments
 - (a) <u>Sierra Club</u>
 - 1. PNs #199400365 and #200400458 will destroy directly and through indirect impacts some of the most important vernal pool grasslands left in our area. Both the South Sacramento Habitat Conservation Plan (currently being developed), and the recently issued Fish & Wildlife Service Draft Plan for vernal pool species recovery (Draft Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, October 2004), acknowledge that the area proposed for development supports an unusually dense and diverse complex of vernal pools.

The Corps acknowledges that the Grantline 208 project site is generally located within areas that would be covered by the South Sacramento Habitat Conservation Plan and are covered in the Recovery Plan for Vernal Pool Ecosystems. However, the Project would be implemented pursuant to standards established in the Agencies-approved Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area (Conceptual Strategy). As contemplated in the Conceptual Strategy, the 68-acre on-site

preserve proposed as part of the Grantline 208 Project would be part of a larger 161-acre vernal pool grassland habitat preserve. This preserve would include a substance in number of vernal pools and vernal pool complexes.

Besides the numerous vernal-pool associated species, these grasslands support a wide variety of bird species of State and Federal Special Status that use this area for foraging and/or breeding at various seasons. Such species include: ferruginous hawk, Swainson's hawk, northern harrier, white-tailed kite, prairie falcon, merlin, long-billed curlew, burrowing owl, loggerhead shrike and tricolored blackbird.

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Comment noted. The Grantline 208 project would result in an incremental loss of habitats favored by such species for one or more essential phases of their respective life cycles. However, the incremental loss resulting from the Grantline 208 project is not significant because of its small areal impact in relation to remaining similar habitats available to these species in the immediate vicinity of the project and in the region. In addition, continued opportunity is made available to these species by preservation of more than 68 acres on the project site as well as additional preservation acreage made available at the Town Center mitigation site, which also prevents this area from being developed.

The Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area is entirely inadequate for protection of vernal pool resources and for those bird species within the Sunrise-Douglas Plan Area. The small, narrow corridors proposed for preservation will sacrifice nearly all the import [sic] vernal pool resources and leave little or no habitat suitable for the other wildlife that use these grasslands.

The block of vernal pool grassland habitat preserve at the Town Center mitigation site contemplated in the Conceptual Strategy for mitigation for the Grantline 208 project would consist of 161 contiguous acres of vernal pool grassland habitat, and would range from approximately 1,400 to 2,400 feet in width. This area would be managed and maintained in perpetuity specifically for the purpose of sustaining vernal pool resources. With ongoing protection and management, this preserve is expected to be of sufficient size to sustain a diversity of bird species and other wildlife that normally use vernal pool grasslands. It is also noted

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that the Town Center mitigation site is immediately adjacent to the Sloughhouse Preserve, thus increasing the inherent function and value of the Town Center mitigation site. This contention is supported by the existence of the Phoenix 1 = 4 preserve and other preserves smaller than 161 acres that whethink to sustain rare and endangered vernal pool species as well as a diversity of other associated wildlife. The proposed project also includes preservation of approximately 68 acres on site to be managed in perpetuity. This avoidance area also contributes substantially to remaining regional resource functions and values within the Sunrise Douglas Community Plan area.

4. These Public Notices are a continuation of a piecemeal permitting process for the Sunridge Specific Plan Area, which is in violation of the appropriate NEPA process. We request that a full Environmental Impact Statement be prepared, including a complete analysis of all the alternatives.

Although the Grantline 208 project (PN #199400365) is within the larger 6,042-acre Sunrise Douglas Community Planning Area and the Sunridge Specific Plan area, the Grantline 208 project is a single and complete project with independent utility separate and apart from any other projects within the Sunridge Specific Plan Area.

We do not believe an EIS is warranted for the Grantline 208 Project. Under NEPA and its implementing regulations, a federal agency must review its proposed action to determine whether it will significantly affect the human environment. (42 U.S.C. § 4332(2)(c).) If, through this review, the agency concludes that the action will significantly affect the human environment, the agency must prepare an EIS for the action to analyze the environmental effects of the proposed action and possible alternatives that may have less adverse effects on the environment. If not, the agency may proceed with a finding of no significant impact. According to the Corps' regulations, "most permits normally will require only an Environmental Assessment." (33 C.F.R. § 230.7(a).) We believe this to be the case for the Grantline 208 Project; under the standards set by NEPA and its implementing regulations, the Grantline 208 Project's requested Section 404 permit would not require an EIS.

As part of its analysis, the Corps must review the effects of the proposed federal action to determine whether they cross the - "significance" threshold for requiring an EIS. "Significance" of an environmental effect is a function both of context and intensity. (40 C.F.R. § 1508.27.) Under CEQ regulations, appropriate context of the analysis is the proposed 404 permit for the Grantline 208 Project, since the Project is a single and complete project with independent utility from other projects in the Specific Plan Area. In addition to context, the intensity of effects is a consideration set out in the CEQ regulations. Although significance thresholds may be surpassed due to direct, indirect or cumulative impacts of the proposed federal action, the Grantline 208 Project proposes mitigation that would reduce its direct and indirect impacts to aquatic resources to a level of less than significant. These mitigation measures comply with the Corps' no-net-loss policy for wetlands (Army Corps of Engineers Regulatory Guidance Letter 02-02, December 24, 2003) by establishing an approximately 68-acre on-site preserve and off-site preservation and creation/restoration at the Town Center mitigation site. Thus, direct and indirect impacts to aquatic resources due to the proposed Section 404 permit for the Grantline 208 Project are determined to be less than significant.

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In summary, given the discussion above, the context and intensity of impacts from the proposed fill for the Grantline 208 Project do not surpass the significance threshold. The applicant has avoided and minimized impacts to aquatic resources on site by establishing a 68-acre preserve area, as well as proposed off-site creation and preservation mitigation at ratios that would achieve and surpass the Corps' policy of no net loss of wetland functions and value. The project applicant submitted his project to address the goals of the Conceptual Strategy designed to minimize impacts to wetlands and vernal pools Plan area-wide. These measures are sufficient to reduce impacts to wetlands on the Grantline 208 site to a level of less than significant. Thus, the Grantline 208 Project would not surpass NEPA's significance threshold, and no EIS is required.

This comports with the conclusion of the County's final EIR for the Specific Plan area. The County of Sacramento evaluated development within the Sunrise Douglas Community Planning Area and the Sunridge Specific Plan Area in an EIR certified by the County in June 2002 pursuant to CEQA. This EIR was designated a "master" or tiered EIR intended to provide a detailed errorizonmental review of plans and programs upon which the approval of subsequent related development proposals could be beau if In addition, the Sunridge East Projects, which include CL atline 208, were further evaluated in a mitigated negative declaration certified by the City of Rancho Cordova in March 2006, also pursuant to CEQA.

State environmental review documents, such as the Sunrise Douglas Community Planning Area and Sunridge Specific Plan Area Environmental Impact Report and the Sunridge East Projects Mitigated Negative Declaration, can be utilized by the Corps and other federal agencies to assist in their environmental review of a project. Both the CEQ NEPA Regulations and the Corps' NEPA Regulations contemplate this cooperation between state and federal agencies to reduce duplicative procedures between NEPA and comparable State and local requirements. 40 C.F.R. § 1506.2; 33 C.F.R. Pt. 325, App. B § 4.

(b) California Native Plant Society

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PNs #199400365 and #200400458 will destroy 19.52 acres of wetlands. Of this 11.70 acres are vernal pool associated wetlands (vernal pools, swales, seasonal wetlands). These projects will also indirectly impact the 8.68 acres of vernal pool associated wetlands proposed for onsite preservation. Indirect impacts include edge effect, habitat fragmentation, loss of watershed, increased vectors for invasive species, residential use of pesticides, predation by pets, etc.

The Grantline 208 project (PN #199400365), specifically, will result in direct loss of 5.7 acres of wetlands, 5.55 acres of which are vernal pool associated. Consistent with U.S. Fish and Wildlife Service standards, indirect impacts have been determined for all vernal pools within 250 feet of proposed development. Based on this assessment, 0.45 acres of vernal pool habitat would be indirectly impacted by the Grantline 208 project. However, the on-site preserve and nearby off-site preserves would be managed and maintained in perpetuity to prevent the spread of invasive species, effects of pesticide drift, encroachment by pets, and other such adverse indirect effects on these mitigation areas. This is a reasonable response to address anticipated adverse effects such as you raise in your comment. £

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A county-wide assessment of vernal pools, done in support of the South Sacramento Habitat Conservation Plan which is currently being developed, shows and the high concentrations and diversity of vernal pools in the Sumrise Douglas area is rare. This area hosts numerous endangered and species status species. It is also almost entirely within a priority-one core recovery unit (Draft Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, October 2004).

The Corps acknowledges that the Grantline 208 project site is within a priority-one core recovery area and is identified in the county-wide assessment for the South Sacramento Habitat Conservation Plan (South Sac HCP) as an area of high conservation value. The project has been designed in recognition of the biological importance of this area, providing preservation and long-term management of approximately 1/3 of the project site to protect vernal pools and surrounding grasslands. The onsite preserve was designed as part of the Conceptual Strategy, which was developed by the Corps, the USFWS, and the EPA in coordination with landowners and other stakeholders within the Sunrise-Douglas Community Plan Area. Consistent with the Conceptual Strategy, the Grantline 208 provides a vernal pool preserve that is contiguous with proposed preserves to the north, on the Douglas 103 and Sunridge Park properties, and to the south, on the Arista del Sol property. These preserves will collectively protect a contiguous block of approximately 161 acres vernal pool grassland habitat (referred to as the "Eastern Preserve") within a priority-one core recovery area for vernal pools, thus contributing to recovery of the listed vernal pool species and contributing to a viable regional preserve system for the South Sac HCP.

3. The Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area is entirely inadequate for protection of vernal pool resources within the Sunrise-Douglas Plan Area. Vast amounts of extremely high quality and high density vernal pools are being sacrificed for narrow, streamcorridor associated preserves. The preserve design does not follow most of the principals [sic] of conservation biology.

See response to comment 1(a)(3) above. The Conceptual Strategy provides a means by which an applicant receives initial guidance from the three federal agencies (Corps, USFWS and EPA) that have the most direct input on his proposed project, and with such

forewarning can design his project to avoid and minimize impacts to aquatic resources pr. ent on the project site, and develop a mitigation scenario to parther offset unavoidable project impacts and achieve a level of a cret loss of wetlands. This is entirely consistent with the Mitigation Memorandum between the Corps and EPA that established the Corps' policy to require avoidance of impacts to special aquatic sites, minimization of unavoidable impacts, and finally mitigation for unavoidable impacts to such resources. Alternatively, each applicant could simply ignore the Strategy and propose full buildout of the project area and take his chances with the Regulatory process, eventually providing an alternatives analysis that would likely include one or more alternatives similar to a project otherwise submitted after consideration of project design following the Strategy. In other words, the Conceptual Strategy provides a framework within which the developers understand up front what the federal agencies would likely expect of their project to enable them to potentially save time and expenses. Furthermore, the preserve design does follow basic principals of conservation biology by preserving a large, contiguous block of habitat and minimizing edge effects to the extent practicable. It is intended to ultimately mitigate impacts to wetlands throughout the Plan area to a level of less than significant.

4. The preserve design will allow the take of 63.49% of the unique and irreplaceable vernal pool grasslands of the Sunrise-Douglas area.

The Grantline 208 project would preserve approximately 1/3 of the vernal pool grasslands on site, and would provide for management and monitoring in perpetuity to sustain its long-term viability. The project would also preserve 6.90 acres of vernal pools off site in an area that harbors vernal pool and wetland resources of similar function and value, and would restore and/or create an additional 6.00 acres of vernal pool habitat off site in a mitigation site of substantial area. These off-site mitigation lands would also be managed and maintained in perpetuity to sustain long-term conservation value. The on-site and off-site preservation are anticipated to adequately mitigate vernal pool losses resulting from the proposed project.

 The two public notices referenced above are part of a piecemealed
 permitting process for the Sunridge Specific Plan Area that began with PN #200000336. In March 2004, the USACE received hundreds of

letters from concerned citizens urging them to prepare a full Environmental Impact Statement as required under the National Environmental Policy Act (NEPA) and a full Least Environmentation Damaging Practicable Alternative (LEDPA) analysis as required in the Clean Water Act for the Sunridge Specific Plan Area. Since PNs #199400365 and #200400458 are part of the Sunridge Specific Plan Area, all comment letters received by the USACE pertaining to PN #200000336 are herby incorporated by reference.

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> See response to comment 1(a)(4) above. The Grantline 208 project is a single and complete project with independent utility. The Conceptual Strategy was determined by the Corps, USFWS and EPA to confirm that its development and preserve strategy provided for reasonable avoidance and minimization of impacts to jurisdictional aquatic resources in the Sunrise Douglas Community Plan area while addressing proposals for development in the planning area. This analysis is reflected in the Regional Alternatives Information, SunRidge Specific Plan Subarea, adopted in concept by the Corps, USFWS and EPA as demonstrating that the Conceptual Strategy complies with the intent of the Section 404(b)(1) Guidelines. The project applicant later provided the Corps with a subsequent alternatives analysis for the Grantline 208 project to supplement the Conceptual Strategy and the Regional Alternatives Analysis. This supplemental analysis assessed four on-site alternatives and also concluded that the proposed Grantline 208 project complies with the requirements of the Section 404(b)(1) Guidelines within the context of the Conceptual Strategy and Regional Alternatives Analysis, and is thus the LEDPA.

Public Notice #20000336 includes the following projects: DJ Enterprises 200100448, North Douglas 199400218, North Douglas 2 199400529, Anatolia IV 199400210), and Douglas Road 98 200200568). The Grantline 208 project (PN #199400365) is not included in PN #200000336. Comment letters pertaining to PN #200000336 may or may not apply to the Grantline 208 project, and thus those comment letters cannot simply be incorporated en masse by reference.

6. I believe that the USACE is in violation of NEPA by evaluating these applications as individual projects. This piecemcal approach ignores the significant cumulative effects of the two projects referenced in PNs

#199400365 and #200400458 and the five projects referenced in PN #200000336.

See response to comment 1(a)(4) above. The Grantline 208 project is a single and complete project with independent utility. Together, the impacts of the proposed Section 404 permit for the Grantline 208 Project (PN #199400365) and the other projects identified in PN #200400458 and 200000336 do not have cumulatively significant impacts. Each applicant for these and other projects in the area must proceed through the Corps' regulatory framework for permitting fill to jurisdictional waters. This process ensures that (a) all authorized impacts would be the least environmentally damaging practicable alternative, as specified in the Section 404(b)(1) Guidelines, and (2) any permitted impacts to aquatic resources, particularly wetlands and vernal pools, would be adequately mitigated to ensure adherence to the Corps' no-net-loss policy. In addition, each project is expected to address the inherent goals of the Conceptual Strategy, determined by the Corps, USFWS and EPA to confirm that its development and preserve strategy provides for reasonable avoidance and minimization of impacts to jurisdictional aquatic resources in the Sunrise Douglas Community Plan area while addressing proposals for development in the planning area. We believe these measures are sufficient to ensure cumulative impacts from other Section 404-permitted activities within the Specific Plan Area would not reach the significance threshold.

Furthermore, cumulative effects associated with development in the Sunridge Specific Plan Area, which includes development associated with the projects identified in the PNs referenced above, were evaluated in the Regional Alternatives Analysis. The Regional Alternatives Analysis determined that the "collective effort of the agencies and applicants has resulted in a development and preservation plan that minimizes the cumulative effect of their respective project impacts on the aquatic ecosystems in the region." As described in the Regional Alternatives Analysis, implementation of the Conceptual Strategy is intended to ensure the proposed impacts to jurisdictional waters within the Grantline 208 project area would not individually or collectively result in significant adverse cumulative effects to wetlands and endangered species habitat in the region.

- 7. As I and many, many others wrote in comments related to PN #200000336, again I urge the USACE and other regulators to:
 - **b** Require a full Environmental Impact Statement from the applicants.
 - See response to comment 1(a)(4) and 1(b)(5) above.
 - Insist on a complete analysis of all the alternatives to this development plan.

See responses to comment 1(a)(4) and 1(b)(6) above. A reasonable range of alternatives was evaluated in the County's and City's evaluations of development in the Sunrise Douglas Community Plan Area and the Sunridge Specific Plan Area, in the Corps' Regional Alternatives Analysis, and in the project applicant's supplemental alternatives analysis for Grantline 208.

• Suspend consultations with the U.S. Fish and Wildlife Service on endangered species, until these steps are taken.

The Service issued its Biological Opinion for Grantline 208 on May 18, 2006. The Corps is statutorily required to consult with the USFWS and National Marine Fisheries Service when, in its review of a proposed permit action, determines that the action may affect a species listed as threatened or endangered, or if the action may adversely modify designated critical habitat for such a species, or conference with the Services if it is determined that a proposed permit action may affect a species proposed for listing as threatened or endangered, or adversely modify habitat proposed for designation as critical habitat for a listed species. Unilateral suspension of consultations would be extraordinary.

• Hold public hearings.

The Public Notice for Grantline 208 was issued on September 30, 2005, and the comment period closed on October 30, 2005. It was determined that a public hearing was not warranted because insufficient reason was provided to indicate a hearing would provide more substantive information than was already provided in the written comments received. ۰.,

(c) Citizen's Committee to Complete the Refuge (responding to PN #199400365, Crantline 208; PN # 200400458, Arista del Sol; and PN 200400707 Sunridge Village)

1. Use have reviewed the public notices listed above and urge the Corps to deny the proposed permit applications. The Corps must not proceed with the permit process for any of the projects proposed until a comprehensive Environmental Impact Statement (EIS) has been prepared that fully analyzes less-damaging alternative, assesses the full extent of impacts, direct and indirect, both individually and cumulatively to the Sunrise Douglas Community Plan area, critically reviews mitigation proposed, and considers all public interest factors. Given the environmental significance of the area and the magnitude of impacts proposed, doing anything less would be a serious violation of the Corps' Section 404 Clean Water Act regulatory responsibility.

See response to comment 1(a)(4) and 1(b)(5) above. A reasonable range of alternatives was evaluated in the County's and City's evaluations of development in the Sunrise Douglas Community Plan Area and the Sunridge Specific Plan Area, in the Corps' Regional Alternatives Analysis, and in the project applicant's supplemental alternatives analysis for Grantline 208.

2. <u>Piecemealing</u>: In February 2004, the Sacramento District released PN 200000336 for five projects located within the Sun Ridge Specific Plan area. At that time it was reported Sacramento County's Final Environmental Impact Report of the Sunrise Douglas Community Plan states that approximately 203 acres of wetlands could be impacted from the full development of the Sunrise Community Plan area. However, the Corps has continued to review the impacts to the unique and important Sunrise Douglas ecosystem project by project without adequately addressing the interconnections between these projects. It is imperative the impacts of all these related projects are considered in concert, and not in piece-meal fashion. The projects described in PNs 199400365 and PN #200400458 may have different applications, but it is clear from the figures provided these developments are completely interconnected by infrastructure. They share common streets and drainage corridors, a common detention basin/park and school. PN #200400707 is immediately adjacent to these two proposed project and through the figure of the proposed development is difficult to read we assume this project shares infrastructure with the others. This would hold true for projects mentioned in PN 200000336 and those reviewed since. Reviewing these projects as separate is a blatant example of piecemealing.

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See response to comment 1(a)(4), 1(b)(5) and (6) above.

3. <u>Ecological Importance of the Sunrise Douglas Area</u>: As we stated in our response to PN 200000336 in April of 2004. California has lost over 90% of its vernal pool habitat, and that which remains is often reduced in size, and ecologically disconnected, jeopardizing the long-term viability of this important habitat type. It is for this reason the vernal pool complex of the Sunrise Douglas Community Plan area should be considered an Aquatic Resource of National Importance (ARNI). The soils, for the most part, are intact. The vernal pools of the 6,000-acre Sunrise Douglas Community Plan area exist as a large relatively intact complex. The pools are hydrologically and ecologically connected, making this an important and unique resource.

Aquatic Resources of National Importance ("ARNI") have not been statutorily defined. Under the 1992 Memorandum of Agreement with the Army Corps under Section 404(q) of the Clean Water Act, the EPA would make an initial determination that a proposed fill may affect an ARNI. The Corps would then follow established procedures to discuss the matter with the EPA before making any final permit decision. This did not occur with the Grantline 208 permit review. The Corps does not deny the value of the aquatic resources present in the Sunrise Douglas area. However, without a formal determination on the part of the EPA that the proposed fill would affect an ARNI, the Corps is not precluded from issuing a Department of the Army permit for the proposed project.

4. The vernal pools within the Sun Ridge Specific Plan area support the federally-listed endangered Sacramento Orcutt grass (Orcuttia viscida), the federally-listed threatened slender Orcutt grass (Orcuttia tenuis), the federally-listed threatened vernal pool fairy shrimp (Branchinecta lynchi), and the federally-listed endangered vernal pool tadpole shrimp (Lepidurus packardi). The vernal pools may also support the federally-listed California tiger salamander (Amystoma californiense). The vernal pools support the state-listed Bogg's Lake hedge hyssop (Gratiola heterosepala), and the two Orcutt grasses listed above. In addition, the vernal pools support a number of plant species considered to be rare in occurrence. The Sunrise Douglas Community Plan area is almost entirely within a priority-one core recovery unit (Draft Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, October 2004).

In the Grantline 208 Biological Opinion, the Source states that the proposed Grantline 208 project site and the ender a Sunridge Specific Plan are outside of the range of the Carolornia tiger salamander. The Service further states that success conducted on the proposed project site in October 2003 and August 2004 did not indicate presence of slender Orcutt grass or Sacramento Orcutt grass. The Service concluded that the Grantline 208 project would not affect California tiger salamander, slender Orcutt grass, or Sacramento Orcutt grass. Bogg's Lake hedge hyssop was not observed during botanical surveys on the Grantline 208 project site. Vernal pool fairy shrimp and vernal pool tadpole shrimp are present in the vernal pools that would be impacted by the proposed project, but impacts to these federally listed species were addressed in a Biological Opinion completed by the Service on May 18, 2006. Regarding the site being within a priority-one recovery unit, see response to comment 1(b)(2) above.

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5. PNs #199400365, 200400458 and 200400707 will destroy 34.06 acres of wetlands, of this over 23 acres are vernal pool associated wetlands (vernal pools, swales, seasonal wetlands). These projects will also indirectly impact an unknown acreage of existing vernal pool associated wetlands proposed for onsite preservation. Indirect impacts include edge effect, habitat fragmentation, loss of watershed, increased vectors for invasive species, residential use of pesticides, predation by pets, etc.

See response to comments 1(a)(3), 1(b)(3) and (4) above.

6. The proposed project is clearly not "water dependent," therefore under the 404(b)(1) Guidelines (40 CFR 230.10) the applicants must rebut the presumption that a practicable alternative exists that is less environmentally damaging. There is no indication the applicants of the proposed projects have made any attempts to minimize the adverse impacts of their proposals. In fact, PN 200400707 states the "applicants proposed project is not consistent with the preserve strategy developed by the agencies (the Corps, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency). In particular, a key component of the agencies' alternative was the preservation of Morrison Creek in its existing alignment." PNs 199400365 and 200400458 state the projects appear to be consistent with the "Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area." However, this does not adequately insure the adverse impacts have in fact been minimized to the

extent possible and that the projects as proposed represent the least environmentally damaging practicable alternatives.

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The Grantline 208 project is located within the Sunridge Specific Plan area, for which an overall Section 404(b)(1) alternative analysis (the applicant's Regional Alternatives Analysis) was prepared. That analysis concluded that there are no practicable alternatives to the Sunridge Specific Plan Area Projects. The Corps notes that it was prepared at the applicant's behest, and as such the Corps must diligently assess whether the analysis appropriately weighs appropriate criteria when drawing its conclusions. Generally, it is reasonable to compare proposed projects in a given location or study area, such as the Sunridge Specific Plan area, with available potential properties available in the region. Selection criteria typically would include availability of other parcels under consideration (i.e., Is the parcel already under other development proposals? Does the parcel have a willing seller, either another developer or other private or public owner?), appropriate size of available parcels, location in relation to cities and/or regional infrastructure, presence or absence of existing infrastructure (transportation, utilities, water availability, etc.) in relatively close proximity to the parcel, presence or absence of other factors similar to those present on the proposed project site (i.e., Does the parcel have environmental constraints similar or greater to the proposed project site, such that it should probably not be assessed further?), as well as general economic considerations best analyzed by the applicant. Other parcels within the Specific Plan Area are not available because they are all under consideration for development, and the applicant determined there are no other off-site locations that could achieve the project purpose, be implemented in a timely manner or result in significantly less environmental impacts.

Between 2002 and 2004, several meetings were held with the Service in an attempt to agree on the size and location of the proposed on-site preserve. In total, eight preserve alternatives were considered; however, only six were fully evaluated. The noaction and total-fill alternatives were rejected early in the process as they did not meet the project goal of achieving the basic LEDPA criteria. The no-action alternative was rejected because it would not result in a viable project and the latter because there are demonstrated alternatives with lesser adverse environmental impacts.

A supplemental Section 404(b)(1) alternatives analysis was prepared that focused on on-site alternatives to minimize wetlesset impacts because the overall Regional Alternatives Analysis for Sunridge Specific Plan concluded there were no practicable cffsite alternatives to the projects already under consideration in the Sunridge Specific Plan Area. The projects evaluated in the applicant's 404(b)(1) supplemental alternatives analysis included the applicant's proposed project: development of approximately 130.6 acres of residential, park, parkway, school, and detention basin use, 4.8 acres of major roads, 7.2 acres of drainage basin, and 68.1 acres of wetland preserve. This supplemental alternatives analysis also assessed the no-action alternative that would potentially be implemented if the Corps were to deny the applicant's permit request. To avoid direct and indirect impacts to wetlands, the no-action alternative would require avoidance of all waters of the U.S. If one were to include the USFWS's preferred buffer of 250 feet around all vernal pools and seasonal wetlands capable of harboring listed vernal pool crustacean species, this would require avoidance of 165.9 acres of the 210.7 acres comprising the project site. The remaining potentially developable acreage would be further constrained by the size and pattern of the wetlands across the site. The applicant also evaluated the no-action alternative with a 50-foot buffer. This analysis yielded a remaining net developable acreage (excluding 4.8 acres of major roads and 134.7 acres of open space) of approximately 71.2 acres, resulting in linear, convoluted, or fragmented lands that would be logistically inefficient to develop. Both buffer sizes would result in a no-action alternative that would not leave sufficient contiguous land to feasibly construct a residential development. In considering alternatives that would avoid all jurisdictional waters, the applicant also considered the absence of a drainage basin along Grantline Road, which was determined necessary to manage stormwater runoff from drainages east of Grantline Road, as well as the use of bridges and Conspan-type structures to avoid fill of waters to connect portions of the development. However, issues of maintaining safe and efficient circulation patterns still remained. The inability to locate a drainage basin along Grantline Road and to design an efficient circulation pattern made this alternative logistically infeasible and therefore not a practicable alternative.

The supplemental 404(b)(1) alternatives analysis for the Grantline 208 Project also focused on other on-site alternatives designed to minimize wetland imposts. The applicant determined that with respect to the other partial avoidance alternative, in order to maintain a sufficiently large open space preserve area, the amount of developable acreage remaining after avoidance would be substantially decreased and would render the alternative infeasible. Constraints related to this alternative, including the location of detention basins and efficient internal circulation would preclude the alternatives' ability to satisfy the applicant's logistical criteria. Finally, each of the avoidance alternatives would result in isolated preserves or unconnected avoided areas minimizing their ecological contribution to the regional resource values, and would run counter to the intentions of the Conceptual Strategy. With respect to the full impact alternative, this alternative would likely not receive authorization because the Applicant already demonstrated a viable alternative with lesser adverse environmental impacts. The proposed alternative met the project purpose, logistics, costs, and environmental criterion. It retains adequate developable area while providing for safe and efficient internal circulation, and connection to regional roadways. The wetland preserve on the western portion of the Project Site provides sufficient avoidance and connectivity to other open space areas with similar habitats and similar functions and values to ensure the Project is consistent with the regional preservation of wetland and vernal pool habitat within the Specific Plan pursuant to the Conceptual Strategy.

7. <u>Compensatory Mitigation Inadequate</u>: The compensatory mitigation proposed for PNs 199400365, 200400458, and 2004707 given the quality of the resources what would be impacted by the proposed project are wholly inadequate. The 1:1 and 2:1 preservation ratios proposed for direct impacts will not insure wetlands functions and values are replaced. The extent of indirect impacts has not even been quantified. It is extremely important to create large, connected reserves within the community plan area that are surrounded by sufficient uplands to preserve the necessary hydrology, to maintain community diversity, and to buffer the adverse effects of human disturbance (physical – invasive plant introductions, non-native predators, etc., and chemical – run-off from landscaped areas, streets, etc.). The proposed preserve plan for the community plan area will not, and as designed, could not be expected to achieve these goals.

See response to comments 1(a)(3) and 1(b)(3) above. Preservation and active management of vernal pools can increase the long term value of the preserved • .ls over their baseline conditions by correcting practices that y be counter to the pools' best interests. This assumption is reflected in Regulatory Guidance Letter 02-02, which recognizes that preservation can provide practicable long-term ecological benefits. Functional assessment models have been developed elsewhere for other depressional wetland habitat types that recognize the potential to increase wetland functions resulting from habitat preservation and management (see A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Intermontane Prairie Pothole Wetlands in the Northern Rocky *Mountains*). The increase in functions and values resulting from the preservation and management of 12.3 acres of vernal pools and associated wetlands (5.4 acres on-site and 6.9 acres offsite) will augment the 6.0 acres of created vernal pools and seasonal wetlands such that the aggregate amount of mitigation would result in no net loss of aquatic functions and values.

Need for an EIS: An EIS is needed if the proposed federal action
 (issuance of 404 permits) has the potential to "significantly affect the quality of the human environment."

See response to comment 1(a)(4) and 1(b)(5) above.

9. <u>Need to suspend Endangered Species Consultation</u>: Since the proposed projects are part of a larger whole (Sunrise Douglas Community Plan area) Section 7 consultation should be suspended to avoid piecemealing the endangered species review.

The Service issued its Biological Opinion for Grantline 208 on May 18, 2006. The Corps is statutorily required to consult with the USFWS and National Marine Fisheries Service when, in its review of a proposed permit action, determines the action may affect a species listed as threatened or endangered, or if the action may adversely modify designated critical habitat for such a species, or conference with the Services if it is determined that a proposed permit action may affect a species proposed for listing as threatened or endangered, or adversely modify habitat proposed for designation as critical habitat for a listed species. Unilateral suspension of consultations would be extraordinary. We note that the Service has actively participated in interagency discussions

regarding appropriate means by which to avoid, minimize and mitigate impacts to listed species in the Sunridge Specific Plan area, and has provided several non-jeopardy pological opinions with non-discretionary terms and conditions in the proposed project and other projects in the immediate vicinity. This is a reflection of their support for and active participation in the development of the Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, dated June 2004. Therefore, we disagree that suspension of consultations is warranted.

10. We urge the Corps to . . . hold public hearings.

The Public Notice for Grantline 208 was issued on September 30, 2005, and the comment period closed on October 30, 2005. It was determined that a public hearing was not warranted because insufficient reason was provided to indicate a hearing would provide more substantive information than was already provided in the written comments received.

(d) US Environmental Protection Agency (commenting on PN 19900365) Grantline 208 and PN 200400458 Arista del Sol).

As compensatory mitigation for unavoidable impacts, the applicant proposes to mitigate for impacts to wetlands and endangered species through restoration or creation at a 1:1 ratio at Silva Ranch. Direct impacts to vernal pool crustacean habitat would be mitigated through preservation at a 2:1 ratio at Bryte Ranch or another agency-approved location. The applicants propose to mitigate indirect impacts to vernal pool crustacean habitat within 250 feet of the proposed development through preservation at a 2:1 ratio. These compensatory mitigation ratios are within the acceptable range for the project impacts.

Comment noted.

The PNs describe the establishment of on-site wetland preserves encompassing 68 acres at Grantline 208 and 41.1 acres at Arista del Sol. This is consistent with the Strategy and the preserve map of the parcels within the SDCPA. As part of the Strategy, we recommend a comprehensive approach for managing the preserves with a single conservation easement holder and one unified management and monitoring plan. These stewardship arrangements should be placed as special conditions of the federal permit. Comment noted.

a. Evaluation of Compliance with Section 404(b)(1) guideline estrictions on discharge, 40 CFR 230.10). (A check in a block denoted pain asterisk indicates that the project does not comply with the guidelines.):

1) Alternatives test:

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Yes <u>*</u> No <u>X</u> i) Based on the discussion in II B, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the United States" or at other locations within these waters?

Yes X No * ii) Based on II B, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

2) Special restrictions. Will the discharge:

Yes <u>*</u> No <u>X</u>	i)	Violate state water quality standards?
Yes <u>*</u> No <u>X</u> Act)?	ii)	Violate toxic effluent standards (under Section 307 of the

Yes $\underline{*}$ No X iii) Jeopardize endangered or threatened species or their critical habitat?

Yes $\underline{*}$ No X iv) Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes X No * v) Evaluation of the information in II C and D above indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s).

(X) based on the above information, the material is not a carrier of contaminants.

() the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

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() acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

3) Other restrictions. Will the discharge contribute to significant degradation of "waters of the United States" through adverse impacts to:

Yes <u>*</u> No <u>X</u> i) Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife, and special aquatic sites?

Yes <u>*</u> No <u>X</u> ii) Life states of aquatic life and other wildlife?

Yes <u>*</u> No <u>X</u> iii) Diversity, productivity and stability of the aquatic ecosystem, such as loss of fish or wildlife habitat, or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

Yes <u>*</u> No <u>X</u> iv) Recreational, aesthetic and economic values?

4) Actions to minimize potential adverse impacts (mitigation).

Yes <u>X</u> No <u>*</u> Will all appropriate and practicable steps (40 CFR 230.70 – 77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystems?

Refer to Section II(b)(4) for special conditions.

b. General Evaluation [33 CFR 320.4 (a)]:

- The relative extent of the public and private need for the proposed work. The
 proposed project would address a public need for housing opportunities in
 the greater Sacramento area that has a recognized existing housing shortage.
 It would also allow the project proponent to realize a financial gain on its
 owned property and on time and monies already spent bringing this project
 through the planning process.
- 2) The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work. Alternative sites were considered, however these sites were found to be impracticable as discussed in IV.B. above due to logistics, because they had similar or greater environmental impacts, or other reasons. The proposed project would be implemented under the provisions set forth in the Conceptual Strategy and Conceptual Reserve Map, minimizing impacts to sensitive aquatic resources present on the Grantline 208 project site.

- 3) The extent and permanence of the beneficial and/or detrimental effects the proposed structures or work exceptage on the public and private uses to which the area is suited. The loss of 5...0 acres of waters in the project area would be permanent and detrimental. The mitigation proposed by the applicant is also anticipated to be permanent, with dedication of a conservation easement or other appropriate legal instruments over the mitigation areas. As identified in the County's and City's various CEQA documents, the area has been designated for urban residential development as it is proximate to regional job centers and transportation. Permitted fill would have a beneficial effect on meeting housing demand, and on the public and private uses for which this area has been designated through the County's and City's zoning and land use designations. It is anticipated that it would constitute a beneficial contribution to the local and regional economy.
 - c. Significant National Issues: None.
- 2. Determinations:
 - a. Finding of No Significant Impact (FONSI) (33 CFR Part 325). Having reviewed the information provided by the applicant, all interested parties and the assessment of environmental impacts contained in Part II of this document, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement will not be required.
 - b. Section 404(b)(1) Compliance/Non-compliance Review (40 CFR 230.12).
 - () The discharge complies with the guidelines.

(X) The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions listed above (in II.B.4) to minimize pollution or adverse effects to the affected ecosystem.

() The discharge fails to comply with the requirements of these guidelines because:

() There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.

() The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).

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() The discharge does not include all appropriate and practicable measure to minimize potential harm to the aquatic ecosystem; namely...

() There is not sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the guidelines.

- c. Section 176(c) of the Clean Air Act: I have analyzed the proposed project for conformity applicability and determined that the proposed activities in this permit action will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors, and are exempt by 40 CFR 93.152. Any later indirect emissions generally cannot be practicably controlled by the Corps of Engineers and, for these reasons the permit decision does not require a conformity determination.
- d. Public interest determination: I find that issuance of a Department of the Army permit (with special conditions), as prescribed by regulations published in 33 CFR Parts 320 330, and 40 CFR Part 230 is not contrary to the public interest.

PREPARED BY:

_ DATE: _____

William Ness Chief, Sacramento County Office

APPROVED BY:

DATE: ZJOCHOG

Kevin Roukey Chief, Central California/Nevada Section

Department of the Army Permit Evaluation and Decision Document

Applicant:Douglas Road 98Application No.:200200568

This document constitutes my Environmental Assessment, Statement of Findings and review and compliance determination according to the Section 404(b)(1) guidelines for the proposed work initially described in the attached Public Notice (Appendix A) as Douglas Road 98 (Application No.200200568).

Additionally, the Corps incorporates by reference the following documents: 1) Action on Request for Clean Water Act Section 401 Water Quality Certification for Discharge of Dredged and/or Fill Materials for the Douglas Road 98 Project, (WDID# 5A34CR00184) Sacramento County (Appendix B); 2) List of Form Comment Letter Authors to Public Notice # 200000336 (Appendix C); 3) Section 3.0, Environmental Setting, Impacts, and Mitigation Measures of the July 2005, Mitigated Negative Declaration for the Sunridge East Projects (Appendix D); 4) November 2004 Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California (Appendix E); 5) January 14, 2005, Clean Water Act Section 404(b)(1) Alternatives Analysis and Onsite Minimization Measures, Sunridge Property: Douglas (Appendix F); 6) September 2005, Supplemental Alternatives Submittal, Douglas Road 98, Sunridge Specific Plan (Appendix G).

I. Proposed Project: The proposed project is located within the SunRidge Specific Plan Area, which is within the larger Sunrise Douglas Community Plan Area, in Section 10, Township 8 North, Range 7 East, on the U.S.G.S. Buffalo Creek 7.5 quadrangle in Sacramento County, California. The maps of the site and the description of the proposed work are in the attached Public Notice, and further described below.

The project would consist of filling all 3.91 acres of waters of the U.S. on the property to construct 693 homes (approximately 85.5 acres), three neighborhood park sites (approximately 14.4 acres), and road improvements to Douglas and Grant Line Roads (approximately 5 acres).

The site is comprised of level to gently rolling terrain, consisting mainly of non-native grasslands. Vernal pools lie within the grasslands. The majority of the site has been used historically as grazing land, which has not substantially altered the hydrology of the project site from its historical condition. There are no structures situated on the site.

Prior Environmental Review in the Sunrise Douglas Area:

The Sunrise Douglas area in southeast Sacramento County is generally comprised of the area bounded by Douglas Road to the north, Sunrise Boulevard to the west, Grant Line Road to the east and the Jackson Highway to the south. This area has been the subject of extensive land use planning and attendant environmental review processes under the California Environmental Quality Act (CEQA) and, to a lesser degree, the National

Beginning in 1987, the Sammis Company (Sammis) initiated a development project in the Sunrise Douglas area that became known as the Sunrise Douglas Project (herein referred to as the SD The SD Project was originally planned as an industrial project covering approximately 1,225.5 acres of land owned/controlled by Sammis, bounded on the west by Sunrise Boulevard, and on the north and south by Douglas Road and Keifer Boulevard, respectively. Sammis applied for County approvals for the industrial development, but changed its proposal to a predominantly residential project about two years later (in 1989), after the announcement of the potential closure of adjacent Mather Field. The residential project required a General Plan amendment, zoning change, and permit from the Corps for fill of jurisdictional areas within the SD Project area. request for General Plan amendment was the last of its kind in the Sunrise Douglas area because the County subsequently imposed a moratorium on general plan amendments pending its 1993 revision of the County General Plan.

The Corps and the County identified potentially significant environmental impacts associated with the SD Project, and as Lead Agencies, prepared a joint Environmental Impact Statement/ Environmental Impact Report for the project under NEPA and CEQA, respectively (the SD Project EIS/EIR).

A. The SD Project EIS/EIR

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The Final SD Project EIS/EIR, published in January, 1992, evaluated the impacts of a primarily residential project on approximately 1,225 acres. According to the EIS/EIR, the information therein was intended for use by all agencies concerned with major developments in the County. (SD Project EIS/EIR, p.1-1) The EIS/EIR determined the project area contained 82.14 acres of jurisdictional waters, including 68.06 acres of vernal pools. The development as proposed would impact approximately 38.15 acres, including 26.97 acres of vernal pools. The Corps considered this a substantial impact without appropriate mitigation. The SD Project EIS/EIR proposed a combination of avoidance and on-site creation of wetlands and vernal pools within a 482-acre preserve in the SD Project area, and an off-site creation of wetlands and creation component. All told, the SD Project EIS/EIR required a minimum of 27.01 acres of vernal pools creation (3.8 acres on-site and 23.02 acres off-site) and 14.08 acres of wetland creation on- and off-site. The SD Project EIS/EIR concluded that these on-site and off-site measures, together with provisions of the Wetlands Compensation Plan authored for the wetland/vernal pool reserve, would at least maintain wetland and vernal pool functions and values in the areas, thus sufficiently mitigate impacts to wetland and vernal pools on site. (SD Project EIS/EIR, pp. B-42-43).

The SD Project EIS/EIR considered all other potentially substantial impacts from the development of the project and proposed mitigation measures to reduce all but a few impacts to below substantial levels, in accordance with the requirements of NEPA and CEQA. As the SD Project EIS/EIR noted, for this particular project, the Corps limited its jurisdiction to waters of the United States, and analysis of direct, indirect and cumulative impacts and required mitigation associated with the Corps action, the section 404 permit. (Final SD Project EIS/EIR, p. B-16). For other potentially substantial impacts, the County as CEQA lead agency analyzed and enacted sufficient mitigation measures to reduce potential impacts to below levels of significance in all but eight categories. The SD Project has been substantially constructed.

B. Sunrise Douglas Community Plan Sunridge Specific Plan EIR

In 1993, at about the same time as the certification of the SD Project EIS/EIR, the County initiated a Specific Plan process for the greater Sunrise Douglas area, encompassing over 5,000 acres of land, including the SD Project. The County then modified its approach and adopted a more conceptual Community Plan for the greater Sunrise Douglas area, encompassing approximately 6,042 acres, while reducing the area covered by the detailed Specific Plan to include approximately 2,632 acres, including the SD Project already covered by the SD Project EIS/EIR. The County prepared the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR (herein, Community Plan/Specific Plan EIR). For the Community Plan area, the Community Plan/Specific Plan EIR analyzed an overall conceptual framework and policy direction for urbanization of the area covered by the Community Plan. Conceptual land uses were assumed for the Community Plan area outside of the Specific Plan area in order to evaluate the cumulative impacts of future urban development of this area. For

the Specific Plan area, the EIR analyzed detailed land use and public facilities plans and corresponding zoning for near-term urban development within the Specific Plan area. The Community Plan/Specific Plan EIR also considered the findings and mitigation measures of the SD Project 404 permit because the SD Project is within the boundaries of the Specific Plan area. Thus, after the certification of the Community Plan/Specific Plan EIR in 2002, development proposed for 1,225 of the 2,632 total acres of the Specific Plan had been covered by the Corps EIS/EIR and the entirety had been covered by a subsequently prepared EIR. The Corps and other federal agencies engaged the County and Landowners within the Specific Plan area to create a Conceptual Strategy for wetland preservation.

In August 2005, the City of Rancho Cordova, which now has jurisdiction over the Sunrise Douglas Community Planning area, certified a Mitigated Negative Declaration (MND) for the Sunridge East Projects, which include the Douglas Road 98 project. In so doing, the City relied on the Sunrise Douglas Community Plan/SunRidge Specific Plan Final Environmental Impact Report, which was certified by the Sacramento Board of Supervisors on June 19, 2002.

C. Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

In May, 2002, prior to its certification of the Community Plan/Specific Plan EIS/EIR, the County initiated meetings regarding potential wetlands and endangered species permitting strategies for the entire Community Plan area. The U.S. Fish and Wildlife Service, the Corps and U.S. Environmental Protection Agency (the Federal Agencies or Agencies), the California Department of Fish and Game, and a majority of landowners and interested developers within the Specific Plan area attended these meetings. No resolution was reached. On July 17, 2002, the County approved both the Community Plan and the SunRidge Specific Plan. The conditions of approval for the Specific Plan require individual applicants to obtain any necessary Corps permit for fill of waters of the United States. On July 1, 2003, with the incorporation of the City of Rancho Cordova (City), the Community Plan area came under the City's land use jurisdiction.

In early 2004, Congressman Doug Ose asked that all parties come together for further meetings among the stakeholders. The goal of these meetings was to cooperatively develop a conceptual on-site avoidance and off-site mitigation strategy that would satisfy the mandates of federal law administered by the Federal Agencies while allowing for development of the Specific Plan according to existing lano use plans. As a result, the Corps, US Fish and Wildlife Service and the US Environmental Protection Agency (Federal Agencies) developed a strategy that in concept would result in a workable framework for the planned development in the Community Plan and be consistent with the requirements under the Clean Water Act, the Endangered Species Act and other applicable laws.

The Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June 12, 2004 (herein, Conceptual Strategy, incorporated by this reference) sets out 10 principles and standards to assist property owners in identifying alternatives that minimize individual and cumulative effects on aquatic resources and sensitive species. Together with the 10 standards and principles, the Agencies released a Conceptual Preserve map avoidance within the Community Plan area. This map worked in collaboration with the aquatic resource habitat within the Community Plan/Specific Plan area. The Conceptual Strategy preserve area will be protected and managed in perpetuity according to an Agencies-approved preserve management plan. The Map, together with the 10 principles and standards and an agency approved preserve management plan, was to create a mitigation strategy designed to insure that the functions of preserved aquatic resource habitat would be maintained. These protective and restorative measures were designed to protect the conditions of aquatic resource habitat within the Specific Plan, and to minimize both the project-by-project and cumulative effects associated with the development of the Specific Plan.

As part of the Conceptual Strategy process, the Corps addressed its approach to NEPA compliance within the Community Plan area. For the unpermitted area of the SunRidge Specific Plan (the Sunridge Specific Plan area excluding the SD Project), the Corps requested that the permit applicants prepare an analysis of potential cumulative impacts and an evaluation of the practicability of different preserve designs. This analysis applied to seven individual applications for permits that were pending before the Corps, including four projects noticed in the same Public Notice as the Project. (Public Notice No. 200000336; PN# 200100230, PN# 200100252, and PN#199700006).

The City of Rancho Cordova and the Corps are in the process of preparing an EIS/EIR for the SunCreek Specific Plan portion of the Community Plan.

Based on the Conceptual Strategy and Regional Alternatives Information (discussed below), the US Environmental Protection (US EPA) by letter dated November 8, 2004, and the US Fish and

Wildlife Service (US FWS) by their Biological Opinion for the Douglas Road 98 project dated January 12, 2005, confirmed their decision not to elevate the Corps' 404 permit decision on Douglas Road 98 and other applications pending in the SunRidge Specific Planning Area, pursuant to the 404(q) Memorandum of Agreement between the Federal Agencies. The Corps confirmed its' concurrence of the Conceptual Strategy by letter dated October 29, 2004, to Mr. John Hodgson in response to his summary of the negotiations.

The Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California, dated November, 2004 (referred to herein as the Alternatives Information Document) (Appendix E) addresses regional and sub-regional cumulative impacts that may occur from the Conceptual Preserve plan developed by the Agencies. The Alternatives Information Document analyzes the Conceptual Preserve and eight other alternative preserve configurations according to criteria for minimizing jurisdictional impacts and providing connected preserve area(s), in light of cost, logistics and existing technology. The Corps incorporates the Alternatives Information Document into, and makes it a part of, this Environmental Assessment by reference.

II. Environmental and Public Interest Factors Considered:

A. Purpose and need: The overall project purpose is to construct a residential development in Sacramento County. Construction resultant from the fill would provide additional housing to accommodate job growth and help address the existing housing shortage within Sacramento County.

B. Alternatives [33 CFR 320.4(b)(4), 40 CFR 230.10]

The applicant submitted alternatives information (Appendices F and G) for the project. In summary, the applicant considered the practicability of potential alternative locations for the project. The applicant concluded there were no practicable alternative locations for construction of the Douglas Road 98 project that would meet the project purpose and result in fewer environmental impacts.

The applicant provided alternatives information for three on-site design alternatives, including the proposed project. The alternatives information discussed the multi-agency Conceptual Strategy as it applies to the project. The applicant discussed the project within the framework of the ten principles and standards discussed in the Conceptual Strategy, and analyzed its level of compliance with the principles and the associated preserve map created for the entire Specific Plan area.

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1. No action. The no permit alternative is the same as the no fill alternative discussed in the applicant's September 2005, Supplemental Alternatives Submittal. To avoid direct and indirect impacts to wetlands, the no permit alternative would require avoidance of all waters of the U.S., including a 250-foot or 50-foot buffer. The 250-foot buffer would require avoidance of 92.9 acres of land area (out of the 105.3 total), with 12.2 acres remaining for development. The remaining developable acreage would be further constrained by the size and sprawling pattern of the wetlands, including vernal pools, across the site.

The 50-foot buffer yielded a remaining net developable acreage of approximately 63 acres (out of the 105.3 total), resulting in linear, convoluted, or fragmented lands that would be inefficient to develop. Both buffer sizes would result in a no permit alternative that would not leave sufficient contiguous land to feasibly construct a residential development. In considering alternatives that would avoid all jurisdictional waters, the applicant also considered the use of bridges and Conspan-type structures to avoid fill of waters, yet issues of maintaining safe and efficient circulation patterns still remain, making this alternative logistically infeasible and therefore not a practicable alternative.

2. Other project designs (smaller, larger, different, etc.). The applicant provided information on two different avoidance alternatives, with varying levels of avoidance. The applicant determined that any on-site preserve configuration would result in an isolated preserve which would not continue to possess vernal pool and/or wetland functions and values in the long term. Additionally, the applicant indicated that any on-site preserve that would be consistent with the principles and standards of the Conceptual Strategy would reduce the acreage available for development to a point that would preclude construction of a development consistent with the project purpose.

The applicant also participated in extensive discussions with the Federal Agencies in developing the Conceptual Strategy and accompanying Conceptual Preserve Map for projects within the Specific Plan area. The Conceptual Strategy and Preserve Map identify: (1) wetland and vernal pool avoidance areas within the Specific Plan, and (2) ten principles and strategies necessary to create an aquatic resource habitat avoidance and preserve area within the Specific Plan area that ensures overall project consistency with the requirements of the Endangered Species Act and Clean Water Act. The applicant has demonstrated that, as proposed, Douglas Road 98 complies with the Conceptual Strategy

and Preserve Map.

3. Other sites available to the applicant: The applicant was unable to identify any sites within the Specific Plan area which were available and of sufficient size.

4. Other sites not available to the applicant (40 CFR 230.10): The 404(b)(1) Alternatives Analysis for Douglas Road 98 considered eight potential alternative sites within the Specific Plan area. As discussed in the Regional Alternatives Document, these sites did not meet the availability criterion because they were currently under development by other owners, and/or did not meet the environmental criterion because they were not less environmentally damaging as they were likely to have equal or greater impacts to aquatic ecosystems on their sites.

5. Corps selected alternative: The Corps' selected alternative is the applicant's preferred alternative with inclusion of the following special conditions:

1. The project shall comply with the provisions of the Conceptual Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004. Specifically, you shall minimize impervious surfaces and develop and implement a stormwater/runoff plan which is designed to maintain watershed integrity through such means as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat stormwater and runoff from the impervious

This Corps permit does not authorize you to take any 2. threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply.) enclosed Fish and Wildlife Service Biological Opinion (Number The 1-1-04-F-0314, dated January 12, 2005), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the

Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 3.91 acres of waters of the United States, you shall construct at least 3.91 acres of vernal pool habitat at a Corps approved location.

5. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

6. You shall complete construction of the compensatory mitigation no later than December 31, 2006.

7. To insure that compensatory mitigation is completed as required, you shall notify the District Engineer of the date you start construction of the authorized work and the start date and completion date of the compensatory mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed compensatory mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, compensatory preserves containing the 3.91 acres of created/restored vernal pool habitat required by Special

Condition 4 at a Corps approved location, and 7.82 acres of high quality vernal pool habitat at a Corps approved location. The purpose of the preserves is to insure that project implementation does not result in a net loss of functions and values of the aquatic environment.

10. To minimize external disturbance to preserved waters of the United States, you shall establish a buffer of at least 250 feet, consisting of native upland or wetland vegetation from the outer limit of jurisdiction of the entire perimeter of all created, preserved, and avoided waters of the United States, including wetlands within the required preserved.

11. To insure that the preserves are properly managed, you shall develop specific and detailed preserve management plans for the off-site mitigation, preservation, and avoidance areas. The plans shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area(s) and the long term funding and maintenance of each of the preserve areas.

12. To protect the integrity of the preserves and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

13. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2006, install fencing and appropriate signage around the entire perimeter of the preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of mitigation, preservation, and avoidance areas:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas.

b. Designate a Corps approved conservation-oriented third

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party entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be provided to the Corps of Engineers for approval prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by December 1 of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

18. You shall have a biologist, who is familiar with vernal pool and seasonal wetland habitats, monitor all construction activities (including staging, laydown, or access) along the north side of Douglas Road and along the east side of Grantline Road. The monitor shall immediately notify the Corps of Engineers if any impacts to aquatic habitats occur during the proposed road improvements.

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C. Physical/chemical characteristics and anticipated changes

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(check applicable blocks and provide concise description of impacts).

(X) Substrate: The substrate primarily consists of Redding Bluff loam, Redding Gravelly loam, Fiddyment fine sandy loam, and Red Bluff-Redding complex. The project site is characterized by flat terrain and gently sloping topography. The project would affect all soils on the 105.3-acre site, including all 3.91 acres of waters of the United States. This fill does not constitute a substantial impact because it will be mitigated through the creation of 3.91 acres of vernal pool habitat at a Corps approved location and the preservation of 7.82 acres of vernal pool habitat at a Corps approved location. The impact on substrate overall is adverse but considered minor.

(X) Currents, circulation or drainage patterns: Site drainage flows south and southwest through the site. Filled areas will be developed as part of the project and drainage from these areas will be re-routed to the extent necessary to comply with post-construction stormwater plans for the project site. Runoff from the project will be conveyed off-site via storm drain to a storm water detention basin. The applicant is expected to comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to avoid the potential for substantial adverse nuisance flows from the project to enter into waters of the United States. As a result, off-site impacts will be avoided.

(X) Suspended Particulates; Turbidity: Wetlands on-site likely have slightly turbid water during the rainy season. There is potential for increased turbidity during and after project construction. This potential will be minimized through compliance with the City of Rancho Cordova's MS-4 permit. Water quality BMPs required under the City's MS-4 permit will avoid substantial adverse impacts resultant from the entrance of suspended particulates and turbid runoff into waters of the United States. Only minimal impacts are expected provided the applicant complies with the State Water Quality Certification.

(X) Water quality (temperature, salinity patterns and other parameter): Filled areas developed as part of the project have the potential to contribute urban pollutants to runoff from the site into waters of the United States. These pollutants could include hydrocarbons, nitrates and ammonia, and heavy metals. As with turbidity, the project is required to implement construction and operational BMPs that will avoid substantial adverse impacts from polluted urban runoff into waters of the United States. Minimal impacts are expected provided the applicant complies with the State Water Quality Certification.

(X) Flood control functions: The entire project site is outside the 500-year floodplain and the project does not place housing within any 100-year flood hazard areas. The existing wetlands and aquatic ecosystems within the project do not provide flow control functions beyond protection from the most frequent storm events. Flood control infrastructure for the project will avoid substantial adverse effects from the permitted fill.

(X) Storm, wave and erosion buffers: Jurisdictional areas on the project site currently provide only minimal crosion buffers, consisting mainly of existing vegetation within the jurisdictional areas. The permitted fill will impact the existing vegetation, but any impact to erosion buffers will be minimized through implementation of construction and operational stormwater BMPs that will include the timely revegetation of filled areas left exposed, and detention of project runoff to prevent substantial adverse erosion off-site.

() Erosion and accretion patterns: No effect.

(X) Aquifer recharge: The limited groundwater recharge in the project area occurs primarily along the 0.08 acres of ephemeral drainage on the project site. Soils and underlying hardpan on the project site result in little infiltration from the project area. Runoff from impervious surfaces created as a result of the permitted fill would be collected and diverted through on-site drainage controls and ultimately released downstream. Some infiltration from these features would occur, but at different locations and at different rates than under existing conditions. No substantial adverse effects would likely occur.

(X) Baseflow: None.

Additionally, for projects involving the discharge of dredged material:

() Mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification discharge vessel speed and direction, rate of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing. No effect.

D. Biological characteristics and anticipated changes (check applicable blocks and provide concise description of impacts)

(X) Special aquatic site (wetlands, mudflats, coral seefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45): The project site currently contains 3.91 acres of special aquatic sites. The project, as proposed, will impact all 3.91 acres, including 3.70 acres of vernal pools, 0.04 acres of depressional seasonal wetlands, 0.09 acres of riverine seasonal wetlands, and 0.08 acres of ephemeral drainage.

The applicant will compensate the adverse effects of the project on the aquatic environment through a combination of preservation and restoration or creation of waters of the United States. The proposed compensatory mitigation is consistent with the mitigation requirements of the Agencies' Conceptual Strategy and Conceptual Preserve Map. The proposed project will otherwise comply with the 10 principles and standards of the Conceptual Strategy, where applicable.

Compensatory mitigation will consist of restoration/creation of 3.91 acres of wetlands, including vernal pools on appropriate soils at a Corps approved location, which provides a 1:1 ratio of impacted to created wetlands. Areas restored or created should eventually obtain similar functions as wetland areas impacted in the project site, assuring no net loss of wetland acreage as a result of the permitted fill.

The preservation component consists of preserving 7.82 acres of high functioning vernal pool habitat at a Corps approved location. The applicant has proposed to accomplish the required preservation at Borden Ranch. However, Borden Ranch has not received Corps approval.

Typically the Corps does not consider the creation of mitigation wetlands at a 1:1 ratio to the acreage of impacted waters as adequate compensatory mitigation. Usually a higher ratio is required to provide a margin of safety to reflect anticipated success and to account for the time it will take the created habitats to acquire the functions and values lost when the authorized fill occurred. However, in consideration of the relatively high level of preservation which is proposed within the Sunrise Douglas Community Plan area and the proposed 2:1 preservation ratio which is to occur off-site at a Corps approved location, the Corps has determined the proposed 1:1 creation ratio will adequately replace the wetland functions lost through implementation of the Douglas 98 project.

(X) Habitat for fish and other aquatic organisms: 3.91 acres of wetland and vernal pool habitat for the federally listed vernal pool fairy shrimp (Branchinecta lynchi) and vernal pool tadpole shrimp (Lepidurus packardi) will be affected by the permitted fill.

The applicant has proposed mitigation measures designed to mitigate impacts to aquatic habitat from the proposed fill. Mitigation includes off-site preservation of high quality vernal pool habitat at a Corps approved location, in addition to creation of vernal pool and wetland habitat at a Corps approved location. The preserved habitat will be similar both geographically and hydrologically to those areas impacted. Mitigation ratios are set at 1:1 for off-site creation and 4:1 for off-site preservation. Finally, the precervation and creation sites will be maintained and preserved in perpetuity as habitat resources. The funding and management of these areas provides environmental benefits in the form of habitat restoration, creation and preservation. Thus, these measures will mitigate the effects of the proposed fill on aquatic habitat to below substantial levels.

(X) Wildlife habitat (breeding, cover, travel, general): The project site provides foraging habitat for raptors, other birds, and terrestrial species. Impacts to the aquatic habitat types will be offset by off-site preservation and off-site creation of wetland habitats. The approximately 101 acres of upland habitats within the project site will be permanently lost during project implementation. This will result in a net adverse effect, which although it contributes to the cumulative loss of grassland habitats in Sacramento County and the Central Valley, is expected to be below substantial levels.

Endangered or threatened species: As discussed (\mathbf{X}) previously, wetlands and vernal pools subject to fill are assumed by the applicant to contain the threatened vernal pool fairy shrimp (Branchinecta lynchi) and the endangered vernal pool tadpole shrimp (Lepidurus packardi). The Service issued a no-jeopardy biological opinion (1-1-04-F-0314), dated January 12, 2005 on the proposed fill activities for the Douglas Road 98 The Service concluded that the fill activities of the project. Selected Alternative will not jeopardize the continued Corps existence of the listed vernal pool crustaceans because mitigation proposed as part of the project, plus compliance with the agencies Conceptual Strategy and Conceptual Preserve Map will offset impacts to listed species and their habitats. The Biological Opinion requires that mitigation measures proposed by the applicant be implemented through the 404 permit, and the implementation of those mitigation measures is included as a condition of the permit issued. Based on the conclusions of the no-jeopardy opinion, and the likelihood of success of planned mitigation, the permitted fill will not have substantial effects

on endangered or threatened species, as mitigated.

(x) Biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities, or other sources: According to the City of Rancho Cordova's MFD, or page 3-08, the project site has no known past hazardous materials involvement. Additionally, although there is documented groundwater contamination in the plan area, the project does not include the use of on-site wells. Therefore, the potential for the project to result in exposure to the groundwater contamination is unlikely.

E. Human use characteristics and impacts (check applicable blocks and provide concise description of impacts):

Existing and potential water supplies; water (\times) conservation: According to the City's MND, page 3-51, there is presently no water delivery infrastructure to the project area. The water supply plan for the project and the remainder of the Sunrise Specific Plan area is to construct water supply facilities in phases as the demand increases. The plan includes construction of a groundwater treatment plant, formerly known as the North Vineyard Well Field, near the intersection of Florin and Excelsior Roads to extract groundwater from the underlying aquifer. Eventually, it is expected that this facility will deliver a maximum flow rate of 10 million gallons per day. Operation of the facility ultimately will be incorporated with surface water and recycled water elements to create a conjunctive In the interim, mitigation measure 16.1c of the MND use program. (page 3-52), places a cap on development until safe and reliable water supplies have been identified and acquired. Implementation of the mitigation measures of the MND should result in no adverse effect to existing or potential water supplies.

() Recreational or commercial fisheries: No effect.

() Other water related recreation: No effect.

(X) Aesthetics of the aquatic ecosystem: The vernal pools which are interspersed within the grasslands of the project site, are regionally appreciated for the aesthetic values they possess when in bloom. Several of the pools may be observed by commuters along Douglas Boulevard and Grantline Road. All of the existing

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aesthetic values of the project site would be lost during project implementation. Although the applicant will create a similar acreage of aquatic habitats, which should have similar aesthetic values to those within the project site, the proposed mitigation area at Gill Ranch is in a more remote location and the aesthetic values will be observed by far fewer individuals. Implementation of the project will result in an adverse but minor effect on the aesthetics of the aquatic ecosystem.

() Parks, national and historic monuments, national seashores, wild and scenic rivers, and wilderness areas, research sites, etc.: No effect.

Traffic/transportation patterns: Current traffic and (X)transportation patterns in the area of he proposed project exhibit growth underway in Sacramento County. Small collector roads connect to large arterial roadways. Potential traffic impacts were addressed in the Traffic Circulation Section of the Sunrise Douglas Community Plan and Sunridge Specific Plan (SDCP/SRSP) Master Environmental Impact Report (EIR). The SRSP would increase A.M. and P.M. peak hours and daily vehicle trips compared to existing traffic conditions. The SDCP/SRSP EIR identified traffic and circulation mitigation measures for development projects to adopt. Implementation of the proposed mitigation measures should reduce impacts to an adverse but minor level.

(X) Energy consumption or generation: Development of the project would require energy for grading and fill, and would require additional energy for construction, operation and maintenance of improvements and open space areas. Additionally, occupation of the project's 693 homes would result in a much increased energy demand over existing conditions on the project site. The applicant has indicated that there is adequate capacity available to serve these future energy needs, and the impacts are not substantial.

() Navigation: No effect.

(X) Safety: The project will implement construction safety measures such that there is no potential for a substantial effect to safety.

(X) Air quality: The proposed permit has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

Noise: Motor vehicle traffic is the primary existing (X) noise source in the project area. Additional sources of noise may include the nearby Kiefer Road landfill, American River Aggregates, Douglas Security Park, the Sacramento Rendering Company, and the Cordova Shooting Center. Implementation of the proposed project would result in substantially elevated poise levels during construction. Over the long term, occupation of the residences and maintenance of the common space areas will result in increased noise levels due to elevated vehicle traffic, lawnmower and leaf blower usage, interaction among the residents, and other activities. Additionally, implementation of the project would result in the location of residences in close proximity to roadways. However, the applicant has indicated that land uses proposed on all portions of the project are expected to meet the County Noise Level Performance Standards (NLPSs) and County Land Use Compatibility standards set by the County's General Plan Noise Element (Community Plan/Specific Plain EIR, pp. 12.9c). These indicators are a common threshold used for assessment of substantial noise impacts, and indicate the project will not result in substantial noise impacts.

(X) Historic properties (Section 106 National Historic Preservation Act): According to the report, entitled Determination of Eligibility and Effect for the Douglas Road 98 Project Area, Sacramento County, the project site contains no sites listed, or eligible for listing, on the National Register of Historic Places or any recorded prehistoric or historic resources. The findings of the report were based on a records search at the North Central Information Center of the California Historical Resources Information System, Native American consultation, and a field survey of the project site. Based on the report, we have determined that the proposed action is not expected to have an effect on historic properties.

(X) Land Use Classification: Construction of the project will occur lands previously used for agricultural activities. These lands are located within the General Plan Urban Policy Area and are shown as new Urban Growth Area in the Sacramento County General Plan, indicating the County's intent to plan for the urbanization of this area within the 20-year time frame of the General Plan. (Community Plan/Specific Plan EIR, p. 3.5.) The Corps's permit will have no substantial effects on the land use classification of the Project area.

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(X) Economics: Construction associated with the project will provide jobs and may generate revenue for the local economy. In the long term, the project will help to address growing housing demand in the Sacramento County area. Housing shortage in the area has the potential to negatively affect continued economic growth in the southeast County area, and the greater Sacramento County area as a whole.

(X) Prime and unique farmland (7 CFR Part 658): The California Department of Conservation's Farmland Mapping and Monitoring Program designated the project site as grazing land and farmland of local importance, not as prime or unique farmland. According to the City of Pancho Cordova's MND, neither the grazing nor farmland of local importance designation qualifies the project site as prime and unique farmland.

(X) Food and fiber production: Previous use of the site as grazing land would have contributed to the production of beef and likely leather products. No food and fiber production benefits are likely to remain after project implementation. Therefore, the project would have a minor but adverse effect on food and fiber production.

General water quality: The existing quality of water (X)in wetlands and other waters of the United States on the project site results from local precipitation, drainage from adjacent areas, and residues of agricultural chemicals on site. Fill of wetlands and construction of the applicant's proposed project has the potential to add urban pollutant runoff. Pursuant to Section 401 of the Clean Water Act, the applicant has obtained certifications from the Central Valley Regional Water Quality Control District, issued December 30, 2004 (File No. 5A34CR00184). The 401 Certifications concluded that the proposed project has proposed sufficient measures to adequately protect the identified beneficial uses of surrounding and downstream water courses. The applicant will comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to prevent substantial impacts to the water quality of surrounding and downstream areas.

(X) Mineral needs: Current activities at the project site do not require mineral needs. Construction of the project will necessitate the importation of aggregate, concrete, and asphalt. These materials will likely be supplied locally. No negative impacts are expected.

(X) Consideration of private property: The project area is

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currently private property owned by the applicants. The project is being permitted as proposed and the applicant's use of private property has been given appropriate consideration.

(X) Minority and Low Income Populations: The proposed action has been evaluated in accordance with Title VI of the Civil Rights Act and Executive Order 12898 regarding environmental justice populations. Impacts to the minority and low-income populations in the permit area will not be disproportionately high.

() Other:

F. Summary of secondary and cumulative effects: .

The Service estimates that any jurisdictional wetland or vernal pool habitat within 250 feet of project development will be indirectly impacted due to increased human presence, changes to hydrology or other created conditions. Habitat to the east and north is divided from the project Site by a major roadway and therefore indirect impacts are not anticipated. Because lands to the west and south are within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan area, habitat in these areas would be directly removed and offset by adjacent proposed development. Therefore, separate Section 7 consultation will be initiated on lands adjacent to the project site and indirect impacts to these areas are expected to be offset through this The Service did not include indirect wetland impacts in process. its issuance of its no-jeopardy biological opinion for the permitted fill, and concluded that the applicant's proposed mitigation measures sufficiently offset direct impacts to wetland and vernal pool habitat.

Cumulative effects are the incremental effects of the agency's proposed action, and past, present, and reasonably foreseeable future actions in the locale of the agency's action. For analysis of cumulative impacts, the Corps has focused on the larger 1,345-acre subarea of the SunRidge Specific Plan area because a number of actions are currently pending in the area that could have potentially substantial cumulative effects. The City of Rancho Cordova has completed the land use entitlement process for each of these projects within this area, and the proposed actions are well defined and the potential impacts are foreseeable. Moreover, each of the 404 permit applications pending in the SunRidge subarea are for geographically contiguous jurisdictional features and the permitted actions are planned to occur roughly during the same time frame. Because of the certainty of the land use entitlements, and the related geography and timing of the effects, they have the potential to be

cumulative.

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The Conceptual Strategy, and the detailed analysis in the Regional Alternatives Information address potential cumulative effects to both aquatic and non-aquatic resources in the Subarea. The collaborative effort of the Federal Agencies and the numerous applicants participating in the Conceptual Strategy resulted in a plan to preserve wetlands and vernal pools in the area that collectively reduced adverse effected jurisdictional waters from almost 60 acres under the adopted Specific Plan, to just over 44 acres, while preserving 41.2% of vernal pool habitat within the Specific Plan. Each project has agreed to descentrate consistency with the Conceptual Strategy and to incorporate mitigation that will ensure no net loss of wetlands. It is estimated that over 50% of the waters in the Community Planning Area will be protected under the conceptual preserve design. This is a substantial reduction of impacts to waters of the US as compared to the proposed level of development from the County of Thus, the Conceptual Strategy results in avoidance Sacramento. of adverse cumulative effects by (1) increasing avoidance and preservation of wetlands and vernal pools within the Subarea from what was initially proposed under the Specific Plan, (2) strategically identifying avoidance areas in a manner that minimizes edge-to-area ratios and maximizes connectivity, (3) coalescing these individual projects avoidance and minimization efforts into a regional reserve designed to connect to the previously approved and existing Anatolia preserve, thereby increasing connectivity between project avoidance areas and connectivity to downstream wetlands and vernal pools, and (4) creating large, intact corridors supporting the Morrison and Laguna Creek watersheds and associated vernal pools in the The Conceptual Strategy also sets out Specific Plan area. principles and standards for development surrounding the avoided wetlands and vernal pools that will reduce urban edge effects on these areas and to promote long-term retention of wetland and vernal pool functions. Last, the Conceptual Strategy areas are required to be monitored and managed in perpetuity according to the preserve management plan to be submitted for Federal Agencies The measures specified in the Conceptual Strategy for approval. the creation of a preserve according to the Conceptual Preserve map will avoid cumulatively substantial impacts to jurisdictional wetlands and vernal pools within the Specific Plan area.

Future projects in the Sun Creek portion of the Community Plan area are as yet too uncertain to include within a cumulative impacts assessment at this time. The City of Rancho Cordova has prepared a draft Specific Plan for the SunCreek portion of the Community Plan area, which is immediately to the south of the SunRidge Specific Plan area. The Corps and the City are

preparing a joint EIS/EIR for the SunCreek Specific Plan, which will further consider potential cumulative effects. The Community Plan/Specific Plan EIR does not provide more than conceptual information on jurisdiction impacts within the SunCreek area (Community Plan/Specific Plan EIR, p.3.5.) The current EIS/EIR process will modify and refine land uses in this area, including the creation of a jurisdictional wetland and vernal pool preserve within the SunCreek area. Although impacts to wetlands are likely, because the EIS/EIR process is at an early stage it is not reasonably foreseeable to predict the impacts that could result from that future project. Subsequent applications for fill for projects within the Community Plan area will also be appropriately evaluated under NEPA and the conceptual strategy.

Together, past measures taken to reduce impacts at the Anatolia project (SD Project) combined with measures specified in the Conceptual Strategy and Conceptual Preserve for the SunRidge Specific Plan area, assure that adverse effects to jurisdictional wetland and vernal pool areas are not cumulatively substantial.

In addition to potential cumulative impacts to jurisdictional wetlands and vernal pools, the development of the project, in conjunction with development of other projects noticed in PN# 200000336 and others within the Specific Plan area, may have cumulative impacts to other categories of the human environment. The County's Community Plan/Specific Plan EIR discusses potentially substantial cumulative effects from development in the Specific Plan area. The County identified mitigation measures through the Specific Plan EIR, and incorporated land use planning policies within the Specific Plan that are designed to address cumulative impacts in these other categories such as traffic, noise, air quality and groundwater levels. The mitigation measures in the City of Rancho Cordova's Mitigated Negative Declaration for the Sunridge East Properties, including the Douglas Road 98 Project, in addition to measures implemented by the County's adoption of the SD Project EIS/EIR Mitigation and Monitoring Program, and future mitigation measures created for the SunCreek Specific Plan area, will assure adequate treatment of these categories of cumulative impacts.

The growth inducing effects of the permitted fill are expected to be minimal, as this area has already been designated as an urban growth area by the County's 1993 General Plan.

III. Findings:

A. Other authorizations:

1. Water quality certification: The applicant obtained water quality certifications from the Central Valley Regional Water Quality Control Board on December 28, 2004, Files Nos. 5A34CR00184. The 401 certifications, including special conditions, are attached hereto as Appendix B.

Date: December 28, 2004 Issued: X_____ Denied: ______ Waived:

Special Conditions: Nec. No. (if yes see attached)

2. State and/or local authorizations (if issued): Streambed Alteration Agreement. Prior to engaging in any work authorized by this permit, the applicant will obtain a streambed alteration agreement if required by the California Department of Fish and Game.

B. A complete application was received on October 6, 2003. A Public Notice describing the project was issued on February 6, 2004, and sent to all interested parties including appropriate state and Federal agencies (Public Notice No. 200000336). Public Notice No. 200000336 also included information four other projects within the Specific Plan area requiring individual permit authorization. Thus, comments received on the Public Notice typically addressed the five applications discussed in the Public Notice as a whole rather than Douglas Road 98 in particular. As they bear on this permit action, Comments received have been reviewed and are summarized below:

1. Summary of Comments Received

a. Federal

1) U.S. Environmental Protection Agency (EPA):

EPA responded by letter dated April 26, 2004. EPA believed the 5 permit applications, as discussed in the Public Notice, would collectively cause unacceptable impacts to Aquatic Resources of National Importance (ARNI). However, EPA believed that implementation of the proposed Conceptual Strategy and creation of a large aquatic resource habitat preserve according to the Conceptual Preserve map created by the agencies would resolve Clean Water Act issues.

2) U.S. Fish and Wildlife Service (FWS):

FWS commented by letter dated April 26, 2004. The Service

requested preparation of an alternatives analysis in compliance with the 404(b)(1) guidelines. The Service did not concur with the conclusions of the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR regarding the identification of an environmentally superior alternative. The Service commented on proposed recreated stream channels to be constructed within portions of the Specific Plan area. The Service believed impacts to water quality due to increased urban runoff were inadequately addressed. The Service recommended against in-stream storm water detention ponds. The Service believed proposed development within the Community Plan area would likely impact the Stone Lakes National Wildlife Refuge downstream of the Community Plan The Service commented on the potential of off-line water area. quality basins to impact the hydrology of streams running through the site. The Service commented that development within the Community Plan area would impact special status species. The Service commented that development within the Community Plan area would result in unacceptable impacts to ARNI. The Service commented that a comprehensive on-site mitigation strategy for wetlands and vernal pools in the Community Plan area was The Service commented that wetland mitigation and necessary. monitoring plan for the entire Community Plan area should be submitted to the federal agencies for their review. The Service believed that all interrelated projects receiving Nationwide Permits within the Community Plan area should instead be considered through the Individual Permit process. The Service recommended the adoption of the Conceptual Strategy and Conceptual Preserve map created by the agencies. The Service requested that the Corps initiate consultation under Section 7 of the Endangered Species Act.

3) National Marine Fisheries Service (NMFS): Not applicable.

4) Other: Not applicable.

b. State and local agencies

California Department of Transportation (CalTrans) commented by letter dated March 25, 2004. CalTrans requested that any runoff from the proposed development not contribute a contaminant load to storm waters entering the State Highway System (SHS) right-of-way, and that all runoff entering the SHS meet Regional Board standards for clean water. CalTrans requested that increased flows to the SHS be mitigated. CalTrans requested the incorporation of environmental Best Management Practices to mitigate adverse drainage impacts.

c. Organizations:

The California Native Plant Society (CNPS) commented by letter dated March 30, 2004. CNPS commented that the fill proposed under the Public Notice would impact an unusually high concentration and diversity of vernal pools in Sacramento County.

CNPS commented it was inappropriate for the Corps to evaluate the proposed fill permits as individual actions because they are part of a single planning area (Specific Plan). CNPS commented that a piecemeal approach would discount substantial cumulative project area effects on vernal pools. CNPS commented that an Environmental Impact Statement was needed to assess the combined effect of Plan-area development and alternatives. CNPS commented that a County-wide study had shown the Community Plan area to have a high concentration and diversity of vernal pools. CNPS commented that the area hosted several listed species. CNPS requested that the permit applicants be required to include on-site preservation as part of their mitigation package approved fill, and that it was not possible to fully mitigate for lost wetland area through preservation in distant areas of the County. CNPS requested that the vernal pool creation be avoided, especially within undisturbed vernal pool landscapes.

Stone Lakes National Wildlife Refuge Association (Stone Lakes) commented by letter on March 3, 2004. Stone Lakes made similar comments as CNPS, and commented that mitigation of impacts through preservation of vernal pools should preserve vernal pools with comparable geology, soil types, sizes, depths and densities. Stone Lakes requested that all rare plant occurrences be preserved, particularly Slender Orcutt Grass. Stone Lakes comments that the public has not had an opportunity to comment on a specific reserve mitigation plan for the SunRidge area until this point.

Barbara Vlamis, Executive Director of the Butte Environmental Council (BEC) commented by letter dated April 24, 2004. BEC commented that the applicants failed to provide alternatives to the project under 42 U.S.C. 4332 (2)(c)(Vi), & (E). BEC commented that it was inappropriate for the Corps to evaluate the proposed permit actions noticed under the Public Notice as individual projects, and that such an approach would ignore the significant cumulative effects of the projects and others in the Community Plan area on the vernal pool ecosystem in Sacramento BEC commented that the Public Notice does not provide a County. cumulative impact analysis for public view. BEC requested that a more thorough mitigation and monitoring proposal be submitted for public review, and that preservation of intact vernal pools off-site was not adequate mitigation. BEC requested that permit processing be suspended until an EIS was prepared.

Citizens Committee to Complete the Refuge (CCCR) commented by letter dated April 26, 2004. CCCR commented that vernal pools in the Community Plan area should be considered ARNI. CCCR commented that fill proposals noticed in the Public Notice were for related and dependent projects through their reliance on shared existing and proposed community infrastructure, and should therefore be considered as a single project. CCCR commented that the applicants should prepare an Alternatives Analysis under the 404 (b) (1) guidelines to rebut the presumption that a practicable alternative exists to the proposed fill. CCCR commented that the applicants had made no attempt to minimize impacts. CCCR commented that the Corps should prepare an EIS prior to rendering a permit docidion, and that impacts from the applicants' proposed fill be considered in concert. CCCR commented that minimal information regarding mitigation for impacts to jurisdictional waters had been provided to the public.

d. Individuals:

Many individuals submitted form comment letters regarding the proposed permits noticed under the Public Notice. The Corps reviewed and considered each letter, regardless of whether it was a form letter, but in the instance of a form letter, the comments set out by the first letter entered into the record for this Public Notice will be summarized and responded to herein, and the individual authors whom submitted version of each form letter are noted in Appendix C herein. Response to the form letter shall be deemed response to each form received. Also noted in Appendix C are authors of numerous letters received in support of the Public Notice. Their comments have been reviewed and noted, if not specifically responded to herein.

Mr. David Wyatt commented by letter dated March 26, 2004. Mr. Wyatt commented that the fill applications covered in the Public Notice be considered cumulatively for significant impacts on natural communities in the impact area. Mr. Wyatt commented that sensitive species within the areas proposed for fill. Mr. Wyatt commented that the Corps' no net loss policy for wetlands required the consideration of creation of large preserves. Mr. Wyatt suggested a 250-foot buffer for vernal pool preserve areas.

Ms. Mary Beth Metcalf, M.D. commented by letter dated March 24, 2004. Ms. Metcalf requested that an EIS be prepared, that public hearings be arranged to disseminate additional information collected on environmental impacts.

Joan E. Berry commented by letter dated March 22, 2004. Ms. Berry commented that the Corps should preserve natural habitat in the Specific Plan area rather than approve development. Irma Acevedo commented by letter dated March 22, 2004. The second page of Ms. Acevedo's letter was missing when admitted to the record. Ms. Acevedo commented that it is inevitable and logical to deduce that by evaluating their applications as individual projects the U.S. Army Corps of Engineers would fail to prove true protection. Ms. Acevedo requested an analysis of alternatives to development within the Specific Plan area and that public hearings be held on the subject.

Rob Millberry commented by letter dated March 26, 2004. Mr. Millberry commented that the vernal pool habitat within the Community Plan area, despite its subtlety should be saved because of their rarity and high quality.

Sara M. Lee commented by letter dated March 26, 2004. Ms. Lee commented that 10 percent of the remaining vernal pools in Sacramento County are included in the Community Plan area and the Corps should not approve their fill. Ms. Lee expressed concern that authorized fill of wetlands would result in negative impacts to water quality and greater demands on water supply. Ms. Lee commented that proposed fill would threaten the survival of vernal pool fairy shrimp. Ms. Lee requested that the Service be consulted on the proposed fill and that mitigation should not be in the form of creation. Ms. Lee expressed concern that the proposed fill for the Community Plan area would cause additional off-site impacts to hydrology of unfilled wetland areas.

M. Nasseri commented by letter dated March 12, 2004. M. Nasseri requested that the EPA, the Service and the Corps create a strategy for preserving wetlands and vernal pools in the SunRidge Specific Plan and Community Plan areas.

Elizabeth Kuehner commented by letter dated March 10, 2004. Ms. Kuehner commented that the vernal pool species in the Community Plan area were worthy of preservation.

Adrian A. Barnett commented by letter dated March 10, 2004. Mr. Barnett commented that the Corps should take action to preserve the Mather Field Vernal Pools.

Patricia Foulk commented by letter dated March 5, 2004. Ms. Foulk commented that potential fill of wetlands within the Specific Plan and Community Plan area would lead to irreversible fragmentation of vernal pools in these areas. Ms. Foulk commented that the fill proposed under the Public Notice would result in substantial loss of listed species. Ms. Foulk commented that development within the Community Plan area would impact hydrology in the Community Plan area and surrounding areas, and result in a loss of diversity of vernal pool types. Ms. Foulk commented that the success of creation mitigation is not scientifically supported and is not adequate mitigation for natural habitat. Ms. Foulk commented that the Specific Plan EIR did not sufficiently analyze wetland impacts and that an EIS should be prepared. Ms. Foulk commented that existing traffic conditions indicate the necessity of an EIS. Ms. Foulk commented that small, vest pocket preserve would not sufficiently preserve vernal pool habitat and species.

Jean V. Shepard commented by letter dated March 3, 2004. Ms. Shepard commented that all applications for fill covered by the Fublic Notice should be considered in concert as one application. Ms. Shepard requested that a large, connected wetland preserve be created in the area of the projects covered by the Fublic Notice.

Carin High commented by letter dated March 15, 2004. Ms. High submitted questions on behalf of Florence LaRiviere, Chairperson of Citizens Committee to Complete the Refuge, whose comments are summarized above.

Bonnie Tran Commented by letter dated March 22, 2004. Ms. Tran submitted comments regarding another application for fill, and requested that a vernal pool preserve established in the Mather Field area.

Alexandra Lamb commented by letter dated March 22, 2004. Ms. Lamb commented that off-site preservation would not mitigate for potential impacts of the fill proposed in the Public Notice. Ms. Lamb commented that the Corps should preserve all vernal pools proposed for impact under the Public Notice and prepare and EIS covering the proposed fill.

Patricia Jones commented by letter dated March, 2004. Ms. Jones expressed concern over use of creation as a method for mitigating impacts to wetlands and vernal pools. Ms. Jones requested the preparation of an EIS for the fill proposed under the Public Notice.

2. Evaluation

I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this permit application as well as the stated views of other interested agencies and the concerned public. In doing so, I have considered the possible consequences of this proposed work in accordance with regulations published in 33 CFR Parts 320 to 330 and 40 CFR Part 230. The following paragraphs include my evaluation of comments received and how the project complies with the above-cited regulations.

a. Consideration of comments

(1) US EPA responded by letter dated April 26, 2004. EPA believed the permit applications as discussed in the Public Notice would collectively cause unacceptable impacts to Aquatic Resources of National Importance (ARNI). Since 2002, the Corps, EPA, USFWS and other state and local agencies and landowners met to resolve the significant environmental concerns associated with the Sunrise Douglas Community Plan/SunRidge Specific Plan. As a result, the agencies produced a plan (A Conceptual-Level Strategy for Avoiding, Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, dated June 2004, and a map (Sunrise-Douglas Community Planning Area dated March 8, 2004) to significantly reduce impacts to waters by outlining large preserve areas along with a strategy for conservation. EPA stated in their letter that implementation of the conceptual-level strategy referenced above serves as a baseline for environmental protection. Properly implemented, it would resolve EPAs CWA issues through avoidance of aquatic resources and minimization of impacts. The proposed Douglas Road 98 project complies with the Conceptual Strategy created for the SunRidge Specific Plan Area.

Consistent with the Conceptual Strategy, the applicant will compensate for impacts to wetlands through preservation of existing high quality wetlands at a Corps approved location pursuant to a Management Plan. The applicant also proposes to compensate for impacts to wetlands by creating high quality wetlands at a Corps approved mitigation site pursuant to a Mitigation and Monitoring Plan prepared for and submitted to the Corps for review and approval. Thus, these measures offset any impacts to wetlands and vernal pools on the site and address EPA's concerns.

(2) The United States Fish and Wildlife Service commented by letter dated April 26, 2004. The Service requested preparation of an Alternatives Analysis in compliance with the 404(b)(1) Guidelines. The applicant has submitted an individual alternatives analysis for the project, and has participated in the creation of the Regional Alternatives Document. The Alternatives Analysis submitted by the applicant determined that the project site is the least environmentally damaging practicable alternative site of comparable size and availability within the Specific Plan area, and determined that the proposed project design was the least environmentally damaging practicable, considering cost, logistics and existing technology. The Service did not concur with the conclusions of the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR regarding the identification of an environmentally superior alternative. However since their comment, the Service has participated in the finalization of the Conceptual Strategy and Conceptual Preserve map for the Specific Plan area.

The Service commented on proposed re-created stream channels to be constructed within portions of the Specific Plan area. This comment relates to development within the Community Plan area generally. Fill permitted pursuant to the Douglas Road 98 application will not be used to create and re-created stream channels, nor are there any proposed within the entire project.

The Service believed impacts to water quality due to increased urban runoff were inadequately addressed. Impacts to water quality from the permitted fill for the project will be minimal. The applicant will be required to comply with all requirements of the City's MS-4 permit in assuring adequate treatment of urban runoff, including implementation of water quality BMPs on the project site.

The Service recommended against in-stream storm water detention ponds. Fill permitted pursuant to the Douglas Road 98 application will not be used to create any in-stream detention ponds, nor are there any proposed within the entire Project.

The Service believed proposed development with the Community Plan area would likely impact the Stone Lakes National Wildlife Refuge downstream of the Community Plan area. Since Douglas Road 98 is not within the Upper Morrison Creek sub-watershed, any off-site flows resultant from fill permitted for the Project are not likely to reach the Stone Lakes Refuge, and therefore would have minimal impact on the Refuge.

The Service commented on the potential of off-line water quality basins to impact the hydrology of streams running through the site. Fill activities permitted pursuant to the Douglas Road 98 application will not contribute to the creation of any off-line water quality basins, nor are there any proposed within the entire project. The project will otherwise implement adequate water quality BMPs to assure minimization of impacts to water quality from permitted fill for the Project.

The Service commented that development within the Community Plan area would impact special status species. The Service has subsequently issued a no-jeopardy biological opinion for proposed fill of the project, concluding that mitigation measure proposed for impacts to jurisdictional waters are sufficient to offset

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impacts to listed species and their habitat.

The Service commented that development within the Community Plan area would result in unacceptable impacts to ARNI. Please see our response to EPA's similar comment regarding ARNI, in d.(1) above. Subsequent to this comment, the Service has assisted in finalizing the Conceptual Strategy and accompanying Conceptual Preserve map, which enumerate protections necessary to adequately protect wetlands and vernal pools within the Specific Plan area.

The Service commented that a comprehensive on-site mitigation strategy for wetlands and vernal pools in the Community Plan area was necessary. Since this comment, the Service has assisted in finalizing the Conceptual Strategy and accompanying Conceptual Preserve Map for wetlands in the Specific Plan area. The Douglas Road 98 project will comply with the principles and standards of the Conceptual Strategy and complies with the Conceptual Preserve Map. Landowners in the remaining area of the Community Plan outside the Specific Plan have agreed to prepare and EIS to further analyze impacts to wetlands in that portion of the Community Plan.

The Service commented that a wetland mitigation and monitoring plan for the Community Plan area should be submitted to the federal agencies for their review. The areas of permitted fill on the Douglas Road 98 project will be mitigated through preservation at a Corps approved location, and through compensation at a Corps approved location.

The Service believed that all interrelated projects receiving Nationwide Permits within the Community Plan area should instead be considered through the Individual Permit process. In this case, the proposed fill related to the Douglas Road 98 Project is being considered under the individual permit process. Additionally, the applicant has requested authorization for all fill reasonably related to the project, and therefore has complied with Corps regulations requiring the inclusion of fill activities necessary for a particular project under one permit application.

The Service recommended the adoption of the Conceptual Strategy and Conceptual Preserve map created by the agencies. Subsequent to this comment, the Service assisted in finalizing the Conceptual Strategy and Conceptual Preserve Map, and has been requiring compliance with them as a condition of its biological opinions, including the no-jeopardy opinion for Douglas Road 98.

The Service requested that the Corps initiate consultation under Section 7 of the Endangered Species Act. The Corps has completed a Section 7 consultation with the Service for the permitted fill on the Douglas Road 98 project, receiving a no-jeopardy biological opinion on January 12, 2005.

(3) CalTrans requested that any runoff from the proposed development not contribute a contaminant load to storm waters entering the State Highway System (SHS) right-of-way, and that all runoff entering the SHS meet Regional Board standards for clean water. CalTrans requested that increased flows to the SHS be mitigated. CalTrans requested the incorporation of environmental Best Management Practices to mitigate adverse drainage impacts.

The applicant will minimize impacts to water quality that could result from permitted fill through implementing applicable preand post-construction BMPs and otherwise complying with the requirements of the City s MS-4 permit. Additionally, the Douglas Road 98 project will abide by the conditions of the Clean Water Act Section 401 Water Quality Certifications for Douglas Road 98, dated December 28, 2004.

(4) The California Native Plant Society (CNPS) commented that the fill proposed under the Public Notice would impact an unusually high concentration and diversity of vernal pools in Sacramento County. The proposed 404 permit for Douglas Road 98 will affect approximately 3.70 acres of vernal pools. These pools are dispersed throughout the Project site, unlike other portions of the Specific Plan area that retain high concentrations of pools and wetlands in large vernal pool and wetland complexes. The site s off-site connections to the north and east have been cut off by the existing Douglas and Grant Roads. Land to the west and south are proposed for fill on the Sunridge Park and Grantline 208 sites. Given the small amount of vernal pool on the site, Douglas Road 98 does not provide a high concentration of high quality vernal pool habitat that may be characteristic of other areas of Sacramento County.

CNPS commented it was inappropriate for the Corps to evaluate the proposed fill permits as individual actions because they are part of a single planning area (the Specific Plan). The Douglas Road 98 project and the remaining Specific Plan development have been evaluated under the Conceptual Strategy.

The CEQ's NEPA regulations also require that federal agencies consider connected or cumulative actions under the same NEPA review, and grant the Corps discretion to consider similar actions together under a single review. (40 CFR Part 1508.25.) Under the guidelines, federal actions are connected if they, for example, automatically trigger other actions, cannot proceed unless other actions are taken previously or simultaneously, or are otherwise interdependent parts of a larger action and depend on the large action for their justification. Cumulative actions must also be included if, when viewed with other proposed actions, have cumulatively significant impacts that can be discussed in the same impact statement. Similar actions may be considered together when the best way to adequately assess the combined impacts of the similar actions would be to do so under one impact statement.

The Sacramento District uses an independent utility test to determine whether its actions are connected to other actions. An action is said to have independent utility, thus not connected, if it would take place with or without any other actions. Applying this standard, the fill necessary for the Douglas 98 project has independent utility because it could move forward regardless of whether the other applications under the Public Notice are approved or the associated projects constructed. The applicant has included all fill necessary to construct required roadway, potable water, wastewater disposal and other infrastructure that it cannot otherwise obtain from currently existing infrastructure in the area.

Under the CEQ NEPA regulations, separate federal actions that have a cumulatively significant impact should also be included under the same NEPA review. This requirement is subject to a rule of reason: where projects that may ultimately necessitate Corps permit actions are insufficiently detailed to contribute to a meaningful analysis of their environmental impacts, the Corps is not required to include them. In this instance, all those activities within the Specific Plan area that have sufficient detail to be included in a cumulative analysis discussion, i.e., those that have submitted 404 permit applications, have been included within the cumulative impacts discussion of section V.F, above, in addition to earlier discussions of cumulative impacts in the area in the SD Project EIS/EIR and Community Plan/Specific Plan EIR. Using information from those previous studies as well as information in the current record, the cumulative impacts discussion in this Permit Evaluation concluded that this permit action would not result in cumulatively substantial impact that would warrant the preparation of an EIS.

CNPS commented that a piecemeal approach would discount significant cumulative effects on vernal pools of proposed fill under the Public Notice, and that an Environmental Impact Statement was needed to assess the combined effect of development and alternatives. NEPA and its implementing regulations do not require an EIS for this permit decision. Under NEPA and federal

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law applying NEPA, a federal agency must review its proposed action to determine whether it will significantly affect the human environment, including cumulatively, and should prepare an EIS when, in the agency's determination, significant effects will occur that warrant the preparation of an intensive study of the agency s action and its effects, and when such an intensive study would provide additional meaningful information to the public and the decision-making agency. The potentially significant cumulative impacts of development of the entire Specific Plan and Community Plan areas have already been addressed by the County s publicly available Specific Plan EIR, as discussed in these findings. Preparation of an EIS for efforts occurring as the result of the permitted fill would not provide additional information to the public or to the Corps. The preparation of an EIS does not have the potential to provide the Corps with additional information on impacts that are within its authority or ability to control. Last, the Corps, EPA, USFWS and other state and local agencies and landowners met to resolve the significant environmental concerns associated with the Sunrise Douglas Community Plan/SunRidge Specific Plan. As a result, the agencies produced a plan (A Conceptual-Level Strategy for Avoiding, Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, dated June 2004) and a map (Sunrise-Douglas Community Planning Area dated March 8, 2004) to significantly reduce impacts to waters by outlining large preserve areas along with a strategy for conservation, thereby obviating the need to prepare an EIS.

CNPS commented that a County-wide study had shown the Community Plan area to have a high concentration and diversity of vernal pools. The applicant responded to the Service s similar comment in response to comment (2), above.

CNPS commented that the area hosted several listed species. However, the Service, through Section 7 consultation with the Corps, has determined that mitigation proposed by the applicant will offset impacts to listed species from the permitted fill.

CNPS requested that the permit applicants be required to include on-site preservation as part of their mitigation package for approved fill, and that it was not possible to fully mitigate for lost wetland area through preservation in distant areas of the County. The Conceptual Strategy and Conceptual Preserve map creates a preserve system for the Specific Plan area that includes on-site avoidance through the Specific Plan. According to the Conceptual Preserve map, on-site avoidance is not necessary at Douglas Road 98, particularly because the preservation of vernal pools on site would further degrade through time due to surrounding urban development, are small in acreage and lack habitat connectivity.

CNPS requested that the Community Plan area contain a large core preserve area with inter-connected wildlife corridors. The Service, the Corps and EPA have collaborated to create such an area through the final Conceptual Strategy and Conceptual Preserve map.

CNPS requested that vernal pool creation be avoided, especially within undisturbed vernal pool landscapes. Douglas Road 98 proposes an off-site creation/restoration component to its mitigation proposal. The Corps and the Service both have final approval authority over this off-site creation/restoration component to assure that created wetlands and vernal pools do not damage existing features and are created and managed

(5) Stone Lakes National Wildlife Refuge Association (Stone Lakes) submitted similar comments as CNPS. Responses to the CNPS comments, at Section (4) above, are applicable to Stone Lake s comments. In addition, Stone Lakes commented that mitigation of impacts through preservation of vernal pools should preserve vernal pools with comparable geology, soil types, sizes, depths and densities. The applicant intends to preserve existing high quality vernal pool habitat at a Corps approved location.

Stone Lakes requested that all rare plant occurrences be preserved, particularly slender orcutt grass. The Conceptual Strategy does not call for a preserve on the project site. on-site preserve configuration would result in an isolated Any preserve and would not comply with the Ten Principles. Further, any on-site preserve that would be consistent with the principles and standards of the Conceptual Strategy would reduce the acreage available for development to a point that would preclude construction of a development consistent with the project The Corps and the Service have approved the applicant s purpose. proposal for the preservation component of its mitigation plan that would consist of preservation of 15.64 acres of vernal pool habitat at a Corps approved location. This provides a 4:1 ratio of wetlands supporting endangered and rare species, including the slender orcutt grass.

Stone Lakes comments that the public has not had an opportunity to comment on a specific preserve mitigation plan for the SunRidge area until this point. However, specific mitigation proposals are not typically contained in the public notice or circulated for comment.

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(6) Butte Environmental Council (BEC) commented that the

applicants failed to provide alternatives to the project under 42 U.S.C. §§ 4332(2)(c)(Vi), & (E). However, Corps regulations do not required publication of alternatives in a Public Notice. (33 CFR Part 325.3.) Additionally, the Public Notice provides sufficient information for the public to consider and suggest possible fill alternatives to the Corps for consideration as part of the public interest review.

BEC commented that it was inappropriate for the Corps to evaluate the proposed permit actions noticed under the Public Notice as individual projects, and that such an approach would ignore the significant cumulative effects of the projects and others in the Community Plan area on the vernal pool ecosystem in Sacramento County. The applicant responded to similar comments from CNPS at section (4), above.

BEC commented that the Public Notice does not provide a cumulative impact analysis for public view. This document analyses potential cumulative impacts from the permitted fill. In addition, information on the cumulative impacts of proposed wetland and vernal pool fill has been available to the commenter through the Community Plan and Specific Plan EIR since 1998.

BEC requested that a more thorough mitigation and monitoring proposal be submitted for public review, and that preservation of intact vernal pools off-site was not adequate mitigation. The applicant responded to similar comment from CNPS and Stone Lakes at sections (4) and (5), above. The applicant's mitigation proposal for permitted fill has been reviewed by the Service, who determined that it offset impacts to listed vernal pool species and their habitats to be filled as part of the project.

BEC requested that permit processing be suspended until an EIS was prepared. We responded to a similar comment form CNPS at section (4), above. We do not believe an EIS is warranted for this permit action.

(7) Citizens Committee to Complete the Refuge (CCCR) commented that vernal pools in the Community Plan area should be considered an ARNI. EPA identified them as an ARNI.

CCCR commented that fill proposals noticed in the Public Notice were related by dependency on shared existing and proposed community infrastructure, and should therefore be considered as a single project. We have responded to a similar comment from CNPS, at section (4), above. The Douglas Road 98 project was given full consideration under the Conceptual Strategy.

CCCR commented that the applicants should prepare an Alternatives

Analysis under the 404(b)(1) guidelines to rebut the presumption that a practicable alternative exists to the proposed fill. We responded to a similar comment from the Service at section (2), above. The applicant has submitted an alternatives analysis, as discussed in section I of this decision document.

CCCR commented that the applicants had made no attempt to minimize impacts. The submitted 404(b)(1) analyzed three on-site avoidance alternatives. As discussed in this decision document, the alternatives analysis concluded that the applicant s proposed project was the least environmentally damaging practicable

CCCR commented that the Corps should prepare an EIS prior to rendering a permit decision, and that impacts from the applicant s proposed fill be considered in concert. We responded to a similar comment from CNPC in section (4), above.

CCCR commented that minimal information regarding mitigation for impacts to jurisdictional waters had been provided to the public. The applicant has indicated in its application that it will mitigate for impacts to vernal pools and wetlands permitted for fill through the purchase of mitigation credits at a Corps approved location, and creation at a Corps approved site. This is consistent with the Conceptual Strategy and Conceptual Preserve map created by the agencies.

(8) Mr. David Wyatt commented that the fill applications covered in the Public Notice be considered cumulatively for significant impacts on natural communities in the impact area. The applicant responded to a similar comment from CNPS in section (4), above. In addition, this decision document has considered the potential cumulative impacts of the permitted fill, consistent with the request of the commenter.

Mr. Wyatt commented that sensitive species surveys should be conducted to determine the presence/absence of listed species within the areas proposed for fill. The applicant responded to a similar comment from CNPS at section (4), above. The Service has issued a no-jeopardy biological opinion concerning the permitted fill for the Project, and has concluded that the applicant s proposed mitigation offsets impacts to listed species and their habitats.

Mr. Wyatt commented that the Corps' no net loss policy for wetlands required the consideration of creation of large preserves. The agencies' Conceptual Strategy and Conceptual Preserve map is intended to create a large preserve of vernal pool and wetland habitat. As proposed, the Douglas Road 98

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project complies with the Conceptual Strategy and Conceptual Preserve map.

Mr. Wyatt suggested a 250-foot buffer for vernal pool preserve areas. Comment noted. The Conceptual Strategy created by the agencies incorporates buffer requirements for the created preserve.

(9) Ms. Mary Beth Metcalf, M.D. requested that an EIS be prepared, that public hearings be arranged to disseminate additional information collected on environmental impacts. The applicant responded to similar comments from CNPS and Stone Lakes at sections (3) and (4), above.

(10) Joan E. Berry commented that the Corps should preserve natural habitat in the Specific Plan area rather than approve development. The Corps, together with EPA and the Service, have identified large blocks of vernal pool and wetland habitat to be preserved in the Specific Plan area through the Conceptual Strategy, while still allowing reasonable economic use of privately owned land within the Specific Plan area.

(11) Irma Acevedo commented that it is inevitable and logical to deduce that by evaluating their applications as individual projects the U.S. Army Corps of Engineers would fail to provide true protection. We responded to similar comments from CNPS at section (4), above. Ms. Acevedo requested an analysis of alternatives to development within the Specific Plan area and that public hearings be held on the subject. We responded to similar comments form BEC and Stone Lakes, at sections (5) and (6), above.

(12) Rob Millberry commented that the vernal pool habitat within the Community Plan area, despite its subtlety should be saved because of their rarity and high quality. We responded to similar comments from Ms. Berry at section (10), above.

(13) Sara M. Lee commented that 10 percent of the remaining vernal pools in Sacramento County are included in the Community Plan area and the Corps should not approve their fill. We have responded to similar comments from Ms. Berry, in section (10), above. The Conceptual Strategy and Conceptual Preserve map was conceived in large part due to the agencies recognition of comments such as Ms. Lee s. The Strategy developed for the Specific Plan area permits compliance with Endangered Species Act and Clean Water Act protections for vernal pools in this area in conjunction with permitting reasonable development on private lands within the Specific Plan area. In this case, the permitted fill for Douglas Road 98 will impact isolated vernal pools that are not scheduled for protection under the agencies Conceptual Preserve map.

Ms. Lee expressed concern that authorized fill of wetlands would result in negative impacts to water quality and greater demands on water supply. We have responded to similar comments from the Service regarding water quality at section (2), above. We did not conclude that the permitted fill would cause significant water quality or water supply impacts, and that the impact of the permitted fill for these categories of environmental impacts is adequately mitigated.

Ms. Lee commented that proposed fill would threaten the survival of vernal pool fairy shrimp. We responded to similar comments at section (2), above. Noting that the Service issued a no-jeopardy biological opinion for vernal pool fairy shrimp for the permitted fill covered by the Permit Evaluation, concluding that mitigation proposed by the applicant adequately offset impacts to fairy shrimp and its habitat resulting from the permitted fill.

Ms. Lee requested that the Service be consulted on the proposed fill and that mitigation should not be in form of creation. We responded to similar comments from the Service at section (2), above.

Ms. Lee expressed concern that the proposed fill for the Community Plan area would cause additional off-site impacts to hydrology of unfilled wetlands areas. The Service, in its no-jeopardy opinion, took indirect impacts to wetlands and vernal pools into account.

(14) M. Nasseri requested that the EPA, the Service and the Corps create a strategy for preserving wetlands and vernal pools in the Specific Plan area. The Conceptual Strategy and Conceptual Preserve map was designed to address this comment.

(15) Elizabeth Kuehner commented that the vernal pool species in the Community Plan area were worthy of preservation. We addressed similar comments from Ms. Lee and Ms. Berry at sections (10) and (13), above.

(16) Adrian A. Barnett commented the Corps should take action to preserve the Mather Field Vernal Pools. The permitted action will not impact vernal pools at Mather Field. The agencies are implementing the Conceptual Strategy to protect vernal pools in the Specific Plan area.

(17) Patricia Foulk commented that potential fill of wetlands within the Specific Plan and Community Plan area would lead to

irreversible fragmentation of vernal pools in these areas. Compliance with the agencies Conceptual Strategy and Conceptual Preserve map will assure that large, intact area of vernal pools and wetlands are preserved through the Specific Plan area. The Douglas Road 98 project is consistent with these plans.

Ms. Foulk commented that the fill proposed under the Public Notice would result in substantial loss of listed species. We have responded to similar comments from the Service in section (2), the CNPS in section (4), and Mr. Wyatt in section (8), above. The Corps has received a no-jeopardy biological opinion from the Service covering the permitted fill.

Ms. Foulk commented that development within the Community Plan area would impact hydrology in the Community Plan area and surrounding areas, and result in a loss of diversity of vernal pool types. The agencies Conceptual Strategy is designed to reduce impacts to wetlands and vernal pools within the SunRidge Specific Plan unpermitted areas. For the remainder of the Community Plan area, to the south, the agencies and landowners have agreed to prepare an Environmental Impact Statement to address impacts to vernal pools and vernal pool species. Together, these actions will assure that permitting actions in the Community Plan area will not significantly impact wetland hydrology.

Ms. Foulk commented that the success of creation mitigation is not scientifically supported and is not adequate mitigation for natural habitat. We have responded to similar comments from CNPS at section (4), above.

Ms. Foulk commented that the Specific Plan EIR did not sufficiently analyze wetland impacts and that an EIS should be prepared. We have addressed similar comments from CNPS at section (4), above. In this case, the permitted fill for the Douglas Road 98 project will not result in significant impacts to wetlands, either individually or cumulatively. As discussed, the permitted fill is considered the least environmentally damaging practicable alternative for this site, and will not result in jeopardy to listed wetland and vernal pool species. It is also consistent with the Conceptual Strategy and will contribute to preservation of areas identified on the Conceptual Preserve map. These measures will assure that the permitted fill for the Project will not have a cumulative impact to wetlands in the area.

Ms. Foulk commented that existing traffic conditions indicate the necessity of an EIS. Traffic decision document addresses the potential impacts to traffic from the permit fill. As discussed,

the permitted fill is not expected to contribute to any roadways or intersections expected to be significantly impacted due to traffic.

Ms. Foulk commented that small, vest pocket preserves would not sufficiently preserve vernal pool habitat and species. The permitted fill in this case would not contribute to the creation of vest pocket preserves. The Conceptual Strategy further addresses this concern through the creation of a larger preserve stretching access multiple properties in the Specific Plan area.

(18) Jean V. Shepard commented that all applications for fill covered by the Public Notice should be considered in concert as one application. We addressed a similar comment from CNPS and the Service at sections (3) and (4), above. Ms. Shepard requested that a large, connected wetland preserve be created in the area of the projects covered by the Public Notice. We addressed a similar comment from Ms. Foulk in (17), above.

(19) Carin submitted questions on behalf of Florence LaRiviere, Chairperson of Citizens Committee to Complete the Refuge. Responses to the CCCR comments are set out above at section (7), above.

(20) Bonnie Tran submitted comments regarding another application for fill noticed in the Public Notice.

(21) Alexandra Lamb commented that off-site preservation would not mitigate for potential impacts of the fill proposed in the Public Notice. Ms. Lamb commented that the Corps should preserve all vernal pools proposed for impact under the Public Notice and prepare an EIS covering the proposed fill. We addressed similar comments from CNPS at section (4), above.

(22) Patricia Jones expressed concern over use of creation as a method for mitigating impact to wetlands and vernal pools. Ms. Jones requested the preparation of an EIS for the fill proposed under the Public Notice. We responded to similar comments from CNPS at section (4), above.

b. Evaluation of Compliance with Section 404(b)(1) guidelines (restrictions on discharge, 40 CFR 230.10). (A check in a block denoted by an asterisk indicates that the project does not comply with the guidelines.):

1) Alternatives test:

Yes No X i) Based on the discussion in II B, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into waters of the United States or at other locations within these waters?

Yes X No ii) Based on II B, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

2) Special restrictions. Will the discharge:

Yes ____ No × i) Violate state water quality standards?

Yes No x ii) Violate toxic effluent standards (under Section 307 of the Act)?

Yes ____ No × iii) Jeopardize endangered or threatened species or their critical habitat?

Yes ____ No x iv) Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes X NO v) Evaluation of the information in II C and D above indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s).

(x) based on the above information, the material is not a carrier of contaminants.

() the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

() acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

3) Other restrictions. Will the discharge contribute to significant degradation of waters of the United States through adverse impacts to:

Yes No x i) Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife, and special aquatic sites?

Yes No x ii) Life states of aquatic life and other wildlife?

Yes _____ No x iii) Diversity, productivity and stability of the aquatic ecosystem, such as loss of fish or wildlife habitat, or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

Yes ____ No x iv) Recreational, aesthetic and economic values?

4) Actions to minimize potential adverse impacts (mitigation).

Yes x No ____ Will all appropriate and practicable steps (40 CFR 230.70 77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystems?

Refer to Section II(b) (5) for special conditions.

c. General Evaluation [33 CFR 320.4 (a)]:

1) The relative extent of the public and private need for the proposed work. The project will address a public need for housing opportunities in an area with existing housing shortages. It will address the private need of the project proponent to realize the gain from project implementation.

2) The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work. Alternative sites were considered, however, these sites were found to be impracticable (see IV.B above). Pursuant to these findings, the proposed fill is the least environmentally damaging practicable location and amount needed to affect the project purpose.

3) The extent and permanence of the beneficial and/or detrimental effects the proposed structures or work may have on the public and private uses to which the area is suited. The loss of 3.91 acres of waters in the project area will be effectively permanent and detrimental. The mitigation created by the applicant will be permanent, with dedication of a conservation easement or other appropriate legal instruments over mitigation areas. As identified in the County's General Plan, Community Plan and Specific Plan, the area has been chosen for urban residential development as it is proximate to regional job centers and transportation. Permitted fill will have a beneficial effect on meeting housing demand, and on the public and private uses for which this area has been designated through the County's zoning and land use designations. d. Significant National Issues: None.

3. Determinations:

a. Finding of No Significant Impact (FONSI) (33 CFR Part 325). Having reviewed the information provided by the applicant, all interested parties and the assessment of environmental impacts contained in Part II of this document, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement will not be required.

b. Section 404(b)(1) Compliance/Non-compliance Review (40 CFR 230.12).

() The discharge complies with the guidelines.

(x) The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions listed above (in II.B.5) to minimize pollution or adverse effects to the affected ecosystem.

() The discharge fails to comply with the requirements of these guidelines because:

() There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.

() The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).

() The discharge does not include all appropriate and practicable measure to minimize potential harm to the aquatic ecosystem, namely

() There is not sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the guidelines.

c. Section 176(c) of the Clean Air Act: I have analyzed the proposed project for conformity applicability and determined that the proposed activities in this permit action will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors, and are exempt by 40 CFR 93.152. Any later indirect emissions generally cannot be practicably controlled by the Corps of Engineers and, for these reasons, the permit decision does not require a conformity determination.

d. Public interest determination: I find that issuance of a Department of the Army permit (with special conditions), as prescribed by regulations published in 33 CFR Parts 320 330, and 40 CFR Part 230 is not contrary to the public interest.

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William Ness

PREPARED BY:

DATE:

Chief, Sacramento County Office

REVIEWED BY: 4

DATE:

Tom Cavanaugh Acting Chief, Central California/Nevada Section

APPROVED BY:

DATE: Tom/Cavanaugh

Acting Chief, Central California/Nevada Section

Appendix A Public Notice 200000336

Appendix B Water Quality Certification, File No. WDID# 5A34CR00182

Appendix C List of Form Comment Letter Authors to PN #200000336

Appendix D Section 3.0, Environmental Setting, Impacts, and Mitigation Measures, of the July 2005, Mitigated Negative Declaration for the Sunridge East Projects.

Appendix E November 2004, Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California

Appendix F January 14, 2005, Clean Water Act Section 404(b)(1) Alternatives Analysis and On-Site Minimization Measures, Sunridge Property: Douglas Road 98

Appendix G September 2005, Supplemental Alternatives Submittal, Douglas 98, Sunridge Specific Plan

DEPARTMENT OF THE ARMY PERMIT EVALUATION AND DECISION DOCUMENT

Applicant:

Application No.:

Jim Galovan Grantline Douglas 103 Investors, LLC 199700006

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This document constitutes my Environmental Assessment, Statement of Findings and review and compliance determination according to the Section 404(b)(1) guidelines for the proposed work described in the attached Public Notice (Appendix A) as Douglas Road 103 (Application No. 199700006) (hereafter referred to as Douglas 103 or project).

Additionally, the Corps incorporates by reference the following documents: 1) Section 3.0, Environmental Setting, Impacts, and Mitigation Measures of the August 2005 Sunridge East Projects Mitigated Negative Declaration (Appendix C); 2) November 2004 Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California (Appendix D); 3) April 2006 Section 404 (b) (1) Supplemental Alternatives Analysis for Douglas 103 (Appendix E).

I. Proposed Project:

The proposed project is located within the SunRidge Specific Plan Area, which is within the larger Sunrise Douglas Community Plan Area, in Rancho Cordova, Section 10, Township 8 North, Range 7 East, on the U.S.G.S. Buffalo Creek 7.5 quadrangle, in Sacramento County, California. The maps of the site and the description of the proposed work are in the attached Public Notice, and further described below.

The project site encompasses 106.4 acres. The planned land uses for the Douglas 103 project include construction of approximately 40 acres of residential, park, and parkway development, 15.6 acres of commercial space, 7.3 acres of major roads, and a 43.8-acre wetland and habitat preserve. Additionally the project will construct off-site improvements to Douglas and Grantline The project will be constructed in four phases. Roads. The first phase includes construction of the Americanos Boulevard/Douglas Road intersection and widening of Douglas Road west of Americanos. Phase 2 involves widening Douglas Road from Americanos to Grantline Road, widening portions of Grantline Road north and south of Douglas, and the construction of Snyder Road on-site. Phase 3 includes construction of Americanos Boulevard through the Doug 103 site and the northwest development area.

Phase 4 involves construction of the eastern development area.

The site is comprised of level to gently rolling terrain, consisting mainly of non-native grasslands, and is located within the headwaters of the Morrison Creek watershed. Vernal pools lie within the grasslands. The majority of the site has been used historically as grazing land, which has not substantially altered the hydrology of the project site from its historical condition. There are no structures situated on the site.

Prior Environmental Review in the Sunrise Douglas Area:

The Sunrise Douglas area in southeast Sacramento County is generally comprised of the area bounded by Douglas Road to the north, Sunrise Boulevard to the west, Grant Line Road to the east and the Jackson Highway to the south. This area has been the subject of extensive land use planning and attendant environmental review processes under the California Environmental Quality Act (CEQA) and, to a lesser degree, the National Environmental Policy Act (NEPA).

Beginning in 1987, the Sammis Company (Sammis) initiated a development project in the Sunrise Douglas area that became known as the Sunrise Douglas Project (herein referred to as the SD The SD Project was originally planned as an industrial Project). project covering approximately 1,225.5 acres of land owned/controlled by Sammis, bounded on the west by Sunrise Boulevard, and on the north and south by Douglas Road and Keifer Boulevard, respectively. Sammis applied for County approvals for the industrial development, but changed its proposal to a predominantly residential project about two years later (in 1989), after the announcement of the potential closure of adjacent Mather Field. The residential project required a General Plan amendment, zoning change, and permit from the Corps for fill of jurisdictional areas within the SD Project area. Sammis request for General Plan amendment was the last of its kind in the Sunrise Douglas area because the County subsequently imposed a moratorium on general plan amendments pending its 1993 revision of the County General Plan.

The Corps and the County identified potentially significant environmental impacts associated with the SD Project, and as Lead Agencies, prepared a joint Environmental Impact Statement/ Environmental Impact Report for the project under NEPA and CEQA, respectively (the SD Project EIS/EIR).

CNS03177

A. The SD Project EIS/EIR

The Final SD Project EIS/EIR, published in January, 1992,

evaluated the impacts of a primarily residential project on approximately 1,225 acres. According to the EIS/EIR, the information therein was intended for use by all agencies concerned with major developments in the County (SD Project EIS/EIR, p.1-1). The EIS/EIR determined the project area contained 82.14 acres of jurisdictional waters, including 68.06 acres of vernal pools. The development as proposed would impact approximately 38.15 acres, including 26.97 acres of vernal pools. The Corps considered this a significant impact without appropriate mitigation. The SD Project EIS/EIR proposed a combination of avoidance and on-site creation of wetlands and vernal pools within a 482-acre preserve in the SD Project area, and an off-site creation of wetlands and creation component. All told, the SD Project EIS/EIR required a minimum of 27.01 acres of vernal pools creation (3.8 acres on-site and 23.02 acres off-site) and 14.08 acres of wetland creation on- and off-site. The SD Project EIS/EIR concluded that these on-site and off-site measures, together with provisions of the Wetlands Compensation Plan authored for the wetland/vernal pool reserve, would at least maintain wetland and vernal pool functions and values in the areas, thus sufficiently mitigate impacts to wetland and vernal pools on site (SD Project EIS/EIR, pp. B-42-43).

The SD Project EIS/EIR considered all other potentially substantial impacts from the development of the project and proposed mitigation measures to reduce all but a few impacts to below significant levels, in accordance with the requirements of NEPA and CEQA. The SD Project has been substantially constructed; however, the off-site mitigation requirements of the project have not been satisfied.

B. Sunrise Douglas Community Plan Sunridge Specific Plan EIR

In 1993, at about the same time as the certification of the SD Project EIS/EIR, the County initiated a Specific Plan process for the greater Sunrise Douglas area, encompassing over 5,000 acres of land, including the SD Project. The County then modified its approach and adopted a more conceptual Community Plan for the greater Sunrise Douglas area, encompassing approximately 6,042 acres, while reducing the area covered by the detailed Specific Plan to include approximately 2,632 acres, including the SD Project already covered by the SD Project EIS/EIR. The County prepared the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR (herein, Community Plan/Specific Plan EIR). For the Community Plan area, the Community Plan/Specific Plan EIR analyzed an overall conceptual framework and policy direction for urbanization of the area covered by the Community Plan. Conceptual land uses were assumed for the Community Plan area outside of the Specific Plan area in order to evaluate the

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cumulative impacts of future urban development of this area. For the Specific Plan area, the EIR analyzed detailed land use and public facilities plans and corresponding zoning for near-term urban development within the Specific Plan area. The Community Plan/Specific Plan EIR also considered the findings and mitigation measures of the SD Project 404 permit because the SD Project is within the boundaries of the Specific Plan area. Thus, after the certification of the Community Plan/Specific Plan EIR in 2002, development proposed for 1,225 of the 2,632 total acres of the Specific Plan had been covered by the Corps EIS/EIR and the entirety of Plan area had been covered by a subsequently prepared EIR. The Corps and other federal agencies engaged the County and Landowners within the Specific Plan area to create a Conceptual Strategy for wetland preservation.

On March 6, 2006, the City of Rancho Cordova, which now has jurisdiction over the Sunrise Douglas Community Planning area, adopted the Mitigated Negative Declaration (MND) for the Sunridge East Projects, which include the Douglas Road 103 project. The City issued a Notice of Determination for the MND on March 7, 2006. In so doing, the City relied on the Sunrise Douglas Community Plan/SunRidge Specific Plan Final Environmental Impact Report, which was certified by the Sacramento Board of Supervisors on June 19, 2002.

C. Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

In May, 2002, prior to its certification of the Community Plan/Specific Plan EIS/EIR, the County initiated meetings regarding potential wetlands and endangered species permitting strategies for the entire Community Plan area. The U.S. Fish and Wildlife Service (USFWS), the Corps, and the U.S. Environmental Protection Agency (USEPA) (collectively, the Federal Agencies or Agencies), the California Department of Fish and Game, and a majority of landowners and interested developers within the Specific Plan area attended these meetings. No resolution was reached. On July 17, 2002, the County approved both the Community Plan and the SunRidge Specific Plan. The conditions of approval for the Specific Plan require individual applicants to obtain any necessary Corps permit for fill of waters of the United States. On July 1, 2003, with the incorporation of the City of Rancho Cordova, the Community Plan area came under the City's land use jurisdiction.

In early 2004, then Congressman Doug Ose asked that all parties come together for further meetings among the stakeholders. The goal of these meetings was to cooperatively develop a conceptual on-site avoidance and off-site mitigation strategy that would satisfy the mandates of federal law administered by the Federal Agencies while allowing for development of the Specific Plan according to existing land use plans. As a result, the Corps, USFWS, and USEPA developed a strategy that in concept would result in a workable framework for the planned development in the Community Plan and be consistent with the requirements under the Clean Water Act, the Endangered Species Act and other applicable laws.

The Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June 12, 2004 (herein, incorporated by this reference) sets out 10 Conceptual Strategy, principles and standards to assist property owners in identifying alternatives that minimize individual and cumulative effects on aquatic resources and sensitive species. Together with the 10 standards and principles, the Agencies released a Conceptual Preserve Map showing recommended avoidance areas within the Community Plan area. The Map, together with the 10 principles and standards and an agency approved preserve management plan, was to create a recommended mitigation strategy designed to insure that the functions of the preserved aquatic resource habitat would be maintained, and to minimize both the project-by-project and cumulative effects associated with the development of the Community Plan.

For the unpermitted area of the SunRidge Specific Plan (the Sunridge Specific Plan area excluding the SD Project), the Corps requested that the permit applicants prepare an analysis of potential cumulative impacts and an evaluation of the practicability of different preserve designs. This analysis applied to seven individual applications for permits that were pending before the Corps, including three projects noticed in the same Public Notice as the Project (Public Notice Number 200000336). The other 3 projects (including Douglas 103) were separately noticed in Public Notice Numbers 200100230, 200100252, and 199700006).

The City of Rancho Cordova and the Corps are in the process of preparing an EIS/EIR for the SunCreek Specific Plan portion of the Community Plan.

Based on the Conceptual Strategy and Regional Alternatives Information (discussed below), the USEPA, by letter dated November 8, 2004, and the USFWS, by their Biological Opinion for the Douglas Road 103 Project dated March 16, 2006, confirmed their decision not to elevate the Corps Section 404 permit decision on Douglas 103 and other applications pending in the

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SunRidge Specific Planning Area, pursuant to the 404(q) Memorandum of Agreement between the Federal Agencies. The Corps confirmed its concurrence of the Conceptual Strategy by letter dated October 29, 2004, to Mr. John Hodgson in response to his summary of the negotiations.

The Regional Alternatives Information SunRidge Specific Plan Subarea, Sacramento County, California, dated November 2004 (referred to herein as the Regional Alternatives Analysis) addresses regional and sub-regional cumulative impacts that may occur from the Conceptual Preserve plan developed by the Agencies. The Regional Alternatives Analysis analyzes the Conceptual Preserve and eight other alternative preserve configurations according to criteria for minimizing jurisdictional impacts and providing connected preserve area(s), in light of cost, logistics and existing technology. The Corps incorporates the Regional Alternatives Analysis into, and makes it a part of, this Environmental Assessment by reference.

Jurisdictional Impacts Related to the Douglas 103 Project

The project site and the off-site roadway improvement areas contain approximately 4.97 acres of waters of the United States. This jurisdictional acreage includes 4.23 acres of vernal pools, 0.37 acre of seasonal wetland, 0.09 acre of ephemeral drainage, and 0.28 acre of Morrison Creek, an intermittent drainage.

The project would result in the placement of fill material into 1.98 acres of waters of the United States, including 1.66 acres of vernal pools, 0.01 acre of depressional seasonal wetland, 0.21 acre of riverine seasonal wetland, and 0.07 acre of ephemeral drainage, and 0.03 acre of Morrison Creek. Approximately 1.92 acres of the 1.98 acres to be filled are considered habitat for listed vernal pool branchiopods. In addition to direct impacts, 5.27 acres of vernal pool branchiopod habitat located within the preserve or along the off-site roadway improvements have upland buffers of less than 250 feet and would be adversely indirectly affected by the surrounding development. A total of 7.25 acres of aquatic habitats would be permanently adversely affected by the proposed development (direct impact to 1.98 acres and indirect impacts to 5.27 acres). The project would be constructed in four phases. Phase I would include widening Douglas Road west of Americanos Boulevard and constructing the Americanos/Douglas intersection. Phase II would involve widening Douglas Road from Americanos Boulevard to Grantline Road, constructing Snyder Road on the project site, and widening portions of Grantline Road north and south of the Douglas Road intersection. Phase III would be construction of the northwest development area and Americanos Boulevard through the project

site. Phase IV would be construction of the eastern development area.

Proposed Mitigation

The applicant proposes as mitigation a combination of preservation and restoration/creation of waters of the United States, which is consistent with the Conceptual Strategy. Of the 4.97 acres of wetlands on the project site, the Applicant will avoid and manage in perpetuity 2.99 wetland acres within the approximately 43.8-acre on-site preserve. Additionally, the applicant will compensate off-site by preserving at least 5.89 acres of vernal pool habitat at a Corps approved location. The preserved lands will be monitored in perpetuity to provide for the long-term conservation of aquatic resources and endangered The proposed preservation equals a 2:1 preservation species. ratio for all directly impacted aquatic features, and a 1:1 preservation ratio for all indirectly impacted features within the central project site. No preservation is proposed to offset indirect impacts along the roadway improvement areas, as the applicant indicated that this would be financially infeasible.

The applicant proposes to restore wetlands at a 1:1 restoration/creation-to-loss ratio. The applicant's proposed restoration/creation component, which is based on 1.98 acres of direct impact to Waters of the United States and indirect impacts to 5.27 acres, would consist of restoration/creation of 7.25 acres of vernal pool habitat at a Corps approved location. Areas restored/created at the Corps approved mitigation site should retain similar functions to wetland areas impacted at the project site, and when combined with the proposed project level and plan level preservation, should assure no net loss of wetland functions or services as a result of the permitted fill. The Corps and the USFWS will review and approve the applicant's compensatory mitigation proposal, mitigation and monitoring plan, preserve management plan, and conservation easements prior to project implementation to ensure success of the creation and preservation areas. The compensatory mitigation would also be implemented in four phases, with compensation for each phase of development occurring prior to or commensurate with the phase's impacts.

II. Environmental and Public Interest Factors Considered:

A. Purpose and need: The overall project purpose is to construct a mixed use development of 75 to 150 acres within the Urban Services Boundary of Sacramento County. Construction resultant from the fill would therefore provide additional housing to accommodate job growth and help address the projected housing

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shortage within Sacramento County.

B. Alternatives [33 CFR 320.4(b)(4), 40 CFR 230.10]

The applicant submitted an alternatives analysis for the project, which is incorporated by reference. In summary, the Regional Alternatives Analysis considered an analysis of potential alternative locations for the SunRidge Specific Plan. The Regional Alternatives Analysis concluded there were no practicable alternative locations for construction of the Specific Plan Area projects, including Douglas 103.

The applicant provided a supplemental alternative analysis in connection with four on-site design alternatives, including the proposed project. This alternatives information discussed the project within the framework of the ten principles and standards discussed in the Conceptual Strategy, and analyzed its level of compliance with the principles and the associated preserve map created for the entire Specific Plan area.

1. No action. The no permit alternative is the same as the full avoidance alternative discussed in the applicant's supplemental alternatives analysis. To avoid direct and indirect impacts to the aquatic environment, the no permit alternative would require avoidance of all waters of the U.S., including a 250-foot buffer. This would require avoidance of 94.1 acres of land area (out of the 106.7 total), with 12.6 acres remaining for development. The remaining developable acreage would be further constrained by the transmission lines transecting the northwest portion of the Project site and the size and sprawling pattern of the aquatic resources across the site. The applicant also evaluated the no permit alternative with a 50-foot buffer. This analysis yielded a remaining net developable acreage (which excludes 7.3 acres of major roads and 79.6 acres of open space) of approximately 19.8 acres (out of the 106.7 total), resulting in linear, convoluted, or fragmented lands that would be inefficient to develop. Both buffer sizes would result in a no permit alternative that would not leave sufficient contiguous land to feasibly construct a residential development. In considering alternatives that would avoid all jurisdictional waters, the applicant included spanning structures to avoid Morrison Creek and underlying wetlands for the expansion of Douglas Road and the construction of Americanos Boulevard. Based upon a review of information provided by the applicant, the Corps determined the no permit alternative does not constitute the least environmental damaging practicable alternative because it would not meet the overall project purpose and would result in a prohibitory increase in the cost per net developable acre.

2. Other project designs (smaller, larger, different, etc.). The applicant provided information on one avoidance alternative, which would result in a 50-foot buffer around 4.07 acres of jurisdictional waters in the central and eastern portions of the site. However, based on a review of information provided by the applicant, the Corps determined this alternative would result in a substantial decrease of developable acreage and would be inconsistent with the overall project purpose.

3. Other sites available to the applicant: The applicant was unable to identify any sites within the Specific Plan area which were available and of sufficient size.

4. Other sites not available to the applicant (40 CFR 230.10): The Regional Alternatives Analysis considered eight potential alternative sites within the Specific Plan area. As discussed in the Regional Alternatives Analysis, these sites did not meet the availability criterion because they were currently under development by other owners, and/or did not meet the environmental criterion because they were not less environmentally damaging as they were likely to have equal or greater impacts to aquatic ecosystems on their sites.

5. Corps selected alternative: The Corps' selected alternative is the applicant's preferred alternative with inclusion of the following special conditions:

1. The project shall comply with the provisions of the Conceptual Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

This Corps permit does not authorize you to take any 2. threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply.) The USFWS Biological Opinion (Number 1-1-06-F-0041, dated March 16, 2006), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with the incidental take statement in the Biological Opinion, which terms and conditions are

incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall address all mitigation phases and include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 1.98 acres of waters of the United States, and indirect impacts to an additional 5.27 acres of waters of the United States, you shall construct 7.25 acres of vernal pool habitat at a Corps approved location. In order to help ensure the success and long-term viability of the created habitats, they should be created at a density that approximates that found near the creation site in naturally-occurring complexes of the same aquatic type.

5. You shall construct the required compensatory mitigation for each phase; as shown by the enclosed May 02, 2007, electronic mail from Ellen Berryman of Berryman Ecological; concurrently with, or in advance of, the start of construction of that phase of the permitted activity.

6. You shall complete construction of the compensatory mitigation for each development phase by October 1st of the year in which the phase was initiated.

7. To insure that compensatory mitigation is completed as required, you shall notify the District Engineer of the date you start construction of each phase of the authorized work and the start date and completion date of each phase of the compensatory mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed compensatory mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. The as-builts for each phase shall be provided to this office no later than 60 days after the completion of construction of the phase's mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, wetland and wildlife preserves containing the 7.25 acres of created/restored vernal pool habitat required by Special Condition 4, the 2.99 acres of jurisdictional waters located at the on-site preserve, and 5.89 acres of naturallyoccurring vernal pool habitat at a Corps approved location.

10. To minimize external disturbance to preserved or created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland or wetland vegetation surrounding the entire perimeter of all created, restored, or preserved waters of the United States, including wetlands within the off-site preserves. The buffer widths shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans and shall be explicitly approved in writing by the Corps prior to any work in waters of the U.S. The on-site preserve shall contain a buffer as shown on the enclosed site plan.

11. To insure that the preserves are properly managed, you shall develop specific and detailed preserve management plans for the on-site and off-site mitigation, preservation, and avoidance areas. The plans shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. The plans shall describe in detail any activities that are proposed within the preserve areas and the long term funding and maintenance of each of the preserve areas.

12. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2007, install fencing and appropriate signage around the entire perimeter of the preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

13. To protect the integrity of the preserves and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the on-site or off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of mitigation, preservation, and avoidance areas:

a. Establish fully-funded endowments to provide for maintenance and monitoring of the on-site and off-site mitigation, preservation, and avoidance areas.

b. Designate appropriate and Corps-approved conservation-oriented third party entities to function as preserve managers and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be provided to the Corps of Engineers for approval prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers prior to the start of construction of any of the activities authorized by this permit. Construction may not commence until the Corps reviews the recorded documents and provides written approval.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan(s) are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met. 16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by December 1st of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

18. You shall have a biologist, who is familiar with vernal pools, monitor all construction activities within 250 feet of the preserve boundary. The monitor shall ensure no unauthorized activities occur within the preserve boundary during project implementation.

19. You shall design and construct all crossings of waters of the United States to retain a natural substrate, and to accommodate all reasonably foreseeable wildlife passage and expected high flows.

C. Physical/chemical characteristics and anticipated changes (check applicable blocks and provide concise description of impacts).

(X) Substrate: The substrate primarily consists of Redding Gravelly Loam and Fiddyment Fine Sandy Loam. The project site is characterized by flat terrain and gently sloping topography. The project would affect approximately 62.9 acres of soils (including 7.3 acres for major roads) on the 106.7-acre site. These impacts will be partially mitigated through the creation of 7.25 acres of vernal pool habitat at a Corps approved location. The impact on substrate overall is adverse but considered minor and therefore less than significant.

(X) Currents, circulation or drainage patterns: Site drainage occurs to the south and southwest through surface or near surface flows. Filled areas will be developed as part of the Corps Selected Alternative and drainage from these areas will be re-routed to the extent necessary to comply with post-construction stormwater plans for the project site. Runoff from the Corps Selected Alternative will be conveyed off-site via storm drain to a storm water detention basin. The applicant is expected to comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to avoid the potential for substantial adverse nuisance flows from the project to enter into waters of the United States. As a result, off-site impacts will be adverse but should be minor and less than significant.

(X) Suspended Particulates; Turbidity: Wetlands on-site likely have slightly turbid water during the rainy season. There is potential for increased turbidity during and after project construction. This potential will be minimized through compliance with the City of Rancho Cordova's MS-4 permit. Water quality BMPs required under the City's MS-4 permit will avoid substantial adverse impacts resultant from the entrance of suspended particulates and turbid runoff into waters of the United States. Only minimal impacts are expected provided the applicant complies with the State Water Quality Certification.

(X) Water quality (temperature, salinity patterns and other parameter): Filled areas developed as part of the Project have the potential to contribute urban pollutants to runoff from the site into waters of the United States. These pollutants could include hydrocarbons, nitrates and ammonia, and heavy metals. As with turbidity, the project is required to implement construction and operational BMPs that will avoid substantial adverse impacts from polluted urban runoff into waters of the United States. Minimal impacts are expected provided the applicant complies with the State Water Quality Certification.

(X) Flood control functions: The entire project site is outside the 500-year floodplain and the project does not place housing within any 100-year flood hazard areas. The Flood control infrastructure for the project will avoid substantial adverse effects from the permitted fill on downstream areas.

(X) Storm, wave and erosion buffers: Jurisdictional areas on the Project site currently provide only minimal erosion buffers, consisting mainly of existing vegetation within the jurisdictional areas. The permitted fill will impact the existing vegetation, but any impact to erosion buffers will be minimized through implementation of construction and operational storm water BMPs that will include the timely revegetation of filled areas left exposed, and detention of project runoff to prevent significant adverse erosion off-site. The City of Rancho Cordova's MND for the Sunridge East projects also addressed this issue on pages 3-31 through 3-36, and called for mitigation measures MM 8.1, MM 8.2a, MM 8.2b, and MM 8.2c, which if implemented should ensure less than significant impacts.

() Erosion and accretion patterns: No effect.

 (\mathbf{X}) Aquifer recharge: Groundwater recharge in the project area occurs primarily along the Morrison Creek drainage on the project site. Soils and underlying hardpan in the preserve area on the project site result in little infiltration from the undeveloped portions of the project area. Aquifer recharge from the project site is therefore minimal because of these site conditions. Runoff from new impervious surfaces created as a result of the permitted fill would be collected and diverted through on-site drainage controls and ultimately Some infiltration from these features would released downstream. Thus, recharge would still occur, but at different occur. locations and at different rates than under existing conditions, and no substantial adverse effects would likely occur.

() Baseflow: No effect.

Additionally, for projects involving the discharge of dredged material:

() Mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification discharge vessel speed and direction, rate of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing. No effect.

D. Biological characteristics and anticipated changes (check applicable blocks and provide concise description of impacts)

(X) Special aquatic site (wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45): The project site currently contains 4.6 acres of special aquatic sites. The project, as proposed, would result in the permanent loss of 1.88 acres of special aquatic sites, including 1.66 acres of vernal pools and 0.22 acre of seasonal wetlands. The project, however, would also include a 43.8-acre preserve containing 2.73 acres of special aquatic sites, including 2.57 acres of vernal pools and 0.16 acre of seasonal wetlands.

Compensatory mitigation will consist of restoration/creation of 7.25 acres of vernal pools on appropriate soils at a Corps approved location, which provides a 1:1 ratio of impacted to created wetlands. Areas restored or created should retain similar functions as wetland areas impacted in the Project site, assuring no net loss of wetland acreage and functions as a result

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of the permitted fill. The preservation component consists of preserving 5.89 acres of high functioning and naturally occurring vernal pools offsite at a Corps approved location. With implementation of the compensatory mitigation, impacts to special aquatic sites will not be significant.

(X) Habitat for fish and other aquatic organisms: Habitat for aquatic invertebrates, including the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*) will be adversely affected by the permitted fill.

The applicant has proposed measures designed to mitigate impacts to aquatic habitat from the proposed fill. Mitigation includes off-site preservation of high quality vernal pool habitat at a Corps approved location, in addition to creation of vernal pool habitat at a Corps approved location. The preserved habitat will be similar to those areas impacted. The proposed mitigation ratios for direct impacts to vernal pool branchiopod habitat are 1:1 for off-site creation and 2:1 for off-site preservation. The proposed mitigation ratios for indirect impacts to vernal pool branchiopod habitat, not located along the proposed Douglas Road or Grantline Road improvements, are at 1:1 for off-site creation and 1:1 for a combination of on-site and off-site preservation. The proposed mitigation ratio for indirect impacts along the roadway improvement areas is 1:1 creation/restoration. The preservation and creation sites will be maintained and preserved in perpetuity as wetland and wildlife habitat. These measures should mitigate the effects of the proposed fill on aquatic habitat to below significant levels.

(X) Wildlife habitat (breeding, cover, travel, general): The areas of proposed fill provide foraging habitat for raptors and other birds, and breeding and foraging habitat for terrestrial species such as coyotes and jack rabbits. Impacts to these habitat types will be offset by on-site and off-site preservation and off-site creation of aquatic habitats. Overall the impact should be adverse but minor and therefore not significant.

(X) Endangered or threatened species: As discussed previously, wetlands and vernal pools subject to fill are assumed by the applicant to contain the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and the endangered vernal pool tadpole shrimp (*Lepidurus packardi*). The Service issued a no-jeopardy biological opinion (1-1-06-F-0041), dated March 16, 2006 on the proposed fill activities for the Douglas Road 103 project. The Service concluded that the proposed development will not jeopardize the continued existence of the listed vernal pool crustaceans because mitigation proposed as part of the Project, plus compliance with the Conceptual Strategy and Conceptual Preserve Map will offset impacts to listed species and their habitats. The Biological Opinion requires that mitigation measures proposed by the applicant be implemented through the 404 permit, and the implementation of those mitigation measures is included as a condition of the permit issued. Based on the conclusions of the no-jeopardy opinion, and the proposed mitigation, the permitted fill will not have significant effects on endangered or threatened species.

Biological availability of possible contaminants in (x) dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities, or other sources: According to the City of Rancho Cordova's MND, on page 3-28, the project site has no known past hazardous materials involvement. Additionally, although there is documented groundwater contamination in the plan area, the project does not include the use of on-site wells. Therefore, the potential for the project to result in exposure to the groundwater contamination is unlikely.

E. Human use characteristics and impacts (check applicable blocks and provide concise description of impacts):

Existing and potential water supplies; water (×) conservation: The project will not rely upon on-site wells due to documented groundwater contamination that precludes municipal use. Water will instead be provided by the local water district from a groundwater source (North Vineyard Well Field) outside the project area. The Sacramento County Water Agency has considered the effect the project would have on water supply in their Zone 40 Water Supply Plan EIR, as has the City of Rancho Cordova in their General Plan EIR. The City, in their General Plan EIR concluded that adequate water supplies are available to serve buildout to the City's corporate limits, which includes the project and Sunrise Douglas Community Plan Area. The project does not include any water conservation measures. Any such measures, such as mandating low flow showerheads or restricting landscape watering, would be a result of local requirements. The project's effect on existing water supplies should be adverse but minor and therefore not significant.

() Recreational or commercial fisheries: No effect.

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() Other water related recreation: No effect.

(X) Aesthetics of the aquatic ecosystem: The aquatic habitats on the project site are of high aesthetic function as they primarily consist of vernal pools which are renown for their unique floristic display. While the project would result in the loss of almost 2 acres of vernal pools, the effect will be reduced to a less than significant level through the proposed onsite and off-site preservation and restoration of vernal pool habitats.

() Parks, national and historic monuments, national seashores, wild and scenic rivers, and wilderness areas, research sites, etc.: No effect.

Traffic/transportation patterns: Current traffic and (X) transportation patterns in the area of the proposed project demonstrate growth underway in Sacramento County. Small collector roads connect to large arterial roadways. Pot Potential traffic impacts were addressed in the Traffic Circulation Section of the Sunrise Douglas Community Plan and Sunridge Specific Plan (SDCP/SRSP) Master Environmental Impact Report (EIR). The SRSP would increase A.M. and P.M. peak hours and daily vehicle trips compared to existing traffic conditions. The SDCP/SRSP EIR identified traffic and circulation mitigation measures for development projects to adopt. The traffic impacts resulting from the project would be adverse but are considered minor overall, and therefore not significant when incorporating mitigation measures.

(X) Energy consumption or generation: Implementation of the Project would require energy for grading and fill, and would require additional energy for construction, operation and maintenance of improvements, and the resulting habitation. The applicant has indicated that there is adequate capacity available to serve these future energy needs. Therefore the impact is considered adverse but minor, and therefore not significant.

() Navigation: No effect.

(X) Safety: The project will implement construction safety measures such that there is no potential for a significant effect to safety. The Project also includes roadway improvements which should improve local traffic safety conditions.

(X) Air quality: The proposed permit has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. The Corps has determined that the activities proposed under this permit will not exceed de

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minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

(X) Noise: Noise levels resulting from Construction and habitation of the Project are expected to meet the County Noise Level Performance Standards (NLPSs) and County Land Use Compatibility standards set by the County's General Plan Noise Element (Community Plan/Specific Plain EIR, pp. 12.9c). These indicators are a threshold used to assess noise impacts, and indicate the Project will not result in significant noise impacts.

(X) Historic properties (Section 106 National Historic Preservation Act): According to the information available, including Peak and Associates' Determination of Eligibility and Effect for the Douglas Road 103 Project Area, the project site does not contain any sites listed, or eligible for listing, on the National Register of Historic Places. No previously recorded prehistoric or historic resources exist within the project site. Therefore, the proposed action is not expected to have an effect on historic properties.

(X) Land Use Classification: The proposed fill activity will occur in conjunction with construction of residential development on lands previously used for agricultural activities. These lands are located within the General Plan Urban Policy Area and are shown as new Urban Growth Area in the Sacramento County General Plan, indicating the County's intent to plan for the urbanization of this area within the 20-year time frame of the General Plan. (Community Plan/Specific Plan EIR, p. 3.5.) Therefore the project will not have significant effects on the land use classification of the Project area.

(X) Economics: Construction associated with the project will provide jobs and may generate revenue for the local economy. In the long term, the project will help to address the projected housing demand in the Sacramento County area.

(X) Prime and unique farmland (7 CFR Part 658): The California Department of Conservation's Farmland Mapping and Monitoring Program designated the project site as grazing land and farmland of local importance, not as prime or unique farmland. According to the City of Rancho Cordova's MND, neither the grazing nor farmland of local importance designation qualifies the project site as prime and unique farmland. Therefore, the project will have no effect on prime and unique farmland.

(X) Food and fiber production: The project area has historically been used for cattle grazing which would likely have resulted in the production of beef and leather. As grazing of the property does not appear to have been intensive, the project would result in an adverse but minor effect on food and fiber production.

(X) General water quality: The existing quality of water in wetlands and other waters of the United States on the project site results from local precipitation, drainage from adjacent areas and residues of agricultural chemicals on site. Fill of wetlands and construction of the applicant s proposed project has the potential to add urban pollutant runoff.

Pursuant to Section 401 of the Clean Water Act, the applicant has obtained a technically conditioned certification from the Central Valley Regional Water Quality Control District, issued September 21, 2006 (WDID# 5A34CR00258). The 401 Certifications requires the applicant to implement measures to adequately protect the identified beneficial uses of surrounding and downstream water courses. The applicant will also comply with all post-construction storm water treatment requirements as set out in the City of Rancho Cordova's MS-4 permit and implement necessary water quality Best Management Practices to prevent substantial impacts to the water quality of surrounding and downstream areas. With implementation of the water quality certification conditions, impacts to water quality will be less than significant.

(X) Mineral needs: Current activities at the project site do not require mineral needs. Construction of the project will necessitate the importation of aggregate, concrete, and asphalt. These materials will likely be supplied locally. No negative impacts are expected.

(X) Consideration of private property: The project area is currently private property owned by the applicants. The project is being permitted primarily as proposed and the applicant's use of private property has been given appropriate consideration.

(X) Minority and Low Income Populations: The proposed action has been evaluated in accordance with Title VI of the Civil Rights Act and Executive Order 12898 regarding environmental justice populations. Impacts to the minority and low-income populations in the permit area will not be disproportionately high.

() Other:

F. Summary of secondary and cumulative effects:

Vernal pool habitats within 250 feet of project development will be indirectly impacted due to increased human presence, changes to hydrology or other created conditions. Habitat to the north of Douglas Road and west of Grantline Road will be indirectly impacted by the proposed road improvements. Because lands immediately to the east, west, and south are within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan area, habitat in these areas would for the most part be directly removed and offset by adjacent proposed developments and the terms and conditions imposed on them through the Section 7 or DA permit process. The applicant's proposed mitigation measures for indirect impacts resulting from the central development (1:1 preservation and 1:1 creation) should sufficiently offset indirect impacts to vernal pool habitat when taken into consideration with the overall level of preservation in the plan area.

Cumulative effects are the incremental effects of the agency's proposed action, and past, present, and reasonably foreseeable future actions in the locale of the agency's action. For analysis of cumulative impacts, the Corps has focused on the larger 1,345-acre subarea of the SunRidge Specific Plan area because a number of actions are currently pending in the area that could result in a potentially substantial cumulative effect. The City of Rancho Cordova has completed the land use entitlement process for each of these projects within this area, and the proposed actions are well defined and the potential impacts are foreseeable. Moreover, each of the 404 permit applications pending in the SunRidge subarea are for geographically contiguous jurisdictional features and the permitted actions are planned to occur roughly during the same time frame. Because of the certainty of the land use entitlements, and the related geography and timing of the effects, they have the potential to be cumulative.

The Conceptual Strategy, and the detailed analysis in the Regional Alternatives Information address potential cumulative effects to both aquatic and non-aquatic resources in the Subarea. The collaborative effort of the Federal Agencies and the numerous applicants participating in the Conceptual Strategy resulted in the development of guidelines designed to preserve wetlands and vernal pools in the area that collectively reduced adverse effects to jurisdictional waters from almost 60 acres under the adopted Specific Plan, to just over 44 acres, while preserving 41.2% of vernal pool habitat within the Specific Plan. Each project has agreed to demonstrate consistency with the Conceptual Strategy and to incorporate mitigation that will ensure no net loss of wetlands. It is estimated that over 50% of the waters in the Community Planning Area will be protected under the conceptual preserve design. This is a substantial reduction of impacts to waters of the U.S. as compared to the proposed level of development from the County of Sacramento. Thus, the implementation of the Conceptual Strategy by each project results in avoidance of adverse cumulative effects by (1) increasing avoidance and preservation of wetlands and vernal pools within the Subarea from what was initially proposed under the Specific Plan, (2) strategically identifying avoidance areas in a manner that minimizes edge-to-area ratios and maximizes connectivity, (3) coalescing the individual projects' avoidance and minimization efforts into a regional reserve designed to connect to the previously approved and existing Anatolia Preserve, thereby increasing connectivity between project avoidance areas and connectivity to downstream wetlands and vernal pools, and (4) creating large, intact corridors supporting the Morrison and Laguna Creek watersheds and associated vernal pools in the Specific Plan area. The Conceptual Strategy also sets out principles and standards for development surrounding the avoided wetlands and vernal pools that will reduce urban edge effects on these areas and to promote long-term retention of wetland and vernal pool functions. Last, the Conceptual Strategy areas are required to be monitored and managed in perpetuity according to the preserve management plan to be submitted for Federal Agencies approval. The measures specified in the Conceptual Strategy for the creation of a preserve according to the Conceptual Preserve map will avoid cumulatively substantial impacts to jurisdictional wetlands and vernal pools within the Specific Plan area. For projects that demonstrate consistency with the Conceptual Strategy, compliance with the Strategy will be incorporated as a condition of the Section 404 permit.

Future projects in the Sun Creek portion of the Community Plan area are as yet too uncertain to include within a cumulative impacts assessment at this time. The City of Rancho Cordova has prepared a draft Specific Plan for the SunCreek portion of the Community Plan area, which is immediately to the south of the SunRidge Specific Plan area. The Corps and the City have begun preparation of a joint EIS/EIR for the SunCreek Specific Plan area, which will further consider potential cumulative effects. The Community Plan/Specific Plan EIR does not provide more than conceptual information on jurisdiction impacts within the SunCreek area (Community Plan/Specific Plan EIR, p.3.5.) The current EIS/EIR process will modify and refine land uses in this area, including the creation of a jurisdictional wetland and vernal pool preserve within the SunCreek area. Although impacts to wetlands are likely, because the EIS/EIR process is at an early stage it is not reasonably foreseeable to predict the impacts that could result from that future project. Subsequent applications for fill for projects within the Community Plan area will also be appropriately evaluated under NEPA and the conceptual strategy.

Together, past measures taken to reduce impacts at the Anatolia project (SD Project) combined with measures specified in the Conceptual Strategy and Conceptual Preserve for the SunRidge Specific Plan area, as implemented by each project, assure that adverse effects to jurisdictional wetland and vernal pool areas will not be cumulatively significant.

In addition to potential cumulative impacts to jurisdictional wetlands and vernal pools, the development of the project, in conjunction with development of other projects noticed in PN# 200000336 and others within the Specific Plan area, may have cumulative impacts to other categories of the human environment. The County's Community Plan/Specific Plan EIR discusses potentially substantial cumulative effects from development in The County identified mitigation the Specific Plan area. measures through the Specific Plan EIR, and incorporated land use planning policies within the Specific Plan that are designed to address cumulative impacts in these other categories such as traffic, noise, air quality and groundwater levels. The mitigation measures in the City of Rancho Cordova's Mitigated Negative Declaration for the Sunridge East Properties, including the Douglas Road 103 Project, in addition to measures implemented by the County's adoption of the SD Project EIS/EIR Mitigation and Monitoring Program, and future mitigation measures created for the SunCreek Specific Plan area, will assure adequate treatment of these categories of cumulative impacts. Therefore, cumulative impacts are considered less than significant.

The growth inducing effects of the project are expected to be minimal as this area has already been designated as an urban growth area by the County's 1993 General Plan.

III. Findings:

A. Other authorizations:

1. Water quality certification: The applicant obtained water quality certifications from the Central Valley Regional Water Quality Control Board on September 21, 2006, Files No. 5A34CR00258. The technically conditioned 401 certification is attached as Appendix B.

Date:		
Issued:	X	
Denied:		
Waived: _		

Special Conditions: Yes X No (if yes see attached)

2. State and/or local authorizations (if issued): Streambed Alteration Agreement. Prior to engaging in any work authorized by this permit, the applicant will obtain a streambed alteration agreement if required by the California Department of Fish and Game.

B. A complete application was received on December 7, 2005. A Public Notice describing the project was issued on December 22, 2005, and sent to all interested parties including appropriate state and Federal agencies (Public Notice No. 199700006). Only one comment letter was received. That comment letter, from the U.S. Environmental Protection Agency, was reviewed and is summarized and responded to below:

U.S. Environmental Protection Agency (January 10, 2006)

Comment 1: While the applicant's proposal could be refined to comply with the Conceptual Strategy and the preserve map of the parcels within the SDCPA, it is not currently consistent with them or the overarching Federal Guidelines. The primary flaws are the lack of a compensatory mitigation plan and alternatives analysis (both offsite and onsite).

Response: The project includes a compensatory mitigation plan and other measures to mitigate for impacts to waters of the United States and aquatic habitat. More specifically, the project includes as mitigation a combination of preservation and restoration/creation of waters of the United States, which is largely consistent with the Conceptual Strategy and Reserve Map. Of the 4.97 acres of waters of the U.S. on the project site, 2.99 acres will be avoided and perpetually managed within the on-site preserve. Additionally, the project includes offsite preservation of approximately 5.89 acres of vernal pool habitat at a Corps approved mitigation site. The preserved lands will be managed and monitored in perpetuity to provide for the long-term conservation of aquatic resources and endangered species.

Vernal pools will also be restored/created at a 1:1 ratio for direct and indirect impacts at a Corps approved location. This restoration/creation component, which is based on 1. 99 acres of direct impact to waters of the United States and indirect impacts to 5.27 acres of vernal pool branchiopod habitat, would consist of restoration/creation of 7.25 acres of vernal pools at a Corps approved location. Areas restored/created at the Corps approved mitigation site should retain similar functions to wetland areas impacted at the project site, which when combined with the proposed project and plan level preservation, should assure no net loss of wetland acreage and function as a result of the permitted fill.

The project will be implemented pursuant to standards established in the Conceptual Strategy. As contemplated in the Conceptual Strategy, the 43.8-acre on site preserve proposed as part of the Douglas Road 103 Project will preserve a significant reach of Morrison Creek and be part of a larger 161-acre vernal pool grassland habitat preserve.

Projects in the Sunridge Specific Plan Area, including the Douglas Road 103 Project, were addressed in the Regional Alternatives Information, SunRidge Specific Plan Subarea (Foothill Associates 2004) document (Regional Alternatives Analysis), which evaluated a variety of alternatives to development contemplated in the Conceptual Strategy. The Regional Alternatives Analysis evaluated the preserve concept contained in the Conceptual Strategy together with eight alternative preserve alignments.

In addition to the Regional Alternatives Analysis, the applicant submitted to the Corps a Supplemental Alternatives Analysis for the Douglas Road 103 Project in April 2006. The Supplemental Alternatives Analysis evaluated an on-site alternative to the Douglas Road 103 Project, and based on its review of that information, the Corps concluded that the on-site design for the proposed project is the LEDPA.

Comment 2: The primary flaws are the absence of an evaluation of an elevated roadway system for north-south road proposed to traverse the wetland preserve. EPA would expect to see a full evaluation of this elevated roadway option. Our conditional agreement on the Conceptual Strategy and preserve map included a requirement for elevated roadways to ensure wildlife and hydrologic connectivity within the preserve areas.

Response: We concur that elevated roadways are important to ensure wildlife and hydrologic connectivity within the preserve area. This concern is reflected in the Conceptual Strategy and, in particular, in Principle #4 of the Ten Principles, which recommends the use of elevated roads, arched crossings and other practices for transportation corridors that must traverse Preserve Areas to minimize direct and indirect impacts to aquatic resources and maintain the integrity of Preserve Areas. Consistent with Principle #4's quidance, the applicant's Supplemental Alternatives Analysis evaluated three spanning designs to avoid impacts to Morrison Creek. These designs were evaluated in a separate study, Alternative Spanning Designs to Avoid Impacts to Morrison Creek on Douglas 103 Project Site, attached to the Supplemental Alternatives Analysis as Attachment This study determined that the preferred alternative design Α. is a 20-foot span, which is both financially and technologically feasible, and will result in no direct impacts to Morrison Creek. However, at the further urging of the Corps the applicant agreed to increase the proposed span over Morrison Creek from 20 to 32 feet, and to include 4 additional culverts along the preserve section of the roadway, each of which will provide a 6'll'w x 4'9"h wildlife crossing.

The Federal Guidelines are written hierarchically to Comment 3: ensure that utmost efforts are made to achieve the objective of the Clean Water Act to eliminate all discharges of pollutants into the Nation s waters. Once the applicant has demonstrated the proposed project is the least environmentally damaging practicable alternative, compensatory mitigation is used to offset unavoidable impacts that remain. The applicant should provide a compensatory mitigation plan that is consistent with the Conceptual Strategy. We urge you to work closely with the SDCPA landowners and developers to ensure that a single conservation easement holder is retained for the purpose of managing the preserves and monitoring compliance with compensatory mitigation requirements. To do otherwise would foster an unmanageable situation where different properties would be managed and monitored using disparate methods and timeframes. This, too, was discussed with the landowners, but a unified approach has still not been developed and presented to the federal agencies for review.

Response: See response to Comment 1 above regarding the applicant's mitigation proposal. The applicant and other project applicants in the area have proposed that preserve areas for projects in the Sunrise Douglas Community Plan Area be managed by the Sacramento Valley Conservancy and the easement and endowment for those areas be held by the Wildlife Heritage Foundation. The Service is in agreement with these arrangements. This unified approach should be satisfactory to EPA.

Comment 4: The proposed Douglas Road 103 project is within the Sunrise Douglas Community Planning Area (SDCPA). Over the years, EPA has invested heavily in assisting Sacramento County with regional planning and permitting, and we have been active in multi-party negotiations to resolve the regulatory issues for the entire 6,025-acre SDCPA. Our efforts on permitting for projects

within the SDCPA commenced in 1988 when the Sammis Corporation applied for a Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (Corps) for what is now the Anatolia property.

Response: Comment noted.

Comment 5: In February 2004, a series of negotiations commenced wherein a local Congressman asked EPA, the Corps, and the U.S. Fish and Wildlife Service (FWS) to develop an integrated permitting strategy for the SDCPA to address provisions of the CWA and the Endangered Species Act (ESA). These talks involved the three federal agencies, all the landowners, developers, and their environmental consultants, and resulting in the following agency-produced documents: (1) a ten-point Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, (Conceptual Strategy) dated June 2004; and (2) a preserve map of the parcels within the SDCPA that need protection in perpetuity so the entire development complies with the federal regulations. The agencies deemed these preserves minimally protective of aquatic resources, and virtually all the landowners in the Sunridge and Suncreek Community Planning Areas agreed upon the preserve configuration for both individual parcels and for the collection of parcels that comprise conservation corridors within the affected areas of the watersheds of Laguna and Morrison creeks.

Response: Comment noted.

a. Evaluation of Compliance with Section 404(b)(1) guidelines (restrictions on discharge, 40 CFR 230.10). (A check in a block denoted by an asterisk indicates that the project does not comply with the guidelines.):

1) Alternatives test:

Yes No x i) Based on the discussion in II B, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into waters of the United States or at other locations within these waters?

Yes x No ii) Based on II B, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

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2) Special restrictions. Will the discharge:

Yes No x i) Violate state water quality standards?

Yes No x ii) Violate toxic effluent standards (under Section 307 of the Act)?

Yes No \times iii) Jeopardize endangered or threatened species or their critical habitat?

Yes No \times iv) Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes X No v) Evaluation of the information in II C and D above indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s).

(x) based on the above information, the material is not a carrier of contaminants.

() the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

() acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

3) Other restrictions. Will the discharge contribute to significant degradation of waters of the United States through adverse impacts to:

Yes No \times i) Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife, and special aquatic sites?

Yes No \times ii) Life states of aquatic life and other wildlife?

Yes No x iii) Diversity, productivity and stability of the aquatic ecosystem, such as loss of fish or wildlife habitat, or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

Yes No x iv) Recreational, aesthetic and economic values?

4) Actions to minimize potential adverse impacts (mitigation).

Yes x No Will all appropriate and practicable steps (40 CFR 230.70 77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystems?

Refer to Section II(b) (5) for special conditions.

b. General Evaluation [33 CFR 320.4 (a)]:

1) The relative extent of the public and private need for the proposed work. The project will address a projected public need for housing opportunities in the Sacramento area. It will address the private need of the project proponent to realize the gain from project implementation.

2) The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work. Alternative sites were considered, however, these sites were found to be impracticable (see IV.B above). Pursuant to these findings, the proposed fill is the least environmentally damaging practicable location and amount needed to affect the project purpose.

3) The extent and permanence of the beneficial and/or detrimental effects the proposed structures or work may have on the public and private uses to which the area is suited. The loss of 1.98 acres of waters in the project area will be effectively permanent and detrimental. The mitigation created by the applicant will be permanent, with dedication of a conservation easement over mitigation areas. As identified in the County's General Plan, Community Plan and Specific Plan, the area has been chosen for urban residential development as it is proximate to regional job centers and transportation. The project should have a beneficial effect on meeting the projected housing demand, and on the public and private uses for which this area has been designated through the County's zoning and land use designations.

c. Significant National Issues: None.

2. Determinations:

a. Finding of No Significant Impact (FONSI) (33 CFR Part 325). Having reviewed the information provided by the applicant, all interested parties and the assessment of environmental impacts contained in Part II of this document, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement will not be required. b. Section 404(b)(1) Compliance/Non-compliance Review (40 CFR 230.12).

()The discharge complies with the guidelines.

The discharge complies with the guidelines, with the (x) inclusion of the appropriate and practicable conditions listed above (in II.B.5) to minimize pollution or adverse effects to the affected ecosystem.

The discharge fails to comply with the requirements of these () quidelines because:

There is a practicable alternative to the proposed discharge () that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.

The proposed discharge will result in significant () degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).

()The discharge does not include all appropriate and practicable measure to minimize potential harm to the aquatic ecosystem, namely

There is not sufficient information to make a reasonable ()judgment as to whether the proposed discharge will comply with the guidelines.

c. Section 176(c) of the Clean Air Act: I have analyzed the proposed project for conformity applicability and determined that the proposed activities in this permit action will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors, and are exempt by 40 CFR 93.152. Any later indirect emissions generally cannot be practicably controlled by the Corps of Engineers and, for these reasons, the permit decision does not require a conformity determination.

d. Public interest determination: I find that issuance of a Department of the Army permit (with special conditions), as prescribed by regulations published in 33 CFR Parts 320 330, and 40 CFR Part 230 is not contrary to the public interest.

DATE: William Ness

PREPARED BY:

Chief, Sacramento County Office REVIEWED BY: DATE: 6 Kevin Rø Chief, gentral California/Nevada Section Rai REVIEWED BY: DATE: bisa Clay Office of Counsel APPROVED BY DATE: Michael 1 Chief, Regulatory Branch Appendix A Public Notice 199700006 Appendix B Water Quality Certification, File No. WDID# 5A34CR00258 Appendix C Section 3.0, Environmental Setting, Impacts, and Mitigation Measures, of the SunRidge East Projects Mitigated Negative Declaration. November 2004, Regional Alternatives Information Appendix D SunRidge Specific Plan Subarea, Sacramento County, California

Appendix E April 2006, 404(b)(1) Supplemental Alternatives Analysis for Douglas Road 103

Clean Water Act §404(b)(1) Alternatives Supplemental Submittal

Sunrise Douglas Arista del Sol Property

Sacramento County, California

Prepared for: U.S. Army Corps of Engineers

On Behalf of:

Pappas Investments 2020 L Street Sacramento, CA 95814

April 21, 2006



Clean Water Act §404(b)(1) Alternatives Supplemental Submittal

Sunrise Douglas Arista del Sol Property

Sacramento County, California

Prepared for: U.S. Army Corps of Engineers

> On Behalf of: Pappas Investments 2020 L Street

Sacramento, CA 95814

April 21, 2006

Submitted by: FOOTHILL ASSOCIATES © 2006 Table of Contents

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1.0 INTRODUCTION

1.1 Applicant

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1.2 Applicant's Agents

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1.3 Subject

Section 404 of the Federal Water Pollution Control Act (the "Clean Water Act" or "CWA") regulates the discharge of dredged or fill materials into waters of the United States ("Waters"). The Clean Water Act vests authority in the Army Corps of Engineers ("Corps") to regulate such discharges via a program of reviewing and selectively permitting requests for fill authorization. [33 U.S.C. § 1344 (d).]

1.4 Background

In the course of its permitting authority, the Corps must make a finding that its authorization to fill Waters complies with the environmental protection guidelines established by the Environmental Protection Agency ("EPA") at 40 CFR Part 230, known as the Section 404(b)(1) Guidelines, ("Guidelines"). In part to address their responsibilities under the Guidelines, the Corps and the EPA, together with the U.S. Fish and Wildlife Service (the "Service," together the "Agencies"), crafted A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise Douglas Community Plan Area (herein the "Conceptual Strategy").

The Conceptual Strategy is designed to result in a regional avoidance and preserve concept that meets the Agencies' requirements under the Clean Water Act, the Endangered Species Act and other applicable laws, and provide a workable framework for the planned development in the

Sunrise-Douglas Community Plan ("Community Plan") area and Sunridge Specific Plan ("Specific Plan") area (Figure 1). In conjunction with the Conceptual Strategy, the Agencies prepared a Conceptual Preserve map of vernal pool and wetland avoidance within the Community Plan area designed to minimize direct and cumulative impacts to vernal pool and wetland functions and values within the area (Figure 2). The Agencies' Conceptual Strategy also sets out 10 principles and standards to guide property owners in identifying project designs that minimize individual and cumulative effects on aquatic resources and sensitive species. Property owners within the non-permitted Subarea of the Specific Plan area also prepared and submitted to the Corps a Regional Alternatives Information document that analyzed the Preserve identified by the Conceptual Strategy, and eight alternative preserve alignments, according to selection criteria including logistics, environmental, cost and compatibility with existing land use designations (Appendix A). Of the proposed alternative preserve alignments, the Conceptual Preserve alternative, shown in Figure 2 best met the requirements of the selection criteria.

1.5 Objective

As requested by the Corps, this 404(b)(1) Alternatives Analysis document is provided as a supplement to the previously submitted Conceptual Strategy and Regional Alternatives Information.¹ An off-site alternatives analysis (OAA) for the entire Subplan Area was performed by the Sares-Regis Group (Sares-Regis, 1994) and was provided to the Corps previously. The intention of this document, as well as those previously provided, is to assist the Corps in establishing the Least Environmentally Damaging Practicable Alternative (LEDPA), thereby complying with the Guidelines.

Specifically, this document provides an analysis of three on-site design alternatives for the Pappas Investments property, including the Proposed Project. The alternatives are compared in terms of how well they conform to the principles and standards of the Conceptual Strategy, as well as the Guidelines. A discussion of the Arista del Sol project with respect to the ten principles and standards set out in the Conceptual Strategy is included in Appendix B.

1.6 Legal Framework

Any activity requiring an individual permit under Section 404 of the Clean Water Act must undergo an analysis of alternatives in order to identify the LEDPA pursuant to the requirement of the 404(b)(1) Guidelines. The Guidelines prohibit discharge of dredged or fill material to waters of the United States if there is a "practicable alternative to the proposed discharge that would have less impact on the aquatic ecosystem, provided that the alternative does not have other significant environmental consequences." [40 C.F.R. § 230.10(a).] An alternative is practicable "if it is available and capable of being done after taking into consideration cost, existing technology and logistics in light of the overall project purposes." [40 C.F.R. §§ 230.10(a) and 230.3(q).] "If it is otherwise a practicable alternative, an area not presently owned by an applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered." [40 C.F.R. § 230.10(a)(2).] Thus

¹ The Corps requested "on-site alternatives information to be provided by each applicant regarding the proposed steps to be taken on the Project Site to comply with the Conceptual Strategy." Letter from M. Jewell to J. Hodgson, October 29, 2004.

an alternative must meet the overall project purpose, the purpose for which the applicant submits the request for fill authorization, and must be consistent with cost, logistical and availability criteria to be deemed the LEDPA.

If the proposed activity would involve a discharge into a special aquatic site such as a wetland, the Section 404(b)(1) Guidelines distinguish between those projects that are water dependent and those that are not. A water-dependent project is one that requires access to water to achieve its basic purpose, such as a marina. A non-water dependent project is one that does not require access to water to achieve its basic purpose, such as a housing development. The Project purpose here is to build a medium-scale residential community in accordance with the Sunridge Specific Plan. The Proposed Project is not water dependent.

The Section 404(b)(1) Guidelines establish two presumptions for non-water dependent projects that propose a discharge into a special aquatic site, such as a wetland. First, it is presumed that there are practicable alternatives to non-water dependent projects, "unless clearly demonstrated otherwise." [40 C.F.R. § 230.10(a)(3).] Second, "where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise." [*Id.*] The thrust of the Guidelines is that applicants should design Proposed Projects to meet the project purpose while avoiding impacts to aquatic environments. This approach is emphasized in a Memorandum of Agreement between the EPA and the Corps Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines (1990) ("MOA"). The MOA articulates the Guidelines "sequencing" protocol as first, avoiding impacts, second, minimizing impacts, and third, providing practicable compensatory mitigation for unavoidable impacts with a preference for onsite, in-kind mitigation and no overall net loss of functions and values.

In addition to requiring the identification of the LEDPA, the Guidelines mandate that a project must not violate any applicable toxic effluent standard or prohibition, 40 C.F.R. § 230.10(b)(2), jeopardize the continued existence of any endangered or threatened species (or destroy or adversely modify critical habitat), 40 C.F.R. § 230.10(b)(3), cause or contribute to violations of any applicable state water quality standard, 40 C.F.R. § 230.10(b)(1), or cause or contribute to significant degradation of waters of the United States, 40 C.F.R. § 230.10(c). Prior to completing its review, the Corps also must evaluate the Proposed Project in light of the public interest. Finally, the Corps must ensure that its environmental review complies with the National Environmental Policy Act, codified at 42 U.S.C § 4321 *et. seq.*

A decision under the Guidelines should also avoid substantial impacts to non-aquatic environmental values. Under the Code of Federal Regulations, "[e]ven where a practicable alternative exists that would have less adverse impact on the aquatic ecosystem, the Guidelines allow it to be rejected if it would have 'other significant adverse environmental consequences." (40 C.F.R. § 230.10(a).) As explained in the preamble to the Federal Register notice issuing the 404(b)(1) Guidelines, this allows for consideration of "evidence of damages to other ecosystems in deciding whether there is a 'better' alternative." Hence, in applying the alternatives analysis required by the Guidelines, "*it is not appropriate to select an alternative where minor impacts on the aquatic environment are avoided at the cost of substantial impacts to other natural*

environmental values." (U.S. Army Corps of Engineers, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking, Regulatory Guidance Letter 93-02 (Aug. 23, 1993) (emphasis added).)

The Corps' charge to render a determination under the "alternatives analysis" must also avoid unreasonably expensive alternatives. "If an alleged alternative is unreasonably expensive to the applicant, the alternative is not 'practicable.'" (45 Fed. Reg. 85336, 85343; see also U.S. Army Corps of Engineers, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking, Regulatory Guidance Letter 93-02 (Aug. 23, 1993).) In establishing that the definition of "practicable" depends on "cost" factors, EPA stated that "[o]ur intent is to consider those alternatives which are reasonable in terms of the overall scope/cost of the Proposed Project." (45 Fed. Reg. 85336, 85339.)

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Arista del Sol property is within the Sunridge Specific Plan Subarea, which is located in eastern Sacramento County, approximately five miles south of Highway 50 (Figure 1). Specifically, the Sunridge Specific Plan Subarea is situated east of Sunrise Boulevard, south of Douglas Road, west of Grant Line Road, and north of Jackson Road (State Route 16). The Subarea is located in portions of Sections 8, 9, 10, 15, 16, and 17 of Township 8 North, Range 7 East on the U.S.G.S. "Buffalo Creek, CA" 7.5' quadrangle.

The Subarea consists of the following Project Sites within the larger Sunridge Specific Plan Area: North Douglas, Montelena, Anatolia IV, Sunridge Village J, Sunridge Park, Douglas 103, Douglas 98, Grantline 208, and Arista del Sol.

The Arista del Sol Project Site lies west of and adjacent to Grant Line Road, south of Douglas Road, east of Jaeger Road, and north of and adjacent to the proposed Pyramid Boulevard. The site is located in Section 15 of Township 8 North, Range 7 East on the U.S.G.S. "Buffalo Creek, California" 7.5' quadrangle (Figure 1).

2.2 Project Description

The Proposed Project is comprised of ± 209.9 acres within the Arista del Sol boundary and an additional ± 5.0 within the Grant Line 220 property boundary, for a total of ± 214.9 acres. The Arista del Sol portion of the Proposed Project consists of approximately ± 133.5 acres of residential development, ± 19.4 acres for neighborhood parks, ± 5.6 acres of commercial mixed use development, ± 8.1 acres of drainage corridor and detention/water quality basin, and ± 41.1 . net (± 43.3 gross) acres of open space/wetland preserve to be preserved in perpetuity. The gross acreages of the above categories include greenbelt/paseo, landscape corridors, and roads within the property, including improvements to Grant Line Road. The proposed land uses for the subject property are in accordance with the proposed land uses set forth in the Sunrise-Douglas Community Plan and Sunridge Specific Plan. The project is situated to take advantage of the proposed extension of infrastructure to the Sunrise-Douglas Community Plan area, including sewer mains, sewer trunk lines, gas and electric mains, and water mains.

The Arista del Sol project work within the Grant Line 220 property boundary includes road construction and improvements needed to protect public health and safety and to meet the City of Rancho Cordova road improvement standards for this area. These improvements include ± 4.6 acres for the southern half of Chrysanthy Boulevard, such that development of the full width of Chrysanthy Boulevard is covered by the Proposed Project, and ± 0.4 acre for a transition lane in a 700-ft stretch on the west side of Grant line Road south of the Arista del Sol property.

2.3 Waters of the U.S. and Proposed Impacts

The Project Site contains ± 17.41 acres of waters of the United States including wetlands protected by the Clean Water Act. This total is comprised of ± 17.34 acres on the Arista del Sol property and ± 0.07 acre within the southern portion of the Chrysanthy Boulevard right-of-way on the Grant Line 220 property. Wetlands and other waters on the Project Site include ephemeral drainages, depressional and riverine seasonal wetlands, a seep, and vernal pools. Additionally, there are three stock ponds and a ditch located on the subject property. Acreages for each jurisdictional water class on the Arista del Sol property and within the additional Chrysanthy Boulevard right-of-way are shown in Table 1.

	ACREAGE					
CLASSIFICATION	Arista del Sol Property	Additional Chrysanthy Road R-O-W	Total			
Vernal Pool	8.59	0.00	8.59			
Depressional Seasonal Wetland	0.15	0.00	0.15			
Riverine Seasonal Wetland	0.86	0.04	0.90			
Seep	0.03	0.00	0.03			
Ephemeral Drainage	0.15	0.03	0.18			
Pond	7.56	0.00	7.56			
Ditch	< 0.01	0.00	<0.01			
Total	17.34	0.07	17.41			

Table 1 —	· Waters	of the	U.S.
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The Proposed Project will directly impact ± 13.88 acres of jurisdictional waters. The wetland and other water features impacted under the Proposed Project would result in the on-site loss of ± 0.08 acre of depressional seasonal wetland, ± 0.67 acre of riverine seasonal wetland, ± 0.03 acre of seep wetland, and ± 5.37 acres of vernal pools. Other waters to be impacted include: ± 0.17 acre of ephemeral drainage, ± 7.56 acres for three stock ponds, and <0.01 acre of ditch. The Proposed Project will preserve ± 3.53 acres of jurisdictional areas, including ± 3.22 acres of vernal pool, ± 0.30 acre of seasonal wetland, and ± 0.01 acre of ephemeral drainage ("Preserve"). The 41.1-acre Preserve will be maintained in perpetuity pursuant to the requirements of the Conceptual Strategy and mitigation measures imposed by the County's environmental review process.

The following criteria were used to evaluate three on-site design alternatives for the Arista del Sol Project, including the Proposed Project.

3.1 Project Purpose

The alternative design must accommodate the project purpose of constructing a medium-scale residential community including resident-serving public service components (i.e., parks and commercial services) as well as infrastructure with adequate, contiguous developable acreage, defined as the same or more area than the Proposed Project.

3.2 Logistics

- The alternative design must provide for safe, efficient internal circulation and adequate access to adjacent road networks.
- The alternative design must provide for adequate distribution of infrastructure and 0 utilities.

3.3 Cost

The alternative design must avoid substantially greater costs per net developable acre 0 than the Proposed Project.

3.4 Environmental

- The alternative design must have significantly less impacts to aquatic resources than e the Proposed Project, without having other significant adverse environmental impacts.
- The alternative design must have significantly less adverse impacts on federally-listed 0 species than the Proposed Project.
 - The alternative design must be consistent with the principles and standards of the Conceptual Strategy, which were conceived to create a viable Regional Preserve for vernal pool and wetland habitat designed to minimize the cumulative effects
 - associated with developing the Plan Subarea. The principles and standards include:
 - Preserve designs with a low preserve perimeter-to-area ratio,
 - o Preservation of contiguous vernal pool and wetland features that provide (or contribute to) large, contiguous open space areas,
 - Designs allowing for a minimum of 250' buffers between vernal pool and wetland features and adjacent development that limit potential indirect impacts.

3.5 Overall

An alternative is not a practicable alternative unless it meets all of the above criteria.

4.0 ANALYSIS OF ON-SITE ALTERNATIVES

This On-Site Alternatives Analysis evaluates the Proposed Project and two alternative designs, a No-Fill Alternative and a Partial-Fill Alternative with an Eastern preserve, and provides a detailed comparison of the Proposed Project to these on-site alternatives.

4.1 Proposed Project

The Proposed Project design includes ± 173.8 gross acres of developable land and ± 41.1 acres of wetland preserve located on the western quarter of the Project Site. The net developable acreage, which is defined here as the residential and commercial lotted area, is ± 125.3 acres. The remaining 48.5 acres of unavoided area consists of parks, water quality detention basins and drainage corridor, landscape corridors, paseos, and roads, and represents approximately 23% of the project site acreage. The Proposed Project avoids ± 3.53 acres of jurisdictional area, mainly vernal pools. The on-site preserve is part of the Regional Preserve that focuses on the headwaters of one of the forks of Morrison Creek as well as habitat for vernal pool fairy shrimp and tadpole shrimp. The Proposed Project is shown in Figure 3.

Project Purpose

The Proposed Project will develop approximately 80% of the site for residential and supporting uses. It is consistent with the principles and standards of the Conceptual Strategy and the Regional Preserve Map (Figure 2). Appendix B of this document details how the Proposed Project conforms to the ten principles and standards with on-site minimization measures. Therefore, the Project Purpose criterion is fully met.

Logistics

The Proposed Project meets logistical requirements by providing for efficient internal circulation within the Project Site in accordance with the planned roadway alignments. All residential areas are accessible from both Americanos Blvd (north-south) and Chrysanthy Blvd (east-west), which are two major roadways planned throughout the Community Plan area. Furthermore, the Proposed Project accommodates resident-serving public service components accessible from all residential lots.

Cost

The cost per net developable acre for the Proposed Project is \$188,535. Table 2 provides the itemized costs for the Proposed Project. The \$23.6 millon cost of the Proposed Project has been determined to be practicable. No expensive bridging or alternative routing is required by this alternative as the preserve is consolidated on the western-most portion of the property, and the development area is contiguous.

ITEM	COST (\$)		
Major Roadway	3,305,294		
Frontage	218,397		
Sewer	3,493,725		
Water	2,779,063		
Drainage	3,511,188		
Joint Trench / Dry Utilities	3,031,920		
nterior streets	6,206,988		
Common Grading Costs	1,076,904		
TOTAL	23,623,479		
ER LOT	25,960		
PER NET DEVELOPABLE ACRE	188,535		

Table 2 — On-Site Alternatives Cost Detail - Proposed Project

Environmental

The Proposed Project will impact ± 13.88 acres of jurisdictional waters. Avoidance and fill acreages by wetland/other water classes are given in Table 5. The Proposed Project is consistent with the principles and standards of the Conceptual Strategy and the Guidelines. The preserve area of the Proposed Project is large and contiguous with a low perimeter-to-area ratio (133 ft/ac) in accordance with principles and standards. The on-site preserve of the Proposed Project is part of the larger, contiguous ± 209 -acre Regional Preserve for the Subarea that will be managed in perpetuity to sustain populations of listed plants and invertebrates.

The Proposed Project is designed to maintain the overall hydrologic integrity of this Regional Preserve so as to ensure there will not be a net loss of functions and values of the remaining watershed area in the Regional Preserve. The Preserve on Arista del Sol is located in an area that receives overland and subsurface flow from only a portion of the development area. As a result of the natural contours of the property, the eastern half of the property drains to the southeast, away from the preserve area. The primary source of hydrology is direct precipitation and to a lesser degree surface and subsurface flow from the Grantline 208 Preserve to the north. Additionally, the relatively narrow area of land that would be developed directly south of the Preserve drains to the south and will not impact the hydrologic integrity of the Arista del sol Preserve. In summary, the development of the Arista del Sol property has been designed to utilize the topography and hydrology of the site so that the overall hydrologic integrity of the Regional Preserve is maintained (Appendix B).

Overall

The Proposed Project meets the project purpose, logistics, costs and environmental criteria. It retains adequate developable area while providing for safe and efficient internal circulation and connection to regional roadways. It retains adequate acreage for amenities, infrastructure, drainage corridors, and water quality detention basins within the project. The Proposed Project design avoids and preserves jurisdictional features necessary to maintain connectivity between portions of the Regional Preserve to the north of the Proposed Project, and maintains adequate buffers to protect this feature. This avoidance assures that the Project contributes to regional preservation of wetland and vernal pool habitat within the Specific Plan Subarea pursuant to the Conceptual Strategy. It is fully consistent with the principles and standards of the Conceptual Strategy.

4.2 Alternative One: No-Fill Alternative

Alternative One, the No-Fill Alternative, would avoid all ± 17.41 acres of jurisdictional waters on the Project Site, including ± 8.59 acres of vernal pool, ± 1.05 acre of seasonal wetland, ± 0.03 of slope wetland (seep), ± 0.18 acre of ephemeral drainage, ± 7.56 acres of pond, and <0.01 of ditch. Table 5 in Section 4.4 provides a comparison of the avoided and filled acreages for each alternative. The use of standard 250-ft buffers around existing on-site wetlands excludes from development all but approximately 9.8 dispersed acres, and clearly eliminates the possibility of a residential development project on this site (Figure 4). Therefore, this analysis evaluates 50-ft avoidance buffers as a more practicable No-Fill Alternative (Figure 5).

Project Purpose

The No-Fill Alternative with 50-ft wetland buffers leaves approximately ± 122.0 gross acres of total area outside of jurisdictional waters and surrounding buffers. This remainder land is extremely fragmented and does not provide sufficient contiguous land to practicably construct a residential development comparable to the Proposed Project. On this basis, the development cannot be well-configured. It would not be feasible to develop many of the small isolated patches of land, and the usable acreage is 84% or less of the gross amount. Figure 5 shows the gross remainder considering the 50-ft avoidance areas as well as the potential usable area determined by folding small and inaccessible areas, largely surrounded by preserve, into the preserve area. This provides a usable acreage of ± 102.0 acres. To be consistent with the project purpose, at least 23% of the unavoided area is needed for park, water quality detention basins and drainage corridor, landscape corridors and paseos, and roads, which leaves less than ± 78.5 acres (of the ± 102 acres) for residential and commercial development. Thus, the No-Fill Alternative provides less than 62.6% (78.5 acres/125.3 acres) of the net developable acreage for lots as does the Proposed Project. This difference represents a reduction of at least 339 lots (905-566 lots).

Logistics

Given the fragmented, isolated distribution of the remaining developable land, any land plan designed around the No-Fill Alternative could not meet the requirement "for safe, efficient internal circulation and adequate access to adjacent road networks" without entering into avoidance areas. The poor connectivity of developable area would not provide for adequate distribution of infrastructure and utilities within the Project Site due to problems with access through wetland buffers. At least five internal wetland crossings would be required to access isolated or disconnected development areas as illustrated in Figure 5. Furthermore, neither Chrysanthy Boulevard nor Americanos Boulevard could be built as proposed without extensive bridging to avoid areas within these rights-of-way. Access to the existing Grant Line Road would be limited to the isolated patches of land on the eastern edge of the property.

Cost

The No-Fill Alternative is not a viable alternative to the Proposed Project. This full avoidance alternative would be highly impractical to build. Extensive, extremely costly amounts of bridging within the site, estimated at \$5 million or more, would be required for the No-Fill Alternative to satisfy the logistics criterion including adequate, safe internal circulation and access to infrastructure and utilities. Wetland crossings for road construction would be expected to exceed an additional \$10 million, and are highly impractical. Thus, no specific land use plan has been developed on which to determine the development costs of this alternative. Even if the available acreage were contiguous and ideally configured, the gross acreage is inadequate to fulfill the project purpose. In terms of estimated usable land for development residential and commercial lots, this alternative provides less than 2/3 of the net developable acreage and more than doubles the cost per net developable acre. Therefore, the No-Fill Alternative does not meet the cost criterion.

Environmental

The No-Fill Alternative avoids direct, fill impacts to ± 17.41 acres of jurisdictional waters on the Project Site. Based on the 50-foot buffer, the ± 92.9 acres of open space are comprised of thin, convoluted, and disconnected areas. This alternative does not result in significantly less adverse effects to aquatic ecosystems because all of the jurisdictional waters are within 250-ft of proposed development. Vernal pool habitat under these conditions cannot be considered "protected" according to USFWS guidelines and does not possess vernal pool and/or wetland functions and values in the long-term. Indirect effects from development include altered hydrology, urban runoff, disturbance by residents and introduced exotic plant species. Vegetation in wetland areas bridged by the construction of necessary access roads would suffer impacts from severely reduced sunlight.

Avoidance designs, such as the No-Fill Alternative, that are vulnerable to such edge effects do not adhere to the principles and standards in the Conceptual Strategy, particularly preservation of vernal pool hydrology and a low preserve perimeter-to-area ratio. The perimeter-to-area ratio is 634 ft/ac for the 50-ft buffers and 376 ft/ac for the enlarged avoided area that incorporates some of the inaccessible areas into avoidance. Both ratios are extremely high relative to the Proposed Project (133 ft/ac). General sizing criterion for viable vernal pool avoidance areas, set both by federal resource Agencies and widely accepted local studies of vernal pool preservation and management, favor large, densely-populated avoidance areas since larger areas are more effective at preserving vernal pool ecosystem functions and values.² This qualitative criterion is reflected in the Conceptual Strategy and the Specific Plan EIR.³ Left unconnected, the avoided areas remaining under the No-Fill Alternative do not meet the acreage requirements for functioning vernal pool and wetland preserve areas, and reduce their functions and values.

The No-Fill Alternative does not meet the established environmental criteria nor does it conform to the 10 principles and standards of the Conceptual Strategy. In particular, this design does not "maintain corridors and large areas for wildlife and the propagation of flora" (principle 2) nor would it allow for only "compatible land uses next to preserves" (principle 6) because the preserve area is dispersed throughout the entire project site. With the 50-ft buffers, all aquatic resources on-site would be subject to indirect effects, which is inconsistent with principles 1 and 3 to "maintain natural existing water integrity and flows to downstream reaches" and "manage storm water to retain natural flow regime and water quality," respectively.

² See Jones and Stokes Associates, Inc. 1990. Sacramento County Vernal Pools: Their Distribution, Classification, Ecology and Management. Prepared for the County of Sacramento, Planning and Community Development Department; and California Department of Fish and Game. 1998. California Vernal Pool Assessment Preliminary Report (available at <u>http://www.dfg.ca.gov/whdab/wetlands/vp_asses_rept/southeastern.htm</u>, last modified 1/31/05); and U.S. Fish and Wildlife Service, Determining Vernal pool Preservation Credits Mainpage, available at <u>http://sacramento.fws.gov/es/documents/vp_bank_cr.htm</u>, last viewed on April 13, 2005.)

³ Specific Plan EIR at p. 14.23: "Areas with dense concentrations of wetlands should be considered candidates for preservation. Preservation should be planned in relatively large contiguous blocks. Where wetland acreage is diffuse and preservation is impractical, impacts should be mitigated by a combination of on-site construction to the extent appropriate and off-site/mitigation bank preservation."

Overall

The No-Fill Alternative is not the LEDPA as it does not meet the project purpose, logistics, cost or environmental criteria. This alternative fails to satisfy the project purpose as it provides only 70% gross of the unavoided land, or an estimated 62.6% net developable acreage for lots, as provided by the Proposed Project. This area has a scattered and convoluted configuration that would be difficult to develop.

The No-Fill Alternative could meet the logistics criterion if bridging were employed to avoid jurisdictional features, but this need would result in highly increased costs to provide necessary access to the larger areas available for development. The cost per developable acre more than doubles given bridging costs and the reduced acreage for development.

The No-Fill Alternative does not meet the environmental criterion as the primarily narrow and disconnected avoided areas on the Project Site cannot remain viable in the long term. Avoidance would not result in significantly less impacts to aquatic ecosystems given indirect and cumulative effects. Also, the open space preserve under the No-Fill Alternative is highly inconsistent with the Preserve map created by the Conceptual Strategy and the principles and standards of the Strategy.

The No-Fill Alternative is economically infeasible and not a practicable alternative.

4.3 Alternative Two: Eastern Preserve Alternative

Alternative Two, the Eastern Preserve Alternative is a partial-avoidance alternative that precludes fill of ± 7.49 acres of jurisdictional area, including: ± 3.57 acres of vernal pool, ± 0.25 acre of seasonal wetland, ± 0.09 acre of ephemeral drainage, and ± 3.58 acres of pond. Avoidance and fill acreages for this and other alternatives are shown in Table 5 in Section 4.4. Avoidance is focused on the eastern third of the Project Site in a ± 54.0 -acre preserve and is designed primarily to protect the tributary to Laguna Creek and vernal pools that may be linked via indirect or overland flow. The on-site preserve does not connect to the Regional Preserve identified in the Conceptual Strategy. The design for Alternative Two is shown in Figure 6.

Project Purpose

The Eastern Preserve Alternative provides ± 160.9 acres of unavoided area, which is comprised of ± 115.8 acres of residential and commercial development as compared to the ± 125.3 acres of the Proposed Project. The design retains the small commercial area and has two parks as well as two detention basins as in the Proposed Project. The difference in net developable acreage represents an overall loss of approximately 8% residential area and 124 fewer lots. Therefore, this alternative does not fully satisfy the project purpose.

Logistics

Access to the northeastern lots and Grant Line Road presents logistical problems for the Eastern Preserve Alternative design. This alternative does not meet the logistics criteria unless access from the northeastern lots or Grant Line Road to the residential development on the western 2/3

of the property was provided through the adjacent property or by bridging the eastern preserve. This condition is undesirable since the northern lots cannot easily access the community services, e.g., parks, and commercial area available to the lots on the western side of the preserve.

Cost

The cost per net developable acre for this alternative is \$241,260. The itemized costs for Alternative 2 are shown in Table 3. The Eastern Preserve Alternative reduces the number of lots from 905 to 781 and increases the cost per net developable acre by approximately \$52,725 as compared to the Proposed Project (Table 4). Bridging of wetlands is required in this alternative and this adds a nearly \$2 million cost for wetland preserve crossings as shown below Grading and interior road costs are lower and this is the result of a loss of lots. This alternative does not meet the cost criterion as the cost per net developable acre is substantially greater than that of the Proposed Project.

ITEM	COST (\$)
Major Roadway	3,343,692
Frontage	123,589
Sewer	2,662,890
Water	1,967,106
Drainage	2,572,577
Joint Trench / Dry Utilities	2,264,220
Interior streets	3,851,508
Common Grading Costs	340,415
Wetland Preserve Crossing	1,860,000
Additional Rd-5 Area ⁴	8,951,909
TOTAL	27,937,906
PER LOT	35,772
PER NET DEVELOPABLE ACRE	241,260

Table 3 — On-Site Alternatives Cost Detail - Alternative 2 (Eastern Preserve)

⁴ This is the non-lotted area in the northwestern portion of the property that is designated as residential in Alternative 2 (Figure 6) and is the preserve area of the Proposed Project (Figure 3).

Environmental

The Eastern Preserve Alternative includes a ± 54.0 -acre preserve that would avoid ± 7.49 acres of jurisdictional area and fill ± 9.92 acres (Figure 6 and Table 5). This alternative does not protect vernal pool complexes on the western portion of the property that are associated with the Morrison Creek watershed. While the fill impacts are lower than the Proposed Project, it is important to note that this alternative only avoids an additional ± 0.35 acre of vernal pool as compared to the Proposed Project. Nearly half of the avoided "aquatic resources" in the preserve is comprised of a single, large stock pond. Vernal pool crustaceans have been found in this pond, thus it is considered vernal pool crustacean habitat. The cysts are likely transported to the pond via a riverine seasonal wetland connection to vernal pool. However, this pond is the result of the construction of artificial impoundment features, does not have the natural characteristics of the vernal pools on the site, particularly the botanical diversity associated with vernal pools, and would be considered of lesser value and function than vernal pools on the site.

The open space preserve is contiguous and has a low perimeter-to-area ratio of 121.0 ft/ac, which is slightly lower than the Proposed Project due to the larger size of this preserve. However, this preserve is exposed to indirect effects on all four sides. Indirect effects to vernal pool crustacean habitat are greater in this alternative than in the Proposed Project due to the close proximity of several large habitat features to on-site development. Vernal pool crustacean habitat subject to indirect effects are illustrated in Figure 5 and total 6.15 acres. The total direct and indirect effects to vernal pool crustacean habitat is 12.78 acres (Table 6). Therefore, this alternative does not result in significantly fewer impacts to aquatic ecosystems or listed vernal pool species.

Drainage and hydrologic integrity are related and important considerations in evaluating the Eastern Preserve Alternative. Drainage from on-site development would likely not differ between an eastern or western preserve; in general, the eastern half of the property drains to the east, and the western half to the west. However, the location of adjacent preserves with respect to the Arista del Sol preserve could greatly affect the amount of runoff from adjacent development as well as the hydrologic integrity. The Preserve Map of the Conceptual Strategy calls for a contiguous western preserve from Arista del Sol north through Grantline 208 to the Douglas 103 property. If the Arista del Sol preserve is located adjacent to the development to the north rather than contiguous with other preserve land, the on-site preserve would receive greater urban runoff. Likewise, with an isolated preserve, the natural hydrology of the Arista del Sol preserve wetlands cannot be maintained. The design does not adhere to associated principles and standards 1 ("maintain natural existing water integrity and flows to downstream reaches") and 2 ("maintain corridors and large areas for wildlife and the propagation of flora") of the Conceptual Strategy.

Overall

The Eastern Preserve Alternative does not constitute the LEDPA for the following reasons:

This partial avoidance alternative does not meet the overall project purpose or cost criteria as this design reduces the amount of acreage available to construct a residential subdivision with associated services at a greater cost per net developable acre than the Proposed Project.

The Eastern Preserve Alternative is not likely to have fewer impacts to aquatic ecosystems and listed vernal pool species due to adverse effects on habitat and hydrology from surrounding development. It deviates from the viable Regional Preserve for vernal pool and wetland habitat designed to minimize cumulative effects associated with development of the Subplan area as part of the Conceptual Strategy.

The Conceptual Strategy was used in defining a contiguous preserve through the west side of the Arista del Sol, Grantline 208, and Douglas 103 properties and is part of the September 2004 Preserve Map agreed upon by the Agencies. The Agencies arrived at boundaries for the Preserve map based on their best professional judgment and best available information regarding regional and site-specific biology and hydro-geomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. An Eastern Preserve design does not conform as well to the principles of the Conceptual Strategy and Guidelines as the Regional Preserve planned in the Proposed Project does.

4.4 Comparison of Alternatives

A side-by-side comparison of the alternatives demonstrates that the Proposed Project best accomplishes the project purpose and fulfills the cost, logistics, and environmental criteria (Table 6).

Project Purpose

Both Alternatives One and Two provide significantly fewer lots. The developable area of Alternative One is extremely fragmented and clearly precludes the project purpose of contiguous developable area for the project.

Cost

Neither Alternative meets the cost criterion. Table 4 itemizes the project purpose and cost differences between the Proposed Project and alternatives. No actual total cost was calculated for the No-Fill Alternative (Alternative One) as it was determined that such a plan would be logistically infeasible and unreasonably expensive. The Eastern Preserve Alternative (Alternative Two) has a cost differential of 30% compared to the Proposed Project.

Alternative	Preserve Acres	Net Developable Acres	# of Lots	Fixed Costs (\$)	Fixed Costs per Net Developable Acre (\$/ac)	Differ- ential (\$)	Percent Differ- ential**
Proposed Project	41.1	125.3	905	23,623,479	188,535	N/A	N/A
Alternative 1*	112.7 (92.9)	78.5 (93.9)	566	N/A	N/A	N/A	N/A
Alternative 2	54.0	115.8	781	27,937,906	241,260	+52,725	30%

Table 4 — Cost Differentials for On-Site Alternatives

*For Alternative 1, net developable acres and number of lots estimated based upon 84% usability of gross nonavoidance area. Numbers in parentheses show values before usability adjustment.

**Percent Cost Differential calculated as follows: (Alt 2 Cost - PP Cost)/PP Cost*100

Logistics

The Proposed Project conforms to the requirements for safe, efficient internal circulation and adequate access to adjacent road networks. In contrast, internal circulation in Alternative One would be extremely poor due to avoided areas and extensive bridging would be required to extend infrastructure to the fragmented developable areas. Both Chrysanthy and Americanos Boulevards could not be built as planned. Alternative Two does accommodates the road and utilities plan of the Proposed Project except for the northeastern lots which would be cut off from the rest of the developable area. Thus, Alternative Two falls short on the logistics criteria, as compared to the Proposed Project.

Environmental

The Proposed Project is fully consistent with the principles and standards of the Conceptual Strategy, whereas both of the other alternatives are not. Environmental requirements for a contiguous preserve with a low perimeter-to-area ratio that protects the hydrologic integrity of the preserved wetlands and minimizes cumulative effects are best met by the Proposed Project preserve design. For example, the perimeter-to-area ratio of Alternative One is 470% greater than the Proposed Project. The Arista del Sol Preserve is based upon the Regional Preserve map that was developed in accordance with the Conceptual Strategy and involved considerable Agency participation.

Table 5 compares the jurisdictional impacts of the on-site alternatives but does not provide a complete depiction of impacts to aquatic resources and protected vernal pool species. Indirect effects must also be considered (as shown in Table 6), and the Proposed Project better protects against these impacts. Fill acreages are higher than those of Alternatives One and Two. However, the Arista del Sol Preserve would be protected on the northern boundary by the Grantline 208 Preserve, and indirect effects to vernal crustacean habitat within the on-site preserve would be less than both of these alternatives, resulting in lower total effects to vernal pool crustacean habitat (See Table 6).

CLASSIFICATION	Proposed Project		Alternative	1 (No-Fill)	Alternative 2 (Eastern Preserve)	
	Avoided	Filled	Avoided	Filled	Avoided	Filled
Vernal Pool	3.22	5.37	8.59	0.00	3.57	5.02
Seasonal Wetland	0.30	0.75	1.05	0.00	0.25	0.80
Seep	0.00	0.03	0.03	0.00	0.00	0.03
Ephemeral Drainage	0.01	0.17	0.18	0.00	0.09	0.09
Pond	0.00	7.56	7.56	0.00	3.58	3.98
Total	3.53	13.88	17.41	0.00	7.49	9.92

Table 5 — Comparison	of	Jurisdictional	Impacts	for	On-Site Alternatives
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DESIGN ALTERN- ATIVE	PROJECT PURPOSE Does the alternative achiev the project purpose of approximately 17. gross acres of unavoided area and 125.3 net developable acres?	substantially greater cost per	LOGISTICS Does the alternative conform to the Land Use Plan circulation design and school and park, water treatment and flood control designations and comply with the Conceptual Strategy?	Proposed Project Alternative?	LEAST ENVIRON- MENTALLY DAMAGING PRACTICABLE ALTERNATIVE
Proposed Project Alternative	Ycs	N/A \$188,535	Yes	N/A Impacts to VP Habitat = 11.65 (10.52 Direct and 1.13 Indirect)	Yes
Alternative 1	No Provides 122 gross acres, fragmented and poorly configured with small and inaccessible patches. Estimated to provide 78.5 net developable acres and 339 fewer lots.	No Expected to be cost prohibitive. Cannot feasibly construct a residential development given configuration of remaining land.	No Internal circulation would be extremely poor due to avoided areas. Extensive bridging between developable areas would be required. Access roads could not be built as proposed.	No All aquatic resources would be subject to indirect impacts. Impacts to VP Habitat = 17.41 ac (Indirect)	No Does not meet the project purpose, has substantially higher costs, does not protect wetlands and protected species in the long run, and is inconsistent with the Conceptual Strategy.
Alternative 2	No Provides 161 gross acres and 115.8 net developable acres. Provides 8% less area for residential development and 124 fewer lots.	No \$241,260 Cost differential is 30%	No Does not conform to the Conceptual Strategy.	No Majority of VP habitat subject to indirect impacts, i.e., not fully protected. Impacts to VP Habitat = 12.78 ac (6.63 Direct and 6.15 Indirect)	No Does not meet project purpose, cost, or environmental criteria, inconsistent with the Conceptual Strategy.

Table 6 — Summary Assessment of On-Site Alternatives

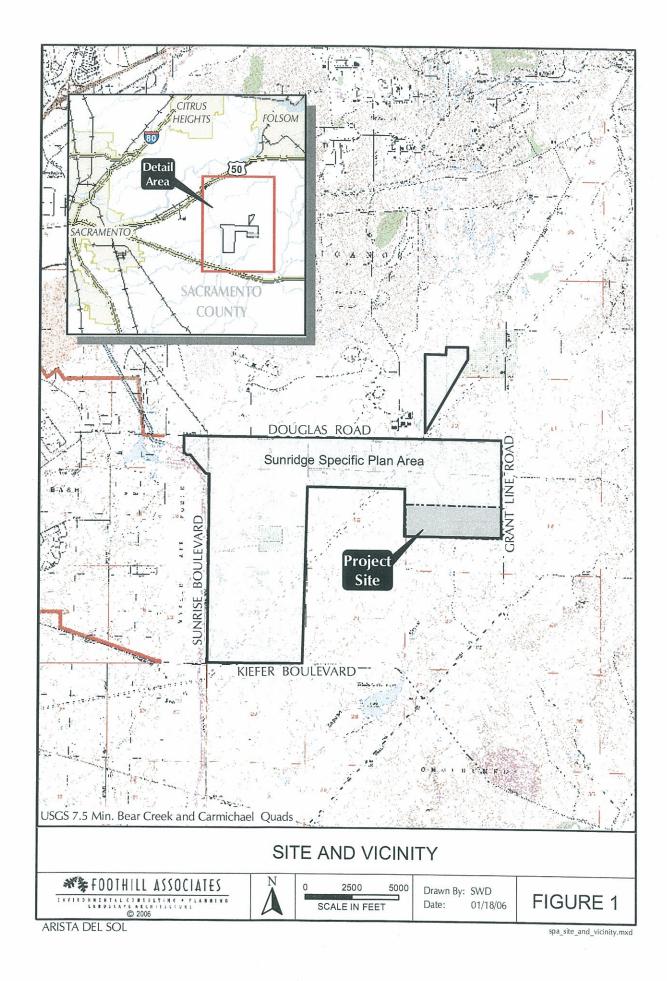
Overall

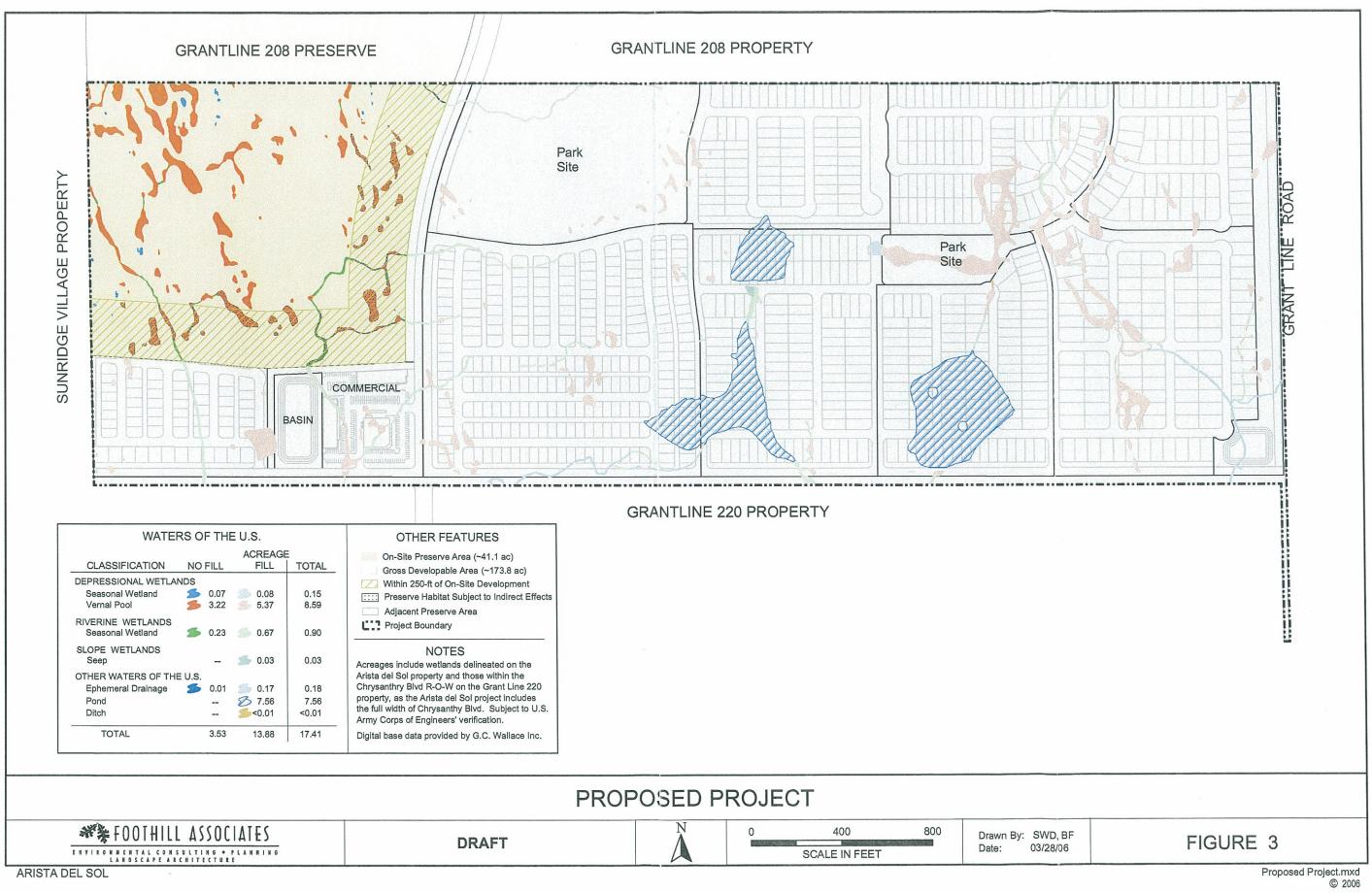
The Proposed Project is the least environmentally damaging practicable alternative (LEDPA) because it is the only alternative to meet the four criteria.

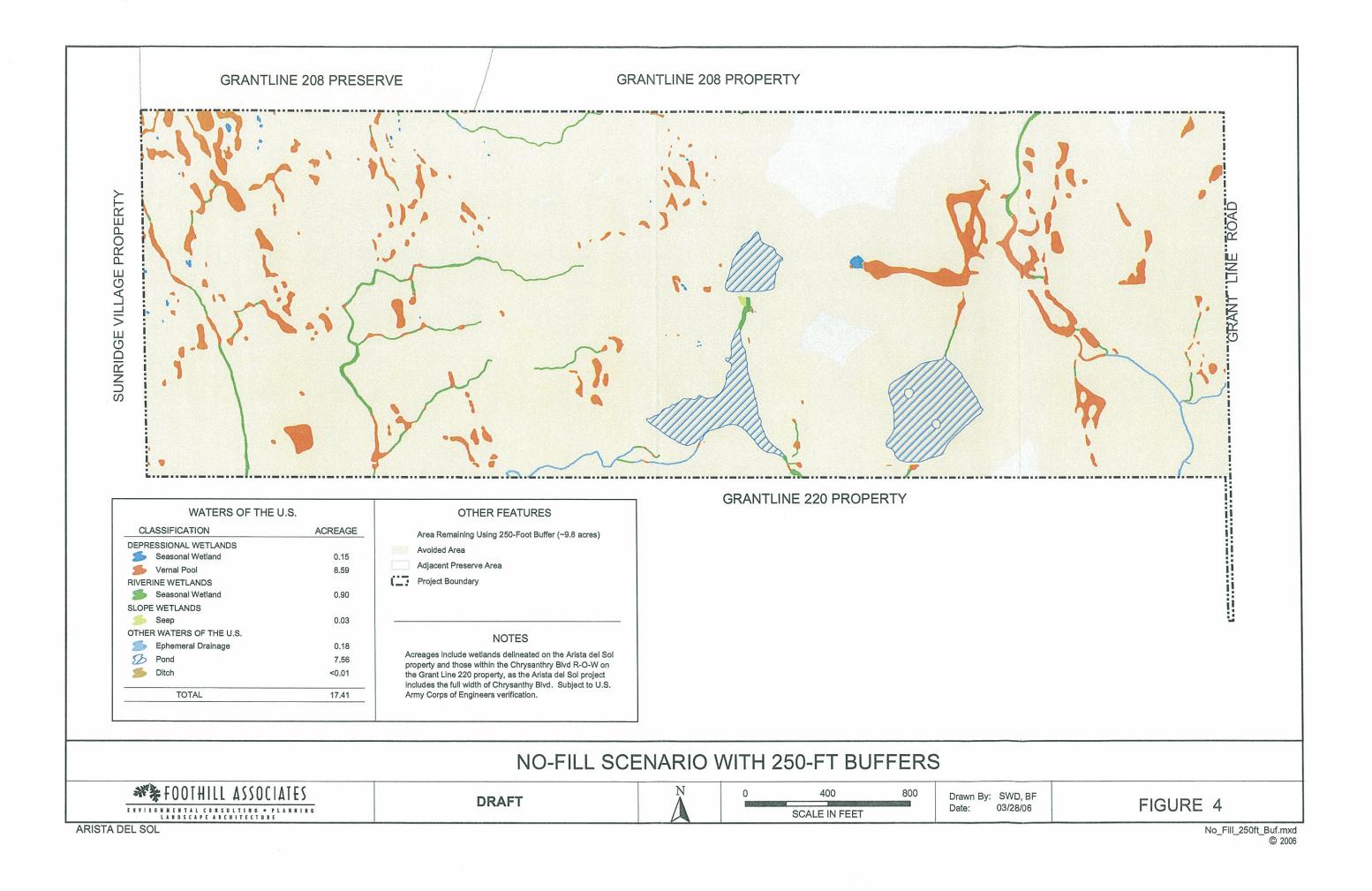
5.0 CONCLUSION

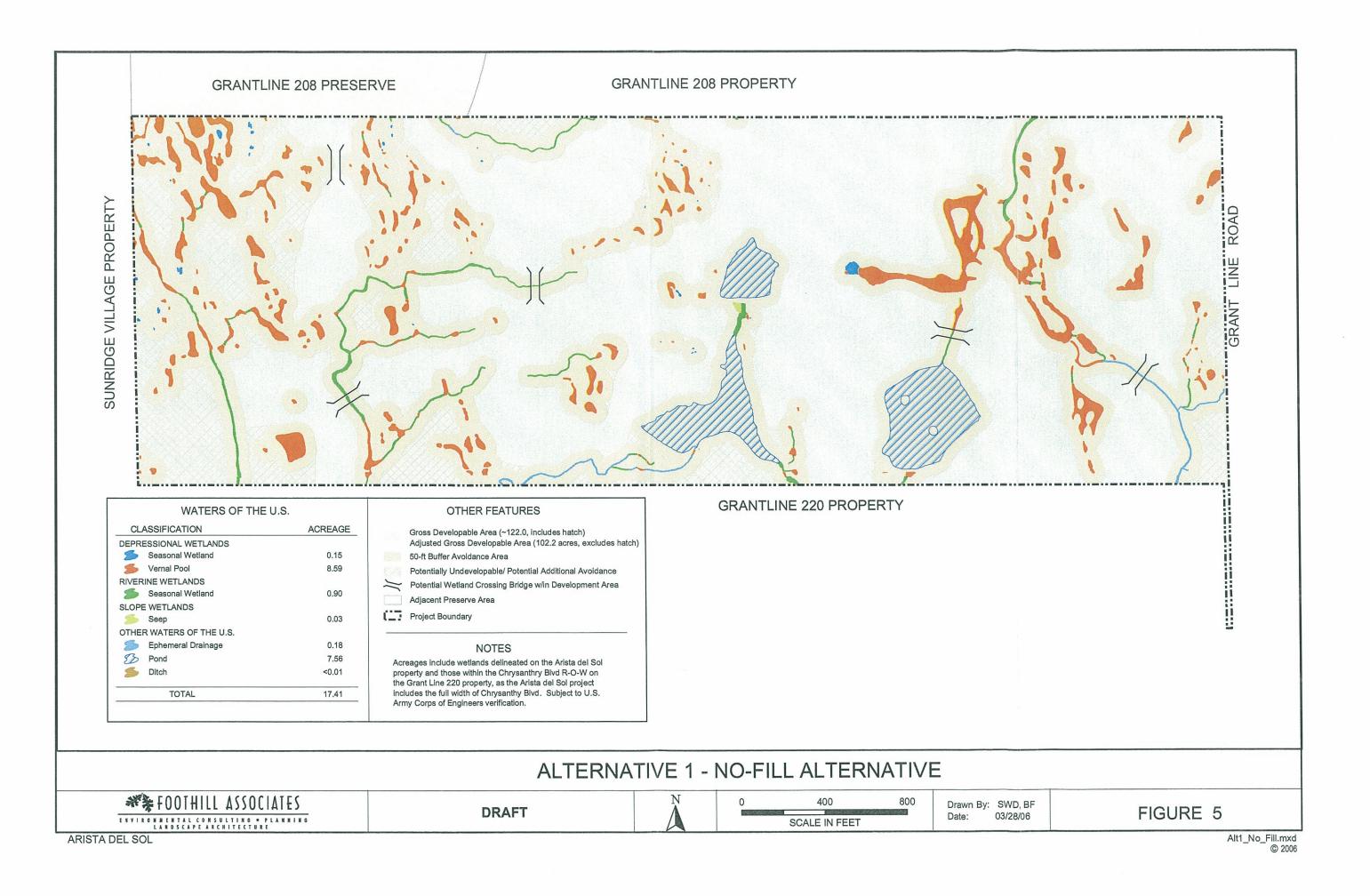
Based upon the legal requirements of the Clean Water Act for issuance of a 404 permit, this analysis, in concert with the Regional Alternatives Analysis for the Subarea, has demonstrated that there are no practicable alternatives to developing the Arista del Sol project site that are less environmentally damaging than the project as proposed.

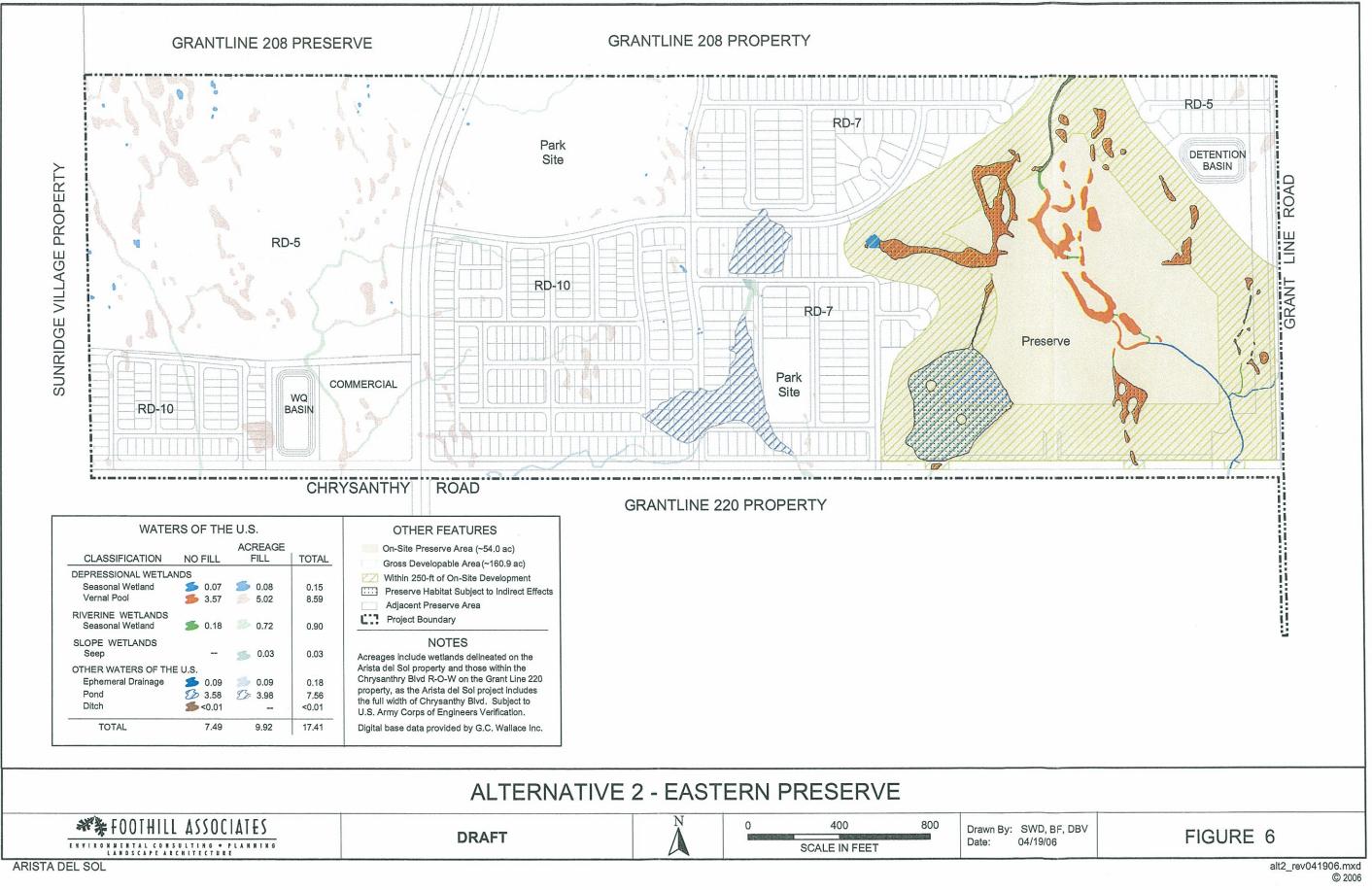
For the reasons outlined in this Alternative Analysis, the currently proposed Arista del Sol project is the Least Environmentally Damaging Practicable Alternative (LEDPA).











Appendix A — Regional Alternatives Information Sunridge Specific Plan SubArea

Sunrise Douglas Pappas Property Supplemental Alternatives Analysis

Regional Alternatives Information SunRidge Specific Plan Subarea Sacramento County, California

Prepared for:

Army Corps of Engineers November 29, 2004

On Behalf of: Anatolia IV Cresleigh Homes DJ Enterprises Douglas 98 Douglas 103 Grantline Investors LLC North Douglas



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Appendices

Appendix A — Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

Appendix B — Sares-Regis Off-Site Alternatives Analysis

1.0 INTRODUCTION

1.1 Background

Over the last two years, the United States Fish and Wildlife Service ("USFWS"), the United States Army Corps of Engineers ("Corps"), the United States Environmental Protection Agency ("EPA") (collectively the "Agencies"), landowners within the SunRidge Specific Plan Area, biological consultants and attorneys have met to review issues involving wetland and endangered species protection and project development within the SunRidge Specific Plan Area. More recently, numerous meetings between the Agencies, local agencies and owner stakeholder groups and their consultants were held to develop a conceptual strategy for the preservation of on-site wetlands and other biological resources for the remaining un-permitted properties within Specific Plan Area, referred to herein as the Plan Subarea. Additionally, mitigation strategies were developed for unavoidable impacts to aquatic habitat. The approach taken by the Agencies was to establish guiding principles for preservation and mitigation policies and to consider cumulative impacts and an on-site avoidance, minimization, and preservation plans, which takes into account the requirements of federal law and the framework established by local planning, and Plan Area development constraints.

The outcome of the various meetings between the Agencies and the stakeholders was the development of a conceptual level strategy for avoiding, minimizing, and preserving onsite aquatic resources within the Plan Area. This strategy, known as the "Conceptual Level On-Site Avoidance Strategy" served as the basis for developing a preserve configuration depicting areas to be avoided and preserved in the Plan Area.

The process developed by the Agencies and the stakeholders involves the preparation of this analysis and the subsequent submittal of a project level Clean Water Act (CWA) Section 404(b)(1) "Alternatives Analysis"¹ in support of individual CWA Section 404 permit applications. This document addresses regional and sub-regional cumulative impacts that may occur from not only the Strategy developed by the Agencies and the stakeholder group, but eight other alternative preserve configurations.

1.2 Legal Framework

Analyses regarding cumulative effects to the environment which may be caused by proposed projects are defined broadly under NEPA, the ESA, and the CWA. The

Concurrent with the meetings regarding conceptual level on-site avoidance strategies, the Corps issued Public Notice 200000336 for five separate applications for CWA Section 404 permits. All of these applications were for projects within the SunRidge Specific Plan and include DJ Enterprises, North Douglas, North Douglas 2, Anatolia IV, and Douglas Road 98. The Corps also issued Public Notice 200100252 for the Riverwest Investments' Sunridge Park project (the Ronnenberg site).

Council on Environmental Quality's ("CEQ") regulations define "cumulative impact" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 C.F.R. §1508.7.) Under NEPA, cumulative impact analysis can include the following: 1) determination of the resources and ecosystem components that will be cumulatively affected by the proposed project; 2) selection of the spatial and temporal boundaries of the area of potential effect and whether these parameters are large enough to include all potentially significant effects on the resources of concern; 3) determination of actions that contribute to significant cumulative effects on resources of concern; and 4) the use of thresholds to assess resource degradation.

With respect to the determination of cumulative impacts, the implementing regulations for CWA section 404(b)(1) provide in part:

(g) Determination of cumulative effects on the aquatic ecosystem. (1) Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. (40 C.F.R. § 230.11.)

Section 7 regulations pursuant to the federal Endangered Species Act (ESA) require the federal action agency to provide an analysis of cumulative effects, along with other information, when requesting initiation of formal consultation. Additionally, federal wildlife agencies are required to consider cumulative effects in preparing biological opinions. (50 C.F.R. § 402.14(g)(3) and (4).). Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area.

With respect to the analysis of various alternatives and whether in this case conceptual preserve configurations are feasible, CWA section 404(b)(1) provides guidance. Under the CWA a project proponent must rebut the presumption that a practicable alternative to the proposed project location exists that does not result the filling of wetlands. As an initial matter, 40 C.F.R. Section 230.10(a) provides that: "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic system, so long as the alternative does not have other significant adverse environmental consequences."

The Guidelines define an alternative as "practicable" if it is available and capable of being done after taking into consideration cost, logistics and existing technology in light of overall project purposes. A decision under the Guidelines should also avoid substantial impacts to non-aquatic environmental values. Under the Code of Federal Regulations, "[e]ven where a practicable alternative exists that would have less adverse

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impact on the aquatic ecosystem, the Guidelines allow it to be rejected if it would have 'other significant adverse environmental consequences.'" (40 C.F.R. § 230.10(a).) As explained in the preamble to the Federal Register notice issuing the 404(b)(1) Guidelines, this allows for consideration of "evidence of damages to other ecosystems in deciding whether there is a 'better' alternative."

The Corps' charge to render a determination under the "alternatives analysis" must also avoid unreasonably expensive alternatives. "If an alleged alternative is unreasonably expensive to the applicant, the alternative is not 'practicable.'" (45 Fed. Reg. 85336, 85343; see also U.S. Army Corps of Engineers, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking, Regulatory Guidance Letter 93-02 (Aug. 23, 1993).) In establishing that the definition of "practicable" depends on "cost" factors EPA stated that "[o]ur intent is to consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project." (45 Fed. Reg. 85336, 85339.)

2.0 REGIONAL SETTING, PLAN SUBAREA DESCRIPTION, AND PURPOSE

2.1 Plan Subarea Location

The Plan Subarea is located in eastern Sacramento County, approximately 5 miles south of Highway 50 (Figure 1). The Plan Subarea is generally located east of Sunrise Boulevard, south of Douglas Road, west of Grantline Road, and north of Jackson Road (State Route 16). The Plan Subarea is located in portions of Sections 8, 9, 10, 15, 16, and 17 of Township 8 North, Range 7 East on the U.S.G.S. "Buffalo Creek, CA" 7.5' topographic quadrangle.

The Plan Subarea consists of the following project sites within the larger SunRidge Specific Plan Area: Anatolia IV, Sunridge Ranch, Sunridge Village J, Sunridge Park, Douglas 103, Douglas 98, North Douglas, Geisreiter, and Pappas.

2.2 Land Use

The 1,365-acre Plan Subarea is within the 6,042 ± acre Sunrise Douglas Community Plan Area and within the 2,632-acre SunRidge Specific Plan. The Plan Subarea is situated within the Sacramento County General Plan Urban Service boundary and Policy Area and is now within the boundaries of the newly incorporated City of Rancho Cordova. The proposed general plan land use designation for the Plan Subarea is Low Density Residential, Medium Density Residential, Commercial and Office, and Natural Preserve. Accordingly, the proposed zoning and specific plan designations for the Plan Subarea include Residential (ranging from 4 units/acre to 20 units/acre), Commercial, Park, and Open Space. Currently, the majority of the Plan Subarea is vacant. However, some of these areas contain residences, barns, and livestock pens.

2.3 Topography and Hydrology

The Plan Subarea exhibits low to moderate relief topography with elevations ranging from approximately 170 to 250 feet above mean sea level. Average slopes are range from 0 to 8%. The Plan Subarea generally drains to the south and west via drainages within both the Morrison Creek and Laguna Creek watersheds. Both of these watersheds are part of the larger Lower Sacramento River watershed.

2.4 On-Site Wetlands

The Plan Subarea contains 62.20 acres of waters of the United States including wetlands subject to jurisdiction under the CWA (Table 1). Wetlands within the Subarea include vernal pools, depressional seasonal wetlands, riverine seasonal wetlands, seasonal marsh, ephemeral drainage, ditches/canals, and stock ponds. The ephemeral drainages identified within the Plan Subarea are tributaries to both Morrison and Laguna Creeks. The acreage of each wetland type is summarized below in Table 1.

Table 1 — Wetland Classification

Туре	Acreage
Vernal pool	44.76
Depressional seasonal wetland	1.15
Riverine seasonal wetland	4.73
Seasonal marsh	0.23
Ephemeral Drainage	1.06
Ditch/Canal	< 0.01
Stock pond	10.27
Total	62.20

2.5 Regional Wetlands and Waters

The climate of the Sacramento Valley region is characterized by hot, dry summers and cool, moist winters. Subsequently aquatic features within the region are predominantly seasonal in nature. The Plan Subarea is situated within the eastern half of Sacramento County where the predominant landforms are remnant terraces and intermediate to high terraces, which have distinct patterns of surface drainage and microrelief (NRCS, 1993). Surface drainage patterns in this region are dominated by meandering ephemeral and intermittent streams. In some of areas of the region these streams flow throughout the year due to the influences of agricultural irrigation and urban runoff. Vernal pools and other seasonal wetlands occur within small topographic depressions in the nearly level to gently sloping portions of the region.

As mentioned previously, the Plan Subarea is found within both the Morrison Creek and Laguna Creek watersheds, which are within the larger Lower Sacramento River watershed. Significant portions of these watersheds are within urbanized portions of the County. In many areas these creeks and their tributaries have been channelized and lined with concrete with development occurring often up to their channel banks. Morrison Creek and Laguna Creek eventually flow into the Upper Beach Lake Wildlife Area, which ultimately drains into the Stone Lakes National Wildlife Refuge and eventually into the Sacramento River Delta.

Local, state, and federal agencies and private organizations have initiated efforts to restore the integrity of the Morrison Creek and Laguna Creek watersheds. Examples of these efforts include the following: within the Morrison Creek watershed the Corps, the State Reclamation Board, the Sacramento Flood Control Agency, and the Sacramento Regional County Sanitation District are co-sponsoring a plan to create wetland habitat and address flood issues along portions of Morrison Creek; and within the Laguna Creek watershed the City of Sacramento has initiated the Laguna Creek Wetland Restoration project, which involves the removal of non-native species and the planting of native vegetation along the creek corridor.

Vernal pools within the southeastern Sacramento Valley region, which includes the Plan Subarea, are predominantly comprised of Northern Hardpan Vernal Pools (CDFG, 1998). Northern Hardpan Vernal Pools occur on old alluvial terraces on the east side of the Great Valley from Tulare or Fresno counties north to Shasta County (CDFG, 1998). Vernal pools rarely occur in isolation but rather in complexes that consists of a series of vernal pools and associated swales and uplands. In 1997, it was estimated that approximately 53,000 acres of vernal pool complexes existed within Sacramento County (Holland, 1998). The majority of this habitat is concentrated within southeastern Sacramento County (Figure 2). Holland estimated that from 1972 to 1993 approximately 30,000 acres of vernal pool complex in Sacramento County were lost due to land conversion. This averages to approximately a 1.7% loss per year. However, losses of vernal pool complexes within Sacramento County since 1993 have dramatically dropped. Holland reported that from 1993 to 1997 a total of 215 acres of vernal pool complex were lost, which averages to a 0.1% loss per year (Holland, 1998).

Recent vernal pool conservation efforts in Sacramento County by various private, public, and non-governmental organizations have resulted in the creation of several vernal pool preserves throughout the County, including the nearby Anatolia Preserve, the AKT Mitigation Site, the County Landfill Mitigation Site, the Arroyo Seco Mitigation Site, Gene Andel Park, and the Bryte Ranch Mitigation Site (Figure 2). In addition, the USFWS has established mitigation requirements for permitted take of vernal pool habitat such that the permitted action would not jeopardize the continued existence and the opportunity for recovery of those listed species. For direct impacts this mitigation typically involves: 2:1 preservation and 1:1 creation; and for indirect impacts it typically involves: 2:1 preservation. These ratios can be higher depending on the nature of the impacts and the availability of suitable locations for preservation and creation.

2.6 Regional Preserves

In Sacramento County, there are approximately 96,000 acres of existing and proposed open space set aside for the protection of vernal pool complexes, seasonal wetlands, stream corridors, sensitive species habitat, and other natural resources (Figure 2). This open space includes protected areas along Morrison Creek (Mather Regional Park and Upper Beach Lake Wildlife Refuge) and Laguna Creek (North Laguna Creek Wildlife Area, Sacramento Valley Open Space Conservancy Preserve, AKT Mitigation Site, Laguna Creek Parkway Preserve, Fallbrook Mitigation Site, Laguna Springs Mitigation Site, Sacramento Regional County Sanitation District Buffer Lands, and Upper Beach Lake Wildlife Refuge).

An analysis of the data in Figure 2 using Geographic Information System (GIS) software, indicates that approximately 22,000 acres of vernal pool complexes in the County are being protected by existing and currently proposed conservation areas. This equates to protection for approximately 42% of the vernal pool complexes within Sacramento County as they were mapped in 1998.

2.7 Federally Listed Species

The federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) have been documented

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throughout the Plan Subarea. A population of the federally threatened slender Orcutt grass (*Orcuttia tenuis*) was identified at the Sunridge Ranch site within the Plan Subarea. Also, populations of the federally endangered Sacramento Orcutt grass (*Orcuttia viscida*) are known to occur in the vicinity of the Plan Subarea.

There are 342 records of vernal pool fairy shrimp recorded in the California Natural Diversity Database (CNDDB) for the entire state of California (CNDDB, 2004). Of these records, 58 are from within Sacramento County (CNDDB, 2004). There are 18 records from within five miles of the Plan Subarea boundaries and one record from within the Plan Subarea.

There are 174 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB, 2004). Of these records, a total of 58 are from within Sacramento County (CNDDB, 2004). There are 25 records from within five miles of these boundaries and two records from within the Plan Subarea boundaries.

There are 81 records of slender Orcutt grass recorded in the CNDDB for the entire state of California (CNDDB, 2004). Of these records, a total of two are from within Sacramento County (CNDDB, 2004). As mentioned above, one of these records is from within the Sunridge Ranch site.

There are nine records of Sacramento Orcutt grass recorded in the CNDDB for the entire state of California (CNDDB, 2004). All of these records are from within Sacramento County (CNDDB, 2004). Five of these records are from within five miles of the Plan Subarea, two of which occur within the Anatolia Preserve to the southwest of the Plan Subarea.

2.8 Plan Subarea Description and History

The owners of individual projects are proposing to develop parts of the Plan Subarea for residential, mixed use commercial, schools, parks, and a large open space/wetland preserve (Figure 11). The Plan Subarea is zoned for and approved (entitled) for residential development pursuant to the approved Sunrise Douglas Community Plan and SunRidge Specific Plan. The objective of the proposed projects within the Plan Subarea is to develop these sites in accordance with the land uses and policies set forth in the Sacramento County General Plan, Sunrise Douglas Community Plan and SunRidge Specific Plan and to meet the demand of a growing population within the Sacramento County General Plan Urban Policy Area.

Beginning in May 2002, the Planning Department of the County of Sacramento initiated a series of meetings to discuss wetland and federally listed species habitat preservation strategies within the Sunrise Douglas Community Plan Area. These meetings were attended by the respective federal and state agencies, by landowners and their respective consultants, and staff from Congressman Doug Ose's office. These meetings focused on resolving issues concerning wetland and listed species protection within the Specific Plan area. Various open-space alternatives were presented by agency representatives and by landowners during these meetings, but the meetings terminated prior to reaching any consensus on a preserve configuration.

In March of 2004, Congressman Ose initiated meetings with the landowners and respective federal and local agencies in an attempt to resolve conflicts over the creation of an open space preserve and use of off-site mitigation. Congressman Ose encouraged the parties to work cooperatively to develop a workable balance between and amongst the following: the mandate of federal law; the need to preserve ecosystem integrity and the habitat of federally listed species; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers.

As a result of these meetings, the respective federal agencies worked to develop a strategy for wetland and habitat conservation within the Plan Area, which is outlined in the July 2004 *Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* (The Strategy or Conceptual Strategy) (Appendix A) and a Preserve Map (see Figure 11). The goal of the Strategy was to identify areas that were necessary to maintain the long-term conservation values for wetlands and endangered species in the Plan Subarea. The Agencies generally focused on two preserve areas, one entirely within the Sunridge Ranch project site (western preserve) and one that incorporates portions of Sunridge Park, Douglas 103, Geisreiter, and Pappas (eastern preserve). The western preserve focused on populations of slender Orcutt grass, vernal pool fairy shrimp, and vernal pool tadpole shrimp. The eastern preserve focused on the headwaters of one the forks of Morrison Creek as well as habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp. Implementation of the Strategy would be accomplished on a case-by-case basis through agency action on pending applications.

The Conceptual Strategy preserve areas will be protected through conservation easements aimed at protecting preserve functions and values. These easements will be held and managed by a non-profit entity, chosen by the landowners and approved by the Agencies whose primary objective is habitat management. The preserved lands will be managed and funded in perpetuity according to a preserve management plan prepared by the landowners and approved by the Agencies. The management plan will establish specific goals and objectives to ensure that the conditions within the preserve are maintained and were needed enhanced. This management plan will include specific measures for habitat maintenance, monitoring, reporting, and funding.

Mitigation for unavoidable impacts will be compensated at ratios that will ensure a no net loss of wetland habitat and provide for the enhancement of existing functions and values as a result of management efforts associated with the preserved land. As a result, the impacts to both wetlands and endangered species habitat will be mitigated to a level of insignificance, both as to individual projects in the Plan Subarea and taking into account the cumulative impact of those individual projects.

2.9 Impact Assessment

2.9.1 Direct Effects

Alternatives in this analysis consider a range of direct impacts to wetlands ranging from 59.89 acres to 32.71 acres of wetlands proposed to be impacted by grading associated with development within the Plan Subarea. Alternative preserve areas considered in this analysis respectively call for the preservation of wetland acreage ranging from 2.32 acres to 29.49 acres within on-site preserves ranging from 29 acres to 405 acres. Each of these alternatives is analyzed (below at section 3.3) for ability to achieve the Conceptual Strategy long term conservation goals, which are intended to avoid significant impacts to wetlands in light of proposed project purposes within the Plan Subarea.

A combination of on-site preservation and both off-site preservation and creation will be utilized to mitigate both for impacts to listed species' habitat, and for impacts to functions and values of Corps' jurisdictional areas from proposed fill of wetlands. Off-site mitigation will involve the creation of vernal pools and other wetlands at the Silva Consolidated Conservation Preserve and other suitable areas, and the purchase of preservation credits for impacts to endangered species habitat from the following conservation banks: Anatolia Conservation Bank, Borden Ranch Preserve, Bryte Ranch Conservation Bank, the Klotz Property, and other suitable areas. Mitigation is expected to fully replace the functions and values of areas subject to direct impacts.

2.9.2 Indirect Effects

Development of properties adjacent to the on-site preserve could result in indirect effects to preserve wetlands. Potential indirect effects would include hydrologic alteration, disturbance from construction equipment, non-point source pollution, and impacts from human encroachment.

In addition to serving as the basis for the on-site preserve configuration, the Conceptual Level Strategy will be used to minimize potential indirect effects to wetlands. The Conceptual Level Strategy puts forth measures to maintain the hydrologic integrity of preserved wetlands, maintain existing wildlife corridors, and minimize potential effects from storm water runoff leaving developed areas, and better buffer preserve wetlands from human encroachment. The specific measures employed to be consistent with the Conceptual Level Strategy will be presented in each project's respective permit application's supporting documents. Mitigation is expected to fully replace the loss of functions and values associated with indirect impacts.

2.9.3 Cumulative Effects

Under the CWA, cumulative effects are considered "changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water

quality of existing aquatic ecosystems." (40 C.F.R. § 230.11(g)(1)). Under the Federal ESA, cumulative effects are those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation. Future Federal actions requiring separate consultation (unrelated to the proposed action) are not considered in the cumulative effects section. (50 C.F.R. §402.02) Under the National Environmental Protection Act (NEPA), the Council on Environmental Quality (CEQ) defines cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 C.F.R. §1508.7.)

The collective effort of the agencies and applicants has resulted in a development and preservation plan that minimizes the cumulative effect of their respective project impacts on the aquatic ecosystems in the region. By coordinating avoidance and minimization measures collectively, the nine applicants have contributed to region wide conservation efforts aimed at preserving large, contiguous areas that protect sensitive plants and wildlife habitat. The majority of the resulting preserve area has been designed with the intention of connecting to preservation areas to the southwest of the Plan Subarea, including the existing Anatolia Conservation Bank.

A key component of the Conceptual Strategy preserve area is the preservation and management of the upper reaches to one of the main tributaries to Morrison Creek. Keeping this drainage and associated wetlands and uplands intact will help maintain the physical and biological integrity of the lower reaches of Morrison Creek and ultimately the Sacramento River, thus minimizing cumulative effects to the aquatic environment. Though the majority of the lower reaches of Morrison Creek are within urban portions of Sacramento County, it ultimately passes through the Upper Beach Lake Wildlife Area and the Stone Lakes National Wildlife Refuge just prior to draining into the Sacramento River. Maintaining the integrity of the upper reaches of this tributary will assist in local efforts to address protecting the aforementioned downstream habitat as well help reduce any potential flooding associated with any future proposed development within the Morrison Creek watershed. Preserving and managing this tributary to Morrison Creek will minimize the cumulative impacts to the Morrison Creek watershed associated with developing the Plan Subarea.

The Conceptual Strategy preserve areas will be protected and managed in perpetuity according to an agency approved preserve management plan. This management plan will insure that the functions and values of the preserve wetlands will be maintained and enhanced. Past agricultural activities within the Plan Subarea have altered the physical and hydrologic integrity of some the wetland areas, thus creating opportunities for habitat enhancement on-site. These protective and restorative measures will maintain and improve the conditions there such that the cumulative effects associated with the development of the Plan Subarea will be minimized.

As previously mentioned, compensatory mitigation, both for impacts to listed species' habitat, and for impacts to functions and values of Corps' jurisdictional areas, will be achieved by purchasing wetland preservation and creation credits at the Anatolia Conservation Bank, Borden Ranch Preserve, Bryte Ranch Conservation Bank, the Klotz Property, Silva Consolidated Conservation Preserve, Wildlands Mitigation Bank and other suitable areas resulting in no net loss of wetlands, including endangered species habitat, within the region. As mentioned previously this mitigation will be achieved through a combination of on-site preservation and off-site preservation, creation, and restoration. The on-site preserve will be protected in perpetuity through a conservation easement that will be funded with an endowment for monitoring, maintenance, and management by a third-party. Off-site mitigation will be achieved at the aforementioned mitigation banks. This mitigation strategy intends to achieve no net loss of wetlands and endangered species habitat in the region. By adopting and implementing this mitigation strategy the applicants will minimize the cumulative effects to endangered species habitat within the region and ensure that these impacts are not significant.

Future projects in the vicinity and region that are likely to have impacts on resources similar to those within the Plan Subarea will each have to independently agree to similar avoidance and minimization measures in order for those projects to be permitted by the respective agencies. Thus future federal actions unrelated to the proposed project will individually determine whether any proposed future project will result in adverse cumulative effects. Development of the remainder of the Sunrise Douglas Community Plan area, areas generally south of the Plan Subarea, will most likely involve the implementation of an open space preserve with goals similar to that of the Conceptual Strategy.

Implementation of the Conceptual Strategy, including creation of a preserve area according to this Strategy, and implementation of the compensatory mitigation strategy discussed above, is intended to assure that the proposed impacts to jurisdictional waters. within the Subarea will not individually, or collectively, result in significant adverse cumulative effects to wetlands and endangered species habitat in the region.

2.10 Plan Subarea Purpose and Objectives

The development of the Plan Subarea has the following purposes and objectives:

Provide single-family residential housing units in a master planned setting to meet housing demands of a growing population within the Sacramento County General Plan Urban Service Boundary and Policy Area;

Provide for development that is consistent and integrated with the land use map and policies of the County of Sacramento's General Plan, Zoning Ordinance and the adopted Sunrise-Douglas Community Plan/SunRidge Specific Plan;

Minimize and/or reduce projected commute traffic trips within the Highway 50 commute shed and local region by providing housing in close proximity to jobs in support of a jobs housing balance;

Maximize the use of the extension of infrastructure (e.g. sewer mains and laterals, water mains, and other utilities) to the Sunrise-Douglas Community Plan/SunRidge Specific Plan project area; and

Provide for an avoidance and minimization strategy that develops a feasible conservation plan thereby reducing cumulative direct and indirect impacts to aquatic features from the implementation of the Specific Plan.

2.11 SunRidge Specific Plan Policy

The following outline provides a summary of relative policies of the SunRidge Specific Plan that reflect the guiding principles adopted by the Community Advisory Committee for the Sunrise-Douglas Community Plan Area. Key issues relative to the proposed projects include land use, open space, circulation, and natural resource management and conservation.

2.11.1 Land Use

The proposed projects have been designed in accordance with the SunRidge Specific Plan policies regarding land use. Applicable policies are as follows:

LU-1: Establish a community that provides for the social, recreational, economic, and housing needs of plan area residents.

LU-3: Provide space for retail and professional services necessary to serve the plan area residents and the public.

LU-4: Provide shopping, recreation, and services, and convenient non-auto travel modes, such that residents can reduce the need to travel outside of the plan area for many routine daily needs.

LU-6: Provide appropriate land use buffers between incompatible uses.

2.11.2 Open Space

The proposed projects have been designed in accordance with the SunRidge Specific Plan policies regarding open space. Applicable policies are as follows:

OS-1: Protect environmentally sensitive areas by incorporating them into an open space.

OS-3: Provide contiguous open space corridors to accommodate natural processes. Reduce impacts of fragmentation by preserving and enhancing existing corridors and linking mitigation areas where feasible.

2.11.3 Circulation

The proposed projects have been designed in accordance with the SunRidge Specific Plan policies regarding circulation. Applicable policies are as follows:

CI-1: Provide a safe, efficient, and convenient circulation system for motorists, cyclists, and pedestrians and provide for transportation modes appropriate to authorized land uses.

CI-8: To the extent practical, minimize the impacts of major circulation system improvements on natural resources.

2.11.4 Natural Resource Management and Conservation

The proposed projects have been designed in accordance with the SunRidge Specific Plan policies regarding natural resource management and conservation. Applicable policies are as follows:

OSC-2: Avoid and preserve natural resources by careful allocation of land use and designation of permanent open space.

OSC-3: Provide contiguous open space corridors. Reduce impacts of fragmentation by preserving and enhancing existing corridors and linking re-created or replanted mitigation areas.

OSC-10: Buffer zones shall be provided around wetland preserve areas in accord with the applicable permits. Development adjacent to preserve sites shall ensure that no runoff water flows into or through any part of the contributing area of any existing or constructed wetland unless suitably treated through BMP methods as defined by the 404 permit.

2.12 Sacramento County General Plan Policy

The following outline provides a detailed listing of General Plan policies adopted by Sacramento County applicable to Plan Subarea. Key issues considered during design of the projects within the Plan Subarea included air quality, circulation, conservation/open space, housing, economics (public finance) and land use. These projects have been specifically designed to meet the policy requirements of the General Plan as an integral part of the overall purpose of developing the Plan Subarea. Policy statements outlined below are listed in relationship to the title of the individual General Plan elements.

2.12.1 Air Quality

The proposed projects have been designed in accordance with County of Sacramento General Plan policies regarding air quality. Applicable County of Sacramento General Plan policies regarding air quality are as follows:

AQ-17: Require that development projects be located and designed in a manner, which will conserve air quality and minimize direct and indirect emission of air contaminants.

AQ-18: Encourage employment-intensive development, having the potential to employ 200 or more employees, where adequate transit service is planned, and discourage such development where adequate transit service is not planned.

AQ-23: Promote mixed-use development to reduce the length and frequency of vehicle trips.

AQ-24: Provide for increased intensity of development along existing and proposed transit corridors.

The SunRidge Specific Plan area was designed as a mixed use Master Planned community. The plan area is intended to play a significant role in providing a location for new housing and jobs along the Highway 50 corridor. A balance of jobs and hosing in the area is projected to result in improvements to air quality by reducing vehicle miles traveled (VMT) associated with commuting. It is anticipated that the plan area will be serviced by public transit, which will assist in reducing VMT and aid in meeting General Plan air quality improvement objectives to the benefit of the public interest.

2.12.2 Circulation

The SunRidge Specific Plan proposes development of the area in a manner consistent with the Transit Oriented Development (TOD) concept identified in the 1993 County of Sacramento General Plan. The TOD concept was implemented in the General Plan through various policies including the following:

CI-11: Sacramento County shall reduce automobile travel demand by promoting mixed use development throughout the County, including the development of neighborhood support commercial services in areas that are primarily residential.

CI-14: Sacramento County shall utilize design and developments standards which support travel by transit, walking, bicycling, and clean alternative fuel and low emission vehicles.

The goal of the above policies is to reduce VMT and subsequently reduce the increase in vehicle emissions and improve air quality. Circulation facilities in the Specific Plan area have been designed to support alternative forms of transportation. Additionally, the plan area is located with the Urban Boundary are and will be served by regional transit programs.

2.12.3 Conservation/Open Space

The EIR prepared for the Sunrise Douglas Community Plan/SunRidge Specific Plan contemplated that development of the plan area would result in the fill of wetlands. While the EIR clearly delineates the loss of wetlands as a potentially significant impact, it acknowledges that the plan area has been identified as an Urban Growth Area and that preservation of all wetlands within the area would not be compatible with this designation. The following policies of the Conservation Element are of particular importance when considering the impacts of developing the projects on wetlands located in the Plan Subarea: CO-78: Focus vernal pool preservation in permanent open space areas beyond the Urban Area.

CO-80: Select vernal pool preserves based on the following evaluation criteria: representativeness, habitat quality, watershed integrity, defensibility, buffer, preserve size, plant species variety, and presence of special status species.

CO-83: Ensure no net loss of vernal pool acreage, and/or values and functions, and mitigate any loss in relation to the values of quality of habitat.

With above policies, Sacramento County is acknowledging that it desires to maintain the existing acreage and function of wetlands while providing a location for permanent wetland preservation within the County that will not be impacted by urbanization.

2.12.4 Economics

A Public Facilities Financing Plan (PFFP) has been developed for the SunRidge Specific Plan area which identifies the costs associated with providing the major infrastructure improvements necessary to service the plan area, identifies existing funding sources and recommends funding sources for facilities not yet funded. The PFFP describes the costs and funding sources of all major infrastructure requirements including community facilities such as schools, libraries, fire facilities, transit, parks and other recreational facilities. Each property within the SunRidge Specific Plan area is required to pay the fair share of fees associated with development of the subject property. The fees generated by development of the Plan Subarea will be critical in off-setting the City's and County's cost of providing infrastructure. A portion of the fees generated by the development may be utilized to fund infrastructure outside the plan area to the benefit of the general public. In addition, property tax revenue and sales tax revenue generated by the proposed development will result in positive economic benefits for Sacramento County.

2.12.5 Land Use

The first goal identified in the Sacramento County General Plan Land Use Element is to provide:

"An orderly pattern of land use that concentrates urban development, enhances community character and identity though the creation and maintenance of neighborhoods, is functionally linked with transit, and protects the County's natural, environmental and agricultural resources" (County of Sacramento General Plan, Page 35).

In order to further this goal, the Sacramento County General Plan implements an Urban Growth Management Strategy. The General Plan directs Sacramento County growth and development toward an urban character by focusing policy upon a specific area where growth is intended and where the services are projected to be available as delimited by a designated Urban Services Boundary. The Sunrise Community Area/SunRidge Specific Plan area is an area designated as an Urban Growth Area (Figure III-1 – Sacramento County General Plan Land Use Element). The projects within the Plan Subarea were designed to be compliant with the Sunrise Douglas Community Plan and SunRidge Specific Plan and are therefore in accordance with applicable general plan policy.

2.13 Applicable Policies, Laws, and Purposes

The purpose for developing the Plan Subarea is defined by the need to comply with General Plan and Specific Plan policies and objectives, in addition to those objectives mandated by federal law as required by the federal CWA and the ESA. Development of the properties within the Plan Subarea is intended to directly implement the Sacramento County General Plan, including the Sunrise Douglas Community Plan and the SunRidge Specific Plan. These projects can only be developed where the General Plan allows it, where infrastructure and public services are planned to serve the project and where an area is of adequate enough size to facilitate financing of development of the respective project sites. Given the Plan Subarea's relative location in the City of Rancho Cordova and its close proximity to Highway 50 and proposed transit corridors in an area identified as a high growth regional transit corridor, development of the Plan Subarea in its current location will assist with implementation of key General Plan policies while meeting project goals and objectives.

Including an open space preserve as an integral part of the Plan Subarea development also serves to comply with the General Plan, Community Plan, and Specific Plan, as well as serving to avoid and minimize effects to the aquatic environment and habitat for federally listed species. The Conceptual Strategy preserve areas were designed to avoid and minimize direct, indirect, and cumulative effects to the maximum extent practicable in light of the overall project purpose and objectives.

3.0 REGIONAL ALTERNATIVES

Although there is no permit action or proposal for action for the Subarea as a whole, the purpose of this regional analysis is to assess the indirect and cumulative effects on the aquatic environment and on habitat for federally listed species for a variety of alternatives within the Plan Subarea. Each project within the Plan Subarea will do its own Section 404(b)(1) alternatives analysis. This Subarea analysis allows for a comprehensive consideration of cumulative and indirect impacts. Each individual applicant will utilize this analysis as part of demonstrating their compliance with the Section 404(b)(1) Guidelines. An alternative will be considered practicable, if it is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes" (40 CFR 230.3 (q), 230.10 (a) 2). Off-site alternatives will focus on large parcels of land available within the County of Sacramento. On-site alternatives evaluated in this analysis consist of the no development alternative and nine other preserve alternatives. These alternatives will be evaluated for their wetland impacts in light of the project's overall purpose and objectives.

3.1 Off-Site Alternatives

An off-site alternatives analysis (OAA) was performed by the Sares-Regis Group dated October 10, 1994 (Sares-Regis, 1994) (Appendix B). The OAA evaluated a 1,225 acre master planned community, which is adjacent to and indicative of the currently proposed 1,365 acre Subarea Plan. Section 3.1 is using the 1994 OAA was used for this analysis because it thoroughly considered off-site alternatives for the original proposal and the criteria used during its evaluation remain applicable to the currently proposed development, and no new information exists to refute any of its findings. In fact, 5 of the final 15 properties that were evaluated have since been purchased for development and/or have been included in a specific plan, including the Grantline 2350 property, and are therefore unavailable. Additionally, the Urban Service Boundary for Sacramento County has not changed since the analysis was completed, so no additional properties have become available in the interim. A copy of the OAA is provided as an attachment to this report. Following is a summary of the criteria evaluated and the findings.

3.1.1 Criteria for Establishing Practicability of Off-Site Alternatives

First, the alternative must be consistent with the overall Plan Subarea purposes. According to the accepted overall Plan Subarea purpose the site must be:

- Criterion 1: Located in Southern or Eastern Sacramento County;
- Criterion 2: Consistent with Sacramento County General Plan policies relating air quality objectives and jobs/housing relationship; and
- Criterion 3: A minimum size consistent with development as a master planned community.

Second, parcels are considered <u>not</u> available as alternative sites if they are:

Criterion 4: Under public ownership; or

Criterion 5: Already developed, committed for development, or committed to incompatible industrial use.

Alternative sites that did not meet the criteria outlined in 1 through 5 were deemed not consistent with the overall Plan Subarea purpose and dropped from further analysis.

Next, an alternative site is considered feasible if it is:

Criterion 6:	Not located within an Aggregate Resource Area;
Criterion 7:	Not located within the Mather Air Force Base Flight Zone;
Criterion 8:	Not under Williamson Act Contract; or will be soon released;
Criterion 9:	Economically viable as determined by cost to access municipal infrastructure (regional sewer);
Criterion 10:	Economically viable as determined by cost to access freeways, and degradation of air quality due to distance from freeways; and

Criterion 11: Large enough to support major infrastructure improvement cost.

The second test in determining if a site qualifies as a viable alternative is whether the alternative site:

Criterion 12: Has less environmental impact on the aquatic ecosystem.

The third test in determining if a site qualifies as a viable alternative to the Plan Subarea is whether there are other significant adverse environmental consequences. The following are the criteria established to define other significant adverse environmental consequences.

Criterion 13: Air quality is degraded due to increased distance from existing or planned light rail line; or

Criterion 14: Oak woodlands or riparian zones are substantially disturbed.

- The overall Plan Subarea purpose is to develop a viable master planned community with affordable housing in southern or east Sacramento County that will be consistent with the County's land use policies.
- The proposed Plan Subarea would develop approximately 7,000 dwelling units while supporting commercial, business-professional, school and park uses on 1,225 acres.
- Policies in the Sacramento County General Plan (1985) and planning practice in the Sacramento region since 1982 indicate that housing opportunities should be located within 8 miles of major employment centers.
- The major employment centers in the Sacramento Region are the downtown core area and concentrations of employment along the Highway 50 corridor. This includes the Cordova/Sunrise employment center.

- In order to locate housing in close proximity to employment centers along the Highway 50 corridor and avoid traffic congestion at crossings of the American River the alternative sites should be located south of the American River.
- An 8 mile driving distance from an employment center defines the "commute shed" for that center. In order to be consistent with Sacramento County policy 80 percent of all housing opportunity should be within the commute shed. To accommodate new housing need it is determined that the alternative sites should be within the commute shed.
- Master planned communities in the Sacramento region have been not less than 400 acres in size and this is assumed to be a minimum threshold criterion.
- The majority of the land area in the south and south central (Elk Grove and Vineyard) areas of Sacramento County has been substantially developed in small estate parcels of 5 to 20 acres and is not available for development.
- Most large land holdings in the eastern portion of the county are not available or are highly constrained.
- A total of 47 parcels, including the 39 parcels specifically identified in previous studies, are identified as potential candidates to be considered as alternate sites. All 47 sites in this study reflect a more systematic sequence in which evaluation criteria are applied.
- In this study, seven of the original 39 parcels (Parcels 14, 15, 21, 25, 26, 27, and 28) are reconfigured in new aggregations as larger alternative sites, as noted in Table 1 of the OAA. Thirty-two of these parcels did not meet the minimum threshold requirements of location, size or availability or were aggregated as new parcel configurations and were not further considered.
- The remaining 15 parcels are analyzed for conditions relating to Plan Subarea feasibility, and the potential effect on wetlands and other significant natural resources. Five (parcels 9, 10, 17, 35, and 36) of the final 15 parcels that were evaluated have since been purchased for development and/or have been included in a specific plan. Additionally, the Urban Service Boundary for Sacramento County has not changed since the report was distributed, so no additional properties have become available in the interim.
- All sites in the study area, including the Sunrise-Douglas site, are constrained by one or more criterion and none have been determined to be a superior site which meets the overall Plan Subarea purpose.
- The Sunrise-Douglas site is the least constrained.

The OAA includes comprehensive tables that provide a list of all sites evaluated as alternative sites for the Sunrise-Douglas area. Table 1 summarizes the threshold analysis

which determines which alternative sites fulfill the minimum requirements of location, size, and availability. Only the sites (i.e., 15 parcels) that are consistent with the overall Plan Subarea purpose were considered further in the analysis. Table 2 provides a summary of the relative ranking of each alternate site in consideration of criteria that evaluate feasibility, relative impact on the wetland resource, and negative impacts on other significant environmental resources. The criteria are ranked on a scale of 0 to 5 according to the characteristics and standards provided in Sections 10 through 18. A site satisfying all the criteria could achieve a ranking of 45. No site achieved this ranking; however, the Sunrise-Douglas property ranked the highest at 38, with the nearest contender ranking only 32. New parcel information collected since 1994 does not change the rankings, as the Sunrise-Douglas property still ranks the highest. For more detailed information and analysis refer to the attached OAA.

3.2 On-Site Preserve Alternatives

Ten preserve configurations were considered for this analysis, which includes the Sunridge Specific Plan alternative (Alternative 1) and the Conceptual Strategy alternative (Alternative 9) (Figures 3-11). Additionally, a No Development Alternative was also considered. The remaining alternatives consider different open space preserve configurations and development scenarios.

3.3 Criteria for Establishing Practicability and Analyzing Impacts to Aquatic Ecosystems of On-Site Preserve Alternatives

The following criteria were used for establishing the practicability of an on-site preserve alternative and determining whether the alternative minimizes impacts to aquatic ecosystems within the Plan Subarea such that it is able to achieve the long term goals of the Conceptual Strategy.

3.3.1 Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative (Alternative 9 in the comparison tables and discussion below); and

Criterion 2:

In 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio. Vernal pool preserves with a high edge to interior ratio typically are more prone to impacts from adjacent land uses (Clark et al, 1998). Potential impacts include altered hydrology from urban runoff, disturbance by humans and domestic animals, and introduction of exotic plant species. This would likely result in increased preserve management cost per acre in order to maintain the integrity of the preserve wetlands. Therefore alternatives with low preserve perimeter to area ratios would be considered better in terms of minimizing the potential indirect effects of adjacent land uses on preserve wetlands, as well as the cumulative effects on these resources regionally.

Table 2 below summarizes each alternative's effects on wetlands within the Plan Subarea. "Wetland Impacts" refers to direct impacts to wetlands and other waters of the U.S. within the footprint of the proposed development areas and "Preserve Area Wetlands" refers to those wetlands and other waters of the U.S. within the preserve area. "Preserve Area" refers to the total acreage of the on-site preserves, "Total Preserve Perimeter" represents the total length of preserve boundaries, and "Preserve Perimeter/Area" is the ratio between the aforementioned parameters (alternatives with a <u>lower</u> perimeter to area ratio would be considered more favorable).

	ON-SITE ALTERNATIVES														
8	No Development	1	2	3	4	5	6	7	8	9					
Wetland Impacts (ac)	0	59.89	32.71	37.66	53.61	47.31	39.33	41.06	39.18	44.20					
Preserve Area Wetlands (ac)	0	2.32	29.49	24.54	8.59	14.89	22.87	21.14	23.02	18.00					
Preserve Area (ac)	0	26	405	234	87	134	160	165	181	211					
Total Preserve Perimeter (ft)	0	30,274	35,733	17,779	30,303	34,982	34,435	34,361	21,021	8,845					
Preserve Perimeter/ Area (ft/ac)*		344	75	150	204	226	219	209	190	100					

Table 2 — Summary of Wetland Impacts and Preservation

*See discussion for Criterion 2.

An alternative would be considered practicable if it achieved the overall Plan Subarea purpose and objectives, which includes consistency with the local planning documents, as follows:

3.3.2 Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea; and

Table 3 below summarizes the preserve and development acreages for each alternative.

	On-Site Alternatives												
	No Development	1	2	3	4	5	6	7	8	9			
Plan Subarea (ac)	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365			
Preserve Area (ac)													
	0	26	405 .	239	87	134	160	165	181	211			
Developmen t Area (ac)													
	0	1,339	960	1,126	1,278	1,231	1,205	1,200	1,184	1,154			
Percentage of Plan Subarea Preserved	0%	2%	30%	18%	6%	10%	12%	12%	13%	15%			
Percentage of Plan Subarea Developable	0%	98%	70%	82%	94%	90%	88%	88%	87%	85%			

Table 3 — Summary of Preserve and Development Acreages

Criterion 4:

Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. Environmentally sensitive vernal pool complexes within the Plan Subarea would be better protected in preserves that limit potential indirect impacts by having a significant portion of preserved vernal pool habitat greater than 250 feet from adjacent development. The use of this 250-foot rule is consistent with the USFWS's policy regarding indirect impacts to vernal pool habitat. A preserve alternative would be considered viable if it protected a large percentage of its vernal pool habitat. The creation of a more viable preserve would better minimize the cumulative effects associated with developing the Plan Subarea.

Table 4 below summarizes the percentage of preserved vernal pool habitat that would not be considered indirectly impacted according to USFWS's policy regarding indirect impacts to vernal pool species habitat. "Vernal Pool Habitat within the Preserve" includes all vernal pools, depressional seasonal wetlands, and riverine seasonal wetlands, as most of these features in the Plan Subarea represent potential habitat for sensitive vernal pools species. "Vernal Pool Habitat Protected According to Service Guidelines" is the sum of all vernal pool habitat within the preserve that is entirely more than 250 feet from the preserve/development boundary. It is understood that these wetlands will be credited toward the preservation credits needed to mitigate for direct impacts to vernal pool habitat.

		ON-SITE ALTERNATIVES												
	No Development	1	2	3	4	5	6	7	8	9				
Vernal Pool Habitat within the Preserve (ac)	0	2.15	25.42	23.76	8.21	14.18	19.08	20.74	19.21	17.32				
Vernal Pool Habitat Protected According to Service Guidelines (ac)	0	0	10.53	2.74	0.17	0.31	0.23	0.26	1.42	7.14				
Percentage of Vernal Pool Preserve Habitat Protected	0%	0%	41.4%	11.5%	2.1%	2.2%	1.2%	1.3%	7.4%	41.2%				

Table 4 — Summary of Vernal Pool Habitat in On-Site Preserves

An alternative preserve configuration would be considered practicable if it is capable of being done considering costs in light of the overall purposes and objectives, as follows:

Criterion 5:

Would not result in a significant increase to development cost due to a loss of developable acres within the Plan Subarea. In the development of alternative on-site preserves, consideration was given not only to the quality and extent of wetlands to be protected but also the practicability of implementing the preserve configuration. This analysis sought to strike a balance between the benefit to aquatic ecosystems of a particular preserve configuration and the cost of that preserve configuration, calculated by distributing the adjusted project costs (on- and off-site infrastructure and public facilities costs, grading costs) over the net developable acreage remaining after avoided acreage is taken into account This is an important ratio to measure because, generally, project costs do not decrease in a linear fashion as developable area decreases, but rather tend to decrease at a much slower rate. This economy of scale results in projects with less area being more expensive to construct, even if the incremental increase in avoided area does not yield significantly greater benefit to aquatic ecosystems. The Agencies and the applicants agree that some reasonable balance between these two elements should be achieved within the Plan Subarea.

Table 5 below illustrates the project costs per net developable acre of each proposed alternative, and compares the percentage increase in costs per net developable acre between the Specific Plan alternative (Alternative 1) and each other alternative.

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Table 5 — Comparison of Costs per Net Developable Acre

14	Per				0 Fixed	4 Fixed	0 DA	0 Fixed	Fixed			
Assumptions	Amount				\$128,129,000	\$4,610,944	\$35,910	\$10,920,000				
	6	211	808		\$128,129,000	\$4,610,944	\$29,015,280	\$10,920,000	\$5,130,000	\$177,805,224	\$220,056	13%
	ø	181	829		\$128,129,000	\$4,610,944	\$29,769,390	\$10,920,000	\$5,130,000	\$178,559,334	\$215,391	11%
	L	165	840		\$128,129,000	\$4,610,944	\$30,164,400	\$10,920,000	\$5,130,000	\$178,954,344	\$213,041	%6
	9	160	844		\$128,129,000	\$4,610,944	\$30,308,040	\$10,920,000	\$5,130,000	\$179,097,984	\$212,201	9%0
Alternatives	10	134	862		\$128,129,000	\$4,610,944	\$30,954,420	\$10,920,000	\$5,130,000	\$179,744,364	\$208,520	º/oL
Alt	4	88	895		\$128,129,000	\$4,610,944	\$32,139,450	\$10,920,000	\$5,130,000	\$180,929,394	\$202,156	4%
	ŝ	239	788		\$128,129,000	\$4,610,944	\$28,297,080	\$10,920,000	\$2,565,000	\$174,522,024	\$221,475	14%
	7	405	672		\$128,129,000	\$4,610,944	\$24,131,520	\$10,920,000	\$10,260,000	\$178,051,464	\$264,958	36%
	1	26	937		\$128,129,000	\$4,610,944	\$33,647,670	\$10,920,000	\$5,130,000	\$182,437,614	\$194,704	
	No Fill	0	0		\$0	\$0	\$0	\$0	\$0	\$ 0	\$0	
		Preserve Acres (PA)	Net Developable Acres (DA)	Estimated Costs	1. Major Roads/Infrastructure	2. Common Grading	3. Collector Street Improvements	4. Common Entitlement/Permitting	5. Wetland Crossings	Total	Per Net Developable Acre	Percent Change

Army Corps of Engineers Regional Alternatives Information

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SunRidge Specific Plan Un-Permitted Subarea Foothill Associates © 2004

3.4 Analysis

3.4.1 No Development Alternative

The No Development Alternative assumes that the proposed projects are not built and that the current land uses within the Plan Subarea would be maintained. The No Development Alternative would not provide for an on-site preserve and would thus not provide for any perpetual protection or management for on-site wetlands and endangered species habitat. Aquatic resources within the Plan Subarea could subsequently continue to be subject to inadvertent impacts associated with the current land uses.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under the No Development Alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This criterion would not be satisfied under the No Development Alternative as it would not result in the preservation of on-site wetlands in perpetuity.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would not be satisfied under the No Development Alternative as it does not provide for any development.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under the No Development Alternative as it does not provide for the establishment and management of an open space preserve. Under the no fill alternative, the Subarea would likely retain its current habitat functions and values, however there is no guarantee that they would continue to be maintained as current and future land uses within the Plan Subarea offer no protection or management for vernal pool habitat.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre.

This criterion is not applicable to the No Development Alternative as it does not involve the development of a preserve.

Summary

Though the No Development Alternative would not result in any direct impacts to the aquatic environment it does not satisfy any of the remaining criteria and is thus not considered practicable. This alternative does not provide for the protection and management of any of the wetlands within the Plan Subarea and thus does not insure that direct, indirect, and cumulative impacts to these resources will not occur. Potential impacts could stem from over grazing, off-road vehicle use, hydrologic alterations, and the introduction of non-native species.

3.4.2 On-Site Alternative 1 (Specific Plan Alternative)

Alternative 1 is based on the land use designations established for the Plan Subarea portion of the SunRidge Specific Plan. The Specific Plan called for the creation a 26-acre open space/drainage way and 1,339 acres of mixed use development within the 1,365acre Plan Subarea. The 26-acre preserve would be centered on the tributary to Laguna Creek within the Geisreiter and Pappas project sites, preserving 2.32 acres of wetlands. The remaining 1,267 acres of the Specific Plan Area (Mather East and Anatolia) include 783 acres of mixed use development and 484 acres of wetland preserve (Anatolia Conservation Bank and Morrison Creek Preserves).

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 1, as it would result in 15.69 more acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively high preserve perimeter/area ratio of 344 ft/ac. The preserve area is relatively small and narrow resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 1 as it would require that only 2% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 1. This alternative would only preserve 2.32 acres of wetlands that would lack adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, none of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 2.15 acres of vernal pool habitat would subsequently be indirectly impacted. This unviable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1)

Alternative 1 meets this criterion.

Summary

Alternative 1 does not minimize impacts to aquatic ecosystems in comparison with other proposed alternatives. This alternative would result in 59.89 acres of direct wetland impacts and would result in 2.15 acres of indirect impacts to vernal pool habitat. This preserve configuration results in a very high perimeter to area ratio that does not effectively protect the preserved vernal pool habitat. The preserve is relatively small (26 acres) and only protects 2.32 acres of wetlands within the Plan Subarea. Though this preserve was designed primarily to protect the tributary to Laguna Creek, it does not effectively protect its supporting watershed and does not adequately buffer it from surrounding land uses. This preserve configuration would not effectively minimize cumulative impacts to wetlands and endangered species habitat within the region. Alternative 1 would be practicable in terms of logistics, existing technology and costs.

3.4.3 On-Site Alternative 2

Alternative 2 would result in the creation of 405 acres of open space preserve within two preserve areas containing a total of 29.49 acres of wetlands (Figure 2). These two preserves would encompass the headwaters of two unnamed tributaries to Morrison

Creek and Laguna Creek, which are approximately 227 and 130 acres in size, respectively. These preserves would also include vernal pool complexes within Sunridge Park, Douglas 98, Douglas 103, Geisreiter, and Pappas. A 48-acre vernal pool preserve would also be created within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under Alternative 2, as it would result in 11.49 fewer acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively low preserve perimeter/area ratio of 75 ft/ac. This preserve configuration would better protect the preserve wetlands from potential indirect impacts from the adjacent development and better minimize the cumulative effects to wetlands and vernal species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would not be satisfied as it requires that 30% of the Plan Subarea be set aside for the establishment of an on-site preserve. This amount is significantly more than that of the 2% for Specific Plan Alternative (Alternative 1). This significant reduction in land available for the development of homes, schools, neighborhood parks, and commercial space would be considered impracticable and inconsistent with the mixed use development set forth in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would be satisfied by providing for the preservation of 405-acres in three on-site preserves, each relatively large enough to be buffered from the adjacent residential and commercial developments. This preserve configuration would effectively protect 41% of its vernal pool habitat from surrounding incompatible land uses, which is the same percentage as that of the Conceptual Strategy alternative.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1).

This criterion is not satisfied as Alternative 2 results in a significant increase in the cost per net developable acre (\$264,958.acre, an increase of 36%) due to the significant decrease in developable acreage (379 acres, or 28% relative to the Specific Plan alternative).

Summary

Though Alternative 2 results in fewer direct and indirect impacts to the aquatic environment than that of the Conceptual Strategy alternative, it is considered to be impracticable due to the relatively high costs associated with developing the remainder of the Plan Subarea and the fact that the remaining land is not sufficient to achieve the overall purpose of the Specific Plan.

Though Alternative 2 satisfies the logistics and existing technology Criteria, there would be logistic constraints associated with developing the remaining land within the Plan Subarea, which will drive up the project costs. The open space preserve alignment would create technological and logistical constraints associated with the layout of infrastructure (roads, sewer, and water lines) within the Plan Subarea. For example, it would be logistically difficult to develop the Geisreiter and Pappas project sites due to limited infrastructure access points along their eastern and western boundaries. Any necessary road and utility alignments would have to pass through the preserve areas resulting in increased cost and efforts to avoid and minimize impacts to the preserves. These increase costs, distributed over decreased net developable acreage, result in a significant increase in cost per net developable acreage, making Alternative 2 impracticable.

3.4.4 On-Site Alternative 3

Alternative 3 would result in the creation of 239 acres of open space preserve within three preserves containing a total of 24.54 acres of wetlands (Figure 3). Two of these preserves would encompass the headwaters of two unnamed tributaries to Morrison Creek and Laguna Creek, which are approximately 119 and 92 acres in size respectively. These preserves would also include vernal pool complexes within Sunridge Park, Douglas 98, Douglas 103, Geisreiter, and Pappas. A 28-acre vernal pool preserve would also be created within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under Alternative 3, as it would result in 6.54 fewer acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a preserve perimeter/area ratio of 150 ft/ac. These preserve boundaries are convoluted resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would not be satisfied under Alternative 3 as it would require that 18% of the Plan Subarea be set aside for an on-site preserve.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 3. Though this alternative does provide for the preservation of 239-acres in three on-site preserves, two of which are relatively large, it does not adequately protect the vernal pool habitat within the preserve. As seen in Table 4, only 11.5% of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 21.02 acres of vernal pool habitat would subsequently be indirectly impacted. This is largely due to the long, thin preserves that were designed primarily to protect the aforementioned tributaries. This less viable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1).

This criterion would be satisfied as Alternative 3 does not result in a significant increase in the cost per net developable acre as compared to the Specific Plan alternative (\$221,475, an increase of 14%). The decrease in developable acreage is not considered significant (213 acres, or 16% relative to the Specific Plan Alternative).

Summary

Alternative 3 is does not minimize impacts to the aquatic ecosystem in comparison with other alternatives considered. The Alternative 3 preserve configuration will result in a less viable preserve as only 11.5% of the preserved vernal pool habitat would be protected from potential indirect impacts from the adjacent land use. The three preserves are relatively narrow with convoluted boundaries and would thus be more subject to potential edge effects, which would include altered hydrology from urban runoff, disturbance by humans and domestic animals, and introduction of exotic plant species. A less viable preserve could potentially contribute to cumulative impacts to wetlands and endangered species habitat within the region.

Though Alternative 3 would not be impracticable based on logistics and existing technology, there would be logistic constraints associated with developing the remaining land within the Plan Subarea. The open space preserve alignment would create logistical constraints associated with the layout of infrastructure (roads, sewer, and water lines) within the Plan Subarea. For example, it would be logistically difficult to develop the Douglas 98, Douglas 103, Geisreiter and Pappas project sites due to limited infrastructure access points. Any necessary road and utility alignments would have to pass through the preserve areas resulting in increased cost to avoid and minimize impacts to the preserves.

3.4.5 On-Site Alternative 4

Alternative 4 would result in the creation of 87 acres of open space preserve within three preserves containing a total of 8.59 acres of wetlands (Figure 4). This alternative would protect a portion of the tributary to Morrison Creek in a 34-acre preserve; however the protected headwaters would be restricted to the area along the western boundaries of Douglas 103 and Geisreiter, and would include a small vernal pool complex in the northwest corner of Pappas. It would also protect the tributary to Laguna Creek along the eastern boundaries of Pappas and Geisreiter in a 49-acre preserve. A 4-acre vernal pool preserve would also be created within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 4, as it would result in 9.41 more acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively high preserve perimeter/area ratio of 204 ft/ac. The preserve areas are relatively small and narrow resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 4 as it would require that only 6% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 4. This alternative would only preserve 8.59 acres of wetlands that would lack adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, only 2.1% of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 8.04 acres of vernal pool habitat would subsequently be indirectly impacted. This less viable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1).

This criterion would be satisfied as Alternative 4 does not result in a significant increase in the cost per net developable acre (\$202,156, an increase of 4%). The decrease in developable acreage is not considered significant (61 acres, or 4% relative to the Specific Plan alternative).

Summary

Alternative 4 results in greater impacts to the aquatic ecosystem than that of the other alternatives considered. This alternative would result in greater direct wetland impacts than other alternatives considered and would result in 8.04 acres of indirect impacts to vernal pool habitat. This preserve configuration results in a relatively high perimeter to area ratio that only effectively protects 2.1% of its preserved vernal pool habitat. The three preserves are relatively small (4, 34, and 49 acres) and only protect 8.59 acres of wetlands within the Plan Subarea. This preserve configuration is considered to have poor viability and would thus not effectively minimize cumulative impacts to wetlands and endangered species habitat within the region.

3.4.6 On-Site Alternative 5

Alternative 5 would result in the creation of 134 acres of open space preserve within three preserve areas containing a total of 14.89 acres of wetlands (Figure 5). This alternative would protect the tributary to Morrison Creek in a 57-acre preserve area; however the preserve would only include the protected headwaters along the western boundaries of Douglas 103 and Geisreiter, and would include a vernal pool complex within the northwestern corner of Pappas. It would also protect the tributary to Laguna Creek along the eastern boundaries of Pappas and Geisreiter in a 67-acre preserve area that would include a vernal pool complex within the Douglas 98 site. A 10-acre vernal pool preserve would also be created within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 5, as it would result in 3.11 more acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively high preserve perimeter/area ratio of 226 ft/ac. These preserve boundaries are relatively convoluted resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 5 as it would require that only 10% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 5. This alternative would only preserve 14.89 acres of wetlands that would lack adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, only 2.2% of the vernal

pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 13.87 acres of vernal pool habitat would subsequently be indirectly impacted. This less viable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1)

This criterion would be satisfied as Alternative 5 does not result in a significant increase in the cost per net developable acre (\$208,520, an increase of 7%) The decrease in developable acreage is not considered significant (108 acres, or 8% relative to the Specific Plan alternative).

Summary

Alternative 5 results in greater impacts to the aquatic environment than that of the other alternatives considered in this analysis. This alternative would result in more acres of direct jurisdictional wetland impacts than other alternatives considered, and would result in greater indirect impacts to vernal pool habitat. This preserve configuration results in a relatively high perimeter to area ratio that only effectively protects 2.2% of its preserved vernal pool habitat. This preserve configuration is considered to have poor viability and would thus not effectively minimize cumulative impacts to wetlands and endangered species habitat within the region.

Though Alternative 5 would not be impracticable based on logistics and existing technology, there would be logistic constraints associated with developing the remaining land within the Plan Subarea. The open space preserve alignment would create logistical constraints associated with the layout of infrastructure (roads, sewer, and water lines) within the Plan Subarea. For example, it would be logistically difficult to develop the Douglas 98, Douglas 103, Geisreiter and Pappas project sites due to limited infrastructure access points. Any necessary road and utility alignments would have to pass through the preserve areas resulting in increased cost to avoid and minimize impacts to the preserves.

3.4.7 On-Site Alternative 6

Alternative 6 would result in the creation of 160 acres of open space preserve within four preserve areas containing a total of 22.87 acres of wetlands (Figure 6). This alternative would still protect the tributary to Morrison Creek; however it would consist of two separate preserve areas of 14 and 51 acres and would be restricted to the area along the western boundaries of Douglas 103 and Geisreiter, and would include a vernal pool complex within the northwestern corner of Pappas. It would also protect the tributary to Laguna Creek along the eastern boundaries of Pappas and Geisreiter in a 73-acre preserve area that would include a vernal pool complex within the Douglas 98 site. A 22-acre vernal pool preserve would also be created within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under Alternative 6, as it would result in 4.87 fewer acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively high preserve perimeter/area ratio of 219 ft/ac. These preserve boundaries are relatively convoluted resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 6 as it would require that only 12% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 6. Though this alternative would preserve 22.87 acres of wetlands it lacks adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, only 1.2% of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 18.85 acres of vernal pool habitat would subsequently be indirectly impacted. This less viable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1).

This criterion would be satisfied as Alternative 6 does not result in a significant increase in the cost per net developable acre (\$212,201, an increase of 9%). The decrease in

developable acreage is not considered significant (134 acres, or 10% relative to the Specific Plan alternative).

Summary

Though Alternative 6 would result in fewer acres of impacts to jurisdictional wetlands than other alternatives, it would not minimize impacts to aquatic ecosystems as it fails to effectively protect sensitive habitats from surrounding land uses. This alternative would create a preserve area with a high edge to interior ratio that only effectively protects 1.2% of its preserved vernal pool habitat. This would ultimately result in 18.85 acres of indirect impacts to vernal pool habitat. This preserve configuration is considered to have poor viability and thus would not minimize indirect or cumulative impacts to wetlands and endangered species habitat within the region.

Though Alternative 6 would not be impracticable based on logistics and existing technology, there would be logistic constraints associated with developing the remaining land within the Plan Subarea. The open space preserve alignment would create logistical constraints associated with the layout of infrastructure (roads, sewer, and water lines) within the Plan Subarea. For example, it would be logistically difficult to develop the Douglas 98, Douglas 103, Geisreiter and Pappas project sites due to limited infrastructure access points. Any necessary road and utility alignments would have to pass through the preserve areas resulting in increased cost to avoid and minimize impacts to the preserves.

3.4.8 On-Site Alternative 7

Alternative 7 would result in the creation of 165 acres of open space preserve within four preserve area containing a total of 21.14 acres of wetlands (Figure 7). This alternative would protect only the portion of the tributary to Morrison Creek that lies within the Geisreiter property in a 57-acre preserve and would include a vernal pool complex within the northwestern corner of the Pappas site. It would also protect the tributary to Laguna Creek along the eastern boundary of Pappas and Geisreiter in a 67-acre preserve area that would include a vernal pool complex within the Douglas 98 site. Vernal pool preserves would also be created within Douglas 103 and Sunridge Ranch, which would be 13 acres and 28 acres, respectively.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under Alternative 7, as it would result in 3.14 fewer acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively high preserve perimeter/area ratio of 209 ft/ac. These preserve boundaries are relatively convoluted resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 7 as it would require that only 12% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would be not satisfied under Alternative 7. Though this alternative would preserve 21.14 acres of wetlands it lacks adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, only 1.3% of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 20.48 acres of vernal pool habitat would subsequently be indirectly impacted. This less viable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1).

This criterion would be satisfied as Alternative 7 does not result in a significant increase in the cost per net developable acre (\$215,391, an increase of 11%). The decrease in developable acreage is not considered significant (139 acres, or 10% relative to the Specific Plan alternative).

Summary

Though Alternative 7 would result in fewer acres of impacts to jurisdictional wetlands, it does not minimize impacts to aquatic ecosystems as it does not effectively protect sensitive habitats from surrounding land uses. This alternative would create a preserve area with a relatively high edge to interior ratio that only effectively protects 1.3% of its preserved vernal pool habitat. This would ultimately result in 20.48 acres of indirect

impacts to vernal pool habitat. This preserve configuration is considered to have poor viability and would thus not effectively minimize cumulative impacts to wetlands and endangered species habitat within the region.

Though Alternative 7 would not be impracticable based on logistics and existing technology, there would be logistic constraints associated with developing the remaining land within the Plan Subarea. The open space preserve alignment would create logistical constraints associated with the layout of infrastructure (roads, sewer, and water lines) within the Plan Subarea. For example, it would be logistically difficult to develop the Douglas 98, Douglas 103, Geisreiter and Pappas project sites due to limited infrastructure access points. Any necessary road and utility alignments would have to pass through the preserve areas resulting in increased cost to avoid and minimize impacts to the preserves.

3.4.9 On-Site Alternative 8

Alternative 8 would result in the creation of 181 acres of open space preserve within four preserve areas containing a total of 23.02 acres of wetlands (Figure 8). This alternative would protect two separate segments of the tributary to Morrison Creek, a portion within the Douglas 103 project site and a portion within the Geisreiter project site, 14 and 48 acres, respectively. The larger preserve area would also include a vernal pool complex within the northwestern corner of the Pappas site and in the southwest corner of the Douglas 103 site. This alternative would also include a preserve that protects the tributary to Laguna Creek along the eastern boundary of Pappas and Geisreiter in a 69-acre preserve area that would include a small vernal pool complex within Douglas 98. This alternative would also include a 50-acre vernal pool preserve within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under Alternative 8, as it would result in 5.02 fewer acres of direct wetland impacts than that of the Conceptual Strategy alternative.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a preserve perimeter/area ratio of 190 ft/ac. These preserve boundaries are relatively convoluted resulting in more area exposed to potential indirect effects and subsequently contributing to cumulative impacts to wetlands and endangered species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 8 as it would require that only 13% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

This criterion would not be satisfied under Alternative 8. Though this alternative would preserve 23.02 acres of wetlands it lacks adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, only 7.4% of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Approximately 17.79 acres of vernal pool habitat would subsequently be indirectly impacted. This less viable preserve configuration could subsequently contribute to cumulative impacts to vernal pool habitat in the region.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre as compared to the Specific Plan alternative (Alternative 1).

This criterion would be satisfied as Alternative 8 does not result in a significant increase in the cost per net developable acre (\$215,391, an increase of 11%). The decrease in developable acreage is not considered significant (155 acres, or 11% relative to the Specific Plan alternative).

Summary

Though Alternative 8 would result in fewer acres of impacts to jurisdictional waters than other alternatives considered, it does not minimize impacts to aquatic ecosystems as it ultimately fails to effectively protect sensitive habitats from surrounding land uses. This alternative would create a preserve area with a relatively high edge to interior ratio that only effectively protects 7.4% of its preserved vernal pool habitat. This would ultimately result in 17.79 acres of indirect impacts to vernal pool habitat. This preserve configuration is considered to have poor viability and would thus not effectively minimize cumulative impacts to wetlands and endangered species habitat within the region.

Though Alternative 8 would not be impracticable based on logistics and existing technology, there would be logistic constraints associated with developing the remaining land within the Plan Subarea. The open space preserve alignment would create logistical constraints associated with the layout of infrastructure (roads, sewer, and water lines)

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within the Plan Subarea. For example, it would be logistically difficult to develop the Douglas 98, Douglas 103, Geisreiter and Pappas project sites due to limited infrastructure access points. Any necessary road and utility alignments would have to pass through the preserve areas resulting in increased cost to avoid and minimize impacts to the preserves.

3.4.10 On-Site Alternative 9 (Conceptual Strategy Alternative)

Alternative 9 would result in the creation of 211 acres of open space preserve within two preserves containing a total of 18.00 acres of wetlands (Figure 9). The bulk of open space preserve area would be concentrated within one large corridor. This preserve would encompass the headwaters of the unnamed tributary to Morrison Creek that would also protect vernal pool complexes within the Douglas 103, Geisreiter, and Pappas properties, as well as portions of the Sunridge Park property in a 161-acre preserve area. An additional 50-acre vernal pool preserve would be created within the middle of the Sunridge Ranch property.

Impacts to Waters of the U.S.

Criterion 1: Results in direct impacts to waters of the U.S. that are less than or equal to that of the Conceptual Strategy alternative.

This criterion would be satisfied under Alternative 9.

Criterion 2: Minimizes indirect impacts to wetlands within an on-site preserve by providing for a preserve with a low preserve perimeter to area ratio.

This preserve would have a relatively low preserve perimeter/area ratio of 100 ft/ac. This preserve configuration would better protect preserve wetlands from potential indirect impacts from the adjacent development and minimize the cumulative effects to wetlands and vernal species habitat within the region.

Purposes and Objectives

Criterion 3: Does not result in a significant reduction in the acreage of developable land within the Plan Subarea. A preserve alternative that substantially reduces the developable land within the Plan Subarea would be considered impracticable because it does not meet the overall purpose of the Plan Subarea.

This criterion would be satisfied under Alternative 9 as it would require that 15% of the Plan Subarea be set aside for an on-site preserve, which is sufficient to meet the mixed use development objectives established in the Specific Plan.

Criterion 4: Provides for large, contiguous open space areas that protect environmentally sensitive habitats with adequate buffer zones from adjacent incompatible uses as outlined in the Sacramento County General Plan and SunRidge Specific Plan. A preserve alternative would be considered more viable if it protected a greater, or equal, percentage of vernal pool habitat than that of the Conceptual Strategy alternative.

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This criterion would be satisfied under Alternative 9. This alternative would preserve 18.00 acres of wetlands with adequate buffers from the surrounding residential and commercial developments. As seen in Table 4, approximately 41% of the vernal pool habitat within the preserve would be adequately buffered from the surrounding proposed land use. Indirect impacts would be limited to 10.52 acres, which is less than all but one of the other alternatives. This preserve configuration better protects sensitive vernal pool habitat, while still effectively protecting one of the two drainage corridors.

Costs

Criterion 5: Would not result in significant increase in costs per net developable acre.

This criterion would be satisfied as Alternative 9 does not result in a significant increase in the cost per net developable acre (\$220,056, an increase of 13%). The decrease in developable acreage is not considered significant (185 acres, or 13% relative to the Specific Plan alternative).

Summary

Development according to Alternative 9 would minimize impacts to aquatic ecosystems by creating a preserve configuration that is of a size large enough to meet the long term goals of the Conceptual Strategy. The preserve are in Alternative 9 would be relatively buffered from the surrounding development while still providing for feasible project development. This preserve alternative protects 211 acres of open space containing 18.00 acres of wetlands, 17.32 acres of which are considered potential habitat for sensitive vernal pool species. As discussed above, 41% of this habitat would be effectively buffered from the surrounding land use. The preserve configuration better minimizes potential cumulative impacts to wetlands and endangered species habitat within the region by providing for a viable and feasible preserve within the Plan Subarea. As described previously, this alternative would result in no net loss of acreage and functions and values of wetlands and other aquatic resources. Mitigation would compensate for unavoidable impacts and overall adverse direct, indirect, and cumulative impacts would not be significant.

In addition, logistical and technological constraints are minimized in Alternative 9 as only one road crossing over the preserve areas is necessary to maintain efficient circulation patterns throughout the Plan Subarea. This yields lower project costs while maintaining net developable acreage, thus meeting the cost criterion of not significantly increasing costs per net developable acre. The alternatives were evaluated to determine whether they were practicable after taking into consideration cost, existing technology, and logistics in light of the overall purpose, and whether they would minimize direct, indirect, and cumulative impact to acceptable levels.

Table 5 below outlines the practicability of all ten on-site alternatives assessed in this report.

Table 6 — Summary of On-Site Alternatives Analysis

4 (1) (1) (1) (1) (1)

Alternative		Impacts	icts to Aquatic Ecosystems	osystems			Practicability		Project Purpose	Purpose
- Ÿ						Logistics	Existing Technology	Costs	Does the the Alternative Retain	Does the Alternative
	Criterion 1: Direct Impacts to Waters of the U.S. (ac)	Criterion 2: Preserve Perimeter/Area (ft/ac)	Criterion 3: Percentage of Plan Subarea Preserved	Criterion 4: Percentage of Vernal Pool Habitat Protected	Does the Althernative Minimize Imapcts to Aquatic Resources Pursuant to the Tenets of the Concaptual Strategy	Is the alternative capable of being done taking into consideration logistics?	Is the alternative capable of being done taking into consideration existing technology?	Would the Alternative Result in a Significent Increase in Costs per Net Developable Acre Due to Loss of Acreage?	a Substantial Amount of the Area Planned for Dvelopment Compared to the Specific Plan	Provide Sufficient Acreage to Acreage to Maintain a Preserve Area that Meets the Requirements of the Conceptual Strategy
No Development	0	NA	%0	0%0	Yes.	Yes	Yes	No	No	No, open spaces will not be protected
1 (Specific Plan)	59.89	344	2%	%0	No, insufficient preserve area to achieve goals of Conceptual Strategy	Yes	Yes	No	Yes	οN
7	32.71	75	30%	41.4%	Y es, adequate acreage to achieve goals of Conceptual Strategy for preserve area	Yes	Ycs	Yes, would result in increased project costs and reduces net developable acreage to absorb costs	Ŵ	Yes
<i>ლ</i>	37.66	150	18%	11.5%	No, inadequate edge to area ratio to achieve goals of Conceptual Strategy	Yes	Yes	No	Yes	No, indirect edge effects will reduce the effective size of the Preserve Area
Ą	53.61	204	6%	2.1%	No, inadequate edge to area ratio to achieve goals of Conceptual Strategy	Yes	Ycs	No	Yes	No, indirect edge effects will reduce the effective size of the Preserve Area

SunRidge Specific Plan Un-Permitted Subarea Foothill Associates © 2004

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SunRidge Specific Plan Un-Permitted Subarea Foothill Associates © 2004

Yes, edge effects are limited and

Area

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No, indirect edge effects will reduce the effective size of the Preserve No, indirect edge effects will reduce the effective size of the Preserve Preserve Area is of Sufficient Acreage No, indirect edge effects will reduce the effective size of the Preserve No, indirect edge effects will reduce the effective size of the Preserve Requirements of the Concepual Strategy Preserve Area that Provide Sufficient **Project Purpose** Does the the Alternative Retain a Substantial Compared to the Specific Plan Area Planned for Amount of the Dvelopment Yes Yes Yes Yes Yes Alternative Result in a Significant Increase in Costs Developable Acre Due to Loss of Would the per Net Acreage? Costs No No No No No Practicability capable of being done taking into existing technology? consideration Existing Technology alternative Is the Yes Yes Yes Yes Yes taking into consideration Is the alternative capable of being done Logistics logistics? Yes Yes Yes Yes Yes No, inadequate edge to area ratio to achieve goals of Conceptual Strategy No, inadequate edge to area ratio to achieve goals of Conceptual Strategy No, inadequate edge to area ratio to achieve goals of Conceptual Strategy No, inadequate edge to area ratio to achieve goals of Conceptual acreage to achieve goals of Conservation Strategy Minimize Imapcts to Concaptual Strategy Yes, minimizes edge effects and Aquatic Resources Pursuant to the Altnernative Tenets of the provides sufficient Does the Strategy Percentage of Vernal Pool Habitat Protected Criterion 4: 41.2% 7.4% 2.2% 1.3% 1.2% Impacts to Aquatic Ecosystems Percentage of Plan Subarea Preserved Criterion 3: 10% 12% 12% 13% 15% Preserve Perimeter/ Area (ft/ac) Criterion 2: 226 219 209 190 100 Direct Impacts to Waters of the U.S. (ac) Criterion 1: 41.06 39.18 44.20 39.33 47 31 9 (Conceptual Strategy) Alternative 10 9 -00

Does the Alternative

Acreage to Maintain a Meets the

Area

Area

Area

Army Corps of Engineers Regional Alternatives Information

Factors considered in this analysis included direct, indirect, and cumulative impacts to wetlands and endangered species habitat, purpose and objectives, and costs. According to this analysis, as summarized above, Alternative 9 (Conceptual Strategy alternative) is considered the preferred on-site alternative. The Conceptual Strategy alternative protects 211 acres of open space containing 18.00 acres of wetlands and effectively preserves 41% of the vernal pool habitat within this preserve.

Though Alternative 2 has less impacts to wetlands and has a better preserve to perimeter ratio than the Conceptual Strategy alternative, it results in an undue burden on individual property owners. This alternative would require that 30% of the Plan Subarea be designated for the establishment of an on-site preserve. This significant reduction in developable land within the Plan Subarea is considered to be impracticable in light of the overall purpose and objectives of the Specific Plan. In addition, the project costs per net developable acreage would be significantly high and unreasonable.

Though Alternative 3 also has fewer impacts to wetlands than that of the Conceptual Strategy alternative, it results in the creation of a less viable preserve. This preserve configuration would only effectively protect 11.5% of the preserve's vernal pool habitat. This configuration provides less assurance that this preserve combined with the off-site mitigation could effectively avoid cumulative impacts to wetlands and endangered species habitat within the region.

Though Preserve Alternatives 6, 7, and 8 all result in less impacts than that of the Conceptual Strategy alternative, they do not effectively protect the vernal pool habitat within their respective preserves. As discussed in Section 3, the reason these preserve configurations are less effective is that they are relatively narrow with high perimeter to area ratios that would result in 18.85, 20.48, and 17.79 acres of indirect impacts to vernal pool habitat within their respective preserves. Subsequently only 1.2, 1.3, and 7.4% of the total vernal pool habitat within their respective preserves would be actually protected. These configurations provide less assurance that these preserves combined with the offsite mitigation could effectively avoid cumulative impacts to wetlands and endangered species habitat within the region.

The purpose of this analysis is to determine if the various on-site alternatives are available and capable of being done after taking into consideration direct, indirect, and cumulative impacts to wetlands and endangered species habitat, Plan Subarea purpose and objectives, and costs. Based on this analysis there are no practicable on-site alternatives that will meet the objectives other than the preserve configuration as proposed.

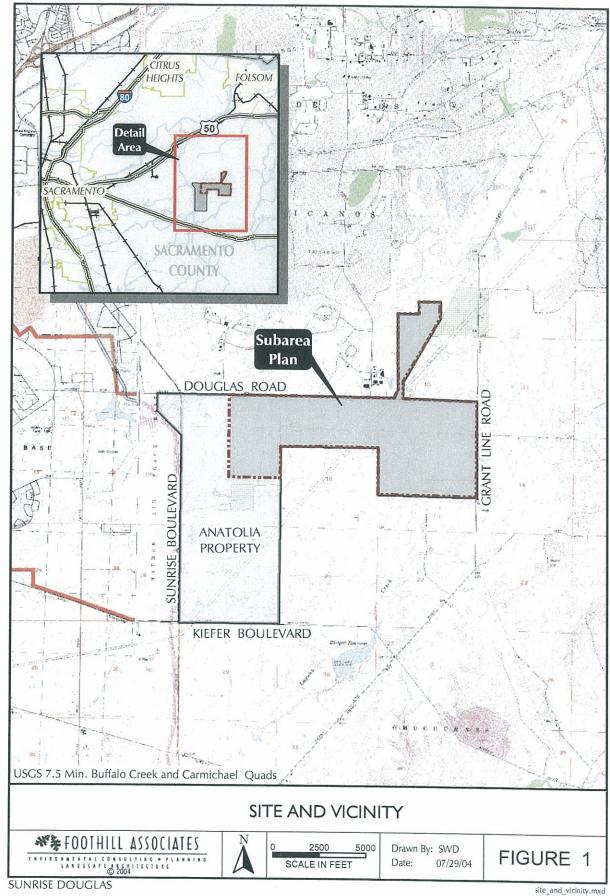
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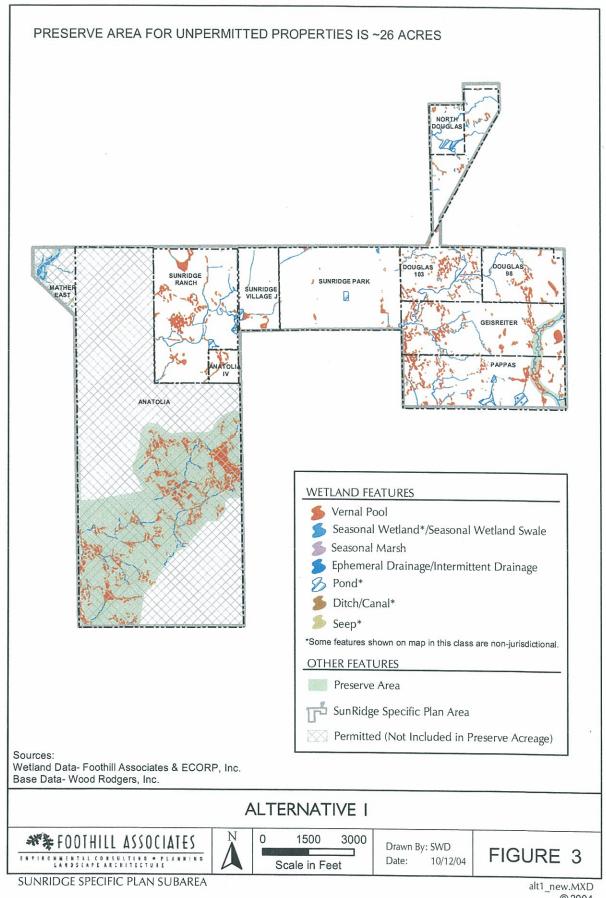
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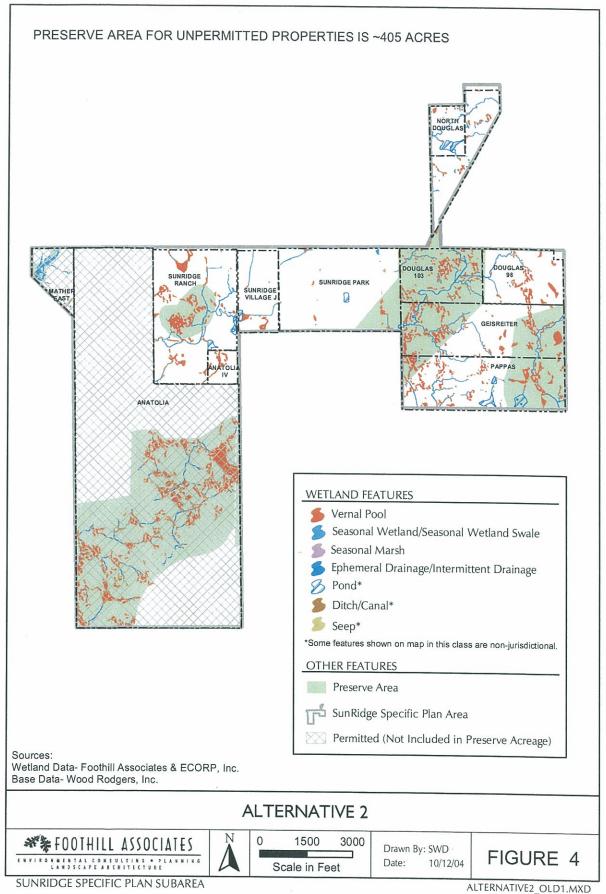
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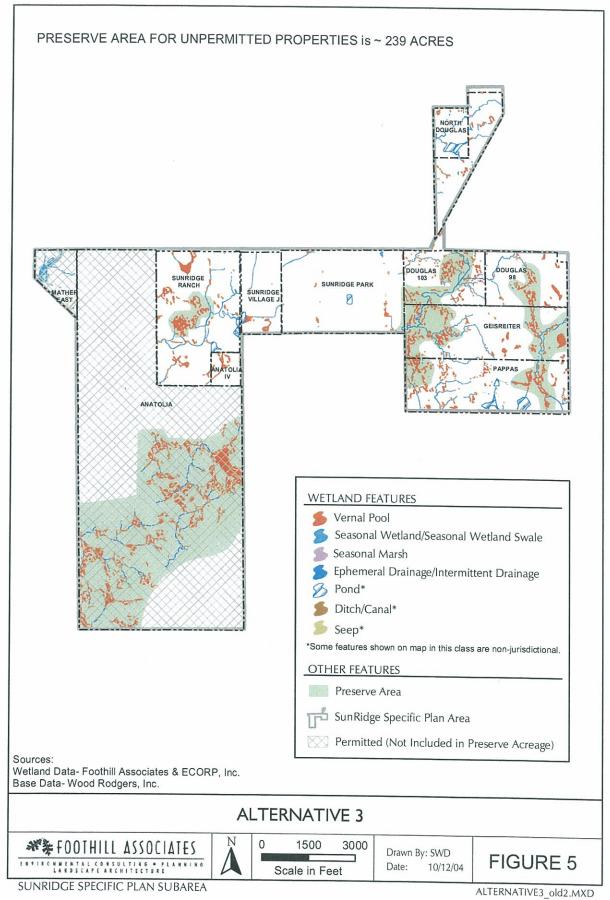
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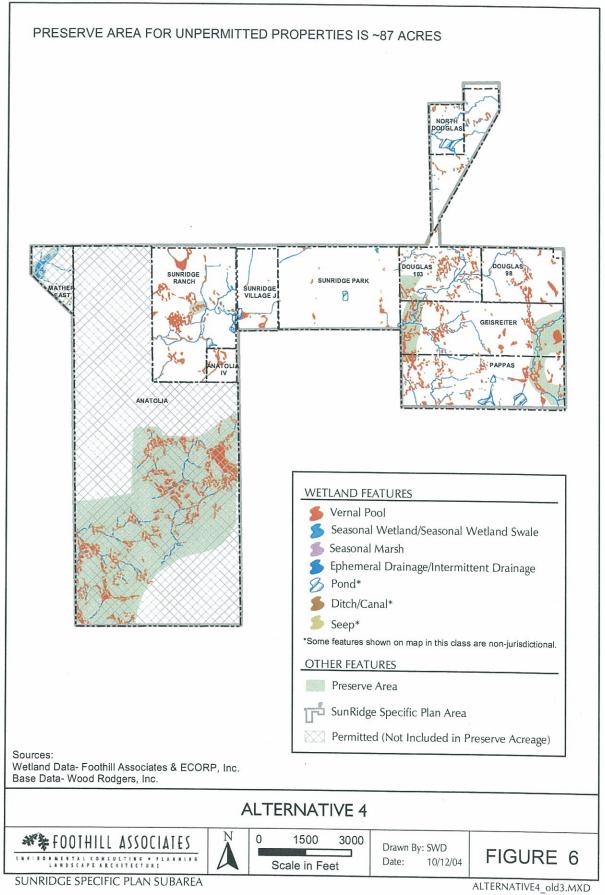


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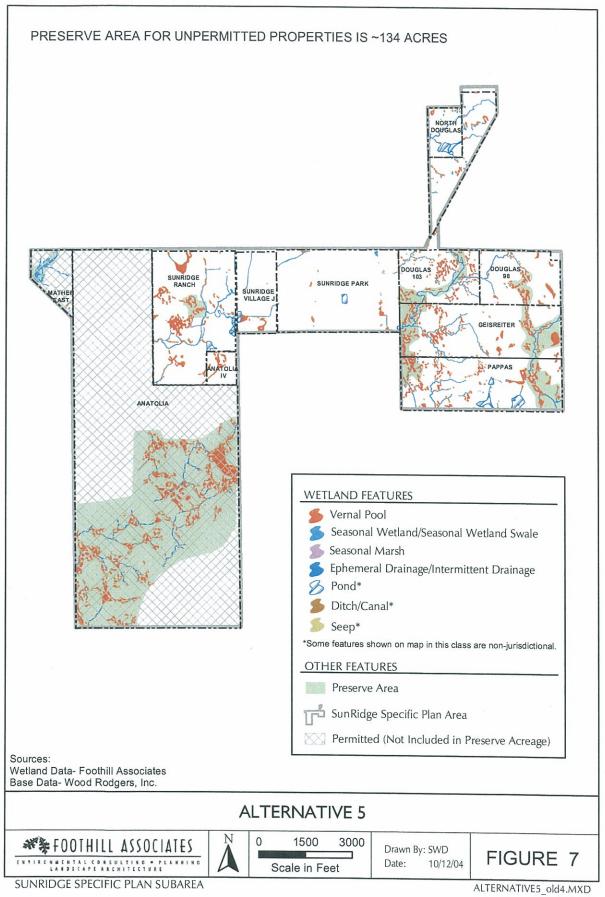




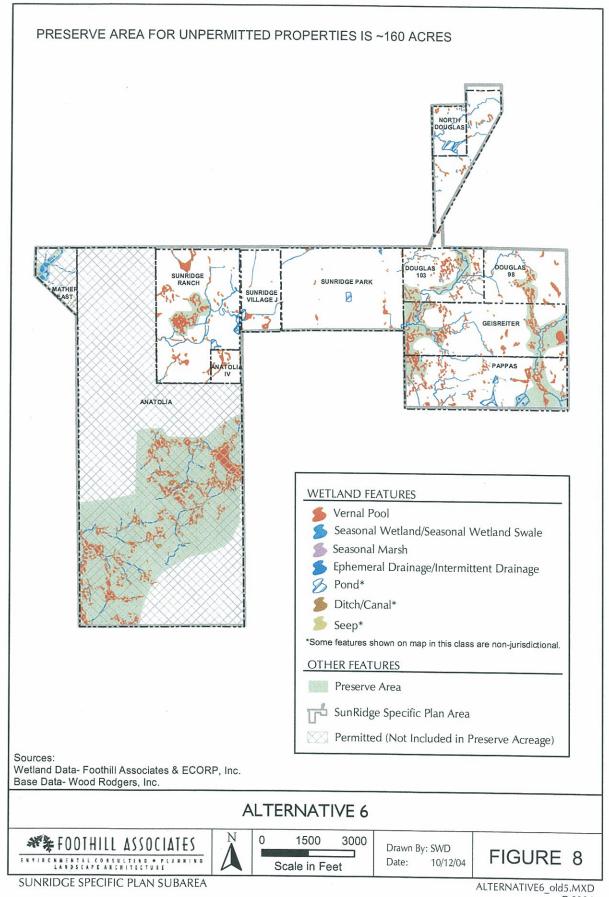
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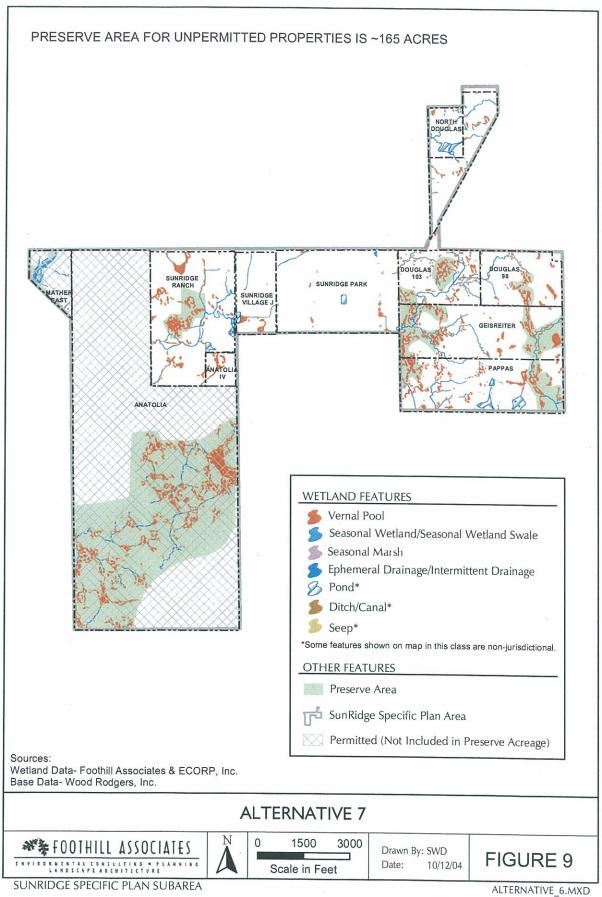
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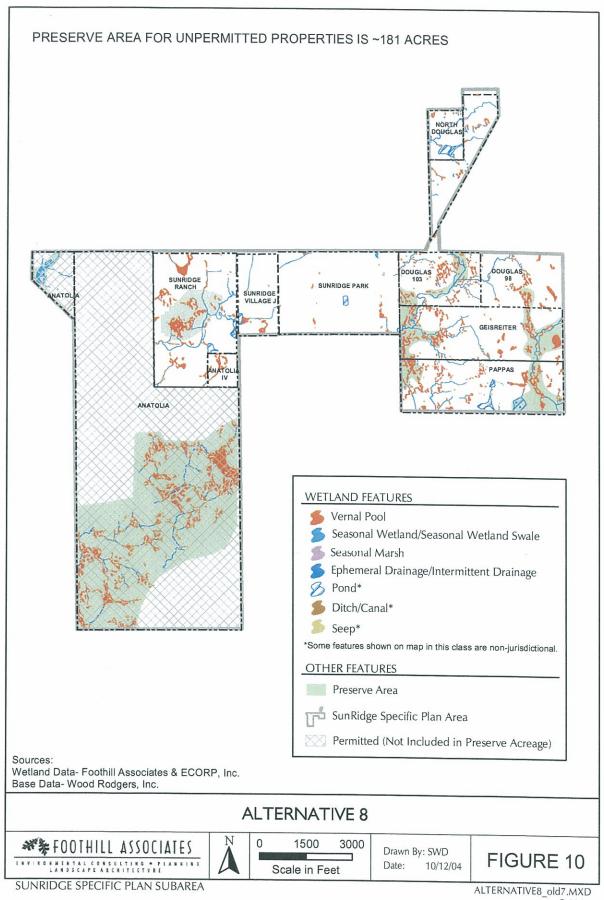


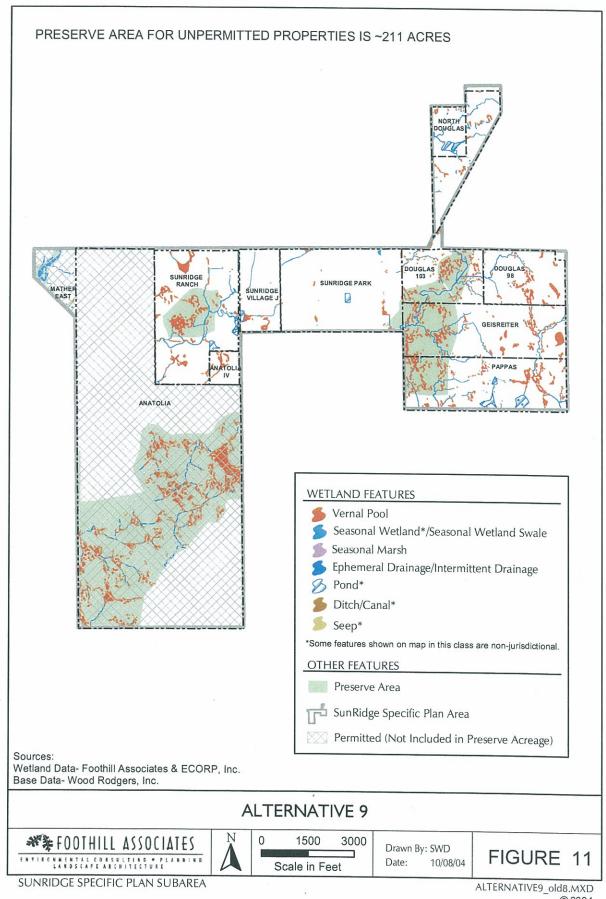




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Appendix A — Conceptual – Level Strategy for Avoiding Minimizing, and Preseving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

(ATTACHMENT 1) A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

July 2004

In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species consistent with the Corps' obligations under Section 7(a)(2) of the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is within the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection, dated July __, 2004. To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and best available information regarding regional and site-specific biology and hydro-geomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries conceptually identify the smallest areas that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its

1

own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts.

Strategy Principles and Standards:

1. <u>Maintain the overall hydrologic integrity of the Preserve Areas so as to</u> ensure that there will not be a net loss of functions and values in the preserve areas as a result of adjacent development. This includes minimizing changes to the distribution, frequency and duration of flows, including restricting summer nuisance flows.

2. <u>Maintain corridors and large areas for wildlife and the propagation of</u> <u>flora</u>. Preserve vernal pool hydrology and integrity to benefit listed plants and invertebrates. Establish interconnected conservation areas that are managed in perpetuity and tie into existing local and regional planning efforts. Provide for meaningful conservation of sensitive plant habitats for species integrity and longterm survival.

3. <u>Manage stormwater flows to minimize changes to the existing flow</u> regime and to maintain or improve existing water quality in the Preserve Areas, including minimizing changes to the baseline flows in the receiving waters to the extent practicable and not allowing untreated discharges to occur to the aquatic resources in the Preserve areas.

4. Use elevated roads, arched culvert crossings and other practices for transportation corridors that must traverse Preserve Areas to the extent that is practicable to minimize direct and indirect impacts to aquatic resources in the Preserve areas and to avoid significant impacts to the functions and values of the Preserve Areas.

5. Use conservation design elements to minimize the effect of adjacent development on the Preserve Areas by constructing, to the extent practicable, single-loaded roads where housing directly abuts Preserve Areas, designing roadside landscaping to drain (surface and subsurface) toward urban features and not towards the Preserve Areas, and orienting houses so that the front living area faces the Preserve Area. Fences should be low and not restrict visibility into the Preserve Area. Impervious surfaces would be minimized. Within the development area, impervious would be minimized to the extent practicable and storm water/water runoff plans would be designed to use BMPs such as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat storm water and water runoff from the development areas.

6. Locate compatible land uses next to preserve areas. The preferred land uses adjacent to the Preserve Areas are parks, hiking trails, athletic fields, and other forms of open space areas. Trails and bike paths to provide circulation within a development area would generally be located outside the Preserve Areas,; and would only be permitted to cross the Preserve Areas if it is determined, on a case by case basis, that such crossings are necessary from a circulation standpoint and will be constructed in a manner that prevents adverse impacts to the functions and values of the Preserve Areas.

7. <u>Mow-only firebreaks may be located at the outer edges of Preserve</u> <u>Areas.</u> Mowing within the Preserve Areas should be conducted consistent with achieving the goals of the preserve management plan, including promoting native/discouraging non-native species. Firebreaks that necessitate herbicide application or tilling, plowing or other soil disturbance would be located outside of the Preserve Areas.

8. <u>Ensure Preservation Areas are protected in perpetuity</u>. This includes establishing buffers and not locating lot lines within the preserve boundary. Areas would be protected in perpetuity through conservation easement that is adequately funded for maintenance and managed by a conservation-oriented third-party. Preserve Areas would be fenced and signed.

Implement mitigation measures (avoidance, minimization, and 9. compensation) that adequately offset direct and indirect impacts to aquatic resources and listed species. In general, establishing the Preserve Areas is considered a regional measure to achieve impact avoidance and minimization. Vernal pools that are directly impacted by projects should be mitigated at ratios equal to or greater than 2:1 for preservation and 1:1 for creation/restoration. Vernal pools indirectly affected should be mitigated at ratios equal to or greater than 1:1 for preservation and 1:1 for creation/restoration. Preservation and creation/restoration will generally be completed in the same watershed but not within, or in a way that would affect, existing wetland complexes. On a case-bycase basis, preservation credit may be given for vernal pools in the Preserve Areas (except for the 250-foot wide indirect impact zone). Excellent opportunities exist in or near the SDCPA for the establishment of a vernal pool conservation bank(s) and a wetland compensatory (i.e., restoration/creation) mitigation bank(s).

10. <u>Recognize the realities and constraints placed on construction design</u> <u>due to infrastructure and market-driven</u> forces by considering the costs of avoidance and mitigation measures and choosing measures that are the most cost effective way to achieve the long-term goal of maintaining the biological functions and values of the Preserve Areas.

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Appendix B — Sares – Regis Off-Site Alternatives Analysis

Army Corps of Engineers Regional Alternatives Information

SARES • REGIS GROUP REPORT ON:

ORESTRE AVERERNARMES AUVALENSIS SUNRISEADORELAS, PROJECT

CONTOBER 1/9, 109/4

SARES • REGIS GROUP

REPORT ON:

OFF-SITE ALTERNATIVES ANALYSIS SUNRISE-DOUGLAS PROJECT



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THIS REPORT WAS PREPARED THROUGH THE COLLABORATIVE EFFORT OF.

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APPENDIX A:

Lands Under Williamson Act Contract

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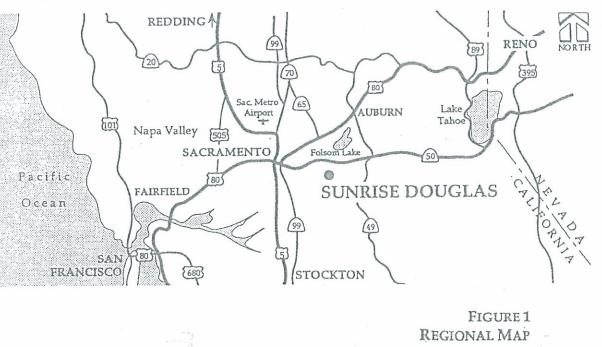
1. INTRODUCTION

Section 404 of the Federal Clean Water Act of 1972 requires a permit to fill wetlands under the jurisdiction of the US Army Corps of Engineers (hereafter Corps). If it is determined that the Basic Purpose of the project is <u>not</u> water dependent, there is a rebuttable presumption that an alternative site exists which would fulfill the overall project purpose and have less adverse environmental consequences.

It is incumbent on the project applicant to demonstrate that there is not a viable alternative site that would have less environmental adverse consequences. In such cases the applicant must identify alternative sites and provide an evaluation of the sites.

The project evaluated in this analysis is the Sunrise-Douglas plan area, a 1,225 acre master planned community proposed in the Rancho Cordova area of Sacramento County (Figure 1).

This study is a compilation of information presented in previous studies prepared by the applicant (The Sammis Company, Sunrise-Douglas Project Revised Amended Section 404 (b)(1) Alternatives Analysis, June 5, 1991 and SARES®REGIS Group, Sunrise-Douglas Project Supplemental Alternatives Analysis, January 18, 1994). The alternative sites identified in these earlier studies are reviewed in this study at the request of the Sacramento Corps. The purpose is to clearly define the criteria applied in the previous studies and to provide a more rigorous application of the criteria in the analysis of the alternative sites. In the process of applying a systematic evaluation approach eight additional alternatives sites are identified and subjected to the evaluation criteria.



Page 1

1.1 Tests for Viable Alternative Sites

Under the Section 404 (b)(1) guidelines, there are three fundamental tests that a site must meet to qualify as a viable alternative for the project. These tests provide the backbone structure of the alternatives analysis. The approach to the analysis is to clearly define a set of criteria for each of the three tests and apply these to the universe of alternatives that may exist. If an alternative site fails to meet any of these three tests, it cannot be the least environmentally damaging practicable alternative and may be removed from consideration as an alternative site. The three tests are that the alternative must:

- be practicable;
- have less environmental impact on the aquatic ecosystem; and
- lack other significant adverse environmental consequences.

For each of these tests this report establishes a set of criteria to be applied in evaluating each alternative site. To the extent feasible these criteria are quantified and can be easily replicated by review of the information provided or referenced in this document. In some instances the information is not readily quantifiable, but a reasonable basis for evaluation is defined.

Certain criteria will be applied as minimum standard. If a candidate parcel fails to meet this minimum standard it is not considered further. Other criteria represent a range of conditions that affect the viability of a site as an alternative. For these criteria the range of possible effects is translated to a numerical rating to provide a basis of comparison among alternatives.

In order to be considered practicable an alternative site must fulfill the overall project objectives. Therefore, the overall project objectives are clearly defined in the first section of this report.

1.2 <u>Sunrise-Douglas Site Description</u>

<u>General Site Location and Characteristics</u> The project, located on the Sunrise-Douglas site, involves 1,225± acres of land. The site is on the east side of Sunrise Boulevard, south of the Rancho Cordova community in eastern Sacramento County. Douglas Road bounds the site to the north, Jaeger Road to the east, Kiefer Boulevard to the south, and Sunrise Boulevard to the west. The Mather Air Force Base extends west of the site from Sunrise Boulevard, approximately 12 miles east-southeast of downtown Sacramento (Figure 2).

The project site contains rolling grasslands interspersed with vernal pools and seasonal drainages. The site encompasses level and slightly rolling alluvial terraces of the American River. Elevation on the site ranges from 129 to 180 feet above sea level. The greatest surface relief occurs in the property's southern half. The ground slopes generally to the west and the south, and several intermittent natural and man-made channels drain the property. The site's vegetation includes primarily annual grasses similar to grasslands throughout eastern Sacramento County. The dominant species include mostly non-native annual grasses and forbs, such as soft chess, ripgut brome, medusa head, wild oats, filaree, mustard, wild radish, and yellow star-thistle. Some native wildflowers also occur on the site. Native trees do not exist on the site, except for a few willows and cottonwoods at one of the two man-made ponds. An abandoned olive orchard occupies approximately 11 acres in the east-central portion of the site, just south of the man-made intermittent drainage ditch. Approximately 300 mature trees grow in this area.

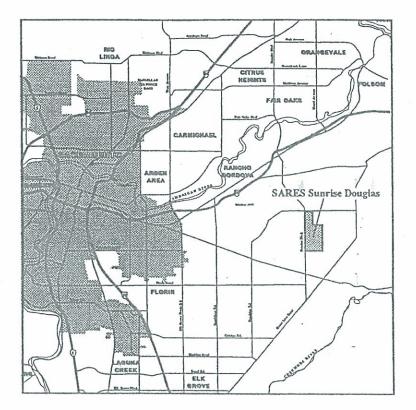


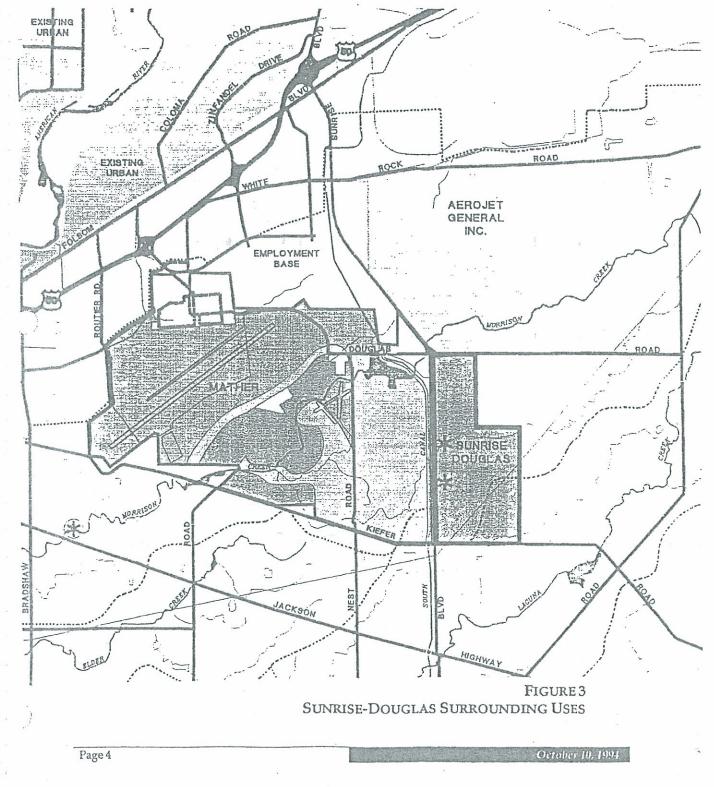
FIGURE 2 SUNRISE-DOUGLAS SITE LOCATION MAP

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<u>Surrounding Land Uses</u> Aerojet Corporation owns the land immediately north of the project site (Figure 3). The Sacramento County General Plan designates the Aerojet land for industrial uses. The site has been used for space rocket development and testing. Although such activity has been absent in recent years the Aerojet facility is considered an active industrial use. Presently, Aerojet uses the property in a very non-intensive manner, and the land immediately north of Douglas Road serves to "buffer" potentially hazardous uses located further to the north. A limited number of industrial uses occur at the Security Industrial Park located east of Jaeger Road.

The former Mather Air Force Base lies west of the project site (Figure 3). Congress approved closure of the base in 1989, and military uses ceased in 1993.

The future use of the facility is currently under study by Sacramento County and will include continued aviation activity. Agricultural lands occur to the south and east of the project site. Currently, landowners use these lands for grazing and other farming purposes. An individual has proposed to construct a golf course on the land to the south, and residential development will probably occur to the east.



2. PROJECT PURPOSES

2.1 Basic Project Purpose

The Section 404 permit guidelines establish a rebuttable presumption that a practicable alternative exists if the "*basic purpose*" of the proposed project is not water dependent. The Sacramento Corps has defined the basic purpose of the Sunrise-Douglas project to be "residential development" (Champ letters to Hooper June 20, 1991 and February 10, 1994). Residential development is not water dependent. Thus, there is a presumption that a practicable alternative exists unless the applicant can demonstrate otherwise.

2.2 Overall Project Purpose

The Corps has distinguished the *basic* project purpose (used to determine water dependency) from the *overall* purpose (used to rebut the presumption that a practicable alternative exists).

The overall project purpose for the Sunrise-Douglas project, based on discussion with the Sacramento Corps, is:

To develop a viable master planned community with affordable housing in southern or east Sacramento County that will be consistent with the County's land use policies.

3. METHODOLOGY FOR EVALUATING ALTERNATIVES

In order to be considered a feasible off-site alternative for the Sunrise-Douglas project, as defined by Section 404(b)(1), a candidate site must:

- be practicable;
- have less environmental impact on the aquatic ecosystem; and
- lack other significant adverse environmental consequences.

The specific standards associated with each of these tests constitute the criteria for eliminating sites from further consideration as off-site alternatives.

The first test in determining if a site qualifies as a viable alternative to the project is whether the alternative site is practicable.

According to 40 C.F.R. § 230.10(a)(2):

An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Thus, the statement of the *overall* project purpose adds specific criteria in evaluating the alternative sites. In order to be practicable a site must conform to the overall project purpose. An alternative is practicable if it is:

- consistent with overall project purposes,
- available, and
- capable of being done (i.e., economically feasible).

Each of these establishes a basic category of evaluation criteria. Within each category are specific criteria that can be applied to filter through the universe of alternative sites that may exist. The criteria that relate to the overall project purpose and availability are minimum standards. If an alternative site can not fulfill the overall project purpose or is not available at the time of the project application, then the site is not suitable and is not considered further. The criteria relating to the standards of feasibility reflect a range of possible conditions. As discussed below these standards are evaluated in a numerical ranking.

3.1 Evaluation Methodology

As stated in the previous <u>Revised Amended Alternative Analysis</u> (1991), and in the <u>Supplemental Alternatives Analysis (1994</u>), the need for a project of the Sunrise-Douglas type is established on the basis of the projected growth in population and housing need in Sacramento, and the policies of Sacramento County. The key policies that affect this project include:

 allocation of adequate land use to accommodate County growth projections

- considerations of environmental constraints as identified by the County
- utilization of existing infrastructure

The analysis leads to the conclusion that a portion of the Sacramento County housing demand should be fulfilled in reasonable proximity to the Highway 50 corridor. The commute shed established by County policy provides the basis for a focused study area which is used for the purpose of seeking alternative sites that could fulfill the project purpose.

This analysis provides a summary of the growth projections for the County in the Highway 50 Corridor and a summary of key policies as they relate to the project purpose. The jobs/housing commute shed is a key concept which addresses the County policy of reducing both the number and the length of home to work trips in order to mitigate the non-attainment status under the National Ambient Air Quality Standards. As discussed in Sections 5 and 6 of this study, the delineation of the major employment centers and the commute distance from residential areas to the employment centers is a key air quality consideration for Sacramento County.

This study includes a survey and analysis of prospective alternative project sites within Sacramento County south of the American River as described in Section 5. The selection of alternative sites is further refined by delineating the boundary of a "commute shed" as defined by the Sacramento County General Plan, as summarized in Section 6. All parcels of minimum size necessary to fulfill the overall project purpose, as defined in Section 7, were mapped utilizing base maps provided by Sacramento County.

Parcels that fail to meet these minimum standards are not considered further.

Alternative sites that met the minimum standards of size and location were examined to identify those not available for acquisition. These include sites that were in public ownership, were under the control of competing development interest and in the process of actively seeking development entitlement or under actual development, or were being utilized for industrial uses that would be incompatible with residential use and therefore would preclude fulfillment of the overall project purpose. The alternative sites identified as not available were also not considered further. Table 1 in Section 4, Summary of Findings, summarizes the parcels that were identified and evaluated as to whether they met the minimum location and size standard and were available.

Parcels that met the minimum standards were then systematically evaluated on the basis of specific criteria to identify those sites that are capable of fulfilling the project purpose. For each criterion a numerical rating between 0 and 5 is assigned, with 5 reflecting the most favorable and 0 reflecting the least favorable characteristic of each criterion. The alternative locations are then ranked according to their numerical placement in meeting the characteristics of each

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criterion. The alternatives and the evaluation criteria are represented graphically on maps of the area.

Table 2 in Section 4, Summary of Findings, summarizes the numerical rank each alternative location received relative to the criteria.

3.1.1 Time Frame for Analysis

As requested by the Corps, the analysis of alternative sites is set in the time frame of 1989 when the current application was submitted.

3.2 <u>Criteria for Establishing Practicability</u>

Following is a summation of the criteria to be applied under the practicability test.

3.2.1 Consistent with Overall Project Purposes

According to the accepted overall project purpose the alternative site must be:

Criterion 1:	Located in Southern or Eastern Sacramento County;
Criterion 2:	Consistent with Sacramento County General Plan policies
Criterion 2.	relating to air quality objectives and jobs/housing
	relationship; and
Criterion 3:	A minimum size consistent with development as a master
	planned community.
1	r

3.2.2 Available

Parcels were considered <u>not</u> available as alternative sites if they were:

Criterion 4: Under public ownership; or Criterion 5: Already developed, committed for development, or committed to incompatible industrial use.

Criteria 1 through 5 are considered minimum standards. If an alternative site does not meet these minimum criteria it is not consistent with the overall project purpose and is dropped from further analysis.

3.2.3 Capable of Being Done (Feasible)

An alternative is capable of being done (feasible) if it is:

Criterion 6: Criterion 7:	Not located within Aggregate Resource Area; Not located within the Mather Air Force Base Flight Zone;
Criterion 8:	Not under Williamson Act Contract; or will be soon released
Criterion 9:	Economically viable as determined by cost to access municipal infrastructure (regional sewer); and

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Criterion 10: Economically viable as determined by cost to access freeways, <u>and</u> degradation of air quality due to distance from freeways;

Criterion 11: Large enough to support major infrastructure improvement cost.

3.3 Impacts to Wetlands and Other Waters of the United States

The second test in determining if a site qualifies as a viable alternative to the project is whether the alternative site:

Criterion 12: Has less environmental impact on the aquatic ecosystem.

3.4 Other Significant Adverse Environmental Consequences

The third test in determining if a site qualifies as a viable alternative to the project is whether there are other significant adverse environmental consequences. The following are the criteria established to define other significant adverse environmental consequences.

An alternative site poses other significant adverse environmental consequences if:

Criterion 13: Air quality is degraded due to increased distance from existing or planned light rail line; or

Criterion 14: Oak woodlands or riparian zones are substantially disturbed.

3.5 <u>Previous Alternative Sites Analyses</u>

A total of 39 potential alternative development sites were identified in two previous alternative studies: The Sammis Company, <u>Sunrise-Douglas Project</u> <u>Revised Amended Section 404 (b)(1) Alternatives Analysis</u>, June 5, 1991 and SARES REGIS Group, <u>Sunrise-Douglas Project Supplemental Alternatives</u> <u>Analysis</u>, January 18, 1994. These included 23 alternative sites in the first report (numbered 1 through 23) and 16 alternative sites in the second report (numbered 1 through 16). For purposes of clarity, the alternative sites reviewed in these two previous reports are shown on one map, Figure 4. Note that sites 1 through 23 on these maps are the same as those shown in the <u>Revised Amended Alternative</u> <u>Analysis</u> (1991), and parcels 24 through 39 correspond to parcels 1 through 16 in the <u>Supplemental Alternatives Analysis (1994)</u>.

Pursuant to direction from the Sacramento Corps, the <u>Revised Amended</u> <u>Alternative Analysis</u> (1991) assessed potential alternative sites in six regions of Sacramento County. These included: (1) North Natomas; (2) Folsóm; (3) Scott Road (Upper and lower) and Rancho Murieta (upper); (4) Elk Grove/West Vineyard; (5) East Vineyard, Rancho Murieta (lower) and Cosumnes (upper); and (6) South Elk Grove. The criteria used to evaluate alternative sites included:

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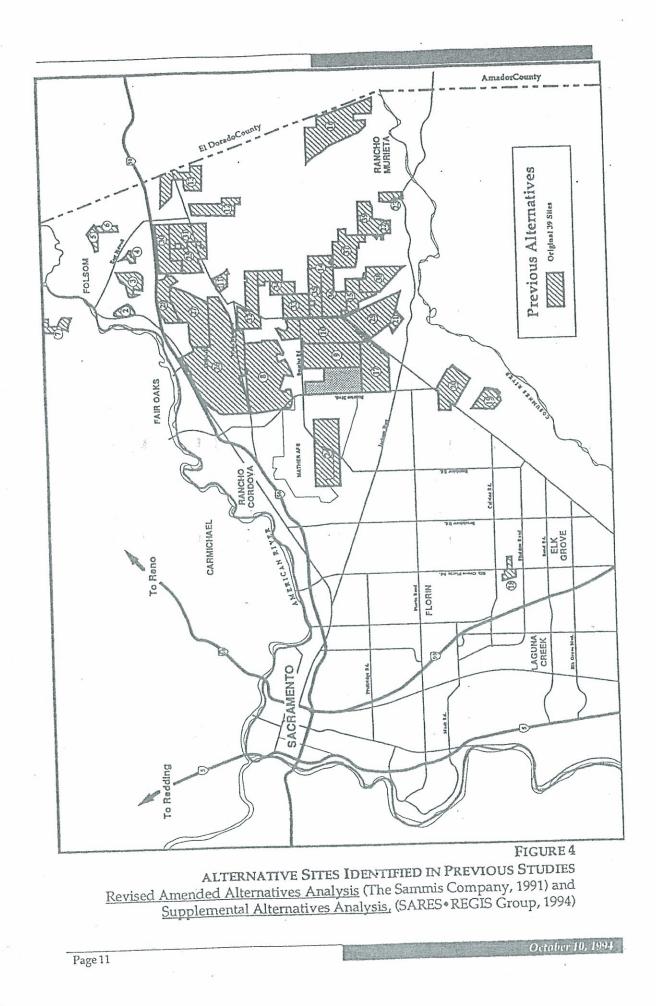
- Land use constraints
 - prime agricultural land
 - Williamson Act Contract
 - building moratorium
 - developed or committed to development
- Environmental constraints
 - oak woodland resource areas
 - landfills
 - wetlands
 - development-constrained zones (propellant hazard, airport approach)
- Physical constraints
 - soils (shrink/swell)
 - dredge piles
 - topography
 - floodplain

Applying these screening criteria to the six regions resulted in the identification of alternative sites 1 through 23 (Figure 4). The North Natomas area was identified as having no sites because of land use constraints (building moratorium, agricultural land) and physical constraints (100-year floodplain). The Folsom region was identified as having seven potential sites (1 through 7). The Scott Road and Rancho Murieta areas were identified as having 10 potential alternative sites (sites 8 through 17). The Elk Grove/West Vineyard area was identified as having one alternative site (site 18). The East Vineyard, Rancho Murieta and Cosumnes area was identified as having five alternative sites (sites 19 through 23). The South Elk Grove area was shown as having no alternative sites due to land use constraints (agricultural land and Williamson Act Contract).

Pursuant to comments from EPA and U.S. Fish & Wildlife Service, the Supplemental Alternatives Analysis (1994) looked at the Rancho Cordova area focusing on sites with less than the previously determined minimum acreage requirement in close proximity to the Sunrise-Douglas site. Applying similar selection criteria used in the Revised Amended Alternatives Analysis (1991) (i.e., land use constraints, environmental constraints, and physical constraints), an additional 16 sites were identified, shown as alternative sites 24 through 39 on Figure 4.

The 39 preliminary alternative sites are included and addressed in this analysis. This analysis encompasses the criteria used in the two previous studies (Revised Amended Section 404 (b)(1) Alternatives Analysis, 1991, and Supplemental Alternatives Analysis, 1994), but applies a more rigorous evaluation of viable alternative sites, as detailed in the following discussion on methodology.

As noted (p. 1), this study re-evaluates certain parcels which were discussed in the previous studies, but eliminated earlier in the process, and thus not identified as one of the 39 parcels in the earlier studies. The fact that these parcels are



identified in this study results from the system of evaluation applied here. In the previous study these parcels were eliminated on the basis of specific criterion early in the analysis. In this study the same parcels are carried further in the analysis to more clearly document the evaluation process. The evaluation of criteria is consistent with the earlier studies but the sequence of applying the criteria and the more systematic approach more clearly identifies the candidate parcels.

4. <u>Summary of Findings</u>

- The overall project purpose is to develop a viable master planned community with affordable housing in southern or east Sacramento County that will be consistent with the County's land use policies.
- The proposed Sunrise Douglas project would develop approximately 7,000 dwelling units while supporting commercial, business-professional, school and park uses on 1,225 acres.
- Policies in the Sacramento County General Plan (1985) and planning practice in the Sacramento region since 1982 indicate that housing opportunities should be located within 8 miles of major employment centers.
- The major employment centers in the Sacramento region are the downtown core area and concentrations of employment.along the Highway 50 corridor. This includes the Cordova/Sunrise employment center.
- In order to locate housing in close proximity to employment centers along the Highway 50 corridor and avoid traffic congestion at crossings of the American River the alternative sites should be located south of the American River.
- An 8 mile driving distance from an employment center defines the "commute shed" for that center. In order to be consistent with Sacramento County policy 80% of all housing opportunity should be within the commute shed. To accommodate new housing need it is determined that the alternative sites should be within the commute shed.
- Master planned communities in the Sacramento region have been not less than 400 acres in size and this is assumed to be a minimum threshold criterion.
- The majority of the land area in the south and south central (Elk Grove and Vineyard) areas of Sacramento County have been substantially developed in small estate parcels of 5 to 20 acres and are not available for development.
- Most large land holdings in the eastern portion of the county are not available or are highly constrained.
- A total of 47 parcels, including 39 parcels specifically identified in previous studies, are identified as potential candidates to be considered as alternate sites. All 47 sites were evaluated in the previous studies but 8 were rejected on the basis of preliminary evaluation criteria. Inclusion of all 47 sites in this study reflects a more systematic sequence in which evaluation criteria are applied.

 In this study seven of the original 39 parcels (Parcels 14, 15, 21, 25, 26, 27, and 28) are reconfigured in new aggregations as larger alternative sites, as noted in Table 1. Thirty-two of these parcels did not meet minimum threshold requirements of location, size or availability or were aggregated as new parcel configurations and were not further considered.

- The remaining 15 parcels are analyzed for conditions relating to project feasibility, and the potential effect on wetlands and other significant natural resources.
- All sites in the study area, including the Sunrise-Douglas site, are constrained by one or more criterion and none have been determined to be a superior site which meets the overall project purpose.
- The Sunrise-Douglas site is the least constrained.

Tables 1 and 2 provide a list of all sites evaluated as alternative sites for the Sunrise-Douglas project. In order to maintain continuity the alternative sites are designated the same identifying number as used in the previous studies. However, additional review in this study has resulted in slight modification of the parcel configurations or aggregation of parcels under a single ownership to identify larger parcels and potential alternative sites.

Table 1 summarizes the threshold analysis which determines which alternative sites fulfill the minimum requirements of location, size and availability. Sites that met the minimum standard are designated "Y" under the appropriate criterion. Those that do not meet the minimum standard are designated "N" and a dark pattern blanks out the balance of the analysis. Only those sites that are consistent with the overall project purpose are considered further in the analysis.

Table 2 provides a summary of the relative ranking of each alternate site in consideration of criteria that evaluate feasibility, relative potential impact on the wetland resource and negative impacts on other significant environmental resources. The criteria are ranked on a scale of 0 to 5 according to the characteristics and standards provided in Sections 10 through 18. A site satisfying all the criteria could achieve a ranking of 45. No site achieved this ranking; however, the Sunrise-Douglas project ranked the highest at 38 with the nearest contender ranking only 32.

Table 1
Summary of Threshold Criteria
for Alternative Sites

	Consistent						
			W	Project Purpo	6-6	Avai	lable
		Criterion	1 /	2	3 1	1 -	5 V
gradmant decisions			South of the	Within the	Minimum		Not
Map			American	Commute	Parcel	Non-Public	Developed
Key	Site Description	Acreage	River	Shed	Size	Lands	or Committed
	SUNRISE-DOUGLAS PROJECT	1225	Y	Y	Y	Y	Y
Folsom					~		
-1020		182	Y	Y	(N)		
		4.27	Y	Y	Y	Y	(N)
		943	Y	Y	Y	Y	(N) (N)
-		182	Y				
-6-		133	Y	33			
	North of the American River not considered further	424	(N3				
Ilan or Could	Road/Lower Scott Road/Ranches Murietta						
-5	Aerojet; includes former percels 8, 25, 26, 27, 28	8,417	Y	Ŷ	Ŷ	Y	N
9		530	Y	Y	Y	Ŷ	Y
10		645	Y	Y	Y	Ŷ	Y
11	9 L	212	Y	Y	(N)		
11-1		662	Y1	22			
-13-		896	Y	(N)			
14	now included in Parcels 35 and part of 36						
15	now inleaded in Parcels 38 and part of 36			~			
-16-		2,763	Y	N			
17		624	Y	Ŷ	Y	Y	Y
Elk Grove/	West Vineyard						
12	and the second	180	Y	(N)			
Fact Man	urd/Lower Rancho Murieta						
20 - 20	ro Lower Kancho Milneta						
1		1,244	Y	(M)			
20		918	Y	Y	Y	Y	Y
-22-	now included in Parcels 45 and 46			A			
-2-		4.80	Y	23			
73		204	Y	(N)			
Rancho Con	dova						
-25-	Mather AFB	1,553	Y	Y	Y	(N)	
(25	part of Aerojet (Parcel 8)					9	
35-	part of Aerojet (Parcel 8)						
20	part of Aerojet (Parcel 8)						
6-	part of Aerojet (Parcel 8)						
-22-	Land a second a second of 1	433	Y	jan		Ô	
30			Y	Y	Y Y	B	
-31		846		Y	1	Y	Y
-32-		830	Y	Ŵ			initia manual di seconda di second
33		867	Y		Y	Y	
		640	Y	Y	Y	Y	Y
34		897	Y	Y	Y	Y	Y
35		778	Y	Y	Y	Y	Y
36		1,536	Y	Y	Y	Y	Y
37		1,262	Y	Y .	Y	Y	Y
38		1,592	Y	Y -	Y	Y	Y
-20-		610	Y	(A)			rea.
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42		1,030	Y	Y	Y	Y	Ŷ
in		572	Y	~(3)~ ~ ~(3)~			
44		1,201	Y		Y	Ŷ	Y
4.5		434	Y	Y	Y	Y	Y
45		550	Y	Y	Y	Y	Y
37		*375	Y	Y	N		
		and the second se	Permanental calific laborary provident	Conversion of the Conversion o			

• See Page 27 Y = Yes N = No

Page 15

[Aquatic System	Other	Adverse	
			Fee	ibility			Impacts		ntal Impacts	
Criteria	6	7	8	9	10	11	10194218	13	14	
			11		[]				l	
Map Key	Aggregate Resource	Mather Flight Zone	Williamson Act	Sewer Service	Freeway Access	Parcel Size	Wetlands	Light Rail Access	Osk Woodland	Total
Rey	Kelourus	rugae 2000	Ad	Service	ALCERS	5126		Access	Riparian	Rating
S-D	5	3	5	5	. 4	3	3	3	5	38
Folsom										
1 & 2										0
4										0
5										0
6										0
7										0
	ott Road/Lowez	Scott Road/Ra	ncho Murietta							
8 9	5	3	5	4	2	3	3	2	5	0
10	5	3	5	3	1	3	3	2	5	30
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12										0
13										0
14 15										0
16					Constanting of the second					0
17	5	0	1	5	2	3	3	2	5	26
Ik Grove	e/West Vineyar	d								
18	Anna Anna Anna Anna Anna Anna Anna Anna									0
	yard/Lower Ra	ncho Murieta								
19 20	5	5	2	· · · · ·			5			0
21			1	3	1	3		1	5	30
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25 29	5	3	0	4	5	3	3	3	3	0 0 0 0
25 29 30 31 32 33	5	5	0	2	2	3	0	2	5	0 0 0 0 29 0
25 29 30 31 32 33 34	5 5	5 5	0	2 2	2	3	0 5	2 2	5 5	0 0 0 0 29 0 0 24 27
25 29 30 31 32 33 34 35	5 5 5	5 5 3	0 0 5	2 2 2	2 0 2	3 3 3	0 5 3	2 2 1	5 5 3	0 0 0 29 0 24 27 27
25 29 30 31 32 33 34	5 5 5 5	5 5 3 3	0 0 5 5	2 2 2 2	2 0 2	3 3 3 5	0 5 3 3	2 2 1 1	5 5 3 3	0 0 0 29 0 0 24 27 27 29
25 29 30 31 32 33 34 35 36	5 5 5	5 5 3	0 0 5	2 2 2	2	3 3 3	0 5 3	2 2 1	5 5 3	0 0 0 29 0 24 27 27
25 29 30 31 32 33 34 35 36 37 35 38 39	5 5 5 5 5 5	5 5 3 3 5	0 0 5 5 5 0	2 2 2 2 1	2 0 2 2 0	3 3 3 5 5 5	0 5 3 3 5	2 2 1 1 1	5 5 3 3 3	0 0 0 29 0 24 27 27 29 25 25 25 25 0
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Table 2 Summary of Ranking of Alternative Sites by Specific Criteria

5. <u>CRITERION 1</u> LOCATION IN SOUTHERN OR EASTERN SACRAMENTO COUNTY

The Sacramento Metropolitan region has historically grown along the major freeways, Interstate 80, US Highway 99 and US Highway 50, and more recently along Interstate 5. However, the dominant pattern has been away from the downtown core area to the northeast (along I-80) and the east (along Highway 50). The area between the freeways (comprised of older rural subdivisions such as Carmichael, Fair Oaks and Citrus Heights) has been substantially urbanized. Over time Sacramento County north of the American River has been fully developed with the exception of portions of the city of Folsom to the east and the Natomas Basin north of downtown Sacramento. These areas have been actively planned for development and were in process of securing land use entitlements in 1989. In addition, the Natomas Basin has been extensively studied to determine the best means of mitigating the flood potential which could significantly limit the development of the area. The resolution of the potential flooding problem was not resolved in 1989.

As a consequence of the existing development pattern in Sacramento County the opportunity to further urbanize is highly constrained or simply unavailable in the area north of the American River. Nonetheless, Sacramento County is projected to continue substantial growth in both employment and housing.

Sacramento County projects a need for 28,800 acres of new housing development to accommodate a projected population of 1.25 million residents by the year 2010 (Sacramento County, Background Report for the Land Use Element of the Sacramento County General Plan 32, December 1988). In fact, based on the 1990 Census results, Sacramento County may gain one-half million new residents for a total of 1.5 million and experience the greatest growth in Northern California. In either case, Sacramento County will require a substantial amount of new housing in the next two decades.

The Highway 50 corridor and the downtown core are recognized as major employment centers in the Sacramento region. Over the past decade, the Highway 50 corridor has attracted a significant amount of the new employment development in the region. Since 1980, the communities of Folsom and Rancho Cordova have experienced intense housing demand and rapid employment growth due to expansions of the high technology, electronics, and new services industries. Over 2,217 acres of land zoned for industrial uses stretch out along Sunrise Boulevard to the south of Highway 50. A substantial amount of land exists along the Highway 50 corridor between the Bradshaw and the Hazel freeway with either an industrial park or business park designation.

As early as 1982 Sacramento County had studied the need for housing in the Highway 50 corridor and concluded that less than one third of the job related housing demand could be fulfilled within 6 miles of the major employment centers (Sacramento County Department of Planning and Community Development, December, 1982). In January 1989, industrial parks and business parks in the Cordova/Sunrise employment center contained approximately 4,104,120 square feet of constructed space. Individuals have proposed a total of 9,481,847 square feet in this area, much of which Sacramento County has already approved.

With the major employment centers south of the American River, a major new housing area north of the river would require employees to cross the river in their daily commute. The concentration of commuter traffic already places significant traffic impacts, with related air quality and traffic congestion on the limited capacity approaches and bridge crossings over the river. The alternative to creating additional traffic corridors through developed communities is to place major new housing areas near existing and expanding employment centers. Sacramento County policies in the General Plans in 1982, 1985 and 1993 clearly and consistently emphasize locating housing in close proximity to employment centers.

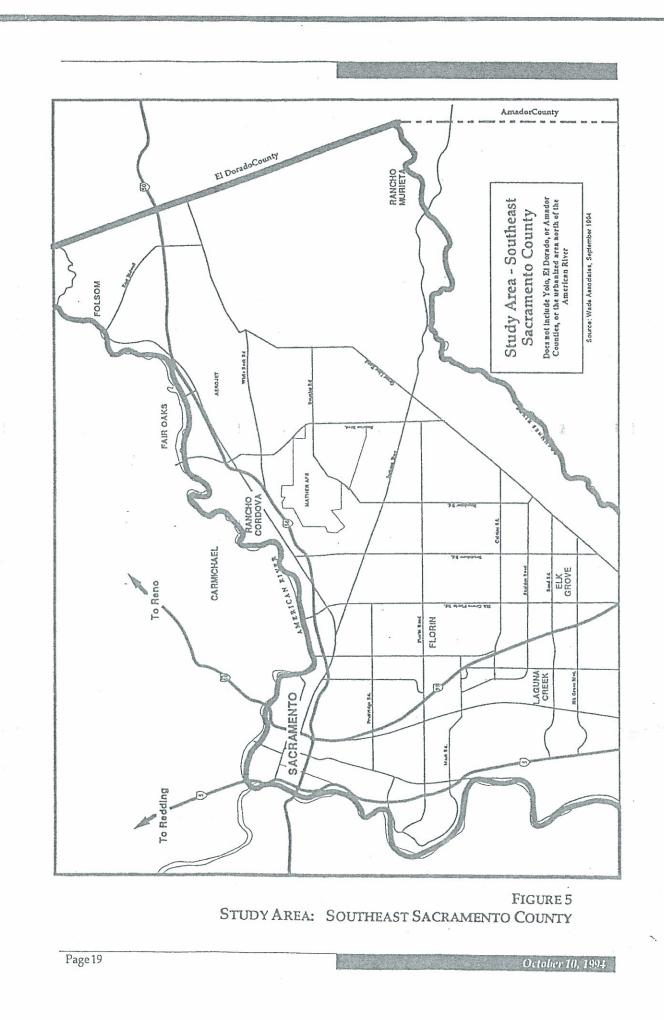
Application of this body of policy and existing pattern of urbanization which severely limit opportunities for substantial new housing development north of the river determine a criterion to eliminate all land north of the American River from further consideration. The study will therefore focus in the area generally bound by the American River on the north, the El Dorado County line to the east, the Cosumnes River to the south and the Sacramento River to the west. (Figure 5).

5.1 Sunrise-Douglas Project

The Sunrise-Douglas project is located in defined study area portion of Sacramento County.

5.2 <u>Alternative Sites</u>

This criterion excludes parcels located north of the American River. The earlier studies (The Sammis Company, 1991, and SARES • REGIS Group, 1994) did not identify any alternative sites in the North Natomas area and this criterion is consistent with those earlier findings. However, <u>Revised Amended Alternatives Analysis</u> (The Sammis Company, 1991, Figure B-6) identified and analyzed site No. 7 in the Folsom area. This site is located on the north side of the American River adjacent to the Placer County boundary and will not be considered further in this analysis. The site is noted in Figure 4, Section 3.



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6. <u>CRITERION 2</u> CONSISTENCY WITH SACRAMENTO COUNTY POLICIES

The Sacramento County General Plan in effect at the time of the project application (1989) was adopted by the Board of Supervisors on July 29, 1982, and amended in April, 1985. The Sacramento County General Plan represents a comprehensive approach to the process of urbanization, provisions for transportation, public services and infrastructure, and the protection of natural resources. Land use, circulation, economic development, air quality, water quality, and a host of other considerations are incorporated in the Plan, and urban development is part of an overall mosaic that relies on the fulfillment of the other components of the Plan.

The following Goals and Policies excerpted from the amended General Plan define the County position on providing adequate and appropriately located land to accommodate projected population growth:

<u>Goal</u>: To develop a strong, diversified economic base and provide for the orderly distribution of housing and employment opportunities throughout the County. (Sacramento County General Plan, Page 7)

A balance of jobs and housing is an important consideration in the Sacramento region because it is a non-attainment area under the National Ambient Air Quality Standards. The location of worker housing close to employment centers can significantly reduce the total of vehicle miles traveled (VMT) for commute trips with resulting improvements in air quality and reduced traffic congestion. Adequate supply of housing affordable to employees is a significant factor in the location decision of large employers. Therefore, providing for an adequate supply of housing contributes to the economic development potential in the region.

The concept was formalized as a policy for Sacramento County with the adoption of the Air Quality Element in the County General Plan excerpted in the following policies:

<u>Policy</u>: To encourage increased residential densities near employment centers and along major transportation corridors within the urban area, in conjunction with improved transit systems and service, as a means of increasing the housing supply and reducing potential commute distances. (Policy 3.1.1, Page 30)

<u>Policy</u>: To achieve a 25% reduction in average home-work vehicle miles traveled. The County will adopt and implement a series of land use, transportation, and related programs oriented toward achieving national ambient air quality standards by 1987, including the following:

1. Develop land use plans and regulations which will reduce travel (particularly commute) distances, facilitate increased transit use, and reduce reliance on the automobile.

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2. Encourage higher intensity land uses (commercial, industrial, and increased density residential) within existing and planned transportation corridors.

3. Continue to support the development of a light rail transit system oriented toward providing trunk service between major employment centers and residential areas.

4. Actively support the efforts of the Regional Transit District to expand and upgrade service, to provide feeder service to the proposed light rail transit system, and to attract an increasing percentage of local travel.

5. Achieve a distribution of home-work trips as follows:

а.	less than 6 miles one way	60% of home-work trips
<i>b</i> .	6 to 8 miles one way	20% of home-work trips
С.	more than 8 miles one way	20% of home-work trips

(Policy 2.3.1, Sacramento County General Plan, Page 19-20)

The objective of this policy was to achieve a 25% reduction in home to work trips relative to the regional average that was calculated to exist in 1978 according to the Sacramento Area Transportation System (SATS) model (Sacramento County Department of Planning and Community Development, December, 1982, p.2).

Policy 2.3.1 Item 5 establishes the basis for the concept of a "commute shed", that is, the distance workers should drive from home to work. The concept has been applied in Sacramento County and Placer County as a measure of the appropriate maximum distance between home and work. It is intended not as an expectation that workers will necessarily select housing and distribute themselves in this idealized pattern, but rather, to gauge whether the housing opportunities are available in the area defined by a "commute shed boundary". The point is that if the housing is not available the workers will have no alternatives but to commute further.

The major employment centers included in this analysis are the downtown core area, the Fruitridge/Power Inn employment center, the Bradshaw employment center and the Cordova/Sunrise employment center. The boundary calculated by measuring an 8-mile commute on major arterial streets from each of these centers is illustrated in Figure 6.

A review of the land use pattern within the 8-mile commute shed for the downtown core, Fruitridge/Power Inn and Bradshaw employment centers, as illustrated in Figure 7, indicates these portions of the county to be virtually fully urbanized or urbanizing as approved development projects in 1989. Consequently, there was no opportunity to locate alternative sites in these commute sheds.

The commute shed concept is applied in this study as a measure of whether an alternative site fulfills the overall project purpose of providing housing consistent with Sacramento County land use policies. On this basis it is

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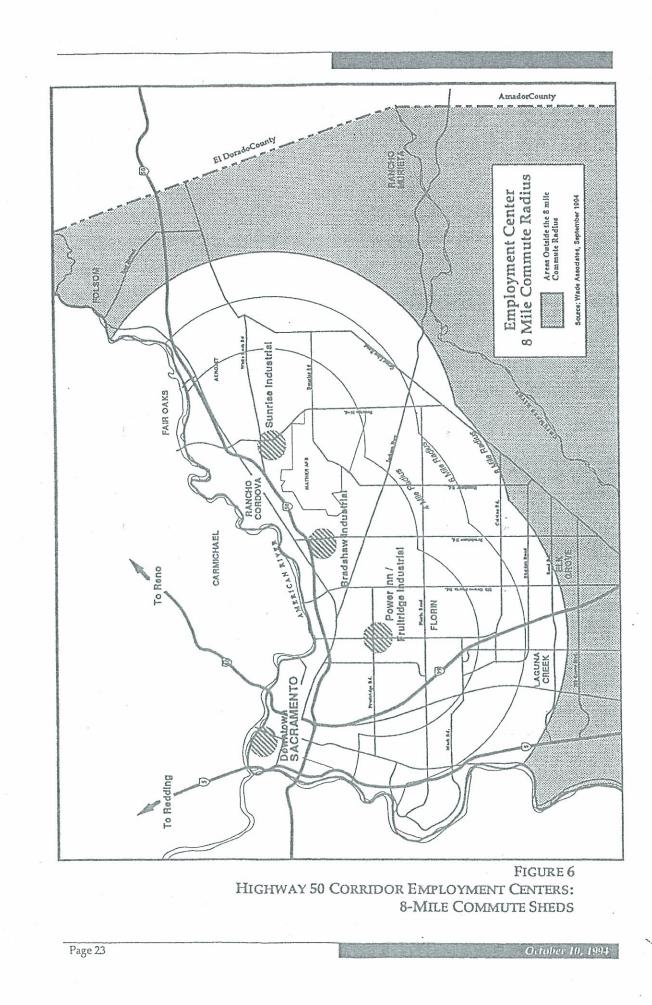
determined that residential areas must be distributed generally within a boundary defined as an 8-mile commute from the major employment centers south of the American River. The Cordova/Sunrise employment center is the only commute area that provides a range of alternative sites to consider. This commute shed boundary as illustrated in Figure 8 forms a focused study area for the identification of alternative sites. Only sites within the 8-mile commute shed will be considered further in this study.

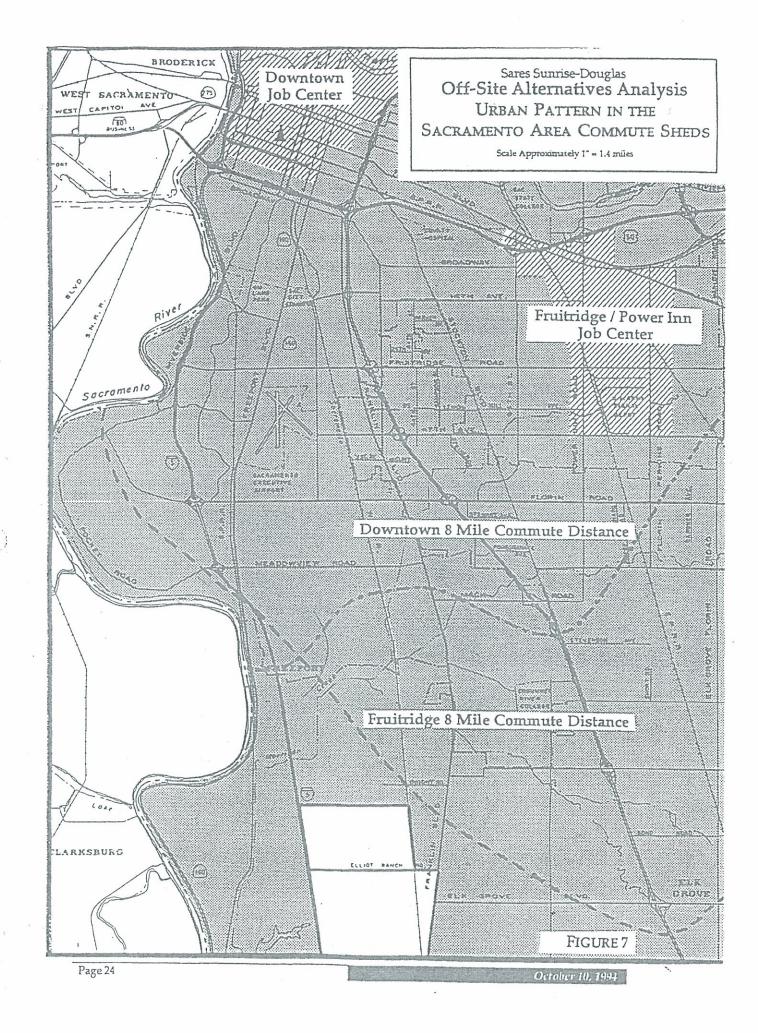
6.1 <u>Sunrise-Douglas Project</u>

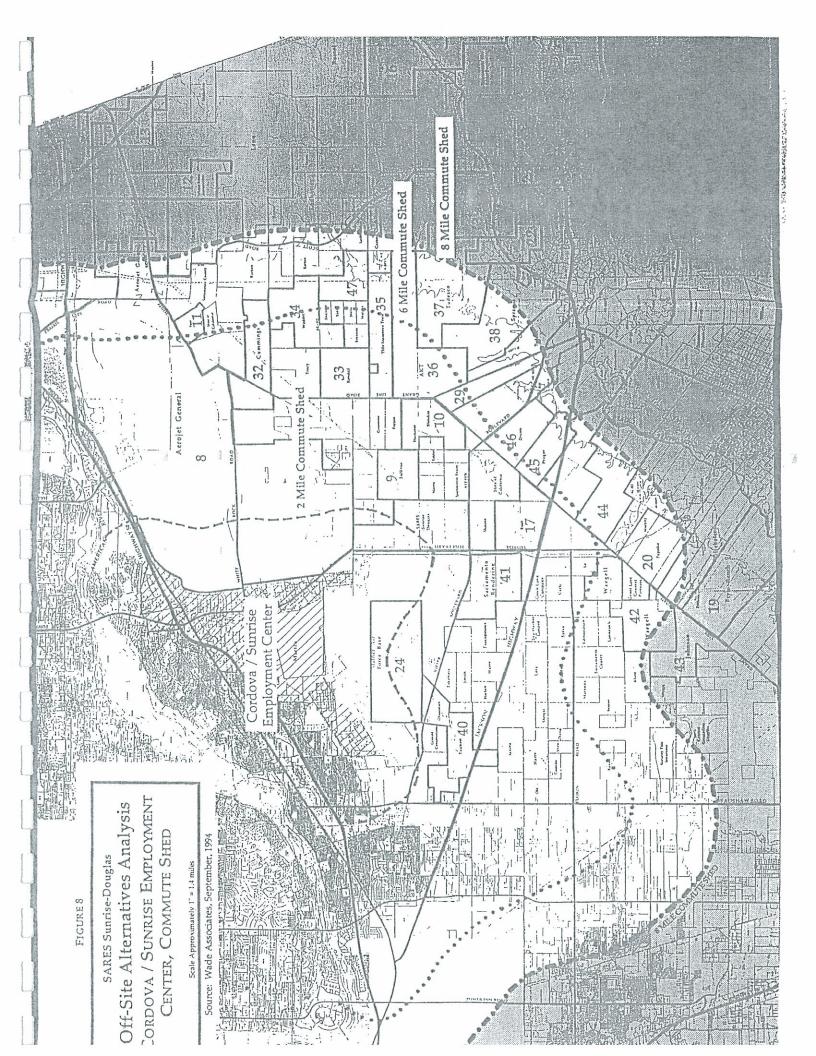
The Sunrise-Douglas project is within 2 miles of the Cordova/Sunrise employment center.

6.2 <u>Alternative Sites</u>

This criterion excludes parcels located beyond the 8-mile commute shed boundary. The earlier study <u>Revised Amended Alternatives Analysis</u> (The Sammis Company, 1991, Figure B-6) identified and analyzed site No. 18 in the Elk Grove-Vineyard area. This site is located well beyond the commute shed for the Cordova/Sunrise employment center and will not be considered further in this analysis. The site is noted in Figure 4, Section 3.







7. <u>CRITERION 3</u> POTENTIAL AS A MASTER PLANNED COMMUNITY

The term Master Planned Community, or "new community" is generally applied to large, mixed use projects. The Urban Land Institute, one of the nation's leading authorities and publishers in the field of land development, defines new communities as development projects that are:

- large scale;
- programmed to contain a balanced mix of land uses;
- controlled by a master developer; and
- master planned early in the development process.

Further, new communities,..."typically plan for multi-family and single family housing within broad price ranges, from starter houses to housing for empty nesters, ..., shopping centers, and an array of recreational uses.... Because they are planned and developed by a master developer, new communities are able to avoid the lack of overall physical unity, poorly defined edges, a transportation system lacking in hierarchy and identifying graphics, nonexistent pedestrian links, few open spaces, inward focuses sites, and little sense of community or public life." Urban Land Institute, <u>Developing Successful New</u> Communities, 1991.

These criteria for a master planned community clearly support the need for a large project under the control of a single master developer. Such an approach is difficult, if not impossible, in a setting of small, multi-ownership parcels. The parcelization pattern throughout Sacramento County south of the American River was reviewed through examination of the Sacramento County Assessor Parcel Maps. The study area encompasses a substantial territory of several thousand acres, however, much of the area is fragmented in small parcels and individual home sites that are not appropriate for urban development. Throughout much of the study area the land has been subdivided in homesites or ranchettes of less than 20 acres. In many areas the homesites are two to ten acres. In this pattern of development the basic water and sewer services are provided by on-site wells and septic tanks and leach field systems. Such service is not adequate to support urban development to the level that is required to accommodate the population forecast for Sacramento County.

Although there is no set criteria to define the size of a Master Planned Community there are local indicators which can be used to approximate the size of parcel which is necessary to achieve the characteristics that define master planned community and the proposed overall project purpose. In the Sacramento Metropolitan region there have been many projects proposed and/or developed since 1978 that fit the profile of master planned communities. A review of these communities provides an empirical data base on the appropriate size of a master planned or "new" community. The data summarized in Table 3 indicates that the master planned communities range in size from 401 acres to 4,868 acres.

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		REAL PROPERTY	Total
	Master Planned Community	Jurisdiction	Acreage
Α.	Eastridge	Lincoln	401.0
B.	Natomas Station	Folsom	483.2
C.	Broadstone III/Elliott	Folsom	569.0
D.	Elliott Ranch	Sacramento	628.0
E.	Eastlake Specific Plan	Lincoln	826.8
F.	Northwest El Dorado Hills Specific Plan	El Dorado County	915.5
G.	Southeast Roseville Specific Plan	Roseville	946.6
H	Laguna West	Sacramento	1,033.2
I.	Lincoln Crossing	Lincoln	1,069.9
J.	Del Webb Specific Plan	Roseville	1,200.0
K.	Sunrise Douglas SARES Project	Sacramento	1,225.5
L.	Northeast Roseville Specific Plan	Roseville	1,534.4
М.	Russell Ranch	Folsom	1,790.9
N.	North Central Roseville Specific Plan	Roseville	1,816.8
0.	Antelope Community Plan	Sacramento	2,274.6
P.	Northwest Roseville Specific Plan	Roseville	2,648.5
Q.	Stanford Ranch	Rocklin	3,244.9
R.	El Dorado Hills Specific Plan	El Dorado	3,8%.0
S.	Twelve Bridges	Lincoln	4,868.0

Table 3 Summary of Master Planned Communities in the Sacramento Region 1978-1993

The smaller projects listed in Table 2 are actually elements of larger projects. They are more appropriately considered phases of master planned communities rather than distinct projects in their own right.

Based on the empirical data on master planned projects in the Sacramento region it is concluded that no single property, or adjacent properties under a single ownership, smaller than 400 acres will be practicable for meeting the overall project purpose of a viable master planned community with affordable housing.

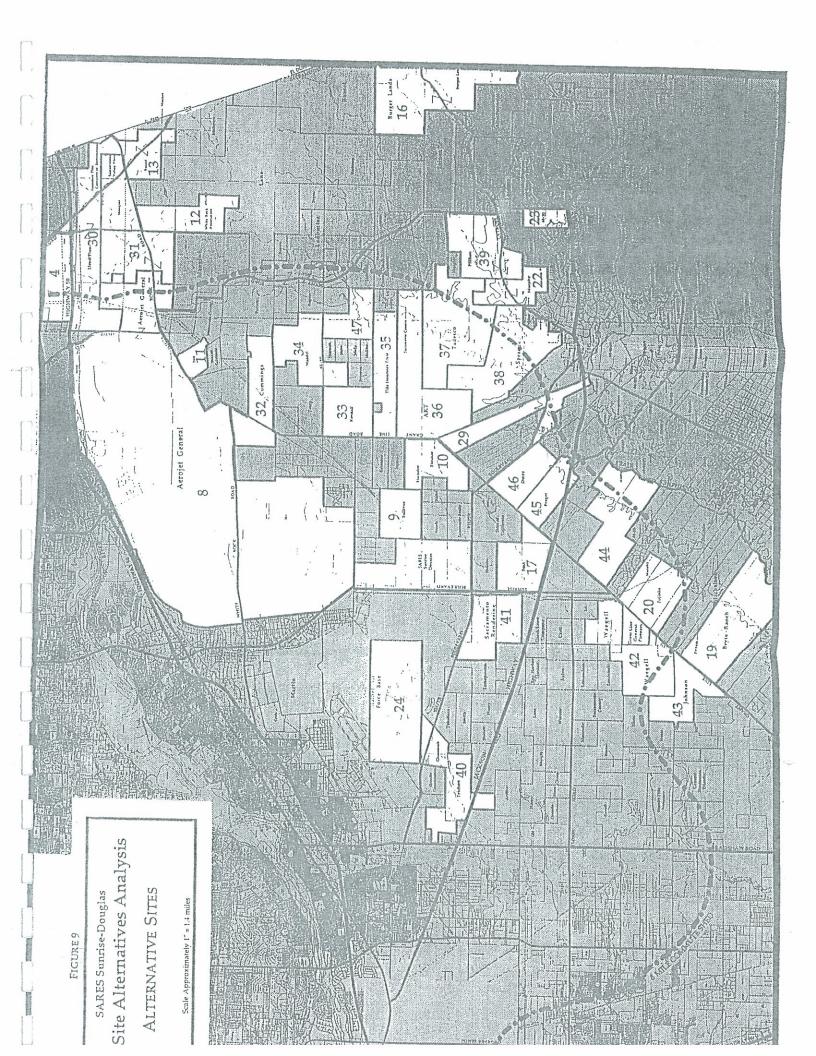
7.1 <u>Sunrise-Douglas Project</u>

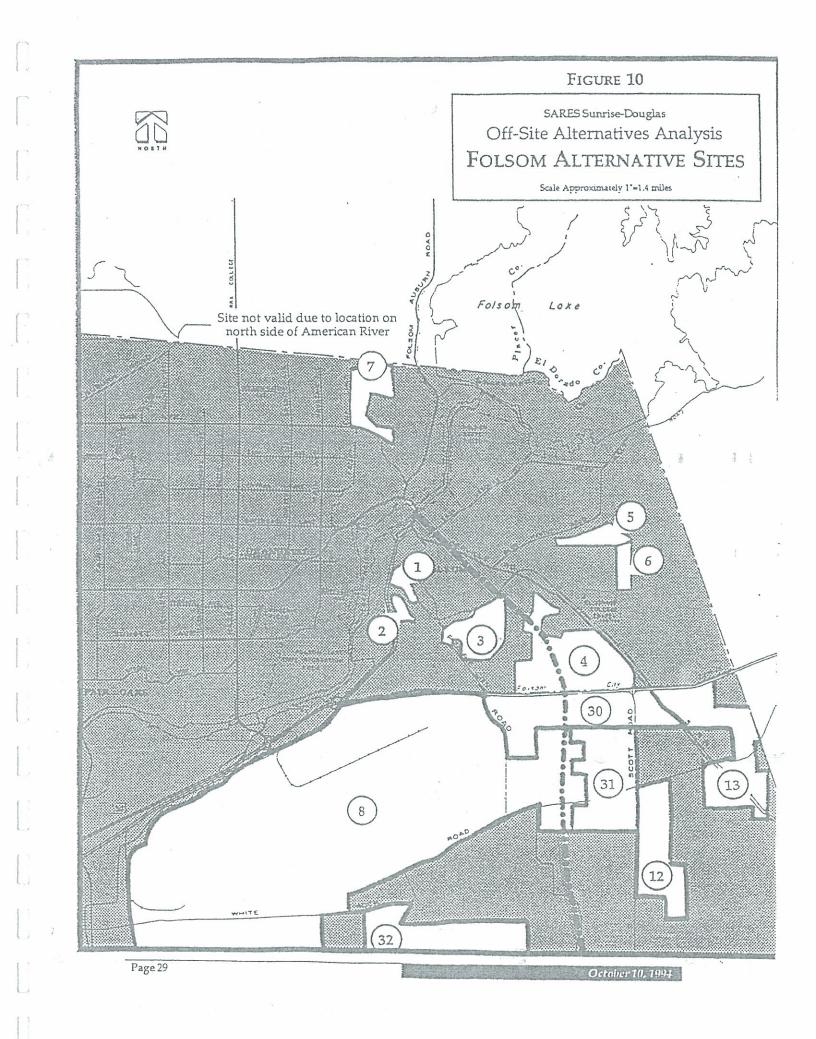
The Sunrise-Douglas project consists of 1,225 acres.

7.2 Alternative Sites

The earlier studies (SARES®REGIS Group, 1994) identified seven sites (designated Nos. 1, 2, 5, 6, 11, 18 and 23) that are too small to be considered further. Moreover, these sites are beyond the 8-mile commute shed for the Cordova/Sunrise employment center. Figures 9 and 10 illustrate all other parcels in or near the 8-mile commute shed that meet the minimum size threshold of 400 acres. Alternative site 47 is 480 acres in size. However, approximately 105 acres of the site fall within the FEMA floodplain leaving only 375 acres for development. It has therefore been eliminated as a viable alternative site.

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8. <u>CRITERION 4</u> NOT AVAILABLE: PUBLIC LANDS

Land that was under public ownership was <u>not</u> an available site and is not further considered in this analysis.

8.1 <u>Sunrise-Douglas Project</u>

The Sunrise-Douglas project is not under public ownership.

8.2 <u>Alternative Sites</u>

There are several sites within the area owned by public agencies, including Sacramento County and the State of California, which are clearly not available and are not considered as alternative sites. For example, the Sacramento County Landfill site is within the commute shed and of appropriate size but as an active landfill is clearly not available. In the previous studies (SARES•REGIS, 1994) two sites were considered as potentially available because the future disposition was under study. Parcel 24 encompasses a portion of the aviation facilities in the former Mather Air Force Base. In 1989 when the Federal decision to close Mather AFB was made the ultimate disposition of the property was unknown and release for private development was a possibility. However, Parcel 24 is within the portion affected by the Sacramento County decision to retain the aviation functions of the former base and this parcel is not now and never has been available.

Parcel 29 is contiguous to the Sacramento County Landfill. It is marginally large enough to qualify as an alternative site, however, it was constrained by an irregular parcel configuration. It has been added to the landfill site and is not available. Under County policy, restricting residential use adjacent to the landfill, this site was not practicable.

9. **CRITERION 5** NOT AVAILABLE: DEVELOPED OR COMMITTED LAND

Potential alternative sites were considered to be not available in 1989 if they were:

- committed to an industrial use that is inherently incompatible with residential use;
- already developed or partially developed in a competing project; or
- under the control of a competing development interest and in the process of securing land development entitlements.

9.1 Sunrise-Douglas Project

The Sunrise-Douglas project is not developed, nor is it committed for an incompatible industrial use.

3 1

9.2 Alternative Sites

Incompatible Use:

The previous studies identified portions of the Aerojet General site as an alternative. The site, designated as Parcel 8 in this study was previously designated as Parcel Nos. 25, 26, 27, and 28 (Sammis Company, 1991). Although the long-term availability of this site is periodically the subject of speculation, it has been an active industrial site for approximately 30 years and remains so at this time. The substantial land area of this site relates to the need for broad safety zones around rocket testing facilities. The site is not available and was not available in 1989.

Parcels 32 and 40 have an active aggregate mining operation and are therefore committed to an incompatible industrial use. Parcel 41 encompasses the Sacramento Rendering Company plant. This rendering plant is an active industrial use that is not available. It has been operating at this location for approximately 30 years.

Committed to Development Under the Control of Competing Interests:

Land that was developed, or that had procured the necessary entitlements to develop, or were committed to incompatible industrial uses, were not considered as available. A site was also considered unavailable for development if it had already been granted building permit approval on the parcel, or the development on the parcel is presently underway, or about to begin.

Although such sites may fulfill the overall project purpose, they are typically under the control of a competing development interest and are not available for purchase at an economic price. The value added by the entitlement process enables the then current owner to demand a price far in excess of the other

alternative sites. In effect the parcels approved for development fulfill a portion of the housing demand and are not an available alternative to fulfilling the portion of housing demand that would be met by the proposed site. The alternative sites identified in the previous studies, Parcel Nos. 3 and 4, were part of master planned communities under development or active planning entitlement processes by competing developer interests (Santa Fe Properties and Elliott Homes, respectively) in 1989 and were not available.

10. <u>CRITERION 6</u> AGGREGATE RESOURCE AREAS

The Highway 50 corridor overlays an extensive aggregate resource area comprised of subsurface river rock or cobble that is used extensively in gravel and other building products.

Development can ultimately occur in these areas as the mining activity is concluded, or as seen in other areas of the county where previous gold mining activity has displaced, but not removed the cobble material. Consequently, this criterion is not an absolute constraint that would prohibit development but is an economic constraint that limits the feasibility of development. Moreover, Sacramento County policy limits the development of residential uses in the aggregate resource area because of the need to reserve the resource for future use. The Sacramento County General Plan designates areas where high quality construction aggregates are found and restricts development which precludes surface mining activities within these resource areas, stating that construction aggregates are of no less importance than wood or steel in building and construction (Sacramento County General Plan, 1985, Page 108). Figure 11, Aggregate Resource Zone, shows the location of these resources.

In cases where the land is clearly within the aggregate resource area and remains to be mined, it is considered not available. The time to complete mining operations and the cost of such operations makes it economically infeasible to utilize a site to fulfill the overall project purpose.

For this criterion a range of conditions is reflected in a numerical ranking scale. The numerical ratings appropriate to this criterion reflect the availability of a site for urban development:

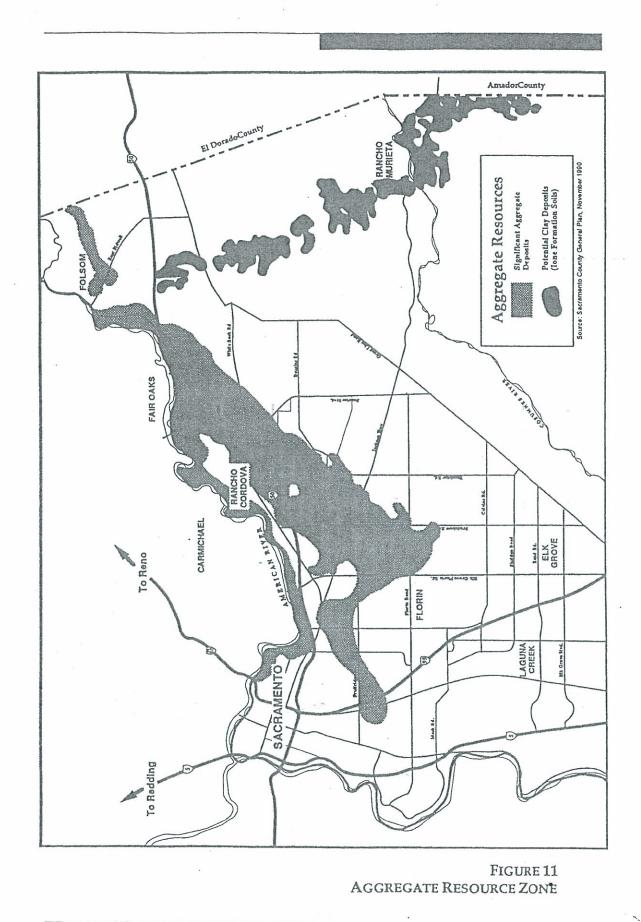
RATING		CHARACTERISTIC
5		Site not located within an Aggregate Resource Area
3	- *	Portion of site located within an Aggregate Resource Area
0		Site located within an Aggregate Resource Area

10.1 Sunrise-Douglas Project

The Sunrise-Douglas project is not located within an Aggregate Resource Area, and has accordingly been given a rating of 5.

10.2 <u>Alternative Sites</u>

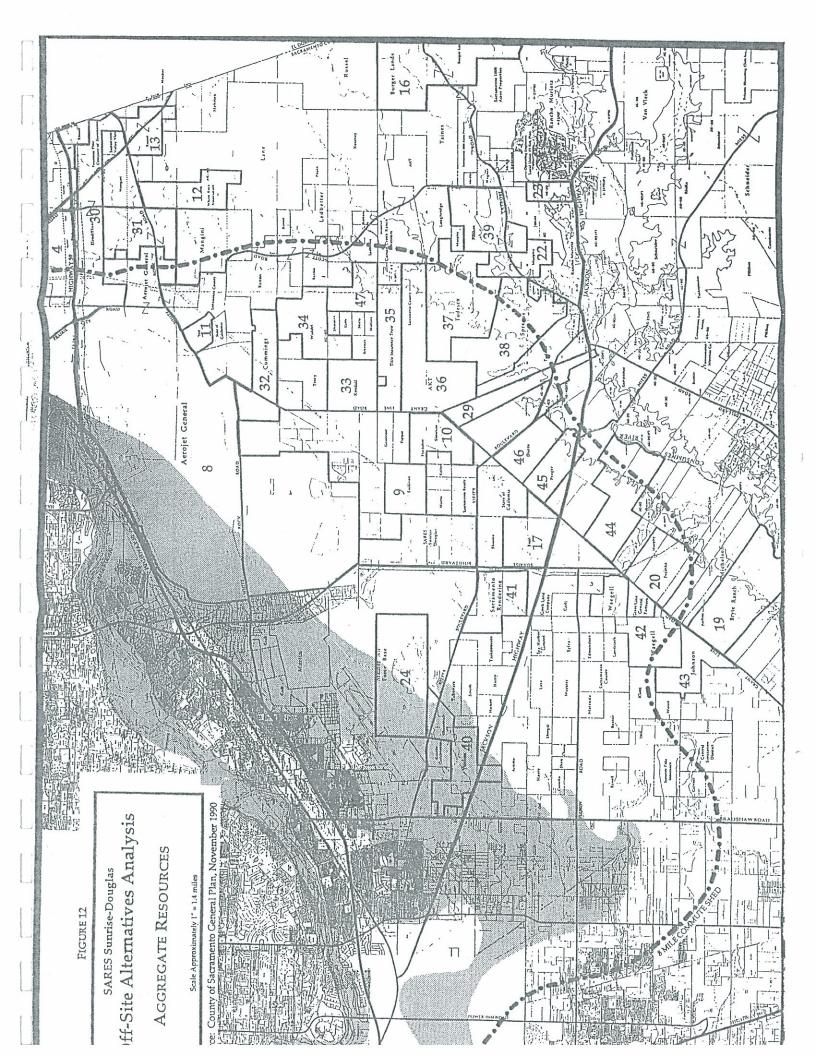
Portions of alternative sites 8, 24 and 40 are located within the Aggregate Resource Area. Alternative site 24, Mather Air Force Base, was eliminated as a viable alternative site to the Sunrise-Douglas project because of public



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ownership. Sites 8 and 40 are committed to incompatible industrial uses. All other alternative sites are located outside the Aggregate Resource Area, and have accordingly been given a rating of 5.

1 1

11. CRITERION 7 MATHER AIR FORCE BASE FLIGHT ZONE

The Comprehensive Land Use Plan (CLUP) adopted by Sacramento County for Mather Air Force Base contains firm restrictions on land development in the area surrounding the Base. The CLUP is concerned with safety both for aircraft and people on the ground, and noise. The CLUP land development restrictions prohibit urban development within the designated area surrounding the Base. The various safety restrictions include:

- Single family or agricultural residential development only if the density is five acres or more.
- Disallowing a large concentration of people within the area, defined as a gathering of individuals in an area that would result in an average density of greater than 25 people per acre per hour during a 24-hour period.
- No high-intensity use or facilities, such as structured playgrounds, ballfields or picnic pavilions.

Noise is a significant factor with respect to residential uses and thus with respect to the feasibility of fulfilling the overall project purpose. Sacramento County policies restrict residential development within the 65 CNEL noise contour. A site or portion of a site falling under the 65 CNEL contour would be considered unsuitable for residential use and site would be entirely or partially infeasible. The numerical ratings appropriate to this criterion reflect the availability of land for residential development. If land is currently within the 65 CNEL noise contour for Mather Air Force Base, that land is not available for residential development.

The significance of this criterion has diminished since 1989. With the closure of Mather AFB the military aircraft that generated the noise characteristics reflected in the current CLUP are no longer a factor. Consequently, these noise contours will be amended when the future level and type of aircraft activity at the former base is confirmed.

RATING

5

CHARACTERISTIC

Site located outside the 65 CNEL noise contour 4 En Most outside

~ 50%. 3 1-2 most in

Portion of site located within the 65 CNEL noise contour

0

Site located within the 65 CNEL noise contour

11.1 Sunrise-Douglas Project

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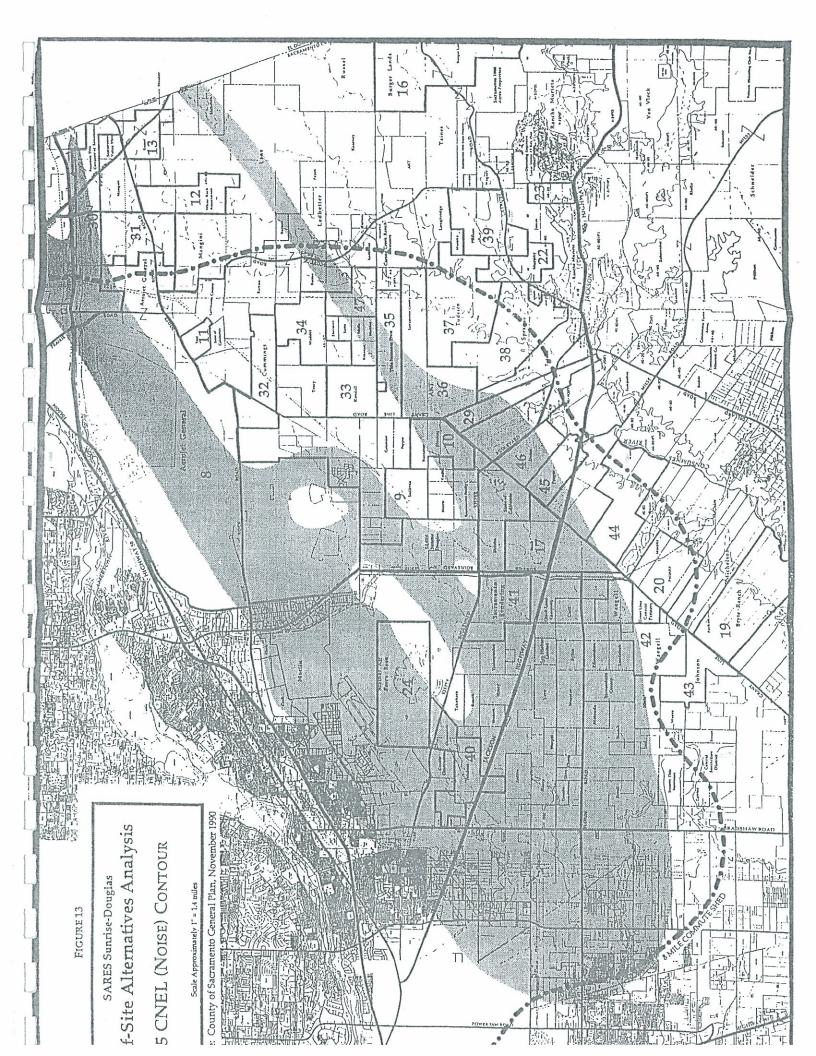
A portion of the Sunrise-Douglas project is located within the 65 CNEL noise contour for Mather Air Force Base, and has accordingly been given a rating of 3.

11.2 Alternative Sites

Alternative sites 20, 33, 34, 37, and 38 are located entirely outside the 65 CNEL noise contour, and have been given a rating of 5.

Alternative site 17 is located entirely within the 65 CNEL noise contour for Mather Air Force Base, and has accordingly been given a rating of 0.

Portions of all other alternative sites are located within the 65 CNEL noise contour.



12. <u>CRITERION 8</u> WILLIAMSON ACT CONTRACT

In 1969, Sacramento County first accepted applications for contracts under the California Land Conservation Act of 1965, commonly called the "Williamson Act". The purpose of the Williamson Act is to preserve agricultural land by creating property tax incentive to support continued use of lands for agricultural purposes. This is based on a change in assessment practices to allow the valuation of agricultural land to be based upon the use value for agriculture rather than the market value of the land.

A Williamson Act contract is initially written for a period of not less than ten years. It includes a clause that adds one year at each anniversary automatically extending the term of the contract. The effect is that the contract always has a term of 10 years, but can be terminated by the landowner or the County through filing a "Notice of Nonrenewal". Upon filing for nonrenewal, the contract remains in force for the balance of the initial term, 10 years. A property owner may request a cancellation of the Williamson Act contract with the concurrence of the county, however, the cancellation requires payment of a fee and payment of certain property taxes that have been avoided during the period of the contract.

The Williamson Act contract has the effect of delaying the time until development can occur or adding to the cost of the development through payment of fees and deferred property taxes. Such costs are substantial and have an effect on the economic feasibility of the project. The cost of the Williamson Act cancellation or the effect of time delay on the project diminishes as the period of time remaining under the contract declines.

The numerical ratings appropriate to this criterion reflect the availability of a site for urban development in the year 1989:

RATING	CHARACTERISTIC
5	Site not under Williamson Act contract
4	Nonrenewal filed by 1982 (three years left under contract)
3	Nonrenewal filed by 1984 (five years left under contract)
2	Nonrenewal filed by 1986 (seven years left under contract)
1	Nonrenewal filed by 1988 (nine years left under contract)
0	Site under Williamson Act contract

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12.1 Sunrise-Douglas Project

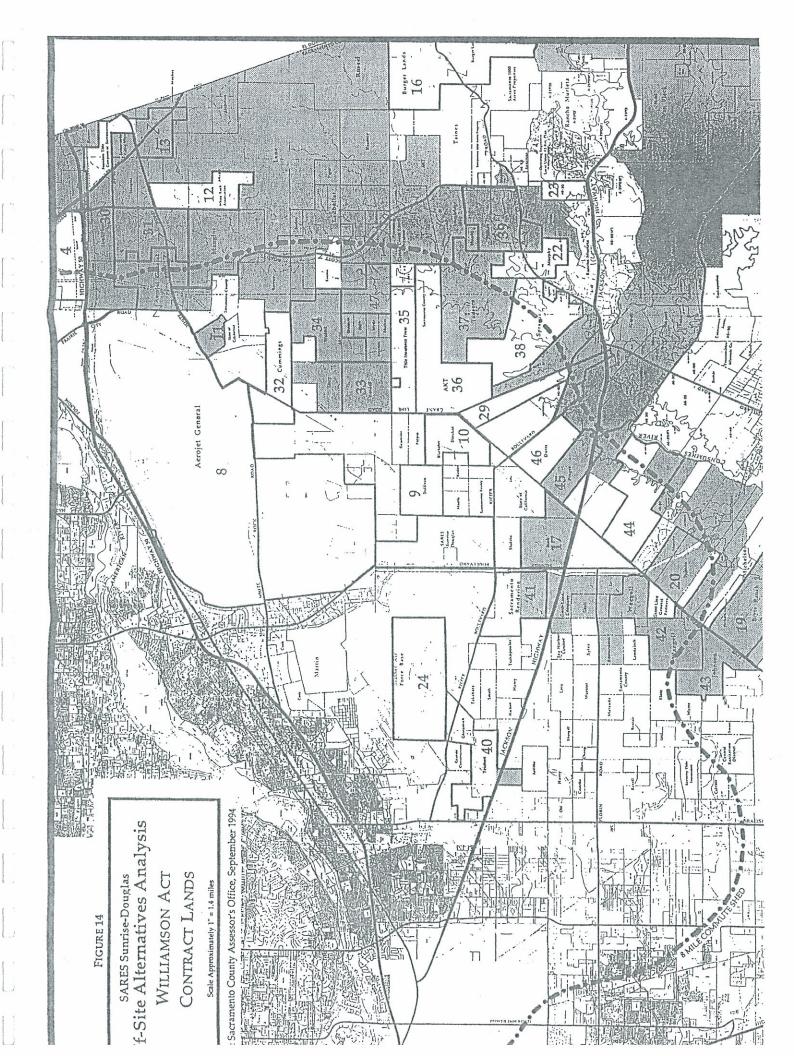
The Sunrise-Douglas project is not under Williamson Act contract, and is accordingly given a rating of 5.

12.2 <u>Alternative Sites</u>

All alternative sites currently under Williamson Act contract are shown on Figure 14.

A nonrenewal was filed in 1987 for alternative site 17, and it has accordingly been given a rating of 1. A nonrenewal was filed for alternative site 20 in 1986, and it has therefore been given a rating of 2. A nonrenewal was filed for alternative site 34 in 1993. Therefore, this site has been given a rating of 0.

All other alternative sites currently under Williamson Act contract have been given a rating of 0.



13. <u>CRITERION 9</u> COST TO ACCESS SEWER AND WATER INFRASTRUCTURE

The availability of basic municipal infrastructure, including water and sewer, is fundamental to the economic viability of a development project. If the services are not immediately adjacent to a development site they must be provided by extending existing pipes and roads to the site. The cost of these improvements is often a critical cost in the development of master planned communities. It is assumed that the basic capacity of the water supply system and wastewater treatment plant capacity is equally available to all alternative sites. The distance from existing sewer and water lines and major streets is a good surrogate for estimating the cost and thus, the feasibility of development.

The extension of water service costs is difficult to analyze for all sites throughout the south and east portions of Sacramento County. The source of water supply is under study and several source strategies are being considered. In the absence of a clear strategy for water supply it is not possible to determine the location of the water supply and thus, how far and from which direction the water pipeline will extend. Consequently, it is not possible to evaluate the relative cost of water service for each of the alternative sites.

In contrast, the sewer service is well defined. Wastewater treatment will be provided for all of the alternative sites at the Sacramento County Regional Wastewater Plant near Freeport. Since all sites must be sewered generally to the west it is possible to use distance as a surrogate for cost of municipal wastewater service.

In 1974, sewer services throughout Sacramento County were consolidated. The County-wide interceptor system and the operation of the Regional Wastewater Treatment Plant are the responsibility of the Sacramento Regional County Sanitation District (SRCSD). The Sphere of Influence (SOI) of the SRCSD, delineated on Figure 15, Sewer Sphere of Influence Boundary, is a good indicator of the availability of sewer lines because extension of sewer lines to serve new development requires expansion of the County Sanitation District. Properties must be within the Sphere of Influence boundary prior to annexation to the district and extension of sewer lines. In the absence of such an expansion, connection to existing systems is not possible, and small expansions that by-pass closer properties contradict County policies, as well as those of the Sacramento County Local Agency Formation Commission. Consequently, small, incremental expansions of basic urban services are not feasible.

The numerical ratings appropriate to this criterion reflect the potential for future extension of sewer infrastructure. The ratings are based upon a site's location relative to the SRCSD's Sphere of Influence as a measurement of availability of sewer service:

RATING	CHARACTERISTIC
5	Site within 1 mile of the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence
4	Site within 2 miles of the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence
3	Site within 3 miles of the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence
2	Site within 4 miles of the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence
1	Site within 5 miles of the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence
0	Site beyond 5 miles of the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence
-	

13.1 Sunrise-Douglas Project

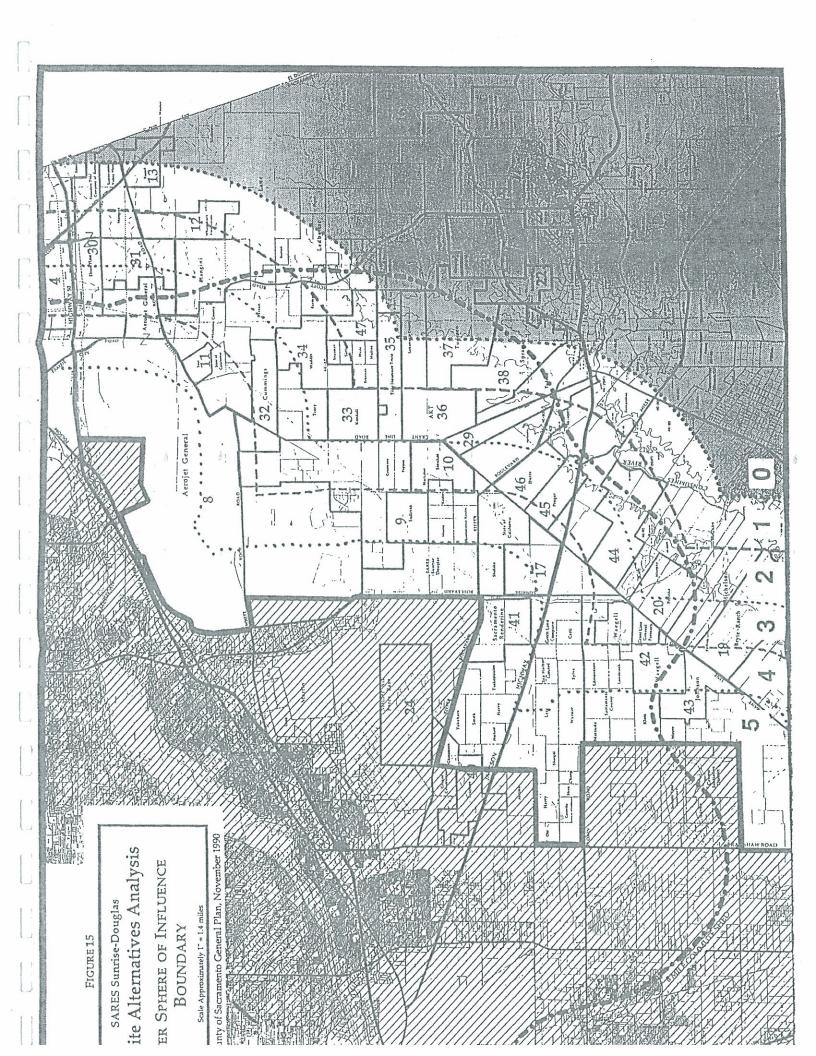
The Sunrise-Douglas project is adjacent to the Sacramento Regional County Sanitation District (SRCSD) Sphere of Influence boundary, and has accordingly been given a rating of 5.

13.2 Alternative Sites

The locations of alternate sites 37 and 38 are between 4 and 5 miles from the SRCSD Sphere of Influence boundary, giving these sites the rating of 1.

Alternate sites 8, 17, 24, 40, and 41 are all located within one mile of the SOI boundary and have accordingly been given the highest rating of 5. However, Parcels 8, 24, 40 and 41 are not available and are not considered as alternative sites.

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14. <u>CRITERION 10</u> ACCESS TO FREEWAYS

Access to major arterial streets that lead to Highway 50 is an indicator of project feasibility. The substantial cost of extending major new roads to distant alternative sites, among other factors, can make it not practical to achieve the affordable housing component of the overall project purpose.

The cost of road access is determined by the actual conditions along the access routes including the miles of new road, miles of major improvement to existing county roads, the number of intersections, and the condition of the street system. Distance from the freeway (Highway 50) is used as a surrogate for the various conditions affecting access to each site. Distance from Highway 50 is the basic criterion, however, new roads are a significant cost that must be factored in the evaluation.

For this study it is assumed that Highway 50, Sunrise Boulevard and the Jackson Highway are the only existing major roads. Any property not directly fronting on one of these roads will require construction of a major new road or improvement of an existing road and is assessed a one point penalty in the rating. The distance from the freeway to each alternative site is shown on page A-6.

The numerical ratings reflect the increased cost of extending a major road to an alternative development site. The criterion is also consistent with the Sacramento County policy to reduce travel distances as described in Section 6.

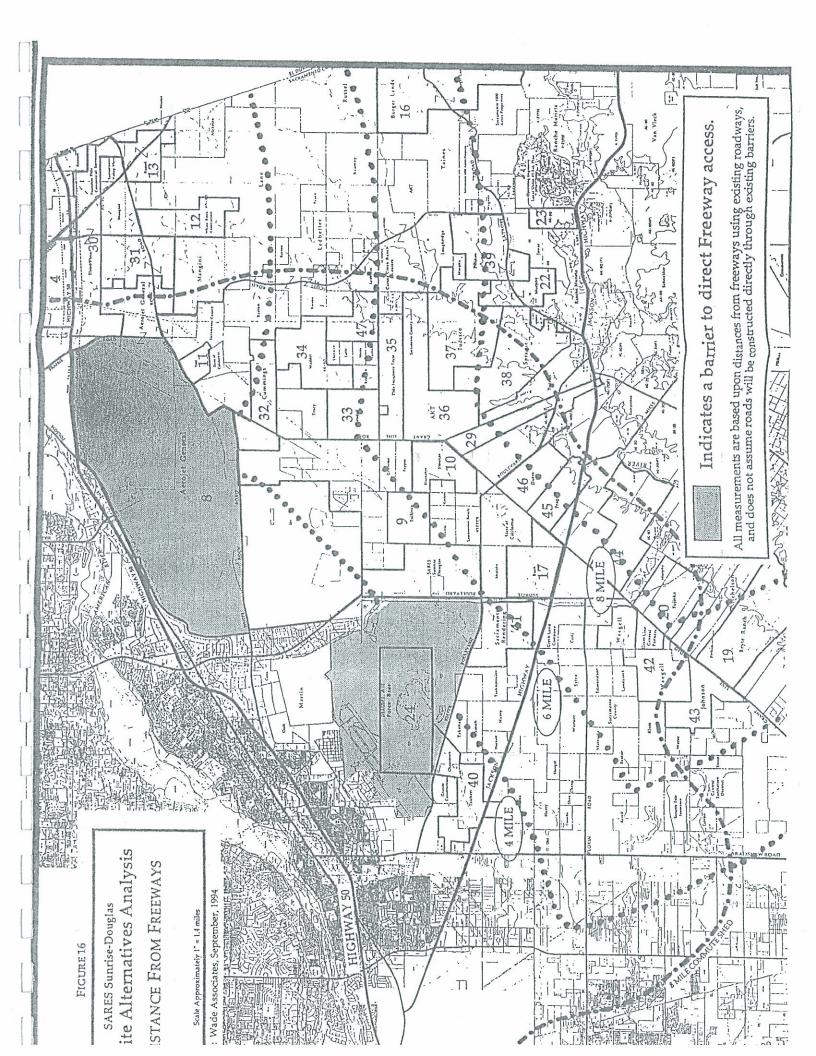
RATING	CHARACTERISTIC
5	Site within 2 miles of a freeway
4	Site within 4 miles of a freeway
3	Site within 6 miles of a freeway
. 2	Site within 8 miles of a freeway
1	Site within 10 miles of a freeway
0	Site beyond 10 miles of a freeway

14.1 <u>Sunrise-Douglas Project</u>

The Sunrise-Douglas project is within 4 miles of Highway 50, and has accordingly been given a rating of 4. Because the site has direct access to Sunrise Boulevard there is no penalty for requiring new roads.

14.2 Alternative Sites

Alternate sites 9, 10, 34, and 37 will require construction of major new road extensions and/or the improvement of existing county roads.



15. <u>CRITERION 11</u> ECONOMIC FEASIBILITY AS A FUNCTION OF PARCEL SIZE

To provide the support facilities and infrastructure that are necessary for a master planned community, a certain scale of development is required. The scale of the development must be sufficient so that the amortization of the cost of services does not make the cost of the housing unaffordable for households of workers employed in the area, thereby making the project "impracticable". Thus, a smaller parcel may allow residential development, but would not be feasible in terms of developing the mix of land uses and the scale of development necessary to achieve the project's overall purpose and economic viability.

In the post-Proposition 13 era, the majority of new urban development occurred in areas that already had basic urban services or in areas that were large enough to support the formation of the assessment districts or community facilities districts that would finance the necessary facilities. A certain minimum parcel size is necessary to support the expense of extending utility lines and constructing the facilities. The minimum size is a function of the cost of the facilities. Properties that are relatively small, and close to existing facilities may be able to support the cost of extending those facilities. However, small projects at some distance from existing facilities cannot absorb the cost and thus, would not be economically feasible.

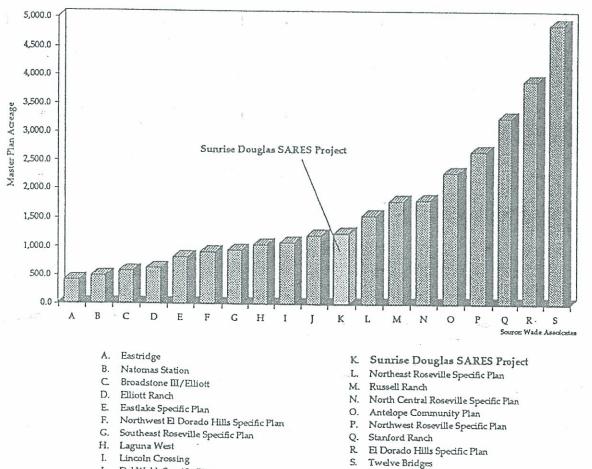
As an example to illustrate this point, consider development of a master planned community of 7,000 dwelling units. Economy of scale would make one 7,000unit project practicable in terms of the costs to provide necessary improvements. However, development of seven separate and dispersed projects of 1,000 dwelling units each would not constitute a master planned community. Such development would likely require significantly higher infrastructure costs to serve dispersed locations.

It is concluded that there are economies of scale and that larger projects are more likely to be able to spread basic infrastructure costs over a larger basis and will therefore be inherently more economically viable than a small project. However, the viability of a specific alternative site is dependent on a number of variables that are unknowable in the absence of a detailed cost analysis of each. This would require developing a conceptual land use plan and estimating cost to serve such a plan for each alternative site.

An analysis of the statistical distribution of the existing master planned communities according to size provides a general indicator of the appropriate size of a project and the range of feasibility. It is assumed that the larger number of projects in a size range is indicative of success in this type of project, or at least the perceived willingness of developers to acquire properties and undertake a project of this type.

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The average size of all master planned communities approved and/or developed in the Sacramento area is 1,651 acres and the median is 1,200 acres. The standard deviation measures how widely size values are dispersed from the average size value of 1,651 acres. One standard deviation is 1,232 acres encompasses parcels ranging from 419 acres to 2,883 acres. It is interesting to note that this range encompasses the smallest projects, but not the very largest. This corresponds well to conclusion that the minimum parcel size for an economically feasible project is about 400 acres. One-half standard deviation, which indicates sites of size closer to the average size, includes sites ranging from 1,035 to 2,267 acres. This can be concluded to be the predominant size for a "typical" master planned community in the Sacramento region. It is assumed that the lower end of this range, about 1,000 acres, indicates the threshold for the ideal or most feasible master planned community. Projects larger than 1,000 acres are most likely to be economically feasible and those below, down to 400 acres, will be feasible, but less economically certain.



J. Del Webb Specific Plan

FIGURE 17

SUMMARY OF MASTER PLANNED COMMUNITIES IN THE SACRAMENTO REGION Consequently, the size of the project in acres as a surrogate for economic feasibility is the basis for a rating system for alternative sites.

RATING	CHARACTERISTIC
5	Site size is greater than 1,000 acres, and is controlled by a master developer
3	Site size is between 400 acres and 1,000 acres, and controlled by a master developer
0	Site size is less than 400 acres and is not controlled by a master developer

15.1 Sunrise-Douglas Project

The Sunrise Douglas project encompasses 1,225 acres and is slightly larger than the median size for all master planned communities in the Sacramento region.

15.2 <u>Alternative Sites</u>

There were alternative sites less than 400 acres which were identified in the two previous studies prepared by the applicant (The Sammis Company, Sunrise-Douglas Project Revised Amended Section 404 (b)(1) Alternatives Analysis, June 5, 1991 and SARES®REGIS Group, Sunrise-Douglas Project Supplemental Alternatives Analysis, January 18, 1994). However, all sites in the study less than 400 acres in size were determined to be <u>not</u> feasible in Criterion 3, and are not further evaluated in this criterion.

Alternative sites 36, 37, 38, 42, and 44 all exceed 1,000 acres in size, and have been given a rating of 5.

All other alternative sites are between 400 acres and 1,000 acres, and have accordingly been given a rating of 3.

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16. <u>CRITERION 12</u> IMPACTS TO AQUATIC ECOSYSTEM

In order for a site to qualify as a less-damaging alternative to the Sunrise-Douglas project, it must be assessed that development of the alternative site would have less environmental impact on the aquatic ecosystem.

Wetlands of various types, including vernal pools, seasonally wet swales, channel and riparian areas, and impoundments are common in the Sacramento region. For the purposes of this study, an overview analysis of the wetlands status of the alternative sites was prepared by Sugnet & Associates. The summation of this analysis is a map, shown as Figure 18, which indicates that soils that would support wetlands are typical of much of Sacramento County and in particular, the area addressed in this study.

Sugnet & Associates analyzed the wetland constraints of each alternative site compared to the wetland constraints of the Sunrise-Douglas project. The comparison evaluated the extent of wetlands and the spatial arrangement of the wetland resources on each site. In addition to a wetlands analysis Sugnet & Associates also reviewed each alternative site utilizing (1) USGS Quads, (2) Corps photos, (3) USDA SCS soil survey for Sacramento County, (4) JSA Study, and (5) FEMA maps.

The numerical ratings assessed for this criterion reflect whether an alternative site is less constrained, similarly constrained, or more constrained than the Sunrise-Douglas site.

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R/	ATING	
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CHARACTERISTIC

5 Site is less constrained than the Sunrise-Douglas site

- Site is similarly constrained as the Sunrise-Douglas site
- 0 Site is more constrained than the Sunrise-Douglas site

The rating or 5 for lower potential wetland impacts was assigned to sites that had:

- estimated wetland/waters impacts of project development of less than 10 acres.

The rating of 3 for similar potential wetland impacts was assigned to sites that had:

wetland/waters impacts estimated to be more than 10 acres; AND

- significant areas of wetlands spatially arranged to promote preservation of wetlands.

The rating of 0 for greater potential wetland impacts was assigned to sites that had:

- wetland/waters impacts estimated to be more than 10 acres; AND
- no significant areas of wetlands spatially arranged to promote preservation of wetlands.

16.1 Sunrise-Douglas Project

Wetlands and Waters of the U.S. on the Sunrise Douglas project site consist mainly of vernal pools, with some drainage channels, man-made canals, and man-made impoundments. The greatest concentration of vernal pools occurs in a dense band stretching in a northeast to southwest direction from the eastcentral project boundary to the intersection of Sunrise Boulevard and Kiefer Road. There are scattered pools in the northern portion of the project site, while the southeastern corner of the site has relatively few vernal pools.

The sunrise-Douglas site was assigned a wetland rating of 3.

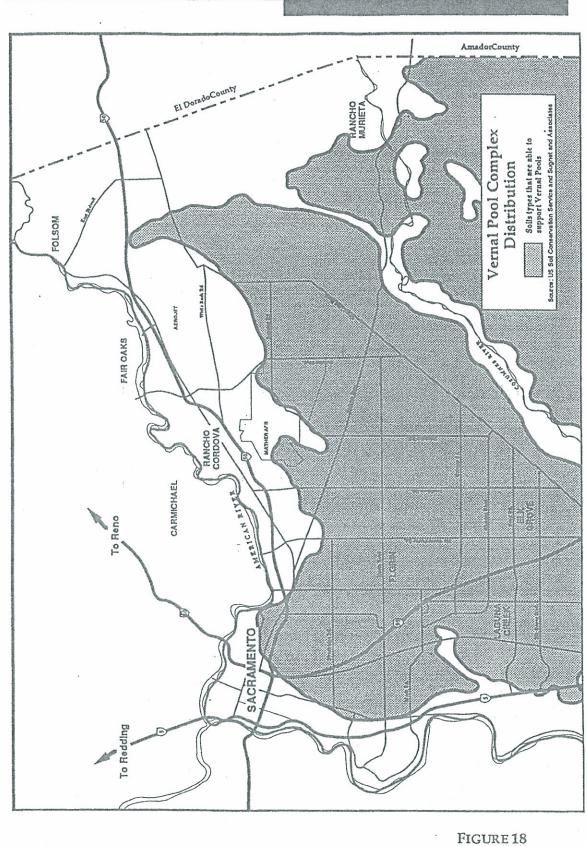
16.2 <u>Alternative Sites</u>

Since many of the alternate sites are on similar soils and have somewhat similar topography, the degree of wetland occurrence is similar to that of the Sunrise-Douglas site. Waters of the U.S. and wetlands found on alternate sites include vernal pools, drainage channels, and man-made impoundments.

Alternative sites 20, 34, 37, 42, and 45 have been given a rating of 5. It has been determined that development of these sites would have lower potential wetland impact than the Sunrise-Douglas site.

Alternate sites with a wetland constraint rating of 0 were those estimated to have wetland/waters acreage greater than 10 acres and that would also require high degrees of wetland impact for project development. Wetlands on these sites were typically distributed in such a way that most of the site was constrained by wetlands. The high wetland acreage and relatively uniform distribution further limited on-site preservation opportunities. Two alternate sites, sites 33 and 46, were assigned a 0 rating.

Development of all other alternative sites would result in potential wetland impacts similar to the Sunrise-Douglas site. These sites have therefore been given a rating of 3.



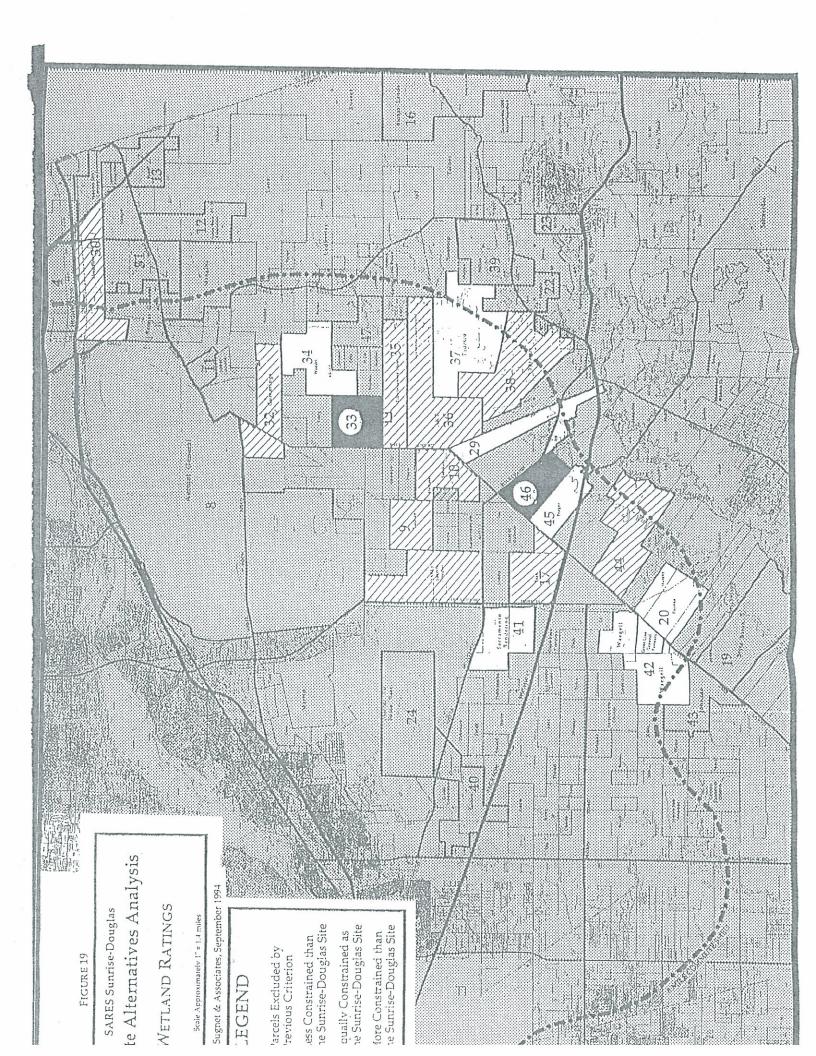
WETLAND SOIL CONDITIONS IN THE SACRAMENTO REGION

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Page 53

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October 10, 1994



17. <u>CRITERION 13</u> ACCESS TO LIGHT RAIL

It is the policy of Sacramento County to reduce travel distances and reliance on the automobile and facilitate increased use of public transit through appropriate land use plans and regulations (Sacramento County General Plan, 1985; Policy 2.7.7, Page 23).

The feasibility of the light rail system depends on access from surrounding urban areas. The preferred access mode is bus, shuttles, bicycles or pedestrians. Automobiles are the least desirable due to congestion and air quality impacts. The distance rating criteria is based on the feasibility of alternative travel modes. The closer sites have the highest potential for bicycle/pedestrian access, the next closer sites will support short range shuttle service direct to the light rail station and the further areas can be supported by the public bus system.

Figure 20 shows the locations of existing and planned light rail lines within the study area. The delineated distances from these lines are considered a reasonable estimate of distances from rail line stations, given that the locations of future stations are unknown and assuming that stations are located at nearly equal distances along the line.

The numerical ratings appropriate to this criterion reflect County policy to reduce travel distances, and subsequent air quality degradation, through access to existing or planned light rail:

RATING	CHARACTERISTIC
5	Site within .5 mile (walking distance) of light rail
4	Site within 2 miles of light rail
3	Site within 4 miles of light rail
2	Site within 6 miles of light rail
1	Site within 8 miles of light rail
0	Site beyond 8 miles of light rail

17.1 Sunrise-Douglas Project

The Sunrise-Douglas project is within 4 miles of planned light rail, and has accordingly been given a rating of 3.

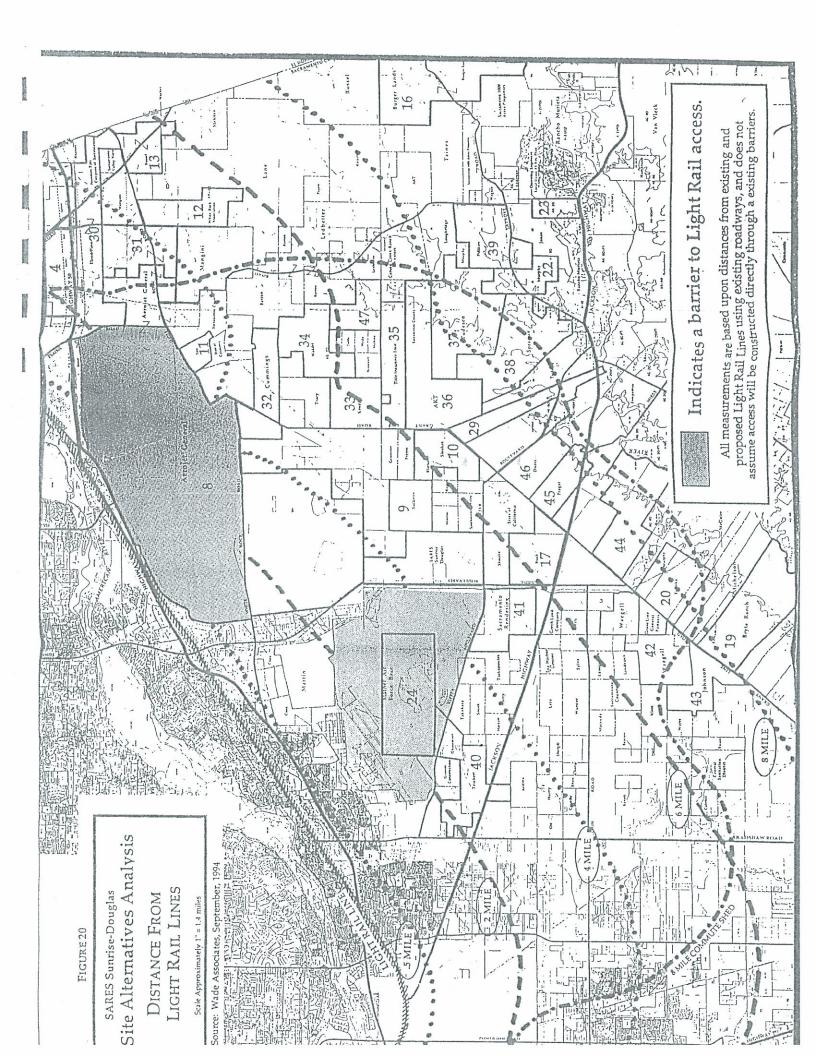
17.2 Alternative Sites

Eliminating the need for vehicular travel represents the best scenario for reducing air quality degradation through light rail. Therefore, the alternate sites

within walking distance (.5 mile) of existing or planned light rail are given the best rating of 5. The only alternative site within walking distance of existing or planned light rail is site 8, Aerojet General Corporation. This site is committed land, and has accordingly been eliminated as a viable alternative to the Sunrise-Douglas project.

The greater distance vehicles must travel to light rail is correlated to greater traffic congestion and air quality impacts. Alternative sites 20, 35-38, 42 and 44-46 are located between 6 and 8 miles from light rail, and have been given a rating of 1.

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18. <u>CRITERION 14</u> OAK WOODLANDS AND RIPARIAN ZONES

Sacramento County has identified Important Natural Areas, including oak woodlands and riparian zones, within the county. These delineated areas are considered primarily natural, as opposed to lands set aside primarily for human use (Draft Open Space Element of the County General Plan, November 1990, pages 23-24). Oak woodlands and riparian zones are shown on Figure 21. Figure 22 delineates the floodplain.

The numerical ratings appropriate to this criterion reflect avoidance of these natural areas:

RATING	CHARACTERISTIC
5	Site not located within important natural areas
3	Portion of site located within important natural areas
0	Sites located within important natural areas

18.1 Sunrise-Douglas Project

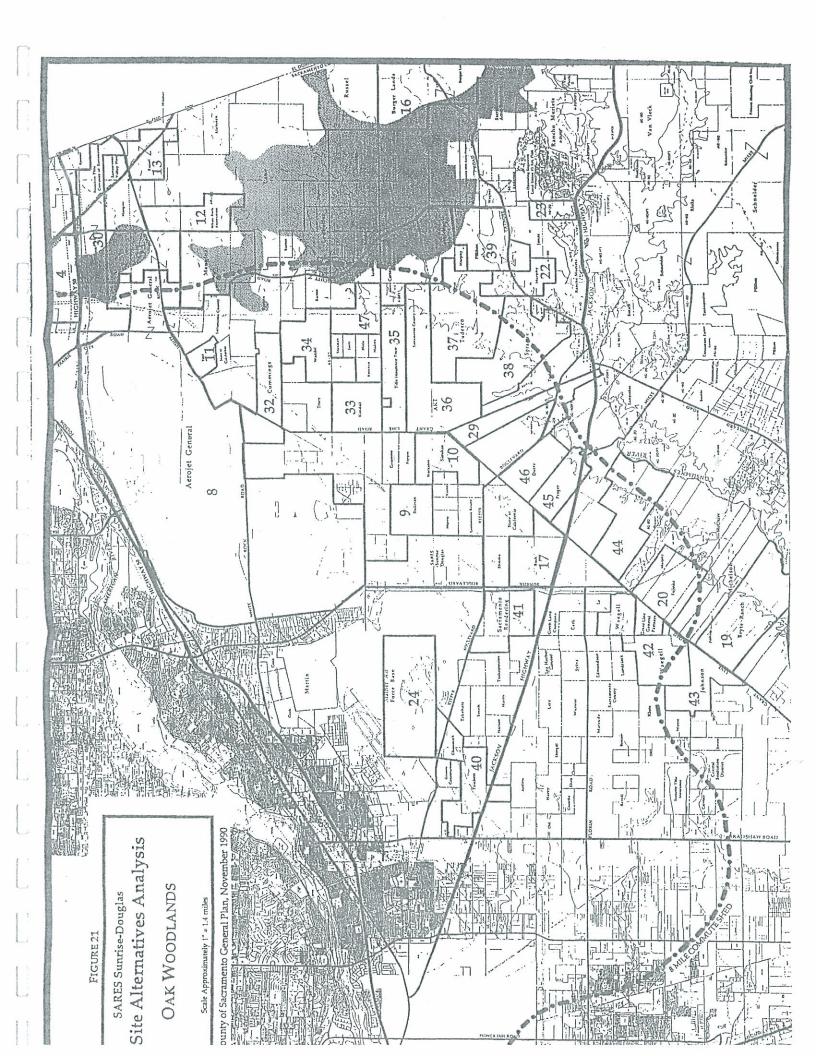
The Sunrise-Douglas project is not located within important natural areas, and has accordingly been given a rating of 5.

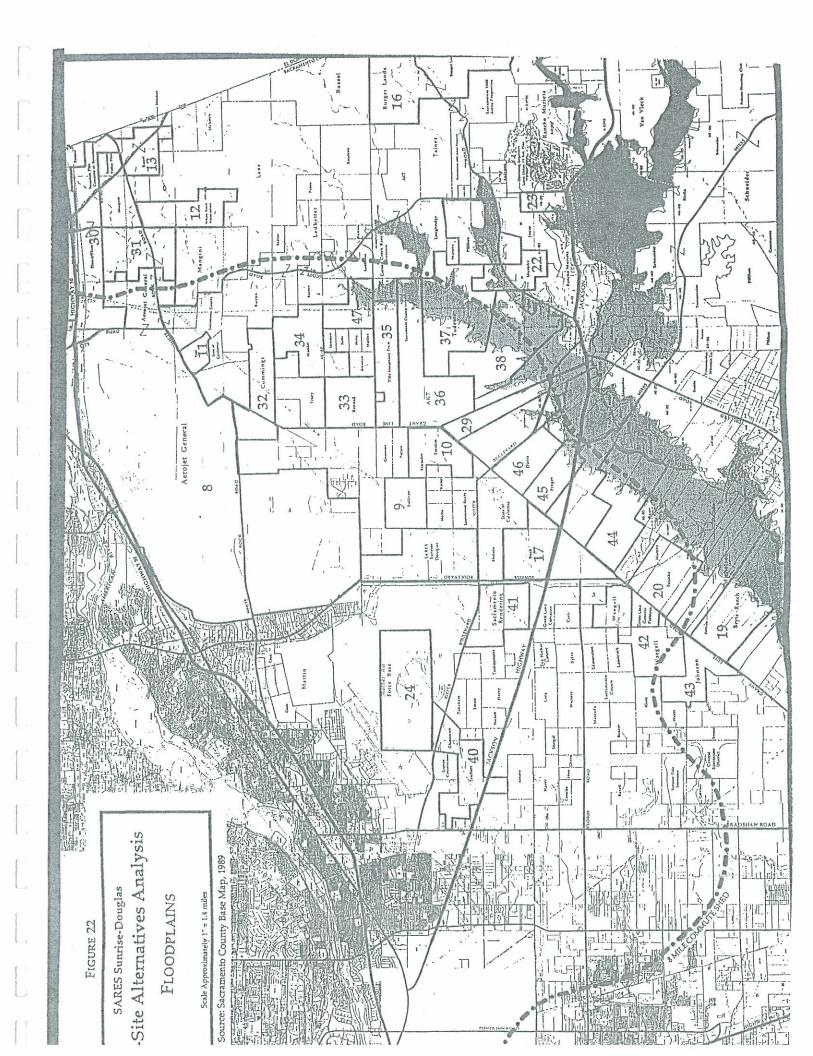
18.2 <u>Alternative Sites</u>

A significant portion of Parcel 30 is located within a designated oak woodland area and has accordingly been given a rating of 3.

Portions of alternative sites 35, 36, 37, 38, 44, and 45 are within the FEMA flood zone and have been given a rating of 3.

All other alternative sites are located predominantly outside important natural areas and have been given a rating of 5.





APPENDIX A

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themes

Bk. Pg. Parcel Acres Williamson?

Alternative 1

/ incinative /					
45 acres	071 - 0020 - 008	14.6	no	Sacramento Properties	1
	071 - 0180 - 002	0.5	ло	Sacramento Properties	
	071 - 0180 - 003	0.7	по	Sacramento Properties	
	071 - 0180 - 024	0.3	no	Sacramento Properties	
	071 - 0180 - 025	0.3	no	Sacramento Properties	
	071 - 0180 - 026	28.5	no	Sacramento Properties	
Alternative 2		1			
92 acres	071 - 0020 - 009	128.3	no	Sacramento Properties	
Alternative 3		- <u> </u>		oad anteino i roperties	only part of parcel considered
421 acres	072 - 0010 - 052	401.7			
L	072 - 0010 - 004	18.8	no	Santa Fe Enterprises	
Alternative 4		10.0	no	Santa Fe Enterprises	1
939 acres	072 - 0270 - 076	755.6	no	Elliot Homes	
	072 - 0270 - 078	0.8	no	Elliot Homes	
	072 - 0270 - 079	182.3	no	Elliot Homes	
Alternative 5					
182 acres	071 - 0060 - 013	155.0	no	Teichert	
1.40	071 - 0400 - 038	55.0	no	Teichert	
Alternative 6	4]
133 acres	072 - 0800 (all)	39.8	no	subdivided	
	072 - 0810 partial	53.0	по	subdivided	currently subdivided and developed
	072 - 0820 (all)	40.0	no	subdivided	currently subdivided and developed
	072 - 0830 (all)	39.7	no	subdivided	currently subdivided and developed
Alternative 7					currently subdivided and developed
163 acres	227 - 0090 - 025	15.0	no	Elliot Homes	
	227 - 0090 - 039	7.7	no	Elliot Homes	
-	227 - 0090 - 047	35.5	ло 0л	Elliot Homes	
	2017 0.000 0.10				7

Alternative 8

227 - 0090 - 048

227 - 0090 - 055

227 - 0090 - 056

227 - 0090 - 057

227 - 0090 - 058

227 - 0090 - 060

227 - 0090 - 061

227 - 0090 - 062

35.8

6.1

13.8

10.0

7.5

10.2

6.1

15.7

no

no

no

no

no

ло

no

no

2884 acres 🔶 072 - 0060 - 029	783.8	yes	Aerojet Corporation	
072 - 0060 - 007	30.0	no	Aerojet Corporation	
072 - 0230 - 015	3960.0	no	Aerojet Corporation	-
072 - 0230 - 044	544.0	no	Aerojet Corporation	
072 - 0230 - 012	1422.0	no	Aerojet Corporation	
072 - 0230 - 013	57.0	no	Aerojet Corporation	
072 - 0230 - 002	1707.0	no	Aerojet Corporation	
072 - 0230 - 004	96.0	no	Aerojet Corporation	
072 - 0230 - 011	148.0	no	Aerojet Corporation	

Elliot Homes

Bk. Pg. Parcel Acres Williamson?

Alternative 8 (continued)

Γ.

	e (continued)				
	072 - 0230 - 036	148.	5 no	Aerojet Corporation	
	072 - 0230 - 039	42.		Aerojet Corporation	
	072 - 0230 - 010	29.9	no	Aerojet Corporation	
	072 - 0230 - 040	128.3	3 no	Aerojet Corporation	
	072 - 0230 - 035	10.8	по	Aerojet Corporation	
	072 - 0230 - 008	9.5		Aerojet Corporation	
	072 - 0230 - 007	4.0		Aerojet Corporation	
	072 - 0230 - 025	46.0		Aerojet Corporation	
	072 - 0230 - 042	25.0		Aerojet Corporation	
	072 - 0230 - 024	10.9		Aerojet Corporation	
	072 - 0230 - 043	48.0		Aerojet Corporation	
	072 - 0370 - 035	98.6		Aerojet Corporation	
	072 - 0370 - 041	6.7	по	Aerojet Corporation	
	072 - 0370 - 044	3526.7	no	Aerojet Corporation	
Alternative S	3				
530 acres	067 - 0040 - 008	530.0	a gaala dag gaal da gaala aana da		
Alternative 1		330.0	no	Sullivan	
638 acres		298.8	no	Sioukas	
	067 - 0100 - 003	118.8	no	Sioukas	
A 14	067 - 0040 - 010	220.2	no	Sioukas	
Alternative 1	1			1.	·
211 acres	072 - 0100 - 029	211.1	yes	Yost	
Alternative 1.	2	l			
680 acres	072 - 0060 - 025	240.0		1	
	072 - 0110 - 037	240.0	no	White Rock Assoc	
Alternative 13	the second s	440.0	no	White Rock Assoc	
	T	-			
872 acres	072 - 0070 - 032	390.6	no	Founders Title	
	072 - 0070 - 021	295.8	app. 1990	Russel	application for nonrenewal filed
	072 - 0070 - 022	145.6	app. 1990	Russel	- I I I I I I I I I I I I I I I I I I I

Ø72 - 0070 - 019 Alternative 14 & 15

145.6

40.0

app. 1990

yes

Russel

Founders Title

Alternative 16

included in 35, 36, and 38

application for nonrenewal filed

	Burger	ло	320.0	073 - 0060 - 006	2763 acres
C	 McCarty	no	146.9	073 - 0060 - 008	L
	 Burger	no	160.0	073 - 0060 - 011	
-	 Burger	no	320.0	073 - 0060 - 012	
	 McCarty	no	160.0	073 - 0060 - 013	
	 McCarty	no	87.0	073 - 0060 - 014	
	 Burger	no	320.0	073 - 0060 - 015	
	 Burger	ло	622.4	073 - 0060 - 021	
>	 Burger	no	17.6	073 - 0060 - 022	
	 Burger	no	80.0	073 - 0090 - 007	
	 Burger	no	149.0	073 - 0090 - 008	
	 Burger	no	65.0	073 - 0090 - 012	
	 McCarty	no	315.0	073 - 0100 - 001	

Bk. Pg. Parcel Acres Williamson?

Alternative 17

	And the second se	Contraction of the local division of the loc			
730 acres	067 - 0090 - 027	320.0	app. 1987	Bush	application for nonrenewal filed
	067 - 0120 - 008	304.4	app. 1987	Bush	application for nonrenewal filed
	067 - 0120 - 009	106.0	app. 1990	Bush	application for nonrenewal filed

Alternative 18

Alternative 19

1591 acres 🔶 126 - 0040 - 007 188.5 app. 1989 Bryte Ranch Company application for nonrenewal filed . 126 - 0040 - 010 160.5 app. 1989 Bryte Ranch Company application for nonrenewal filed 4 126 - 0040 - 011 425.7 Bryte Ranch Company app. 1989 application for nonrenewal filed $\mathbf{\Phi}$ 126 - 0040 - 012 195.8 Bryte Ranch Company app. 1989 application for nonrenewal filed 126 - 0040 - 013 204.7 Bryte Ranch Company app. 1989 application for nonrenewal filed 126 - 0040 - 019 415.6 Bryte Ranch Company application for nonrenewal filed app. 1989

Alternative 20 942

-	126 - 0050 - 001	182.0	app. 1986	Grant Line Gen. Partners	application for nonrenewal filed
-	126 - 0050 - 050	385.7	app. 1986		application for nonrenewal filed
\$	126 - 0050 - 060	47.0	app. 1988		
-	126 - 0050 - 049	17.7	app. 1988		application for nonrenewal filed
\$	126 - 0050 - 052	48.4	app. 1986		application for nonrenewal filed
	126 - 0050 - 079	114.0	no	McGuire	application for nonrenewal filed
	126 - 0050 - 080	20.0	no	Holt	
	126 - 0050 - 046	21.4	ло	Folsom Canal	
\$	126 - 0050 - 077	6.3	yes	Murphy	
\diamondsuit	126 - 0050 - 076	99.2	app. 1988	- Andrews	application for nonrenewal filed

Alternative 21

Part of Alternative 29

Eliminated early

Notes

Alternative 22

480 acres 073 - 0080 - 008 480.0 no Murphy Alternative 23

222 acres	073 - 0080 - 026	54.1	no	Operating Engineers	
	073 - 0080 - 027	54.2	no	Operating Engineers	
	073 - 0080 - 028	54.2	no	Operating Engineers	
	073 - 0080 - 029	59.5	no	Operating Engineers	

Alternative 24

Mather (USA)	no	273.0	067 - 0020 - 002	1553 acres
 Mather (USA)	ло	640.0	067 - 0020 - 007	
 Mather (USA)	no	640.0	067 - 0020 - 008	

Alternative 29

680 acres	126 - 0090 - 001	97.0	no	Blawat	
	126 - 0090 - 002	432.1	no	Blawat	
	126 - 0090 - 022	150.4	yes	Blawat	

Alternative 30

and the second second second second	An and the second s	the second s			
1015 acres	072 - 0060 - 036	168.8	yes	Elrod	
	 072 - 0060 - 040 	846.0	yes	Elrod	
				and a second a second and a second and a second as	

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and the second second				
Elk. Pg.	Parcel	Acres	Williamson?	

Owner

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Alternative	31				
830 acre	s 🔶 072 - 0060 - 037	830.0	yes	Mangini	
Alternative :	32			1.1.1.0.2.4	
867 acre	072 - 0100 - 021	139.5			
	072 - 0100 - 022	167.2	<u></u>	Cummings	
	072 - 0100 - 016	404.9	no	Cummings	
	072 - 0100 - 017	155.0	no	Cummings Cummings	
Alternative 3		1 155.01	no	Cummings	
640 acres		Turi			
Alternative 3	- la	640.0	yes	Kendall	
P					
897 acres	• 073 - 0010 - 006	497.0	app. 1993	Waddle	application for nonrenewal filed
	073 - 0010 - 008	160.0	app. 1993	Waddle	application for nonrenewal filed
	Ø73 - 0020 - 001	240.0	app. 1993	Waddle	application for nonrenewal filed
Alternative 3	5				
799 acres	073 - 0040 - 016	0.5	по	Title Ins.	
	073 - 0040 - 019	319.6	no	Title Ins.	
	073 - 0040 - 021	160.0	по	Title Ins.	
	073 - 0040 - 022	140.0	no	Title Ins.	
	073 - 0050 - 016	0.2	по	Title Ins.	
	073 - 0050 - 023	178.5	no	Title Ins.	
Alternative 3	6			1	
1899 acres	073 - 0040 - 006	363.0	no	AKT	
L	073 - 0040 - 013	580.9	no	AKT	
	073 - 0040 - 020	320.0	по	AKT	
	073 - 0040 - 023	316.4	no	AKT	
	073 - 0050 - 024	318.6	no	AKT	
Alternative 3	Contraction of the second state of the second			ANI .	
1527 acres		Lunal	Na Martin and a state of a state of a large state based on		
1327 406	 073 - 0040 - 014 073 - 0050 - 007 	480.0	yes	Tudesko	
	073 - 0050 - 017	601.6	yes	Tudesko	
	 ♦ 073 - 0050 - 034 	11.4	no	Tudesko	
	 073 - 0080 - 034 073 - 0080 - 048 	200.0	' yes	Tudesko	
	 073 - 0080 - 049 073 - 0080 - 049 	223.0	yes	Tudesko	*
Alternative 3		11.0	yes	Tudesko .	
P	1				
1502 acres	073 - 0040 - 015	160.0	no	Sprague	
	073 - 0070 - 002	153.9	no	Sprague	
	073 - 0070 - 003	543.5	no,	Sprague	
	073 - 0070 - 005	194.8	no	Sprague	
ltomethe of	073 - 0080 - 047	449.4	no	Sprague	
Itemative 39	9				
941 acres	Ø73 - 0050 - 028	330.9	yes	Pilliken	
	• 073 - 0080 - 003	610.0	yes	Pilliken	

Bk. Pg. Parcel Acres Williamson? Owner

Alternative 40

958 acres	063 - 0040 - 005	164.1	по	Teichert	
	063 - 0040 - 010	95.3	no	Teichert	
	063 - 0040 - 067	250.1	no	Teichert	
	063 - 0040 - 070	68.0	no	Teichert	
	063 - 0040 - 035	33.7	no	Teichert	
	063 - 0040 - 016	80.0	no	Teichert	
	063 - 0040 - 030	20.1	no	Teichert	
	063 - 0040 - 034	44.6	no	Teichert	
	063 - 0040 - 018	6.0	no	Teichert	
4	063 - 0170 - 001	17.3	app. 1985	Teichert	application for nonrenewal filed
	063 - 0170 - 020	86.3	app. 1985	Teichert	application for nonrenewal filed
	067 - 0050 - 001	92.8	no	Teichert	

COLOR DE COLOR DE COLOR DE COLOR DE COLOR

Notes

Alternative 41

803 acres	067 - 0090 - 002	24.1	no	Sacramento Rendering	۵۲٬۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰
	067 - 0090 - 005	160.0	no	Sacramento Rendering	
	067 - 0090 - 019	123.6	no	Sacramento Rendering	
	067 - 0090 - 021	295.6	yes	Sacramento Rendering	
	067 - 0050 - 048	199.7	no	Sacramento Rendering	Edual

Alternative 42

1127 acres	• 067 - 0110 - 020	40.0	yes	Waegell	
	067 - 0110 - 048	1.8	yes	Waegell	
	067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 - 0110 - 049 067 067 - 0110 - 049 067 067 067 067 067 067 067 067 067 067 067 0110 067 07 07 07 07 07 07	37.3	yes	Waegell	
	067 - 0120 - 011	85.4	yes	Waegell	1
	067 - 0120 - 013	75.4	yes	Waegell	
	067 - 0120 - 052	196.2	yes	Waegell	
	123 - 0030 - 002	1.6	yes	Waegell	
	123 - 0030 - 003	314.9	yes	Waegell	
	123 - 0040 - 001	281.3	yes	Waegell	
	123 - 0040 - 002	35.6	yes	Waegell	
	126 - 0050 - 002	40.0	yes	Waegell	
(126 - 0050 - 003	17.1	yes	Waegell	

Alternative 43

570 acres	123 - 0050 - 001	415.0	yes	Johnson	
	123 - 0020 - 002	155.1	yes	Johnson	

Alternative 44

1231 acres	126 - 0060 - 030	56.0	no	Rooney	
	126 - 0060 - 031	78.5	no	Rooney	
	126 - 0060 - 032	115.9	no	Rooney	
	126 - 0060 - 033	104.5	no	Rooney	
	126 - 0060 - 003	507.2	no	Rooney	
	126 - 0060 - 006	369.0	yes, partial	Rooney	excludes 158 acres from Williamson Act

Alternative 45

434 acres	126 - 0080 - 001	434.1	yes	Prager	
Alternative 46					
550 acres	126 - 0080 - 002	550.0	ло	Dutra	
Alternative 47	•				
480 acres	073 - 0020 - 015	480.0	yes	VanVleck	1

Scoring of Distance to Freeway

4

	Route from freeway to nearest corner of parcel								scoring	
parcel	existing major roads	roads to be improved or upgraded	new road, including acquisition of land	exist. miles	imp. miles	new rules	nules	distance score (points)	with new road penalty	
Sunrise Douglas	3.9 miles Sunrise Blvd	none	none	3.9	0.0	0.0	3.9	4	4	
9	3.9 miles Sunrise Blvd	1.0 mile Douglas Rd	1.0 mile new	3.9	1.0	1.0	5.9	3	2	
10	3.9 miles Sunrise Blvd	2.0 miles Douglas Rd	1.0 mile new	3.9	2.0	1.0	6.9	2	1	
17	6.7 miles Sunrise Blvd	none	none	6.7	0.0	0.0	6.7	2	2	
20	9.0 miles Sunrise Blvd, 0.2 miles Grant Line	none	none	9.2	0.0	0.0	9.2	1	1	
30	0.0 miles from freeway	none	none	0.0	0.0	0.0	0.0	5	5	
33	3.9 miles Sunrise Blvd	3.0 miles Douglas Rd, cross Grant Line	none	3.9	3.0	0.0	6.9	2	2	
34	3.9 miles Sunrise Blvd	3.0 miles Douglas Rd, 0.2 mile Grant Line Rd	1.0 mile new	3.9	8 3.2	1.0	8.1	1	0	
35	3.9 miles Sunrise Blvd	3.0 miles Douglas Rd, 0.4 mile Grant Line Rd	none	3.9	3.4	0.0	7.3	2	2	
36	3.9 miles Sunrise Blvd	3.0 miles Douglas Rd, 0.9 mile Grart Line Rd	none	3.9	3.9	0.0	7.8	2	2	
37 a.	3.9 miles Sunrise Blvd	3.0 miles Douglas Rd, 1.3 mile Grant Line Rd	1.0 mile new	3.9	4.3	1.0	9.2	1	٥	
37 b.	7.6 miles Sunrise Blvd, 5.4 miles Jackson Hwy	1.2 miles Latrobe Rd	0.5 miles new	13.0	1.2	0.5	14.7	O	o	
37 c	2.0 Prairie City Rd	0.5 miles White Rock, 5.9 miles Scott Rd	1.0 mile new	2.0	6.4	1.0	9.4	1	o	
38	7.6 miles Sunrise Blvd, 5.4 miles Jackson Hwy	0.6 miles Latrobe Rd	none	13.0	0.6	0.0	13.6	D	٥	
42	9.0 miles Sunrise Blvd, 0.2 mile Grant Line	none -	none	9.2	0.0	0.0	9.2	1	1	
44	9.0 miles Sunrise Blvd, 0.2 mile Grant Line	none	none	9.2	0.0	0.0	9.2	1	1	
45	7.6 miles Sunrise Blvd, 2.0 miles Jackson Hwy	none	none	9.6	0.0	0.0	9.6	1	1	
46 a.	7.6 miles Sunrise Blvd, 1.1 miles Jackson Hwy	1.0 mile Grant Line	none	8.7	1.0	0.0	9.7	1	1	
46 b.	7.6 miles Sunrise Blvd, 2.7 miles Jackson Hwy	none	0.3 miles new	10.3	0.0	0.3	10.6	o	0	
46 c.	6.3 miles Sunrise Blvd	2.4 Miles Kiefer Rd, cross Grant Line	none	6.3	2.4	0.0	8.7	2005 ¹ 1	1	

Scoring Criteria

Simple Distance Scoring 5 points - within 2 miles of a freeway 4 points - within 4 miles of a freeway 3 points - within 6 miles of a freeway 2 points - within 8 miles of a freeway 1 point - within 10 miles of a freeway 0 points - over 10 miles from a freeway

New Road Penalty minus 1 point if parcel requires new road construction of half mile or greater across adjoining parcel

Appendix B — Conceptual Strategy On-Site Minimization Measures for Arista del Sol

APPENDIX B:

Conceptual Strategy On-Site Minimization Measures for the Arista del Sol Project

The Conceptual Strategy was used to design and plan the Arista del Sol development and is intended to be used to aid the Agencies in the review of the proposed development and the evaluation of the probable individual and cumulative effects on aquatic resources and sensitive species. The ten strategy principles and standards for on-site minimization and mitigation are as follows:

1. Maintain overall hydrologic integrity of the Preserve Areas so as to ensure that there will not be a net loss of functions and values in the preserve areas as a result of adjacent development.

The sources of hydrology for the Arista del Sol Preserve (Preserve) are direct precipitation and surface and subsurface flows primarily from the contiguous preserve area associated with the Grantline 208 property to the north. A study that evaluated the hydrology of vernal pools in the Sacramento Valley (Hanes and Stromberg, 1998) was conducted on a nearby property that used a direct precipitation-evaporation model. This study concluded that direct precipitation was capable of filling the pools beyond capacity during most years. The study also concluded that, in most years, overland flow contributions are probably limited to periods when pools are already full, resulting in excess overland inflow into pools. However, although the watershed contributions might be considered minor from a volumetric perspective, water exchange between the pool and surrounding upland plays a major role in controlling water level relationships, and subsurface inflows tend to dampen water level fluctuations during the late winter and early spring.

To minimize impacts from the development of the Arista del Sol project, the Preserve is located in an area that receives overland and subsurface flow from a portion of the western half of the development area. As a result of the natural contours of the property, the eastern half of the property drains to the southeast, away from the preserve. From approximately the center of the property extending to the west, the topography slopes toward the Preserve. Various physical barriers (i.e., berms, curb and gutter, dikes) will be utilized to the maximum extent practicable to direct runoff associated with the development, especially in the normally dry months (i.e., April to October), into the storm drain system and away from the Preserve. However, during the wet months (i.e., October-April), water not collected in the storm water detention system may be diverted into the riverine systems located on and in the direct vicinity of the site. Storm water inputs into the storm drain system during the wet season are relatively large compared to other times of the year such that nutrient and sediment loads would be minimal, thereby minimizing impacts to the water quality associated with the riverine system discharges. Due to the fill of portions of the riverine seasonal

wetlands to the east that provide minor amounts of inflow into the Preserve, it is expected that the development of the western portion of the property adjacent to the Preserve will result in minor alterations to the distribution, frequency, and flows to the Preserve watershed area. However, these hydrologic alterations are considered very minor since, as designed, the Preserve will provide protection to the functions and values of the remaining watershed area of the Preserve, as the primary source of hydrology is direct precipitation and to a lesser degree surface and subsurface flow from the Grantline 208 Preserve to the north. Additionally, the relatively narrow area of land that would be developed directly south of the Preserve. In summary, the development of the Arista del Sol property has been designed to utilize the topography and hydrology of the site so that the overall hydrologic integrity of the Preserve is maintained and to ensure there will not be a net loss of functions and values of the protected habitats.

2. Maintain corridors and large areas for wildlife and the propagation of flora.

The project site will preserve approximately ± 41.1 acres of the project site in a contiguous on-site open space/wetland preserve, which is part of the larger contiguous ± 209 acre Regional Preserve for the Sunridge Specific Plan Subarea (Figure 2, main document). This on-site preservation area will be protected under conservation easement in perpetuity funded by an endowment to provide monitoring, maintenance and management by a third-party to ensure resident populations of listed plants and invertebrates are sustained.

3. Manage storm water flows to minimize changes to the existing flow regime and to maintain or improve existing water quality in the Preserve Areas.

To minimize the impacts from development to the existing flow regime, the Preserve is located in an area that receives overland and subsurface flow from only a portion of the development area. As a result of the natural contours of the property, the eastern half of the property drains to the southeast, away from the Preserve, and the land developed immediately south of the Preserve will drain to the south. Additionally, various physical barriers (i.e., berms, curb and gutter, dikes, vegetated swales, etc.) will be utilized to the maximum extent practicable to direct urban runoff into the project's storm drain system.

A detention basin is part of the project design, and this basin will function to collect and retain storm water runoff from the project's storm drain system. The design of the detention basin includes a water quality basin that will allow for settling of any sediment, prior to discharging these waters off site.

The detention basin will discharge into a tributary of Laguna Creek and eventually into Blodgett Reservoir downstream. The outfall associated with the detention basin will be designed as a pipe discharge structure that will conform to existing slopes and include dissipation measures to reduce the potential for erosion. 4. Use elevated roads, arched culvert crossings, and other practices for transportation corridors that must traverse Preserve Areas to the extent that is practicable to minimize direct and indirect impacts to aquatic resources in the Preserve areas and to avoid significant impacts to the functions and values of the Preserve areas.

No transportation corridors traverse the Preserve. To minimize impacts to water quality within the Preserve, roads located adjacent to the Preserve will be designed to capture surface runoff through the project's storm drain system

5. Use conservation design elements to minimize the effect of adjacent development on the Preserve Areas by constructing, to the extent practicable, single-loaded roads where housing directly abuts Preserve Areas, designing roadside landscaping to drain toward urban features and not towards Preserve Areas, and orienting houses so that the front living area faces the Preserve Area. Impervious surfaces will be minimized to the extent practicable and storm water/water runoff plans would be designed to use Best Management Practices (BMP's) such as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat storm water runoff from the development areas.

Consistent with strategy principle 5, the project had been carefully planned to minimize the effect of adjacent land use on the Preserve Area. The majority of the on-site preserve boundary is adjacent to landscape corridors and single-loaded roads. A landscape buffer of 40-ft is positioned between the Preserve and the proposed Americanos Boulevard that would run north/south along the eastern edge of the Preserve. A 30-ft landscape corridor is proposed between the commercial area, as well as the detention basin lot, and the Preserve. The southwestern portion of the boundary is adjacent to a single-loaded road with residential development. Single-loaded roads and landscape corridors adjacent to the Preserve will provide buffering by eliminating a row of housing on the Preserve from the residential area to the east, will provide surface water quality protection by capturing surface runoff and directing it into the project's storm drain system.

Coverage under the State Water Resources Control Board Order No. 99-08-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000002 Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity, as amended, (General Permit) will be obtained for this project prior to any land disturbing activities. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the project in accordance with the General Permit requirements, and will also be prepared prior to any land disturbing activities. The SWPPP will identify:

- all pollutant sources;
- potential non-storm water discharges;

- details on an effective combination of erosion and sediment control Best Management Practices (BMPs) that will reduce or eliminate pollutants in storm water discharges;
- a maintenance schedule for the BMPs; and
- identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

Temporary and permanent Best Management Practices that will be included in the SWPPP and implemented by the project proponent may include, but are not limited to:

- scheduling;
- utilization of silt fencing;
- hydroseeding and potential temporary irrigation (revegetation);
- stabilized construction entrances;
- equipment staging/maintenance areas;
- slope stabilization measures;
- straw wattles; and
- temporary storm water detention basin (designed to meet the requirements of Section A.8 of the General Permit).

To minimize the long-term effects of storm water pollution, runoff from urban development will be directed away from the Preserve and into the on-site storm drain system to the maximum extent practicable. Long-term storm water management will include, at a minimum, the operation and maintenance of BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (post-construction BMPs), and include the incorporation of storm drain filters in drop inlets. These BMPs will be identified in the Storm Water Pollution Prevention Plan (SWPPP), but will likely include periodic inspection and maintenance of storm drain filters. As designed, the onsite storm drain system will include an integrated mix of collection, treatment, and detention that will protect surface water quality and preserve the habitat values the Preserve is proposed to provide.

Development of a SWPPP is a requirement of the NPDES General Construction Storm Water Permit. The SWPPP will be developed to protect water quality from the hazards that construction activities may present. Post-construction BMPs described in the SWPPP will include, but will not be limited to:

- the minimization of land disturbance;
- the minimization of impervious surfaces;
- treatment of storm water runoff using infiltration;
- detention/retention;
- biofilter BMPs;

- use of efficient irrigation systems;
- ensuring that interior drains are not connected to a storm sewer system; and
- appropriately designed and constructed energy dissipation devices.

These must be consistent with all local post-construction storm water management requirements, policies, and guidelines.

The local agency responsible for storm water management (usually the City or County) in the project area may require additional post-construction BMPs, above and beyond the State and Federal requirements, prior to taking responsibility.

The proposed development of the Arista del Sol property also incorporates a developed drainage corridor that runs north to south along the eastern property boundary (Figure 6, main document). The purpose of the drainage corridor is to provide proper drainage of the project site so that storm water is directed away from the Preserve and into the on-site storm drain system to the maximum extent practicable.

Certified weed-free straw wattles will be installed at the base of all slopes adjacent to the Preserve, along detention pond perimeters, and along the property lines of the project site. Prior to installation of the straw wattles, a concave key trench approximately 2 to 4 inches deep will be contoured along the proposed installation route, and all installed straw wattles will be secured with stakes on alternating sides to prevent movement. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. The straw wattles will be maintained for a period of time at least until the annual grassland vegetation is fully established and the soil is stabilized.

During construction all excavated material will be deposited or stored such that material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales, wattles, and/or sedimentation fencing will be available on the construction site for periodic site-specific use as needed.

Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the open space preserve or adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. A site-appropriate spill kit will be available within the staging area at all times so that any spills or leaks from the equipment or stored liquids can be immediately cleaned up and reported in accordance with applicable local, state and/or federal regulations.

All constructed slopes adjacent to the Preserve will be hydroseeded with a native annual grassland mix. The hydroseed mix will be applied with a tackifying agent

at a rate of at least 2 tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix which when applied, and upon drying, adheres to the soil to form a 100% cover which is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry for at least 24 hours after installation. These constructed slopes may be temporarily irrigated, if necessary, to promote initial establishment, but native grasses will not require long-term irrigation, as they are adapted to the local climate.

To further minimize impacts to water quality, the project design includes bioswales to provide water treatment and thereby reduce sediment and nutrient loads.

6. Locate compatible uses next to preserve areas (i.e., parks, hiking trails, athletic fields, and other open space areas) to the maximum extent practicable.

A multi-use park is situated adjacent to the Preserve on the east side of Americanos Boulevard, and is separated from the Preserve by a single-loaded road and landscape corridor. No pedestrian trails or bike paths are proposed within the Preserve.

7. Mow-only fire breaks may be located at the outer edges of Preserve Areas.

If firebreaks are necessary at the outer edges of the Preserve, they will be mowonly, and not disced. The Sunridge Specific Plan Design Standards states that wildland fires will be controlled by providing access to open space for fire suppression, providing fire breaks along the edge of the open space and limiting combustible materials along the edge. If mowing activities are required within the Preserve, they will be conducted consistent with an agency-approved management plan, and in a manner that promotes native plants and discourages the establishment of non-native species. Any firebreaks that necessitate herbicide application, tilling, plowing, or other soil disturbance will be located outside the Preserve, and drainage from these areas will be directed away from the Preserve.

8. Ensure Preserve Areas are protected in perpetuity.

Consistent with the adopted Conceptual Preserve Design for the Sunridge Specific Plan Area, the Arista del Sol project includes approximately 41.1 acres of preserved open space located within the western half of the site. This Preserve will be placed into a conservation easement and funded via an endowment that will allow for maintenance and management of the Preserve in perpetuity by a conservation-oriented third party, and the Preserve parcel will be recorded under a distinct parcel number to distinguish it from the residential portion of the site. The management, maintenance, and monitoring requirements, allowances, and restrictions will be conducted in accordance with an agency-approved management plan. Public access to the Preserve will be prohibited except as required by the Preserve Manager for monitoring and maintenance of vernal pools, drainage ditches, water quality ponds, detention basins, water pipelines, and fences. Grazing will be allowed within the Preserve as a method of thatch management, and grazing contractors will also be allowed access to the Preserve for fence maintenance, supplemental feeding/watering, etc necessary to maintain the health and security of the herd. Utility easement holders (e.g., to maintain power lines) will also be granted access to the preserve, but to the extent practicable motorized vehicle use within the Preserve should be minimized.

The perimeter of the Preserve will be fenced with barbed-wire. All fences will be marked periodically with interpretive signage indicating the sensitivity of the habitats and notice of restricted access. These signs will serve to remind the public that certain activities within the Preserve are prohibited, and may constitute a prosecutable offense. Prohibited activities within the Preserve will include trespassing, vandalism, illegal dumping, and motorized vehicle use. Signs will include a reference to the appropriate law enforcement codes and County ordinances. If the owner elects to graze the Preserve, and maintain the barbed-wire fences to control grazing, then installation of low split-rail shall be required only where there is no other fencing. Signs forbidding trespass shall be displayed at intervals not less than three to the mile along all exterior boundaries and at all roads, trails, or paths entering the Preserve. If the Preserve Manager determines that additional signs are necessary, more will be posted in appropriate locations.

9. Implement mitigation measures (avoidance, minimization, and compensation) that adequately offset direct and indirect impacts to aquatic resources and listed species.

Consistent with principle 9, impacts to wetlands are minimized and compensated in part by the protected 41 acre on-site preserve. Impacts to preserve wetlands will be further minimized through the implementation of a mitigation monitoring and reporting plan. The mitigation monitoring and reporting plan includes the following measures to minimize impacts.

- a. Temporary high visibility fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto the Preserve or adjacent off-site habitat.
- b. An environmental monitor will be employed to ensure compliance with construction-related impact avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to issue stop work orders and to take actions necessary to prevent damage to the Preserve and off-site habitat.
- c. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during

initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until the Open Space Project construction is finished.

d. Temporary impacts (e.g., utility trenching, temporary roads, etc.) will be immediately restored to pre-existing conditions by being temporarily stabilized, and than implementing long-term stabilization (i.e., revegetation).

The project proponents have proposed to utilize compensatory mitigation to address permanent direct and indirect impacts to waters of the U.S and wetlands that provide habitat for federally listed invertebrate species. Wetland mitigation will be provided through a combination of on-site preservation and acquisition of credits at an off-site wetland mitigation bank that will provide for no net loss in wetland habitat and preserve habitat needed to protect federally endangered species. In kind compensation at Agency-approved mitigation sites is proposed for direct impacts to vernal pools and wetland features linking vernal pools, considered as habitat for listed invertebrates by the U.S. Fish and Wildlife Service, at a ratio of 2:1 for preservation, and at a ratio of 1:1 for creation of habitat Wetland compensation at a 1:1 ratio is proposed for the remaining wetlands needed to satisfy U.S. Army Corps of Engineers (Corps) mitigation requirements, and the applicant has proposed to purchase wetland credits.

10. Recognize the realities and constraints placed on construction design due to infrastructure and market-driven forces by considering the costs of avoidance and mitigation measures and choosing measures that are the most cost effective way to achieve the long-term goal of maintaining the biological functions and values of the Preserve Areas.

The on-site Preserve will be managed with attention to water quality, thatch management, and restricting public access. Thatch, or excess plant litter, prevents the growth of native vernal pool plants, can result in the invasion of undesirable non-native plant species, and can pose a significant fire hazard to project residences. To control thatch within the Preserve, one of three methods can be used: controlled burns, periodic mowing, and grazing. Controlled burns are not the preferred method to control thatch within the Preserve due to the danger of impacting adjacent residential developments. Periodic mowing will likely be required once every five years, and represents a viable option of thatch management. However, the preferred method of thatch managements is grazing, as this method would provide the greatest benefit to the biodiversity of the preserve, and would be the most economical.

Current land use within the Subarea Plan properties includes grazing, and it has been demonstrated that eliminating grazing activities results in both the invasion of exotic grasses and a reduction in species diversity within and around vernal pools. Moderate grazing has been proven to prevent the establishment or dominance of invasive non-native plant species, and if growth of thatch is left unchecked, it can outcompete and replace native species, including rare or special status species that have the potential to occur within the Preserve. Seasonal grazing would only be allowed beginning November 1st and would not extend beyond May 1st, and the appropriate livestock removal time will vary annually according to site specific rainfall and weather conditions. Thatch management will also include monitoring of the success or failure of the prescribed management techniques. Communication with the grazing contractor to keep them aware of the presence of sensitive habitats, special status species, and other environmental constraints will also be an integral component of the preserve management plan.

Summary

The Supplemental Alternatives Analysis and this on-site minimization measures report are being submitted in support of the application for a Department of the U.S. Army Corps of Engineers Permit pursuant to Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the United States incidental to grading operations for the construction of residential development, commercial development, and associated roads and infrastructure for the proposed Arista del Sol project.

References

Hanes, Tony and Stromberg, Larry. 1998. Hydrology of Vernal Pools on Non-Volcanic Soils in the Sacramento Valley. Pages 38-49 in: C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Editors). Ecology, Conservation, and Management of Vernal Pool Ecosystems – Proceedings from a 1996 Conference. California Native Plant Society, Sacramento, CA. 1998.

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Appendix C

Department of the Army Permits for Sunridge Properties



DEPARTMENT OF THE ARMY U.S. ARMY ENGINEER DISTRICT, SACRAMENTO CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CALIFORNIA 95814-2922 1.1

REPLY TO ATTENTION OF

October 2, 2006

Regulatory Branch (199400210)

Mark Enes Sunridge, L.L.C. 7700 College Town Drive, Suite 101 Sacramento, California 95826-2303

Dear Mr. Enes:

We are enclosing your copy of Department of the Army Permit 199400210. Please note you are only authorized to complete the work described in the permit.

If you sell the property associated with this permit, the terms and conditions of this permit will continue to be binding on the new owner. To validate the transfer of this permit, have the succeeding party sign the permit transfer section at the end of the permit and forward a copy to this office, along with their printed name, address, telephone number, and other contact information.

The time limit for completing the work is specified in General Condition 1. If the work will not be completed prior to that date, you may request a time extension. Your request for an extension must be received by this office for consideration at least 30 days before the time limit date.

Please refer to identification number 199400210 in any correspondence concerning this project. If you have any questions, please contact Mr. David Leput at our Sacramento Office, 1325 J Street, Room 1480, Sacramento, California 95814-2922, email david.w.leput@usace.army.mil, or telephone 916-557-5327. You may also use our website: www.spk.usace.army.mil/regulatory.html.

Sincerely,

19/2/06 LEPUT/n CESPK-CO-R

O. Sales Ellers

Kevin J. Roukey Chief, Central California/Nevada Section

CESPK

Enclosure

Copy furnished without enclosure:

Niki Doan, AKT Development Corporation, 7700 College Town Drive, Suite 101, Sacramento, California 95826

Ellen Berryman, Berryman Ecological, 985 Meadow Gate Road, Meadow Vista, California 95722

Hilary Anderson, Environmental Coordinator, Planning Department, City of Rancho Cordova, 2729 Prospect Park Drive, Rancho Cordova, California 95670-6025

DEPARTMENT OF THE ARMY PERMIT

Permittee:	Mark Enes Sunridge, L.L.C. 7700 College Town Drive, Suite 101 Sacramento, California 95826-2303
Permit Number:	199400210
. .	

Issuing Office:

U.S. Army Engineer District, Sacramento Corps of Engineers 1325 "J" Street Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description: To construct a residential subdivision, which contains 134 single-family homes (19.20 acres), a neighborhood park (2.57 acres), and roads including improvements (2.11 acres). The construction of the project will result in the permanent loss of 1.36 acres of waters of the United States (1.36 acres of vernal pools).

All work is to be completed in accordance with the attached plan(s).

Project Location: The project is located to the west of Jaeger Road and to the south of Douglas Road, in the SunRidge Specific Plan Area, in Sections 3, 8, & 10, Township 8 North, Range 7 East, M.D.B.&M, in Sacramento County, California.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2010. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity

Page 2

authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The Project shall comply with the provisions of the Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

This Corps permit does not authorize you to take any threatened or endangered species, in particular the 2. vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., and Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-04-F-0339, dated December 9, 2004), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 1.36 acres of waters of the United States, you shall construct at least 1.36 acres of vernal pool and swale habitat at a Corps approved location.

5. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

6. You shall complete construction of the compensatory mitigation no later than October 1, 2006.

7. To insure that mitigation is completed as required, you shall notify the District Engineer of the date you start construction of the authorized work and the start date and completion date of the mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, preserve(s) containing the 1.36 acres of created/restored vernal pool habitat required by "Special Condition 4" and 2.72 acres of preserved vernal pool habitat at a Corps and U.S. Fish and Wildlife Service approved location(s).

10. To minimize external disturbance to preserved or created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland vegetation surrounding the entire perimeter of all created, preserved, and avoided waters of the United States, including wetlands within the proposed off-site preserves. This buffer shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans. These buffer widths shall be explicitly approved in writing by the Corps prior to any work in waters.

11. To insure that the preserves are properly managed, you shall develop a specific and detailed preserve management plan for the off-site mitigation, preservation, and avoidance areas. This plan shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area(s) and the long term funding and maintenance of each of the preserve areas.

12. To protect the integrity of the preserve and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

13. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2006, install fencing and appropriate signage around the entire perimeter of the off-site preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of mitigation, preservation, and avoidance areas:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas.

b. Designate a Corps approved conservation-oriented third part entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed

deed restriction and conservation easement language shall be approved by the Corps of Engineers prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by October 1 of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other mitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Permittee Mark Enes Sunridge, LLC

9-29-06 Date

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

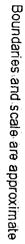
Colonel Ronald N. Light, District Engineer

386+0Ę. Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

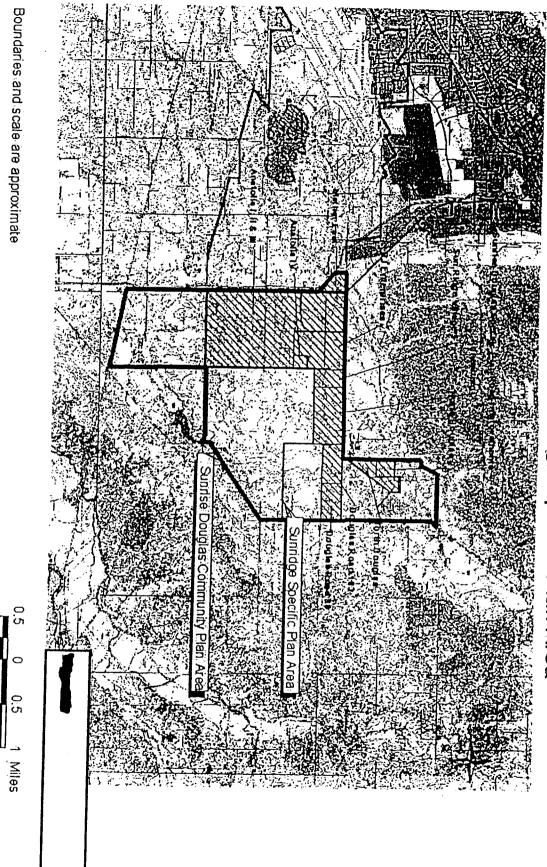
Transferee

Date



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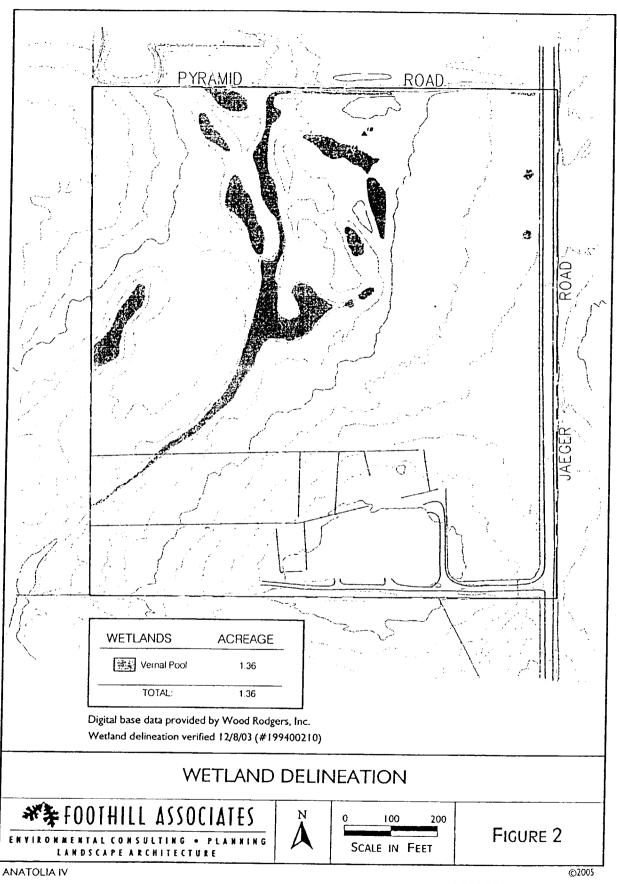
#199400210 Flg. 1 of 3



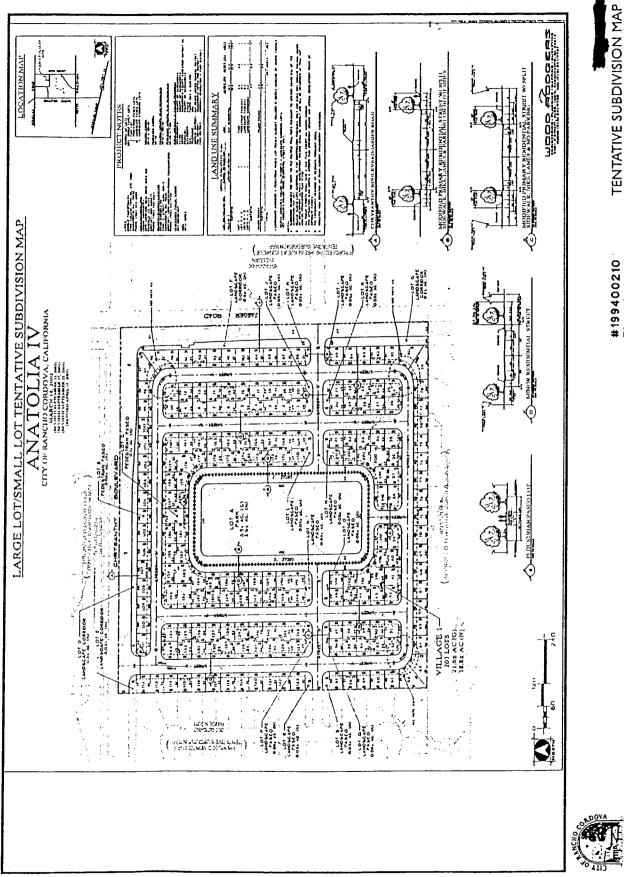
Corps Actions within the Sun Ridge Specific Plan Area

Public Notice Number 200000336

CNS07633



#199400210 Fig. 2 of 3



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#199400210 Fig. 3 of 3

199400210

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California Regional Water Quality Control Board

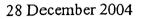
Central Valley Region

Robert Schneider, Chair

an C. Lloyd, Ph.D Secretary for Environmental Protection

Sacramento Main Office 11020 Sun Center Drive #200 Rancho Cordova, CA 95670-6114 Phone (916) 464-3291 Fax (916) 464-4645 http://www.swrcb.ca.gov/rwqcb5 Arnold Schwarzenegger

Governor



Mr. Mark Enes Sunridge, LLC 7700 College Town Drive, Suite 101 Sacramento, CA 95826

ACTION ON REQUEST FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE ANATOLIA IV PROJECT, (WDID# 5A34CR00182) SACRAMENTO COUNTY

ACTION:

- 1. D Order for Standard Certification
- 2. Order for Technically-conditioned Certification
- 3.
 Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

- 1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).
- 2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- 3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.
- 4. Certification is valid for the duration of the described project. The Sunridge, LLC shall notify the Regional Board in writing within 7 days of project completion.

California Environmental Protection Agency

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ADDITIONAL CONDITIONS (for Certification Action 2):

In addition to the four standard conditions, the applicant shall satisfy the following:

- 1. Sunridge, LLC shall notify the Board in writing of the start of any in-water activities.
- 2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.
- 3. The discharge of petroleum products or other excavated materials to surface waters is prohibited.
- 4. Activities shall not cause turbidity increases in surface waters to exceed:
 - (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
 - (b) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
 - (c) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
 - (d) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

- 5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.
- 6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.
- 7. All areas disturbed by project activities shall be protected from washout or erosion.
- 8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during
			in water work
Settleable Material	ml/l	Grab	Same as above.

- 9. Sunridge, LLC shall notify the Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.
- 10. Sunridge, LLC shall notify the Board immediately of any spill of petroleum products or other organic or earthen materials.

Mr. Mark Enes Sunridge, LLC

- 11. Sunridge, LLC complies with all Department of Fish and Game 1600 requirements for the project as required.
- 12. Sunridge, LLC must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Patrick G. Gillum, Environmental Scientist 11020 Sun Center Drive #200 Rancho Cordova, California 95670-6114 (916) 464-4709 gillump@rb5s.swrcb.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the Sunridge, LLC, Anatolia IV Project (WDID #5A34CR00182) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under Regional Board Resolution No. R5-2003-0008 "Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge: Type 12 Projects for which Water Quality Certification is issued by the Regional Board", which requires compliance with all conditions of this Water Quality Certification.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

Villian 9. Marchall / for TRP

THOMAS R. PINKOS Executive Officer

Enclosure: Project Information

U.S. Army Corps of Engineers, Sacramento
 Timothy Vendlinski, Wetlands Section Chief (WTR-8), U.S. Environmental Protection
 Agency, Region 9, San Francisco
 U.S. Fish & Wildlife Service, Sacramento
 Oscar Balaguer, Certification Unit, State Water Resources Control Board, Sacramento
 Linda Rivard, Foothill Associates, Rocklin

PROJECT INFORMATION

Application Date: 20 September 2004

Applicant: Mr. Mark Enes

Sunridge, LLC 7700 College Town Drive, Suite 101 Sacramento, CA 95826

Applicant Representatives: Linda Rivard Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718

Project Name: Anatolia IV

Application Number: WDID#5A34CR00182

US. Corps Application Number: 199400210, 200000336

Type of Project: Construction

Project Location: Section 17, Township 8N, Range 7E, MDB&M, Latitude: 38°32'53" and Longitude: 121°13'32"

County: Sacramento County

Receiving Water(s) (hydrologic unit): Morrison Creek, Sacramento Hydrologic Basin, Valley – American Hydrologic Unit #519.21, Lower American HSA

Water Body Type: Wetlands

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The project site is located within the Sunridge Specific plan area, which is part of the 6,042 acre Sunrise Douglas Community Plan area. Activities proposed for the +/- 25-acre Anatolia IV project site includes grading and construction of 134 single low-density family residences.

Preliminary Water Quality Concerns: The construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: Sunridge, LLC will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Sunridge, LLC will conduct turbidity and settleable matter testing during in water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: There will be permanent impacts on 1.36 acres of Jurisdictional wetlands (vernal pools and seasonal wetlands).

Dredge Volume: <0.0 cubic yards

U.S. Army Corps of Engineers Permit Number: 199400210 & 200000336

Federal Public Notice:

Department of Fish & Game Streambed Alteration Agreement: Sunridge, LLC did not need to apply for a Streambed Alteration Agreement.

Possible Listed Species: Vernal pool fairy shrimp, Vernal pool tadpole shrimp.

Status of CEQA Compliance: Sunridge, LLC submitted a Final EIR on 19 July 2002, State Clearinghouse Number 1997022055.

Compensatory Mitigation: There will be 1.36 acres of Jurisdictional wetlands created at either the Bryte Ranch or Anatolia Conservation Bank.

Application Fee Provided: A fee of \$3,484.00 was submitted on 21 October 2004 as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e)



United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



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In reply refer to: 1-1-04-F-0339

Mr. Justin Cutler Chief, Sacramento Valley Office Department of the Army U.S. Army Engineer District, Sacramento 1325 J Street, 14 th Floor		: DEC 9 2004	
Sacramento, California 95814-2922	Chief, Sacramento Valley Office Department of the Army U.S. Army Engineer District, Sacramento		 :

Subject: Formal Endangered Species Consultation on the proposed Anatolia IV Project (Corps File Number 2004 199400210) Sacramento County, California

Dear Mr. Cutler:

This is in response to your March 24, 2004, letter and supporting documentation requesting Section 7 consultation for the proposed Anatolia IV project (proposed project) in Sacramento County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on March 26, 2004. At issue are potential adverse effects to the federally-listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Surveys conducted of the proposed project site have not indicated the presence of the federally-listed slender Orcutt grass (*Orcuttia tenuis*), the Sacramento Orcutt grass (*Orcuttia viscida*), and the California tiger salamander (*Ambystoma californiense*). This document represents the Service's biological opinion on the effects of the project on the threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp, in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

The findings and requirements in this consultation are based on: 1) permitting strategies discussed during the May 10- November 22, 2004 meetings attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers, and the Environmental Protection Agency; 2) the September 8, 2004, *Anatolia IV Section 7 Biological Assessment* and the Conservation Proposal, prepared by Foothill Associates, Inc.; 3) a March 24, 2004, letter from the Corps to the Service requesting initiation of formal consultation on proposed project; 4) site visits; 5) meetings, electronic mail (email) correspondence, and telephone conversations between representatives of the Service, Corps, Foothill Associates; 6) other information available to the Service.

Consultation History



Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers (Corps). and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sun Ridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid 2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004 the Federal agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

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Service Correspondence

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April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan. Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File # 1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

March 24, 2004. U.S. Army Corps of Engineers requested to initiate Section 7 consultation for the proposed project.

September 8, 2004. Foothill Associates submitted *Anatolia IV Section 7 Biological Assessment* to the Service dated September 8, 2004. The Service received the document on September 24, 2004.

September 15, 2004. The Service sent Foothill Associates an email explaining our inclination to consider all wetland types (variously classified) as endangered species habitat. One exception might be stock ponds, given the species under consultation.

September 21, 2004. Foothill Associates submitted a letter to the Service, providing proposed conservation measures for the vernal pool crustacean habitat that would be directly and indirectly affected by the proposed project. The Service received this letter on September 27, 2004.

October 7, 2004. Meeting with Foothill Associates and Service representatives regarding clarification on minimization strategies for each proposed project.

October 13, 2004. Foothill Associates sent the Service an email revising the minimization strategy that was outlined in their September 21, 2004 letter to the Service.

BIOLOGICAL OPINION

Description of the Proposed Action

The following is taken from the document titled A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, prepared by the Service, the Corps, and the EPA (enclosed). This document and the accompanying planning map developed by the three Federal agencies are hereby incorporated by reference into the project description. Thus, our biological opinion on this proposed action, the Anatolia IV project, is based on application and full implementation of the Federal agencies conservation strategy outlined in this document and map, on all future projects in the SDCPA.

"In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts."

The Anatolia IV project site is located in southeastern Sacramento County in the City of Rancho Cordova approximately five miles south of Highway 50, east of Sunrise Boulevard and the

Folsom South Canal, and north of Jackson Road (Highway 16). The Anatolia IV project site is within the Sunridge Specific Plan area (SSPA), which is part of the Sunrise Douglas Community Plan. The Anatolia IV project lies one mile south of Douglas Road and west of and adjacent to Jacger Road. The project site is located in Section 17 of Township 8 North, Range 7 East on the U.S.G.S. Buffalo Creek 7.5' quadrangle.

The Project Site is within the 6,042 acre SDCPA located within the Sacramento County General Plan Urban Service Boundary and Policy Area. The project is also located within the SSPA, which provides a greater detailed land use plan for development of approximately 2,632 acres within the SDCPA. The SDCPA is located within the headwaters of both the Morrison Creek and Laguna Creek watersheds.

The proposed project involves grading the ± 25 -acre site to construct a low density residential development including associated infrastructure (sewer mains and laterals, water mains, and utility lines). The project proponents are proposing to develop approximately 134 single family homes. The proposed project site consists of a ± 25 -acre parcel that includes 1.36 acres of vernal pools subject to Clean Water Act jurisdiction. These wetlands are found primarily in the northern portion of the property. Grading would result in the loss of the 1.36 acres of on-site wetlands. The proposed project boundaries are not contiguous with any open space or preserved areas. There are projects under construction, or proposed projects on all sides adjacent to the propose project site.

Proposed Conservation Measures

The project applicant has proposed the following conservation measures in the September 8, 2004, *Anatolia IV Section 7 Biological Assessment* and the October 13, 2004 electronic letter revising the minimization strategy to minimize adverse effects to the two federally-listed vernal pool crustacean species.

- 1. Standard construction Best Management Practices (BMPs) will be incorporated into construction designs, plans and specifications, and required of contractors during construction. The BMPs would include the following:
 - (a) All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least 2 tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix which when applied, and upon drying, adheres to the soil to form a 100% cover which is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry 24 hours after installation;
 - (b) Certified weed-free straw wattles will be installed at the base of all slopes along the property lines of the proposed property site. The existing Jaeger Road currently provides additional erosion and sediment control to the east. Road improvement projects will be subject to a Storm Water Pollution Prevention Plan (SWPP) and BMP monitoring. Prior to installation of the straw wattles, a concave

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key trench approximately 2 to 4 inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized;

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- (c) During construction all excavated materials will be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.;
- (d) Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from the equipment will be reported and cleaned up in accordance with applicable local, state and/or federal regulations;
 - Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat; and
- (f) An environmental monitor will be employed to ensure compliance with construction-related impact avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until construction is finished.
- A SWPPP will be prepared for the proposed project, with the following objectives; (a) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project; (b) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges, from the site during construction; (c) to outline and provide guidance for BMP monitoring; (d) to identify project discharge points and receiving waters; (e) to address post-construction BMP implementation and monitoring; and (f) to address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.
- Habitat Preservation and Restoration

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- a. Direct effects to 1.36 acres of vernal pool crustacean habitat will be offset through habitat preservation (refer to Tables 1 and 2). Habitat preservation will be achieved through:
 - i. The preservation of 5.44 acres of vernal pool crustacean habitat at Borden Ranch. This site will be preserved with a conservation easement and protected and managed in perpetuity consistent with a Service-approved preserve management plan. The preserve management plan needs to be received by the service 120 days prior to construction for review. A longterm funding mechanism (*i.e.*, an endowment fund) to fund the preserve management will be established upon Service approval of the site.
- b. Direct effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation at a 1:1 ratio (refer to Tables 1 and 2). The restoration/creation goal will be to create and enhance wetlands with habitat functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat creation/restoration will be achieved through either:
 - i. The purchase of vernal pool restoration/creation credits equivalent to 1.36 acres (at a 1:1 ratio) at a Service-approved bank; or
 - ii. The restoration of 1.36 acres of vernal pool crustacean habitat at a Serviceapproved site within Sacramento County that meets the following criteria:
 - 1. The restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
 - 2. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat;
 - 3. The restoration site will have a conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Table 1 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if	Credits
Purchased at Anatolia Conservation Bank	

	Acres of Direct Effects	Acres of Indirect Effects	2:1 Preservation Compensation	1:1 Creation Compensation
Vernal Pool	1.36	0	2.72	1.36
TOTAL	1.36	0	2.72	1.36

Table 2 - Vernal Pool Crustacean Habitat Effects and Compensation Acreages if Credits

Туре	Acres of Direct Effects	Acres of Indirect Effects	4:1 Preservation Compensation	1:1 Creation Compensation
Vernal Pool	1.36	0	5.44	1.36
TOTAL	1.36	0	5.44	1.36

Purchased at Borden Ranch Preserve or at Another Service-Approved Site

STATUS OF THE SPECIES

The vernal pool tadpole shrinp and vernal pool fairy shrinp were listed as endangered and threatened, respectively, on September 19, 1994. Final critical habitat was designated for these species on August 6, 2003 (68 FR 46684). Complete descriptions of these species are found in 59 FR 48136, the final rule listing these species under the Act. These crustaceans are restricted to vernal pools and swales and other seasonal aquatic habitats in California. Eng *et al.* (1990), Simovich *et al.* (1992), and (Service 1994c) provide further details about their life history and ecology. The Service did not designate any critical habitat for the vernal pool crustaceans in Sacramento County. Although the Service designated critical habitat for the vernal pool fairy shrimp in San Joaquin County, none will be affected by the proposed project.

Life History

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952, Longhurst 1955, Pennak 1989). It is primarily a benthic animal that swims with its legs down. Its diet consists of organic detritus and living organisms. such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanway 1974, Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991, Simovich *et al.* 1992).

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into

adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in shortlived shallow pools (Simovich *et al.* 1992).

Distribution

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 168 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 342 occurrences extending from Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, CNDDB 2004) and Riverside County. Five disjunctive populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon. The vernal pool fairy shrimp inhabits vernal pools with clear to teacolored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Dispersal

The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp. The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

ENVIRONMENTAL BASELINE

Historically, vernal pools and vernal pool complexes occurred extensively throughout the

Sacramento Valley of California. However, conversion of vernal pools and vernal pool complexes has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp, the vernal pool fairy shrimp (shrimp), and slender and Sacramento Orcutt grasses. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988).

In addition to direct habitat loss, the two shrimp populations have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in small isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987a,b). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to physical (geographic) isolation from other (source) populations.

Human population growth in Sacramento County has steadily increased. On the average, Sacramento County has experienced an annual population increase of 1.38 percent for the period between 1991 and 1999 (Service 2000). For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5 percent (State of California 2002). This annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent vernal pool resource development are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 58 (17 percent) out of the total of 342 reported occurrences of vernal pool fairy shrimp, and 58 (34 percent) out of the total of 173 reported occurrences of vernal pool tadpole shrimp (CNDDB 2004). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County.

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locations checked, 178 locations (6 percent) were found to support the vernal pool fairy shrimp. Of this total, 63 locations (35 percent) were within Sacramento County.

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of humancaused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect effects can result in adverse effects to vernal pool species.

A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued approximately 157 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, and those that have insufficient information to conclude an effects analysis, those that were amended, or ones that the Service issued a conference opinion. No State of California actions have taken place within Sacramento County that has adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. Thus, the trend for the two vernal pool species within the county is most likely static.

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, 2004), based on an analysis of the California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that an estimated 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., Richard Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetted vernal pool acreage (pers. comm., Lora Konde, California Department of Fish and Game, 2003).

Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within

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the USB, contain a high density of occupied pool of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2003). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2003). The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp. and 2 occurences of orcutt grasses (2 slender Orcutt grass) are reported (pers. comm., Arnold Roessler, Service, 2004). An additional occurrence of slender Orcutt grass has been reported, but not recorded in the CNDDB (pers. Comm.. Pete Balfour, ECORP Consulting, 2004).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, youngterrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared (Ref: Fuller, pers. comm. 2004). Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow vernal pools.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County, approximately 12 miles southeast of the proposed project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and shallower. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (Ref: Holland, pers. comm. 2004).

The Laguna geologic formation and its associated soils entirely characterize the SDCPA. Vernal pools found within this soil type are old-terrace types. Old-terrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, but more frequently in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento

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Valley Conservancy (SVC). This potential preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento Countyowned Multi Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

There are 342 records of vernal pool fairy shrimp and 173 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB 2004). Of these records, 58 vernal pool fairy shrimp records and 58 vernal pool tadpole shrimp records are from Sacramento County (CNDDB 2004). Vernal pool fairy shrimp and vernal pool tadpole shrimp have both been observed in wetlands throughout the Sunrise Douglas area. Surveys were conducted on the proposed Anatolia IV project area for federally threatened slender Orcutt grass or the federally endangered Sacramento Orcutt grass. No Orcutt grass was found in the proposed project site.

Vernal pool fairy shrimp located within the Sunridge Specific Plan: There is one record within the Sunridge Specific Plan boundaries, and another 17 records located within five miles of the Sunridge Specific Plan area boundaries. The nearest occurrence (# 43) of this species, observed in March 1996, is a half of a mile southwest of the proposed project site.

Vernal pool tadpole shrimp within the Sunridge Specific Plan: There are two records within the Sunridge Specific Plan boundaries, and another 23 records within five miles of these boundaries. The nearest two occurrences (# 54 and # 23) of this species are within 1.5 miles of the proposed project site. One of these recorded occurrences (# 54), located to the west of the site, was observed in February of 1993; and the other recorded occurrence (# 23), located to the east of the site, was observed in 1996.

EFFECTS OF THE PROPOSED ACTION

Although vernal pool fairy shrimp and vernal pool tadpole shrimp exhibit slightly differing habitat requirements and life cycles, they often inhabit the same vernal pool complexes and have been known to co-occur in individual vernal pools. These species are supported by similar habitat types, including vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, alkali flats, and other depressions that hold water of similar volume, depth, area, and duration. Therefore, both species are subject to a common set of threats and considerations.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been documented to occur within the SSPA. Although no surveys have been done on the proposed project site, these species are known from other parcels within the SSPA. The project site is located in Unit 13 of the proposed critical habitat for vernal pool fairy shrimp and in Unit 8 of the proposed critical habitat for vernal pool tadpole shrimp. All of the vernal pools and seasonal wetlands on the proposed project site, however, provide appropriate habitat for both vernal pool fairy shrimp and

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vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site. Therefore, construction of the proposed project in any portion of the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp.

Direct Effects

Direct effects are the immediate effects of the proposed project on the species or its habitat and include the effects of interrelated action and interdependent actions. Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those actions that have not independent utility apart from the proposed action (50 CFR §402.02). Our analysis is based on the assumption that the proposed project will be implemented within two (2) calendar years of the date of the issuance of this biological opinion.

The proposed project would result in fill of 1.36 acres of suitable habitat that may be potentially occupied by vernal pool fairy shrimp and vernal pool tadpole shrimp. The Service considers an entire vernal pool or seasonal wetland to be directly affected when even a portion of it is filled or subject to similar direct affects.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2004). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Sares-Regis property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas. Therefore, the majority of the remaining 44 acres of vernal pools outside the Sares-Regis property are expected to be filled for future urban development (Foothill Associates 2004).

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-96-F-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2004).

All infrastructure improvements are required to serve the already permitted Anatolia project. Affects resulting from offsite infrastructure development and road widening to Sunrise Boulevard from White Rock Road, to Pyramid Road, to Douglas Road from Sunrise Boulevard, and to Americanos Road, are covered under separate Nationwide14 Permits (Corps file number 200300697), which are currently in review by the Service. Two additional road improvement projects will be permitted under Phase I and will provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements will affect less than one-tenth an acre (Foothill Associates 2004).

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California red-legged frog (*Rana aurora draytonii*), the delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, if completed, the SSHCP may eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and State listed species known at this time that may be affected by actions that are reasonably foreseeable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will be coordinated with CDFG and will include any appropriate State listed species. The SSHCP will address actions that are within the land use authority of

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Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed project and the future projects.

Indirect Effects

Vernal pool habitat indirectly affected includes all habitat supported by future destroyed upland areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. The project will not result in any indirect effects. Vernal pool crustacean habitat within 250 feet of the proposed project boundaries to the north, west, and south could be indirectly impacted by the project. Habitat to the east is divided from the Project Site by a major roadway and therefore indirect impacts are not anticipated. Because lands to the north, west, and south are within the approved SDCP/SSPA, habitat in these areas would be directly removed and offset by adjacent proposed development. Therefore, separate Section 7 consultation will be initiated on lands adjacent to the project site and indirect impacts to these areas are expected to be offset through this process.

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat (Zelder 1987). Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affected water quality. Many of these chemical compounds are thought to have adverse affects on all of the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

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In addition to the adverse effects detailed above, the proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons that the vernal pool fairy shrimp and vernal pool tadpole shrimp have declined. The proposed project will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in south Sacramento County and throughout the range of these two listed vernal pool crustaceans.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

The Service is aware of other projects currently under review by the State, County, and local authorities where biological surveys have documented the occurrence of federally-listed species. These projects include such actions as urban expansion, water transfer projects that may not have a Federal nexus, and continued agricultural development. The cumulative effects of these known actions pose a significant threat to the eventual recovery of these species. Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coastal ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California, the Service anticipates that a wide range of activities will affect these species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects, (4) highway projects, (5) utility projects, (6) chemical contaminants, and (7) conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act).

The proposed project is located is a region where future destruction and modification of vernal pool crustacean habitat is anticipated. Sacramento County will continue to develop within the County's sphere of influence. This development will result in increased direct loss of habitats for these listed species. Continued loss of these habitats throughout the region could conceivably affect the genetic diversity of the local population(s) of listed vernal pool crustaceans. Any loss of genetic diversity can have significant effects on a population's ability to respond to environmental change over time (Frankel and Soulé 1981). Within the proposed action area, the predominant types of non-federal actions that might affect the listed vernal pool crustaceans consist of residential and commercial development.

Conclusion

After reviewing the current status of the vernal pool tadpole shrimp and vernal pool fairy shrimp, the environmental baseline for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Anatolia IV project, as proposed, is not likely to jeopardize the continued existence of the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not located within designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp, and therefore, no destruction or adverse modification of critical habitat is anticipated

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

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Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pool crustaceans due to direct or indirect effects as a result of the action. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 1.36 acres of vernal pool habitat will become harassed, harmed, injured, or killed, as a result of the proposed action.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool fairy shrimp or the vernal pool tadpole shrimp. This action will not result in destruction or adverse modification of critical habitat.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Corps shall fully implement the March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" and the principles and standards outlined in the document titled, "June 2004 Conceptual

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Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.

- 2. The Corps shall assure all conservation measures as proposed by the project proponent in the September 8, 2004, *Anatolia IV Section 7 Biological Assessment*, and the October 13, 2004, and December 7, 2004, electronic mails from Foothill Associates to the Service, and identified by the Service in the project description of our biological opinion are fully implemented.
- 3. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
 - b. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project.
 - c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
 - d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
 - e. Prior to groundbreaking, high-visibility fencing that is at least 4 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat.

The fencing shall be established at a minimum distance of 250 feet from the edge of the vernal pools. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.

- f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access road will observe a speed limit of 20 miles per hour. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas. All fueling, cleaning, and maintenance of vehicles and other equipment will occur only within designated areas and at least 250 feet away from any wetland habitats. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately. Such spills will be reported in the post-construction compliance reports.
- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Description of the Proposed Action section of this Biological Opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto adjacent offsite wetland habitats.
- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill

occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.

i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area.

5. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.

6. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat loss through habitat preservation offsite. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder etc. for our approval.

7. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat through habitat restoration or creation. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 120 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. The following criteria will be used by the Service when approving a restoration/creation site:

- a. The restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
- b. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
- c. The restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Reporting Requirements

A post-construction compliance report prepared by the monitoring biologists must be submitted to the Chief of the Endangered Species Division (Central Valley) at the Sacramento Fish and Wildlife Office within thirty (30) calendar days of the completion of construction activity or within thirty (30) calendar days of any break in construction activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that groundbreaking at the project started and the project was completed; (ii) pertinent information concerning the success of the project in meeting

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compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on the giant garter snake and the valley elderberry longhorn beetle, if any; (v) occurrences of incidental take of any these species; and (vi) other pertinent information.

The project applicant must report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this biological opinion. The project applicant must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contact is the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee, who during routine operations and maintenance activities, inadvertently kills or injures a federally-listed species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. The Service recommends the following conservation measures:

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. As recovery plans for listed vernal pool crustacean species are developed, the Corps should assist the Service in their implementation.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.
- 5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

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In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the proposed Anatolia IV project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding the proposed Anatolia IV project, please contact me at (916) 414-6700

Sincerely,

Susan Mone Wayne S. White Field Supervisor

cc: ARD (ES), Portland, OR Ms. Terry Roscoe, California Dept. of Fish and Game, Rancho Cordova, CA Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA

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A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

June 2004

In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts.

Strategy Principles and Standards:

1. <u>Maintain natural (existing) watershed integrity and flows to downstream reaches</u> (distribution, frequency and duration), including restricting summer nuisance flows.

2. <u>Maintain corridors and large areas for wildlife and the propagation of flora</u>. Preserve vernal pool hydrology and integrity to benefit listed plants and invertebrates. Establish interconnected conservation areas that are managed in perpetuity and tie into existing local and regional planning efforts. Provide for meaningful conservation of sensitive plant habitats for species integrity and long-term survival.

3. <u>Manage stormwater to retain the natural flow regime and water quality</u> including not altering baseline flows in the receiving waters, not allowing untreated discharges to occur into existing aquatic resources, and not using existing aquatic resources for detention or transport of flows above current hydrology, duration, and frequency. All stormwater flows generated on-site and entering preserve boundaries would be pre-treated to reduce oil, sediment, and other contaminants.

4. Use elevated roads, arched crossings and other practices for transportation corridors that must traverse Preserve Areas to minimize direct and indirect impacts to aquatic resources and maintain the integrity of Preserve Areas. Hydrologic and biologic functions and values of the Preserve Areas would not be significantly impacted by road crossings.

5. <u>Use conservation design elements</u>. These elements include construction techniques such as using single-loaded roads where housing abuts Preserve Areas, designing roadside landscaping to drain (surface and subsurface) toward urban features and not toward the preserve boundary, and orienting houses such that the front living area faces the Preserve Area. Fences would be low and not restrict visibility into the Preserve Area. Impervious surfaces would be minimized. Stormwater/water runoff plans would be designed to maintain watershed integrity by employing such means as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat stormwater and water runoff from the large increases in impervious surfaces.

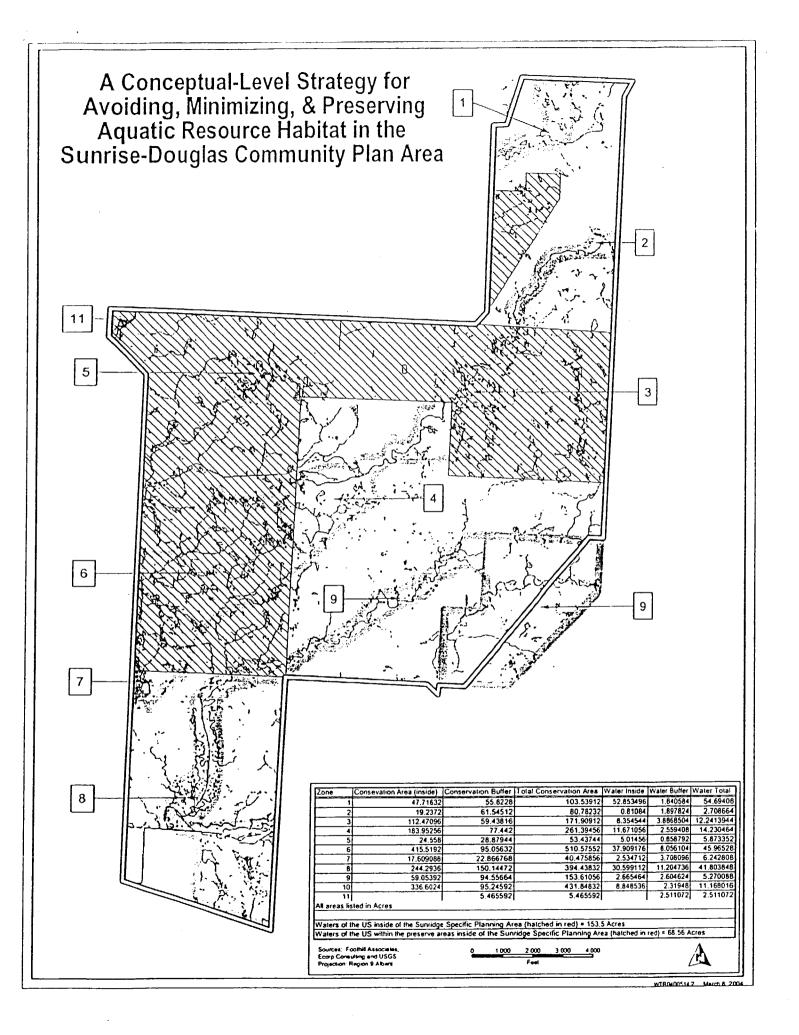
6. Locate compatible land uses next to preserves. Acceptable land uses include parks, hiking trails, athletic fields, and other forms of open space. Developed trails would be outside the preserve boundary. Any irrigated fields or landscaping must not drain toward preserves. Cut and fill activities adjacent to the preserve boundaries would be minimized.

7. <u>Mow-only firebreaks may be located at the outer edges of Preserve Areas.</u> Mowing within the Preserve Areas should be conducted consistent with achieving the goals of the preserve management plan, including promoting native/discouraging non-native species. Firebreaks that necessitate herbicide application or tilling, plowing or other soil disturbance would be located outside of the Preserve Areas.

8. <u>Ensure Preservation Areas are protected in perpetuity</u>. This includes establishing buffers and not locating lot lines within the preserve boundary. Areas would be protected in perpetuity through conservation easement that is adequately funded for maintenance and managed by a conservation-oriented third-party. Preserve Areas would be fenced and signed.

9. Implement mitigation measures (avoidance, minimization, and compensation) that adequately offset direct and indirect impacts to aquatic resources and listed species. In general, establishing the Preserve Areas is considered a regional measure to achieve impact avoidance and minimization. Vernal pools that are directly impacted by projects should be mitigated at ratios equal to or greater than 2:1 for preservation and 1:1 for creation/restoration. Vernal pools indirectly affected should be mitigated at ratios equal to or greater than 2:1 for preservation and creation/restoration will generally be completed in the same watershed but not within, or in a way that would affect, existing wetland complexes. On a case-by-case basis, preservation credit may be given for vernal pools in the Preserve Areas (except for the 250-foot wide indirect impact zone). Excellent opportunities exist in or near the SDCPA for the establishment of a vernal pool conservation bank(s) and a wetland compensatory (i.e., restoration/creation) mitigation bank(s).

10. <u>Recognize the realities and constraints placed on construction design due to infrastructure and market-driven forces</u>.



DEPARTMENT OF THE AR* CERMIT

Permittee:	Tom Wong Cresleigh Homes 5417 Madison Avenue, Suite 2 Sacramento, California 95841
Permit Number:	200100230
Issuing Office:	U.S. Army Engineer District, Sacramento Corps of Engineers 1325 "J" Street Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description: To create a residential subdivision development, which will include 369 single-family homes, three (3) neighborhood parks, and road construction/improvements. The construction of the project will result in the permanent loss of 2.99 acres of waters of the U.S., including wetlands (1.88 acres of vernal pools, 0.22 acre of riverine seasonal wetland, and a 0.89-acre pond). Changes to on-site hydrology are also anticipated to indirectly impact 0.39 acres of waters of the U.S., including wetlands (0.36 acre of vernal pools, 0.01 acre of riverine seasonal wetland, and 0.02 acre of depressional seasonal wetland).

All work is to be completed in accordance with the attached plan(s).

Project Location: The project site is located in southeastern Sacramento County, approximately five (5) miles south of Highway 50, south and adjacent to Douglas Road, west of Grant Line Road, east and adjacent to Jaeger Road. The site is in portions of Section 9 and 16, Township 8 North, Range 7 East on the U.S.G.S. "Buffalo Creek" quadrangle.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2011. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

Department of the Army Permit

3. If you discover any previously unknown oric or archeological remains while accomplishing the activity authorized by this permit, you must immediately tify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. No action shall be taken pursuant to this permit that impacts the vernal pool habitat covered by this permit pending the outcome of the temporary restraining order proceedings in California Native Plant Society v. U.S. Environmental Protection Agency, C06-0304-MJJ. See Attached Civil Minutes, October 18, 2006.

2. The Project shall comply with the provisions of the Conceptual-Level Strategy for Avoiding, Minimizing and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

3. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., and Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-02-F-0357, dated December 22, 2004) and Amendment (1-1-06-F-0232, dated August 30, 2006), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

4. As compensatory mitigation for the direct loss of 2.99 acres of waters of the United States and indirect impacts to 0.39 acres (3.38 acres total), you shall construct at least 3.38 acres of vernal pool habitat at the Gill Ranch Mitigation Area (off-site mitigation area). Also, to fulfill wetland preservation requirements you shall purchase 9.18 acres of vernal pool crustacean habitat at the Bryte Ranch Conservation Bank.

5. You shall develop a final comprehensive compensatory mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of any construction activities. The plan shall

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include mitigation location and design designings, vegetation plans, including target species to be planted, and final success criteria, presented in the four at of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

6. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

7. You shall complete construction of the compensatory mitigation no later than November 15th of the year the mitigation construction is initiated.

8. To insure that the compensatory mitigation is completed as required, you shall notify the District Engineer of the date you start construction of the authorized work and the start date and completion date of the mitigation construction, in writing and no later than ten (10) calendar days after each date.

9. To provide a permanent record of the completed compensatory mitigation work, you shall provide two (2) complete sets of as-builts of the completed work within the off-site mitigation area to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

10. You shall establish and maintain, in perpetuity, a preserve (compensatory mitigation area) containing the 3.38 acres of created/restored aquatic habitat required by "Special Condition 4".

11. To minimize external disturbance to created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland vegetation surrounding the entire perimeter of all created/restored waters of the United States, including wetlands within the proposed off-site preserve. This buffer shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans. These buffer widths shall be explicitly approved in writing by the Corps prior to any work in waters.

12. To insure that the preserve (compensatory mitigation area) is properly managed, you shall develop a specific and detailed preserve management plan for the off-site compensatory mitigation area. This plan shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area and the long term funding and maintenance of each of the preserve area.

13. To protect the integrity of the compensatory mitigation area and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

14. To prevent unauthorized access and disturbance, you shall, within one (1) year of starting the compensatory mitigation construction, install fencing and appropriate signage around the entire perimeter of the compensatory mitigation area and the approved buffer. All fencing shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

15. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of the compensatory mitigation area:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site compensatory mitigation area.

b. Designate a Corps approved conservation-oriented third part entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be approved by the Corps of Engineers prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

16. To assure success of the created waters of the United States, you shall monitor the compensatory mitigation area for five (5) years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three (3) consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

17. You shall submit compensatory mitigation area monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by October 1st of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

18. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

19. All terms and conditions of the December 28, 2004 Section 401 Water Quality Certification are expressly incorporated as conditions of this permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
- 2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not gra y property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for

an extension of this time limit.

four signature below, as permittee, indicates that you accept and agree to comply with the ten band conditions of this permit. •. '



24/06

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Kevin Roukey, Chief,

Central California/Nevada Section (For the District Engineer)

10/201. Date

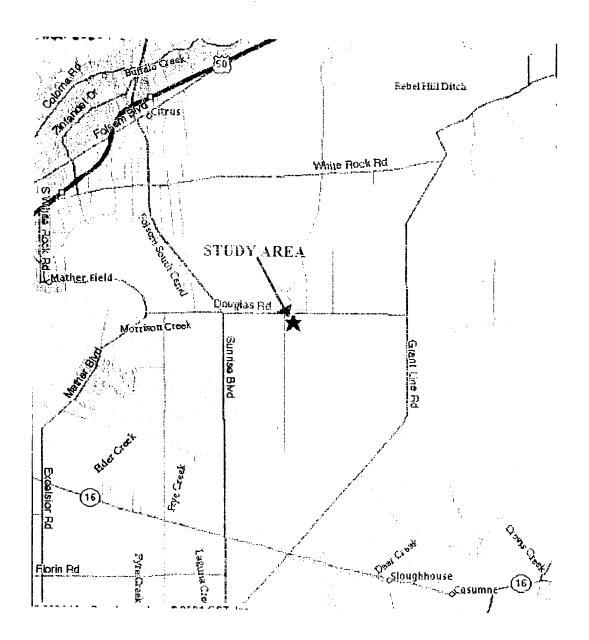
When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

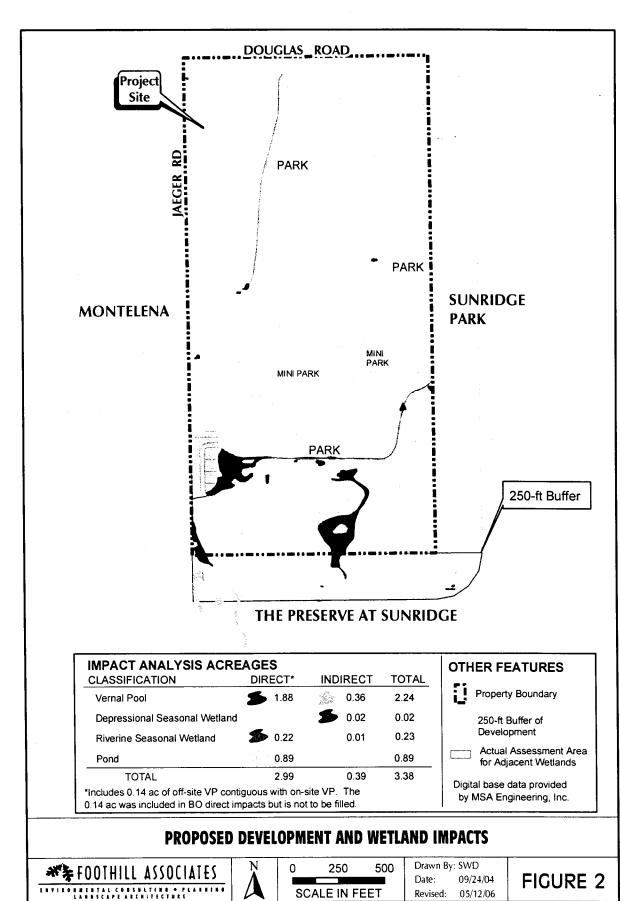
Date

FIGURE 1

VICINITY MAP



#200100230 Fig. 1 of 2



SUNRIDGE VILLAGE J

#200100230 Fig. 2 of 2

Fig

SVJ_IMPACTS_FOR_RESTORE.MXD © 2006

DEPARTMENT OF THE ARMY PERMIT

Permittee:	Grantline Investors, LLC Brian Vail
	111 Woodmere Drive, Suite 190 Folsom, California 95630

Permit Number: 199400365

Issuing Office: Sacramento District

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To discharge fill in approximately 5.70 acres of jurisdictional waters of the United States comprised of 5.22 acres of vernal pool habitat, 0.36 acres of riverine seasonal wetland habitat, and 0.04 acres of depressional seasonal wetland habitat, and 0.08 acres of ephemeral drainage on approximately 210.7 acres known as the Grantline 208 project site for residential development, a community park, a school site, and a detention basin; major road improvements, including construction of Americanos Boulevard and the expansion of Grantline Road; construction of a drainage basin along Grantline Road, and establishment of an on-site wetland preserve of approximately 68.1 acres, as shown on the attached drawings.

Project Location: The Grantline 208 project is located within the SunRidge Specific Plan Area within the larger Sunrise Douglas Community Plan Area, in Section 15, Township 8 North, Range 7 East, on the USGS Buffalo Creek 7.5' quadrangle near the City of Rancho Cordova in southeastern Sacramento County, California. The description of the proposed work and maps of the site are in the attached Public Notice and further described below.

Permit Conditions:

General Conditions:

- 1. The time limit for completing the authorized activity ends on October 25, 2011. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
- 2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification from this permit from this office,

which may require restoration of the area.

- 3. If you discover an ______reviously unknown historic or archeological remains while accomplishing the `ctivity authorized by this permit, you must immediately notify this office of what you cove discovered. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
- 4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
- 5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
- 6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

Special Conditions:

- 1. The permittee shall utilize siltation and turbidity control measures (e.g., silt fences, hay bales) in all areas where disturbed soils may potentially wash into nearby watercourses or adjacent wetlands via rainfall or runoff. Such measures shall remain in place until the project is complete and exposed soils are stabilized.
- 2. The permittee shall ensure no debris, soil, silt, sand, rubbish, cement or washings thereof, or petroleum products or washings thereof, are allowed to enter into or placed where it may be washed by rainfall or runoff into nearby watercourses or adjacent wetlands. When project operations are completed, all excess construction materials, debris, or other excess associated project materials shall be removed to an appropriate off-site location outside of any areas subject to Corps jurisdiction.
- 3. The permittee shall ensure staging and storage of equipment and project materials, and fueling and maintenance of equipment, are located in areas outside of the Corps' jurisdiction.
- 4. The permittee shall ensure the limits of the project's impact area are delimited by the placement of temporary construction fencing, staking or signage prior to initiation of construction.
- 5. The permittee shall ensure the project is in full compliance with the provisions of the *Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* dated June, 2004.
- 6. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool

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tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act Section 10 permit, or a Biological Opinion under En.... gered Species Act Section 7, with incidental take provisions with which you must a paper. The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-05-F-C. 5, dated May 18, 2006), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

- 7. To ensure appropriate replacement of functions and values of the aquatic environment that would be lost through project implementation, the permittee shall develop a final comprehensive mitigation and monitoring plan for his proposed compensatory mitigation at a Corps-approved site. This plan must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004.
- 8. To mitigate for the direct loss of 5.70 acres of waters of the United States and indirect impacts to an additional 0.45 acres of waters of the United States that constitute vernal pool branchiopod habitat, the permittee shall construct at least 6.15 acres of vernal pool habitat at a Corps-approved location. The permittee shall complete construction of the compensatory mitigation no later than October 31, 2007.
- 9. To ensure compensatory mitigation is completed as required, the permittee shall notify the District Engineer or his representative of the date you start construction of the authorized work and the start date and completion date of the compensatory mitigation construction, in writing and no later than ten (10) calendar days after each date.
- 10. To provide a permanent record of the completed compensatory mitigation work, the permittee shall provide two complete sets of as-built plan drawings of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-built plan drawings shall indicate any changes made from the original plans in indelible red ink. These as-built plan drawings shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.
- 11. The permittee shall establish and maintain, or cause to be maintained, in perpetuity, compensatory preserves containing not less than 6.15 acres of created and/or restored vernal pool habitat as required by Special Condition 8 at a Corps-approved location,

and 6.9 acres of preserved vernal pool branchiopod habitat at a Corps- and USFWS- approved location.

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- 12. To minimize external disturence to avoided waters of the United States, the permittee shall incorporate buffers consisting of native upland vegetation of suitable width from the outer limit of jurisdiction of the entire perimeter of all created, preserved, and avoided waters of the United States, including wetlands within the proposed preserves, when practicable.
- 13. To ensure the preserves are properly managed, the permittee shall comply with the preserve management plan for the off-site mitigation, preservation, and avoidance areas at a Corps- and USFWS-approved location. This plan shall be drafted in accordance with the Sacramento District's Open Space Preserve Operations & Maintenance Template, dated May 19, 2003, and shall describe in detail the activities that are proposed within the preserve area and the long term funding and maintenance of the preserve area. To prevent unauthorized access and disturbance, the applicant shall install fencing and appropriate signage around the perimeter of the preserves.
- 14. To protect the integrity of the preserves and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or be allowed to occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers and USFWS.
- 15. To ensure long-term viability of the mitigation, preservation, and avoidance areas, the permittee shall, prior to initiating any activity authorized by this permit:
 - a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas;
 - b. Designate an appropriate conservation-oriented third party entity to function as reserve manager and to hold the required conservation easements;
 - c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be provided to the Corps of Engineers for approval prior to recordation; and
 - d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.
- 16. The permittee shall engage a biologist familiar with regional vernal pools and seasonal wetlands to monitor all construction activities within 250 feet of the on-site preserve boundary. The monitor shall ensure no unauthorized activities occur within the preserve boundary during project implementation.
- 17. To ensure success of the preserved and created waters of the United States, the permittee shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the

construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation will not be deemed successful until this criterion has been met.

- 18. The permittee shall submit monitoring reports to this office for each year of the fiveyear monitoring period, and for each additional year, if remediation is required, by July 31 of each year. The permittee shall submit an additional monitoring report at the end of the final three-year period demonstrating continued success of the mitigation program without human intervention.
- 19. The permittee shall allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure it is being or has been accomplished in accordance with the terms and conditions of your permit.
- 20. No action shall be taken pursuant to this permit that impacts the vernal pool habitat covered by this permit pending the outcome of the temporary restraining order proceedings in California Native Plant Society v. U.S. Environmental Protection Agency, C06-0304-MJJ. See Attached Civil Minutes, October 18, 2006.
- 21. A copy of this permit shall be accessible on the job site at all times during construction. The permittee shall provide a copy of this permit to all contractors and forepersons, and require they read this authorization in its entirety and acknowledge they understand its contents and their responsibility to ensure compliance with all general and special conditions contained herein.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403)
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344)
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)
- 2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future

activities undertaken by or on behalf of the United States in the public interest.

- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficencies associated with the permitted work.
- e. Damage claims associated w 'a any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give you favorable consideration to a request for an extension of this time limit.

 $\mathbf{Y} \mapsto \mathrm{dignature}$ below, as permittee, indicates that you accept and agree to comply with e terms Ċ. onditions of this permit. 205

PERMITTEE

25/2006 DATE

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

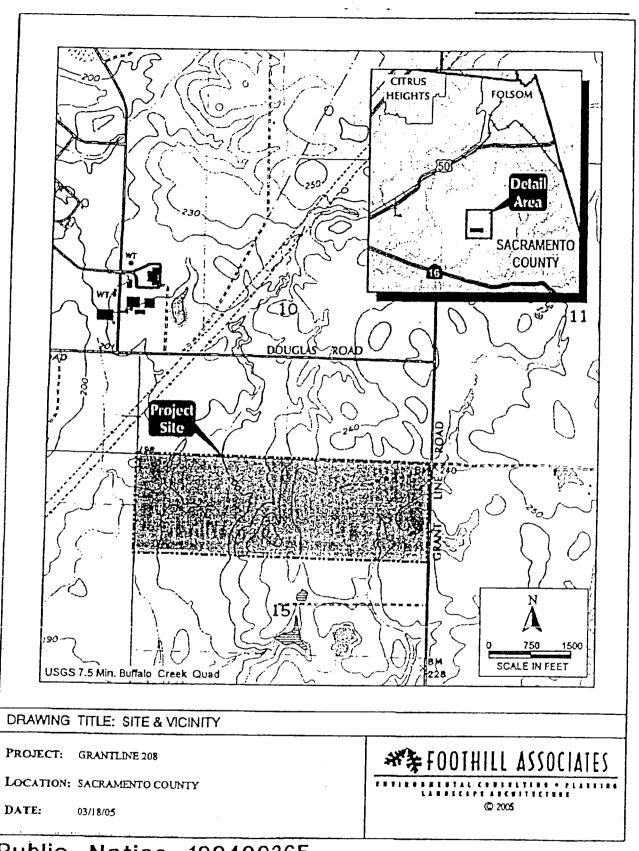
Kevin J. Roukey in Section Chief, Regulatory Branch Sacramento District

<u>25 Oct 07</u> DATE

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

TRANSFEREE

DATE



Public Notice 199400365 Figure 1

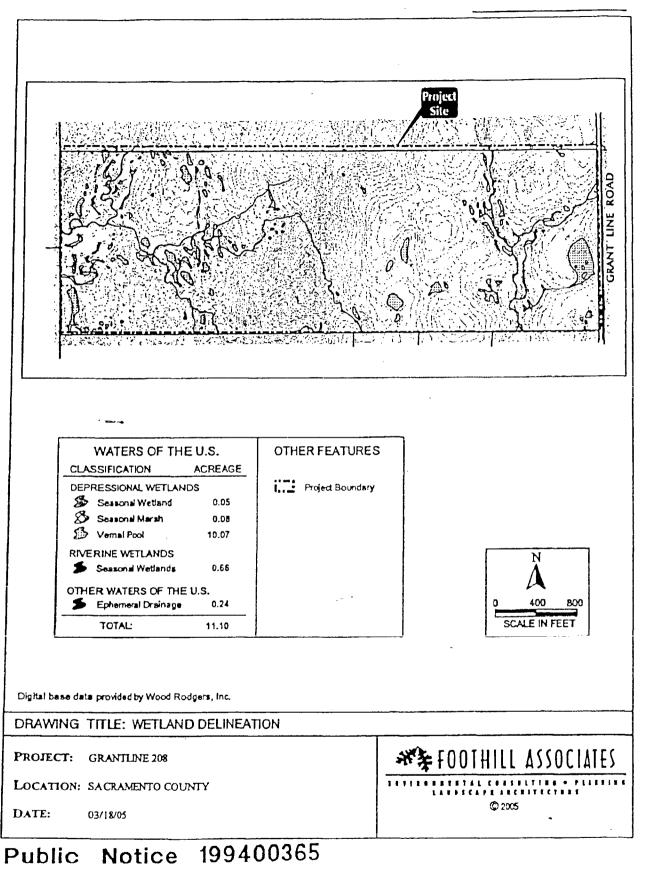


Figure 2

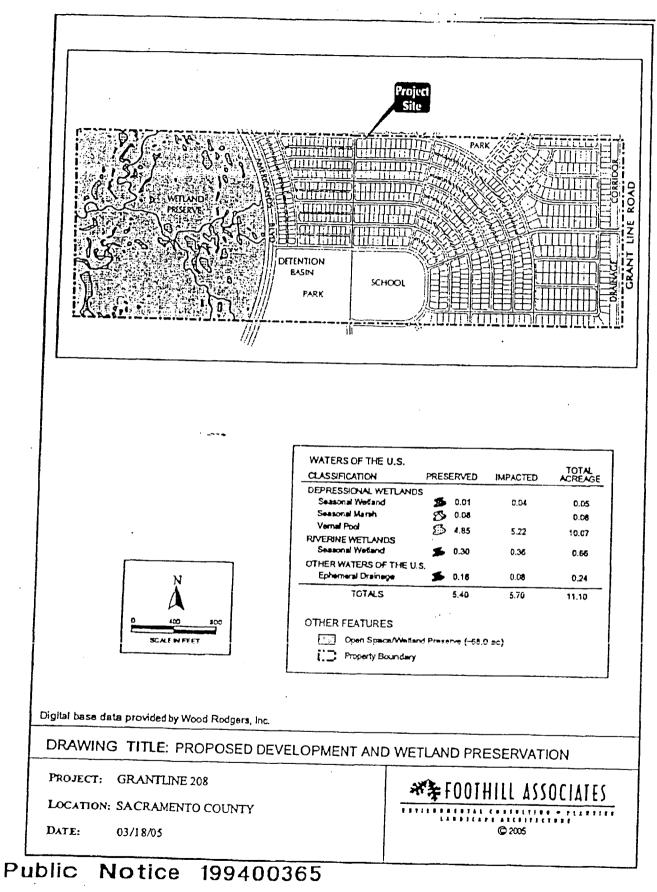
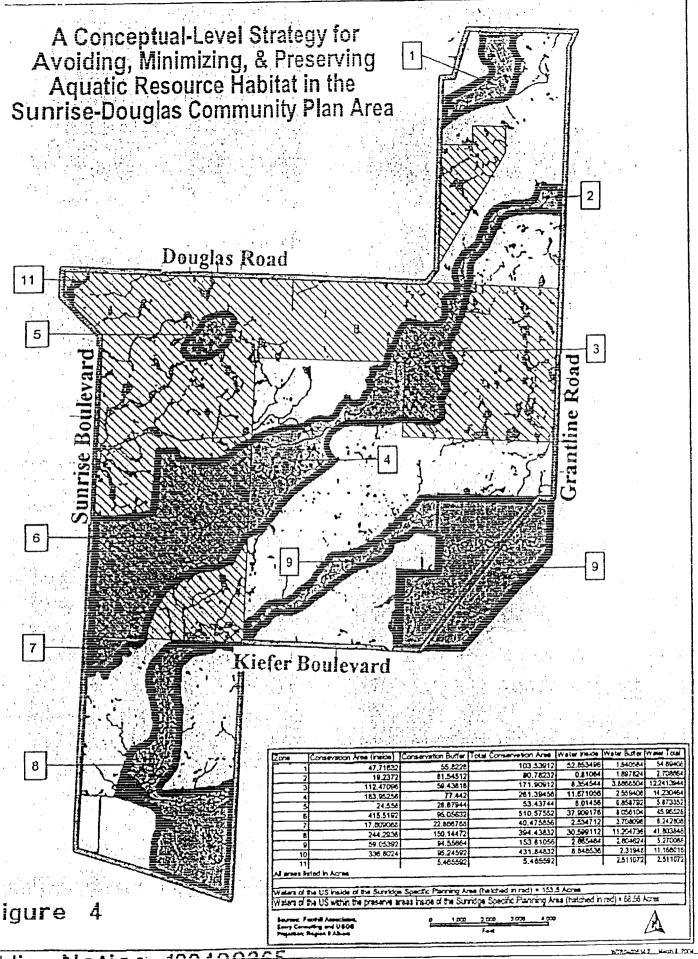


Figure 3



blic Notice 199400365

Case 3:06-cv-03604-MJJ	Document 50	Filed 10/18/2006	Page 1 of 1
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IN THE UNITED STATED DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA

CIVIL MINUTES

DATE: October 18, 2006 [2:36 to 2:46 pm]

Case Number: C06-03604MJJ

HONORABLE MARTIN J. JENKINS

Case Name⁻ CALIFORNIA NATIVE PLANT SOCIETY **U.S. ENVIRONMENTAL** ν.

COUNSEL FOR PLAINTIFF(S): Deborah Sivas, Craig Segall

COUNSEL FOR DEFENDANT(S): Carol Catherman, Jimmy Rodriguez. Samantha Klein

OTHER ATTYS: Craig Pinedo, Andrew Saybee, and Robert Gueram

TYPE OF HEARING: **Telephone Conference re: TRO**

MOTIONS PROCEEDINGS:

1

ORDERED AFTER HEARING:

- Nothing shall happen to impact the habitats pending the outcome of the TRO hearing.
- All submissions due by Tuesday, October 24, 2006.

ORDER TO BE PREPARED BY: Plntf () Deft () Joint () Court ()

Referred to Magistrate Judge For: Settlement in * (The parties are directed to contact the courtroom deputy of the undersigned judge if they are not advised of the assigned magistrate judge with thirty (30) days.)

CASE CONTINUED TO: October 27, 2006 at 10:00 a.m. for TRO

Pre-Trial Conference Date : at 3:30 p.m.

Trial Date: at 8:30 a.m. Set for days Type of Trial: ()Jury ()Court

Notes:

RULING:

PROTECTION AGENCY

Court reporter: Not reported

Courtroom Clerk: Monica Tutson

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF TO CARMY PERMIT

tion th

Permit Number: 199400365

Name of Permittee: Grantline Investors, LLC

Date of Issuance: October 25, 2006

Upon completion of the activity authorized by this permit, sign this certification and return it to the following address:

Regulatory Branch – Sacramento District Office ATTN: CESPK-CO-R-199400365 1325 J Street, Room 1480 Sacramento, CA 95814-2922

Please note that your permitted activity is subject to a compliance inspection by an Army Corps of Engineers representative. If you fail to comply with this permit you may be subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of said permit.

Signature of Permittee

Date



California Regional Water Quality Control Board

Central Valley Region Robert Schneider, Chair



Alan C. Lloyd, Ph.D. Agency Secretary

Sacramento Main Office 11020 Sun Center Drive #200 Rancho Cordova, CA 95670-6114 Phone (916) 464-3291 Fax (916) 464-4645 http://www.waterboards.ca.gov/centralvalley



SEP 21 ----

16 September 2005

Mr. David Downs River West Investments, LLC 7700 College Town Drive, Suite 215 Sacramento, CA 95826

ACTION ON REQUEST FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE GRANTLINE 208 PROJECT, (WDID#5A34CR00222) SACRAMENTO COUNTY

ACTION:

- 1. D Order for Standard Certification
- 2. Order for Technically-conditioned Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

- 1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).
- 2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- 3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.
- 4. Certification is valid for the duration of the described project. The River West Investments, LLC shall notify the Regional Board in writing within 7 days of project completion.

California Environmental Protection Agency

Recycled Paper

ADDITIONAL CONDITIONS (for Certification Action 2):

In addition to the four standard conditions, the applicant shall satisfy the following:

- 1. River West Investments, LLC shall notify the Board in writing of the start of any in-water activities.
- 2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.
- 3. The discharge of petroleum products or other excavated materials to surface waters is prohibited.
- 4. Activities shall not cause turbidity increases in surface waters to exceed:
 - (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
 - (b) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
 - (c) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
 - (d) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

- 5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.
- 6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.
- 7. All areas disturbed by project activities shall be protected from washout or erosion.
- 8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during in water work
Settleable Material	ml/l	Grab	Same as above.

- 9. River West Investments, LLC shall notify the Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.
- 10. River West Investments, LLC shall notify the Board immediately of any spill of petroleum products or other organic or earthen materials.

- 11. River West Investments, LLC complies with all Department of Fish and Game 1600 requirements for the project as required.
- 12. River West Investments, LLC must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board.

- 3 -

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Patrick G. Gillum, Environmental Scientist 11020 Sun Center Drive #200 Rancho Cordova, California 95670-6114 (916) 464-4709 Pgillum@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the River West Investments, LLC, Grantline 208 Project (WDID #5A34CR00222) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under Regional Board Resolution No. R5-2003-0008 "Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge: Type 12 Projects for which Water Quality Certification is issued by the Regional Board", which requires compliance with all conditions of this Water Quality Certification.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

"Ilin & Marchall / for TRP

THOMAS R. PINKOS Executive Officer

Enclosure: Project Information

 U.S. Army Corps of Engineers, Sacramento Timothy Vendlinski, Wetlands Section Chief (WTR-8), U.S. Environmental Protection Agency, Region 9, San Francisco U.S. Fish & Wildlife Service, Sacramento Oscar Balaguer, Certification Unit, State Water Resources Control Board, Sacramento Robin Mahoney, Foothill Associates, Rocklin Mr. David Downs River West Investments, LLC

PROJECT INFORMATION

Application Date: 13 May 2005

Applicant: Mr. David Downs River West Investments, LLC 7700 College Town Drive, Suite 215 Sacramento, CA 95826

Applicant Representatives: Robin Mahoney Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718

Project Name: Grantline 208 Project

Application Number: WDID#5A34CR00222

US. Corps Application Number:

Type of Project: Construction

Project Location: Section 15, Township 8N, Range 7E, MDB&M, Latitude: 38°33'04" and Longitude: 121°11'44"

County: Sacramento County

Receiving Water(s) (hydrologic unit): Morrison Creek, Sacramento Hydrologic Basin, Valley-American Hydrologic Unit #519.12, Florin HSA

Water Body Type: Wetlands

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The project site is located within the Sunridge specific plan area, which is part of the 6,042 acres Sunrise Douglas Community Plan Area. Activities proposed for the +/- 211 acre project site include grading of +/- 111 acres for the purpose of constructing single family dwellings.

Preliminary Water Quality Concerns: The construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: River West Investments, LLC will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. River West Investments, LLC will conduct turbidity and settleable matter testing during in water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: 9,250 cubic yards of clean soil to fill 5.70 acres of jurisdictional wetland.

Dredge Volume: <0.0 cubic yards

U.S. Army Corps of Engineers Permit Number: Individual Permit

Federal Public Notice: Corps# 190110021, 200000336 200100252

Department of Fish & Game Streambed Alteration Agreement: River West Investments, LLC applied for a Streambed Alteration Agreement on 13 May 2005. (1600-2005-0146-R2)

Possible Listed Species: Vernal pool tadpole shrimp, and Vernal pool fairy shrimp

Status of CEQA Compliance: An EIR for the Douglas Sunrise project was approved on 19 July 2002 (SCH# 1997022055)

Compensatory Mitigation: There will be 5.70 acres of jurisdictional wetland created credits used at the Silva Ranch mitigation bank and 7.35 acres of vernal pool crustacean habitat preservation credit purchased at the Bryte Ranch mitigation bank. 67.9-acres of the 211-acres site will be set aside for open space and wetland preserve.

Application Fee Provided: A fee of \$12,815.00 was submitted on 13 May 2005 as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e)

Mr. David Downs River West Investments, LLC

U.S. Army Corp of Engineers Sacramento District Office 1325 J Street Sacramento, CA 95814-2922

Mr. Timothy Vendlinski Wetlands Section Chief (W-3) United States Environmental Protection Agency 75 Hawthorne Street San Francisco, CA 94105

United States Fish & Wildlife Service Sacramento Fish & Wildlife Office 2800 Cottage Way Sacramento, CA 95825

Mr. Oscar Balaguer State Water Resources Control Board, Certification Unit P.O. Box 944213 Sacramento, CA 94244-2130

Robin Mahoney Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718



In reply refer to: 1-1-05-F-0305

United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



MAY 18 2006

Mr. Will Ness Chief, Sacramento Office U.S. Army Corps of Engineers District, Sacramento 1325 J Street Sacramento, California 95814-29223

MAY 2 2 2006

Subject:

Section 7 Consultation for the Proposed Grantline 208 Project [Corps file number 199400365], Sacramento County, California

Dear Mr. Ness:

This is in response to the U.S. Army Corps of Engineers' (Corps) request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Grantline 208 project (proposed project) in Sacramento County, California. Your September 27, 2005, request was received in our office on September 28, 2005. This document represents the Service's biological opinion on the effects of the action on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) (vernal pool crustaceans), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

In your letter to the Service, you requested formal consultation on the federally-listed California tiger salamander (*Ambystoma californiense*), slender Orcutt grass (*Orcuttia tenuis*) and the Sacramento Orcutt grass (*Orcuttia viscida*) (listed plant species). The proposed Grantline 208 project site and the entire Sunridge Specific Plan are outside of the range of the California tiger salamander. Surveys conducted of the proposed project site in October 2003, and August 2004, did not indicate the presence of slender Orcutt grass or Sacramento Orcutt grass. Therefore, the proposed project will not affect the California tiger salamander or these listed plant species.

The findings and recommendations in this consultation are based on: (1) letters from Foothill Associates to the Service, dated January 25, 2005, and March 10 and 24, 2006; (2) the April 11, 2005, *Grantline 208 Section 7 Biological Assessment* (Biological Assessment). prepared by Foothill Associates; (3) a September 27, 2005, letter from Corps to the Service requesting initiation of formal consultation on proposed project; (4) site visits; (5) meetings.



electronic mail (email) correspondence, and telephone conversations between representatives of the Service, Corps, Riverwest Investments (RWI), and Foothill Associates (consultant); and (6) other information available to the Service.

Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game (CDFG), the Service, the-Corps, and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sunridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid-2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal Agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent Federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of Federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004, the Federal Agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework

for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File #1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

January 25, 2005. Foothill Associates submitted a letter to the Service, providing information about the proposed project. Enclosed was a January 25, 2005, *Draft Grantline 208 Section 7 Biological Assessment*, prepared by Foothill Associates. The Service received this letter and enclosure on January 26, 2005.

September 27, 2005. The Corps submitted a letter to the Service, requesting the intitiaton of formal consultation on the proposed project. Enclosed was an April 11, 2005, *Grantline 208 Section 7 Biological Assessment*, prepared by Foothill Associates. The Service received this letter and enclosure on September 28, 2005.

February 13, 2006. The Service issued a letter to the Corps, requesting additional information about surveys conducted for federally-listed plant species on the proposed project site (Service file #1-1-05-I-2111).

March 1, 2006. Kelly Fitzgerald and Ken Fuller of the Service met with Ken Whitney and Kyrsten Shields of Foothill Associates during a site visit for another proposed project. During this site visit, Ms. Fitzgerald and Mr. Fuller discussed with Mr. Whitney outstanding informational needs for the consultation on the proposed Grantline 208 project. Mr. Whitney indicated that he would submit the additional information to the Service.

March 11, 2006. Foothill Associates submitted a letter to the Service, providing the results of a focused plant survey on the proposed project site that was conducted in August 2004. Enclosed with this letter were also a copy of the October 2003 focused plant survey report for the proposed project site and the resumes of the botanists who conducted these surveys. The Service received this letter and enclosures on March 13, 2006.

March 24, 2006. Foothill Associates submitted a letter to the Service, providing additional information about the focused plant surveys conducted on the proposed project in 2003 and 2004. The Service received this letter on March 27, 2006.

April 11, 2006. Ellen Berryman of Berryman Ecological emailed additional information about the proposed project's conservation measures to Ms. Fitzgerald.

BIOLOGICAL OPINION

Description of the Proposed Action

The following is taken from the June 2004, document titled *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area*, prepared by the Service, the Corps, and the EPA. This document and the accompanying planning map (Agency map) developed by the three Federal Agencies are hereby incorporated by reference into the project description. Thus, our biological opinion on this proposed action, the Grantline 208 project, is based on application and full implementation of the Federal Agencies' conservation strategy outlined in this document and map, on all future projects in the SDCPA.

"In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act (ESA), while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004. To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydro-geomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be

followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts."

The approximately 208-acre proposed Grantline 208 development site is located in southcastern Sacramento County, approximately five miles south of Highway 50, east of Sunrise Boulevard and the Folsom South Canal, and north of Jackson Road (Highway 16), in the City of Rancho Cordova. The proposed project site is situated west of and adjacent to Grantline Road, south of Douglas Road, and north of the proposed Pyramid Boulevard. The proposed Americanos Boulevard bisects the site north to south. The site is located in Section 15 of Township 8 North. Range 7 East, on the U.S. Geological Survey's (USGS) Buffalo Creek 7.5-minute quadrangle.

The proposed project site is within the 6,042-acre SDCPA located within the Sacramento County General Plan Urban Service Boundary and Policy Area. As shown on the September 2004, Developers Map, the proposed project site is also located within the Sunridge Specific Plan area, which provides a more detailed land use plan for development of approximately 2,632 acres within the SDCPA. The SDCPA is located within the headwaters of both the Morrison Creck and Laguna Creek watersheds. Land uses anticipated in the SDCPA and the Sunridge Specific Plan area, including the proposed project site, include low-, medium-, and high-density residential development, commercial mixed uses (*e.g.*, retail, office, and retail professional) and neighborhood parks. Other planned land uses in the vicinity include elementary, junior and senior high schools.

Historically, the SDCPA, including the proposed project site, has been used for dry land farming and grazing. The surrounding land use is predominantly grassland utilized for cattle grazing and related agricultural activities. A few homesteads, including rural residences, barns, and pens, are scattered around this area. The proposed project site is currently utilized as rangeland for the grazing of cattle.

The proposed Grantline 208 project involves the construction of approximately 111 acres of residential development, an 11.4-acre school site, 0.2 acre of commercial development, and an approximately 68-acre open space wetland preserve, which would be protected in perpetuity. An

additional 9.4 acres of land would be dedicated to roads, easements, and landscaped areas. Required infrastructure (*e.g.*, sewer mains and laterals, water mains, and utility lines) will be developed in association with surrounding projects within the Sunridge Specific Plan area. The proposed land uses for the proposed project site are consistent with the planned land uses set forth in the Sunrise Douglas Community Plan and Sunridge Specific Plan.

The proposed 68-acre wetland preserve would be located in the western third of the proposed project site. Approximately 4.85 acres of vernal pools and 0.26 acre of riverine seasonal wetland would be located within this wetland preserve. While the shape of the proposed wetland preserve is slightly different from the design shown on the Agency map, it appears to be consistent with Service principles.

The proposed project will directly affect approximately 5.55 acres of habitat for vernal pool crustaceans, including 5.22 acres of vernal pools, 0.30 acre of seasonal wetlands, and 0.03 acre of ephemeral drainage. A total of 0.45 acre of vernal pool crustacean habitat, including features located within the proposed 68-acre wetland preserve that are within 250 of the proposed development, would be indirectly affected by the proposed project.

Proposed Conservation Measures

The applicant has proposed conservation measures to avoid, minimize, and compensate for effects to vernal pool fairy shrimp and vernal pool tadpole shrimp that result from the implementation of the proposed project.

- 1. Habitat Preservation and Restoration
 - a. A total of 6.0 acres of vernal pool crustacean habitat would be directly (5.55 acres) and indirectly (0.45 acre) affected by the proposed project. These direct and indirect effects will be offset through habitat preservation (refer to Tables 1 and 2). Habitat preservation to compensate for direct affects will be achieved partially through the on-site preservation of 4.65 acres of vernal pool crustacean habitat in the proposed 68-acre wetland preserve. The on-site preservation of 4.65 acres would compensate for direct effects to 2.325 acres of vernal pool crustacean habitat (at a ratio of two (2) acres preserved for every one (1) acre directly affected). Additional habitat preservation to compensate for the remaining vernal pool crustacean habitat that would be directly (3.225 acres) and indirectly (0.45 acre) affected will be achieved through either:
 - i. The preservation of an additional 6.90 acres of vernal pool crustacean habitat either at a 158.59-acre parcel known as the "Town Center" property located at the southeast corner of Grantline Road and Jackson Highway, or at the Anatolia Conservation Bank. This would effectively preserve two (2) acres of vernal pool crustacean habitat for every one (1) acre of vernal pool habitat that is directly affected and one (1) acre of habitat for every one (1) acre of habitat that is indirectly affected; or

- ii. The preservation of an additional 13.80 acres of vernal pool crustacean habitat at the Bryte Ranch Conservation Bank or other Service-approved location. This would effectively preserve four (4) acres of vernal pool habitat for every one (1) acre of vernal pool habitat that is directly affected and two (2) acres of habitat for every one (1) acre that is indirectly affected.
- b. At least 90 days prior to any fill of wetlands on the proposed project site, the Service must receive the following for review and approval:
 - i. A Service-approved Perpetual Conservation Easement for the on-site wetland preservation area;
 - ii. A description of the mechanism for funding the monitoring, maintenance, and management of the on-site wetland preservation area; and
 - iii. A Monitoring, Maintenance, and Management Plan for the on-site wetland preservation area.
 - iv. The funding instrument shall be in place and Perpetual Conservation Easement shall be recorded within 90 days following the commencement of filling wetlands on the proposed project site.
- c. Direct and indirect effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation at a 1:1 ratio (refer to Tables 1 and 2). The restoration/creation goal will be to create and enhance wetlands with habitat. functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat creation/restoration will be achieved through the restoration of 6.0 acres of vernal pool crustacean habitat at a Service-approved site within Sacramento County that meets the following criteria:
 - i. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding, Corning);
 - ii. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
 - iii. The restoration site will have a conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Table 1 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if Habitat Preservation Occurs at the Town Center Property or at the Anatolia Conservation Bank

	Acres of Effects	Preservation Compensation (in acres) [2:1 Direct/1:1 Indirect]	Creation Compensation (in acres) [1:1 Direct & Indirect]
Direct Effects	5.55	11.10	5.55
Indirect Effects	0.45	0.45	0.45
TOTAL	6.00	11.55	6.00
On-site Preserve		4.65	
Town Center Property/ Anatolia Conservation Bank		6.90	

 Table 2 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if

 Habitat Preservation Credits Purchased at the Bryte Ranch Conservation Bank

	Acres of Effects	On-site Preservation [2:1 portion of direct]	Off-site Preservation Compensation (in acres) [4:1 Direct/2:1 Indirect]	Creation Compensation (in acres) [1:1 Direct & Indirect]
Direct Effects	5.55	4.65	12.90	5.55
Indirect Effects	0.45	0	0.90	0.45
TOTAL	6.00	4.65	13.80	6.00

*Note: These tables do not include portions of directly and indirectly affected vernal pools/wetlands that extend onto adjacent properties north (Douglas 98 and Doulas 103), south (Arista del Sol) of the proposed project site. Those that extend to east are excluded from consideration due to the presence of Grant Line Road.

- 2. Construction Storm Water Pollution Prevention Plan
 - a. Minimize off-site storm water runoff that might otherwise affect surrounding vernal pool crustacean habitat. Measures, which will be implemented during project construction to avoid adverse affects to the open space/wetland preserve and adjacent properties, include the following:
 - b. Incorporate standard construction Best Management Practices (BMPs) into construction designs, plans and specifications. Contractors will be required to implement them during construction.
 - c. Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the proposed project with the following objectives:

- i. Identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the proposed project;
- ii. Identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the proposed project site during construction;
- iii. Outline and provide guidance for BMP monitoring;
- iv. Identify project discharge points and receiving waters;
- v. Address post-construction BMP implementation and monitoring; and
- vi. Address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.
- d. The construction BMPS for the proposed project will include the following specific measures for avoiding adverse impacts to the open space preserve and adjacent properties:
 - i. Hydroseeding: All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least two tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix that when applied, and upon drying, adheres to the soil to form a 100% cover that is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry for a minimum of 24 hours after installation.
 - ii. Sediment and Erosion Control: Certified weed-free straw wattles will be installed at the base of all slopes adjacent to the open space/wetland preserve and along the property lines of the proposed project site. Prior to installation of the straw wattles, a concave key trench approximately two to four inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized.
 - iii. Excavated Material: During construction activities associated with the implementation of the proposed project, all excavated materials will be deposited or stored such that this material cannot be washed into any

watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.

- iv. Staging Areas: Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the open space preserve or adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. Any spills or hazardous materials will be reported and cleaned up immediately in accordance with applicable local, state and/or Federal regulations.
- v. Construction Fencing: Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto the open space wetland preserve and adjacent off-site habitat.
- vi. Construction Monitoring: A Service-approved environmental monitor will be employed to ensure compliance with construction-related avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to the open space wetland preserve and off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter, until the open space wetland preserve construction is finished.

Status of the Species

The vernal pool tadpole shrimp and vernal pool fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994 (59 FR 48136). The final rule to designate critical habitat for 15 vernal pool species, including these two crustaceans, was published on August 6, 2003 (68 FR 46684), with further clarifications on critical habitat designations for listed vernal pool species published in an August 11, 2005, final rule (70 FR 46923). Further information on the life history and ecology of the vernal pool fairy shrimp and vernal pool tadpole shrimp may be found in the final listing rule, the final rule to designate critical habitat. Eng *et al.* (1990), Helm (1998), and Simovich *et al.* (1992). The Service's reevaluation of Critical Habitat in 2005 designated several critical habitat units in Sacramento County within Unit 11, but the proposed project is not located in any critical habitat units.

Life History. The vernal pool tadpole shrimp has dorsal compound eyes, an approximately oneinch long large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952; Longhurst 1955; Pennak 1989). It is primarily a benthic animal that swims with its legs down. Vernal pool tadpole shrimp climb or scramble over objects, and plow along bottom sediments as they forage for food. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989; Fryer 1987). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts, and during the dry months of the year, they lic dormant in the dry pool sediments (Lanaway 1974; Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, its dormant cysts may hatch in as little as four days (Ahl 1991; Rogers 2001), and the animals may become sexually mature within three to four weeks after hatching (Ahl 1991; Helm 1998; King 1996). A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991), and will generally survive for as long as its habitat remains inundated, sometimes for six months or more (Ahl 1991; Gallagher 1996; Helm 1998). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991; Gallagher 1996; Simovich *et al.* 1992).

Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of phyllopods, or gill-like structures that also serve as legs. Typically less than one-inch long, they swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The second pair of antennae in adult male fairy shrimp are greatly enlarged and specialized for clasping the females during copulation. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation, and they can remain viable in the soil for decades after deposition. When the pools. refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults and may become sexually mature within two weeks after hatching (Gallagher 1996; Helm 1998). Such quick maturation permits populations to persist in short-lived shallow bodies of water (Simovich et al. 1992). In pools that persist for several weeks to a few months, fairy shrimp may have multiple hatches during a single season (Helm 1998; Gallagher 1996).

Distribution. Vernal pool tadpole shrimp are found only in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands in California (Helm 1998). The vernal pool tadpole shrimp is known from 219 occurrences in the Central Valley (CNDDB 2005), ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie in Solano County; the potential ponding depth of occupied habitat ranges from 1.5 inches to 59 inches. Although

vernal pool tadpole shrimp are found on a variety of geologic formations and soil types, Itelm (1998) found that over 50 percent of vernal pool tadpole shrimp occurrences were on High Terrace landforms and Redding and Corning soils. Vernal pool tadpole shrimp are uncommon even where vernal pool habitat occurs (Service 2005b). The largest concentration of vernal pool tadpole shrimp occurrences are found in the Southeastern Sacramento Valley Vernal Pool Region, as defined in the Service's *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (2005b). In this vernal pool region, this species occurs on a number of public and private lands in Sacramento County, and from a few locations in Yuba and Placer Counties, including Beale Air Force Base.

Vernal pool fairy shrimp are found only in ephemeral freshwater habitats, including alkaline pools, ephemeral drainages, rock outcrop pools, vernal pools, and vernal swales in California and Southern Oregon (Eriksen and Belk 1999). Occupied habitats range in size from rock outcrop pools as small as 11 square feet to large vernal pools up to 12 acres; the potential ponding depth of occupied habitat ranges from 1.2 inches to 48 inches. The vernal pool fairy shrimp is known from 363 occurrences extending from the Stillwater Plain in Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng et al. 1990; Fugate 1992; Sugnet and Associates 1993; CNDDB 2005). Five additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon (CNDDB 2005; Helm 1998; Eriksen and Belk 1999; Service 2003). Three of these isolated populations each contain only a single pool known to be occupied by the vernal pool fairy shrimp. Although the vernal pool fairy shrimp is distributed more widely than most other fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur (Eng et al. 1990; Eriksen and Belk 1999). The greatest number of known occurrences of the vernal pool fairy shrimp are found in the Southeastern Sacramento Vernal Pool Region (see Service 2005b). where it is found in scattered vernal pool habitats in Placer, Sacramento, and San Joaquin Counties, in the vicinity of Beale Air Force Base in Yuba County, and at a single location in El Dorado County.

Although the vernal pool crustaceans addressed in this biological opinion are not often found in the same vernal pool at the same time, when coexistence does occur, it is generally in deeper, longer lived pools (Eng *et al.* 1990; Thiery 1991; Gallagher 1996). In larger pools, vernal pool crustacean species may be able to coexist by utilizing different physical portions of the vernal pool or by eating different food sources (Daborn 1978; Mura 1991; Thiery 1991), or by hatching at different temperatures or developing at different rates (Thiery 1991; Hathaway and Simovich 1996).

Dispersal. The primary historic large-scale dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed colonization of different individual vernal pools and other vernal pool complexes (King 1996). This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp (King 1996;

Simovich *et al.* 1992). The eggs of these branchiopods are either ingested (Krapu 1974; Swanson *et al.* 1974; Driver 1981; Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats. Cysts may also be dispersed by a number of other species, such as cattle and humans (Eriksen and Belk 1999).

At the local level, vernal pool crustaceans are often dispersed from one pool to another through surface swales that connect one vernal pool to another. These dispersal events allow for genetic exchange between pools and create a population of animals that extends beyond the boundaries of a single pool. These dispersal events also allow vernal pool crustaceans to move into pools with a range of sizes and depths. In dry years, animals may only hatch in the largest and deepest pools. In wet years, animals may be present in all pools. The movement of vernal pool crustaceans into vernal pools of different sizes and depths allows these species to survive the environmental variability that is characteristic of their habitats.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species may be small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites. Vernal pool fairy shrimp and vernal pool tadpole shrimp continue to be threatened by all of the factors which led to the original listing of this species, primarily habitat loss through agricultural conversion and urbanization (CNDDB 2005).

Reasons for Decline and Threats to Survival. The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of human-caused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These can result in adverse effects to vernal pool species.

In addition to direct loss, the habitats of the vernal pool tadpole shrimp and the vernal pool fairy shrimp have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in smaller isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987a, 1987b). If an extirpation event occurs in a population that has been fragmented, the opportunities for re-colonization would be greatly reduced due to geographic isolation from other source populations. Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. Conversion of vernal pools and vernal pool complexes.

however, has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In subsequent years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. The Corps' Sacramento District has several thousand vernal pools under its jurisdiction (Coe 1988), which includes most of the known populations of these listed species. Between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to the Corps' Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp and the vernal pool fairy shrimp. King (1996) has estimated that approximately 15 to 33 percent of the original biodiversity of Central Valley vernal pool crustaceans has been lost since the 1800s. On-going and increasing amounts of human activities are expected to contribute to the extensive loss-upwards of 60 to 70 percent—of remaining vernal pools (Coe 1988).

Environmental Baseline

Status of the Species in the Action Area. Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 58 (17 percent) out of the total of 375 reported occurrences of vernal pool fairy shrimp, and 59 (33 percent) out of the total of 175 reported occurrences of vernal pool tadpole shrimp (CNDDB 2005). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County. Further, of the 3,092 locations checked, 178 locations (35 percent) were found to support the vernal pool fairy shrimp. Of this total, 63 locations (35 percent) were within Sacramento County.

Throughout the Central Valley, approximately 13,000 acres of vernal pool habitats, including mitigation banks, have been set aside for the vernal pool fairy shrimp specifically as terms and conditions of section 7 consultations (Service 2005b). In the Southeastern Sacramento Valley Vernal Pool Region, vernal pool fairy shrimp occurrences are protected from development at a number of private mitigation areas, compensation banks, private ranches with conservation easements, and the Beale Air Force Base in Yuba County. Very few actions have been taken specifically to benefit the vernal pool tadpole shrimp, although several Habitat Conservation Plans are developing vernal pool conservation plans in the region, including Sacramento and Placer Counties (Service 2005b).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, young

terrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared (pers. comm., K. Fuller, Service, 2004). Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County, approximately 12 miles southeast of the proposed project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and shallower. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (pers. comm., R. Holland, 2004).

The Laguna geologic formation and its associated soils entirely characterize the SDCPA. Vernal pools found within this soil type are old-terrace types. Old-terrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, they are more frequently found in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). The proposed contiguous preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County owned Multi-Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

Factors Affecting the Species within the Action Area. A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued, to date, approximately 195 biological opinions to Federal agencies on proposed projects in Sacramento

County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or conference opinions. No State of California actions that have taken place within Sacramento County have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. The trend for the two vernal pool species within the county, however, is most likely downward as the current rate of habitat preservation is less than the rate of historical and current habitat loss.

On-going residential and commercial developments within Sacramento County also affect the listed vernal pool crustaceans and their habitats. Human population growth in Sacramento County has steadily increased. For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5 percent (State of California 2002). The annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent loss of vernal pool habitat are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm. D. Gifford, CDFG, 2004), based on an analysis of California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm. R. Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetland vernal pool acreage (pers. comm. L. Konde, CDFG, 2003).

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified. the acreage of lost habitat continues to grow.

Vernal Pool Crustacean Presence in the Proposed Action Area. Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pools of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2005). There are 25 known occurrences of vernal

pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2005). The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp have been recorded.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been documented to occur within the Sunridge Specific Plan area, including the proposed project site. Focused surveys for vernal pool crustaceans were conducted on the parcels within the Sunridge Specific Plan area using the Service's current Dip Net protocol between February and March of 1993 by Sugnet and Associates (1993). The results of these surveys indicated the presence of California linderiella (*Linderiella occidentalis*) from four discrete locations and vernal pool fairy shrimp from one location; vernal pool crustaceans were identified on the proposed Grantline 208 project site. All of the vernal pool sand seasonal wetlands on the proposed project site provide appropriate habitat for both vernal pool fairy shrimp and vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site (Foothill Associates 2005). Therefore, construction of the proposed project in any portion of the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp.

Effects of the Proposed Action

Although vernal pool fairy shrimp and vernal pool tadpole shrimp exhibit slightly differing habitat requirements and life cycles, they often inhabit the same vernal pool complexes and have been known to co-occur in individual vernal pools. These species are supported by similar habitat types, including vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, alkali flats, and other depressions that hold water of similar volume, depth, area, and duration. Therefore, both species are subject to a common set of threats and considerations.

Direct Effects

Direct effects are the immediate effects of the proposed project on the species or its habitat and include the effects of interrelated action and interdependent actions. Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those actions that have not independent utility apart from the proposed action (50 CFR §402.02).

The proposed project would result in fill of 5.55 acres of vernal pool crustacean habitat, including 5.22 acres of vernal pools, 0.30 acre of riverine seasonal wetlands, and 0.03 acre of ephemeral drainage. The Service considers an entire vernal pool or seasonal wetland to be directly affected when even a portion of it is filled or subject to similar direct affects.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2005). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Anatolia I, II, III property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas.

In 2004, the Federal Agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map [Agency map]) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. The conceptual design consists of two preserve areas. one entirely within the Sunridge Ranch project site (i.e., the Western Preserve) and one that incorporates portions of Sunridge Park, Douglas 103, Pappas/Arista del Sol, and the proposed project site (i.e., the Eastern Preserve). The approximately 50-acre Western Preserve was designed to protect populations of slender Orcutt grass, vernal pool fairy shrimp, and venal pool tadpole shrimp. The approximately 161-acre Eastern Preserve would be designed to protect the headwaters of one of the forks of Morrison Creek as well as habitat for listed vernal pool crustaceans. The combined total of approximately 211 acres of wetland preserves would protect 17.32 acres of vernal pool crustacean habitat (Foothill Associates 2005). These preserves would be protected through conservation easements aimed at protecting preserve functions and values: the easements would be held and managed by a habitat management-focused non-profit entity. chosen by the land owners and approved by the Federal Agencies. These preserves would be managed and funded in perpetuity according to a preserve management plan prepared by landowners and approved by the Federal Agencies.

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-F-96-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2005).

All infrastructure improvements are required to serve the already permitted Anatolia project. Road improvement projects will be planned to provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road, south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements are not expected to result in an appreciable loss of vernal pool crustacean habitat (Foothill Associates 2005). The

development of the Sunridge Specific Plan area for residential and commercial purposes would be facilitated by the proposed road widening project.

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhom beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California red-legged frog (*Rana aurora draytonii*), the Delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, the SSHCP, if completed, will eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and state listed species known at this time that may be affected by actions that are reasonably foresceable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of Sacramento County and are reasonably foresceable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foresceable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed.

Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action (50 CFR §402.02).

Indirect effects to vernal pools in the project vicinity that could result from the implementation of the proposed project include hydrologic alteration, habitat fragmentation, disturbances from construction equipment, non-point source pollution, and impacts from human encroachment. The Service considers all vernal pool crustacean habitat not considered to be directly affected but within 250 feet of proposed construction activities to be indirectly affected by project implementation. Indirectly affected habitat includes all habitat supported by future destroyed areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the proposed project.

The proposed project could result in indirect effects to a total of 0.45 acre of suitable venal pool crustacean habitat. Although these features exist on land that is proposed for the on-site wetland preserve, these features will be indirectly affected by construction activities occurring within 250 feet of them. Indirect effects to vernal pools in the project vicinity that could result from the proposed project include hydrologic alteration, disturbance from construction equipment, non-point source pollution, and impacts from human encroachment. Individual crustaceans and their cysts, which may inhabit these vernal pools and seasonal wetlands, may be injured or killed by any of the following indirect effects:

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat (Zelder 1987). Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season.

thereby adversely affected water quality. Many of these chemical compounds are thought to have adverse affects on all of the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

Insecticide Contamination – Recent research suggests that pyrethroid insecticide use in residential developments will cause toxicity, and even mortality, to aquatic species (Weston *et al.*, in press). The application of these insecticides, and subsequent runoff into aquatic features surrounding residential developments, was demonstrated to be a limiting factor for aquatic invertebrates; in fact, the abundance of resident macroinvertebrates was inversely correlated with concentrations of pyrethroid insecticides (Weston *et al.*, in press).

The proposed project will contribute to a local and range-wide trend of habitat loss, fragmentation, and degradation—the principle reasons that the vernal pool tadpole shrimp and vernal pool fairy shrimp have declined and were given protection under the Act. The proposed project, in combination with ongoing loss of habitat, will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in south Sacramento County and is expected to lead to the reduction in the range of both of these listed vernal pool crustaceans.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Large areas within south Sacramento County, including the SDCPA, have been designated for development in the next 20 years under the Sacramento General Plan. The timeline for development in these areas began in the early 1990s and is expected to continue for the next 5 to 10 years. This growth and conversion would contribute to several potentially significant affects to listed species, including loss, alteration, or degradation of habitat, particularly of wetlands, degradation of water quality, and increases in the frequency and intensity of flooding.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool

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crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/ pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

The Service is aware of other projects currently under review by the State, County, and local authorities where biological surveys have documented the occurrence of federally-listed species. These projects include such actions as urban expansion, water transfer projects that may not have a Federal nexus, and continued agricultural development. The cumulative effects of these known actions pose a significant threat to the eventual recovery of these species. Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coastal ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California, the Service anticipates that a wide range of activities will affect these species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects, (4) highway projects, (5) utility projects, (6) chemical contaminants, and (7) conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act).

The proposed project is located is a region where future destruction and modification of vernal pool crustacean habitat is anticipated. Sacramento County will continue to develop within the County's sphere of influence. This development will result in increased direct loss of habitats for these listed species. Continued loss of these habitats throughout the region could conceivably affect the genetic diversity of the local population(s) of listed vernal pool crustaceans. Any loss of genetic diversity can have significant effects on a population's ability to respond to environmental change over time (Frankel and Soulé 1981). Within the proposed action area, the predominant types of non-federal actions that might affect the listed vernal pool crustaceans consist of residential and commercial development, with effects the same as, or similar to, those described above.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp and vernal pool tadpole shrimp, the environmental baselines for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Grantline 208 project, as proposed, is not likely to jeopardize the continued existence of these species. Critical habitat has been designated in Sacramento County for the vernal pool fairy shrimp or the vernal pool tadpole shrimp, although the proposed project is not located within critical habitat designated for these listed species. Therefore, the proposed project is not likely to destroy or adversely modify designated critical habitat for both the vernal pool fairy shrimp and the vernal pool tadpole shrimp, or any other listed species.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require any entity participating in the project to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The implementation of the proposed project will directly affect 5.55 acres and indirectly affect 0.45 acre of vernal pool crustacean habitat. The Service anticipates incidental take of vernal pool tadpole shrimp and vernal pool fairy shrimp will be difficult to detect or quantify for the following reasons: the aquatic nature of the organisms and their relatively small body size make the finding of a dead specimen unlikely; losses may be masked by seasonal fluctuations in numbers and other causes; and the species occurs in habitat that makes them difficult to detect. Due to the difficulty in quantifying the number of vernal pool fairy shrimp and vernal pool tadpole shrimp that will be killed as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pool crustacean habitat that will become unsuitable for the listed species due to direct or indirect affects as a result of the proposed project. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 6.0 acres of vernal pool crustacean habitat will harassed, harmed, injured, or killed, as a result of the proposed project.

Upon implementation of the following reasonable and prudent measures, all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 6.0 acres of vernal pool crustacean habitat will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects associated with the proposed Grantline 208 project. The listed vernal pool crustaceans

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may be harmed, harassed or killed in association with the acres exempted under Section 9 of the Act. No other forms of take are authorized under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not likely to result in destruction or adverse modification of designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp because no critical habitat for these species has been designated in the proposed action area.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.
- The Corps shall fully implement the March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent (pages 9-12 of the *Grantline 208 Section 7 Biological Assessment* (Foothill Associates 2005) and identified by the Service on pages 6-10 in the project description of our biological opinion are fully implemented.

- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
 - b. The project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project at least 30 calendar days prior to ground-breaking.
 - c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
 - d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
 - e. Prior to groundbreaking, high-visibility fencing that is at least 5 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat and the onsite wetland preserve. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.
 - f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access roads will observe a speed limit of 20 miles per hour.

- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Proposed Conservation Measures section on pages 8-10 of this biological opinion shall include these and any other measures and adjacent offsite wetland habitats. This SWPPP should be submitted to the Service for review and approval at least 90 days prior to any ground-breaking activity on the proposed project site.
- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials. portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or Federal regulations. Such spills will be reported in the post-construction compliance reports.
- i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area
- 5. The Corps shall ensure that applicant avoids activities that would impact the onsite avoided area/preserve areas such as:
 - a. Alteration of topography within the preserve;
 - b. Placement of any new structures (including outfalls, culverts, electrical/gas transmission lines) within the preserve unless specifically addressed in the project description;
 - c. Dumping, burning, and/or burying of rubbish, garbage, or any other wastes and fill materials in the preserve area;

- d. Fire protection activities not required to protect existing structures at the proposed project site; and
- e. Use of pesticides or other toxic chemicals in the preserve unless addressed in the project description of subsequent management plans.
- 6. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.
- 7. The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat loss through a combination of on-site and offsite habitat preservation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement. management plan, funding instrument, easement holder etc. for our approval.
- 8. The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat through habitat restoration or creation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. The following criteria will be used by the Service when approving a restoration/creation site:
 - a. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding, Corning), and should be located on the Laguna geologic formation;
 - b. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat;
 - c. The restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval;
 - d. Any vernal pool restoration/creation must minimize effects to any adjacent and existing vernal pools and wetlands; and

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e. Densities of restored/created vernal pools must not be greater than historical densities for the geologic formation.

Reporting Requirements

The Service-approved biologist shall notify the Service immediately if any listed species are found on site, and shall submit a report including the date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The Service-approved biologist shall submit locality information to the CDFG, using completed California Native Species Field Survey Forms, no more than 30 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site, such as a photocopy of a portion of the appropriate 7.5-minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5-minute or 15-minute quadrangle; dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation to the staff zoologist, California Department of Fish and Game, 1807 13th Street #202, Sacramento, California, 95814, phone (916) 445-0045.

Any contractor or employee who, during routine operations and maintenance activities, inadvertently kills or injures a listed wildlife species must immediately report the incident to their representative. The Service is to be notified within one (1) working day of the finding of any dead or injured listed wildlife species or any unanticipated take of the species addressed in this biological opinion. The Service contact persons for this are the Division Chief, Endangered Species Division (Central Valley) at (916) 414-6600 and Resident Agent-in-charge Scott Heard at (916) 414-6660.

The project proponents shall submit a post-construction compliance report prepared by the monitoring biologists to the Sacramento Fish and Wildlife Office (SFWO) within 30 calendar days of the completion of construction activity. This report shall detail the following: (1) dates that construction occurred; (2) pertinent information concerning the success of the project in meeting conservation measures; (3) an explanation of failure to meet such measures, if any: (4) occurrences of incidental take of vernal pool crustaceans, if any; and (6) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.

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- 2. The Corps should assist the Service in implementing the February 2006 final recovery plan for vernal pool species.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.
- 5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation with the Corps on the proposed Grantline 208 project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact this office at (916) 414-6645 if you have any questions regarding the proposed Grantline 208 project.

Sincerely,

Ken Sanchez Assistant Field Supervisor

cc:

ARD (ES), Portland, OR

Mr. Kent Smith, California Dept. of Fish and Game, Rancho Cordova, CA Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA Ms. Ellen Berryman, Berryman Ecological, Meadow Vista, CA Ms. Peggy Lee, Foothill Associates, Rocklin, CA Hilary Anderson, Planning Department, City of Rancho Cordova, Rancho Cordova, CA Brian Vail, River West Investments, Sacramento, CA Jim Galovan, Woodside Homes, Folsom, CA

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DEPARTMENT OF THE ARMY PERMIT

Galovan
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Plaza Drive, Suite 102
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Army Engineer District, Sacramento os of Engineers 5 "J" Street ramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description:

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To fill 3.91 acres of waters of the U.S., including 3.7 acres of vernal pools, 0.13 acres of seasonal wetlands, and 0.08 acres of seasonal drainage to construct 693 homes on approximately 85.5 acres and three neighborhood park sites totalling approximately 14.4 acres. The project also involves improvements to Douglas and Grant Line Roads; however, no impacts to waters of the U.S. are expected or authorized to occur as part of these road improvements.

All work is to be completed in accordance with the attached plan.

Project Location:

The proposed project is located in the southwest corner of the intersection of Grantline and Douglas Roads, within the SunRidge Specific Plan Area, which is within the larger Sunrise Douglas Community Plan Area, in Section 10, Township 8 North, Range 7 East, on the U.S.G.S. Buffalo Creek 7.5 quadrangle in Sacramento County, California.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on March 31, 2011. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted

activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The project shall comply with the provisions of the Conceptual Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004. In particular, you shall minimize impervious surfaces and develop and implement a stormwater/runoff plan which is designed to maintain watershed integrity through such means as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat stormwater and runoff from the impervious surfaces.

2. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply.) The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-04-F-0314, dated January 12, 2005), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated

December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 3.91 acres of waters of the United States, you shall construct at least 3.91 acres of vernal pool habitat at a Corps approved location.

5. You shall construct the required compensatory mitigation concurrently with, or in advance of, the start of construction of the permitted activity.

6. You shall complete construction of the compensatory mitigation no later than December 31, 2006.

7. To insure that compensatory mitigation is completed as required, you shall notify the District Engineer of the date you start construction of the authorized work and the start date and completion date of the compensatory mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed compensatory mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, compensatory preserves containing the 3.91 acres of created/restored vernal pool habitat required by Special Condition 4 at a Corps approved location, and 7.82 acres of high quality vernal pool habitat at a Corps approved location. The purpose of the preserves is to insure that project implementation does not result in a net loss of functions and values of the aquatic environment.

10. To minimize external disturbance to preserved or created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland vegetation surrounding the entire perimeter of all created, preserved, and avoided waters of the United States, including wetlands within the required off-site preserves. The buffer widths shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans. The buffer widths shall be explicitly approved in writing by the Corps prior to any work in waters.

11. To insure that the preserves are properly managed, you shall develop specific and detailed preserve management plans for the off-site mitigation, preservation, and avoidance areas. The plans shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. This plan shall describe in detail any activities that are proposed within the preserve area(s) and the long term funding and maintenance of each of the preserve areas.

12. To protect the integrity of the preserves and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

13. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2006, install fencing and appropriate signage around the entire perimeter of the preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of

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mitigation, preservation, and avoidance areas:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of the off-site mitigation, preservation, and avoidance areas.

b. Designate a Corps approved conservation-oriented third party entity to function as preserve manager and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be provided to the Corps of Engineers for approval prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by December 1 of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit. Further Information:

18. You shall have a biologist, who is familiar with vernal pool and seasonal wetland habitats, monitor all construction activities (including staging, laydown, or access) along the north side of Douglas Road and along the east side of Grantline Road. The monitor shall immediately notify the Corps of Engineers if any impacts to aquatic habitats occur during the proposed road improvements.

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
- 2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required

by law.

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b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by

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this permit. Unless there are circum ances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

James Galovan Permittee 5-11-06 Date

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

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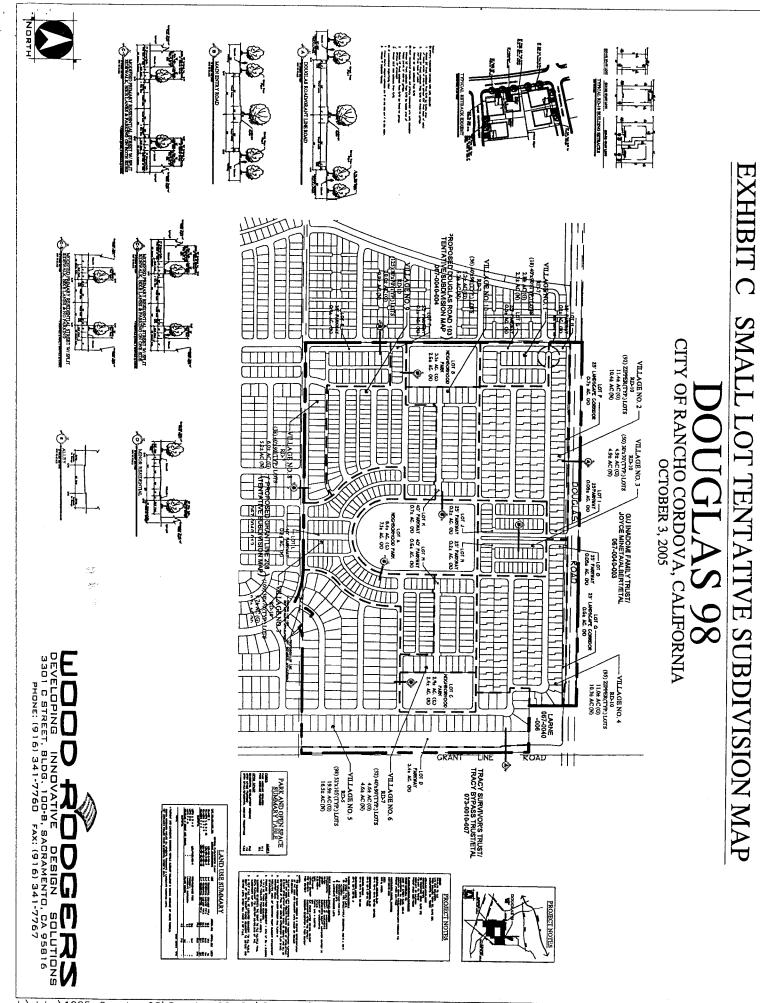
Tom Cavanaugh, Acting Chief, Central California/Nevada Section (For the District Engineer)

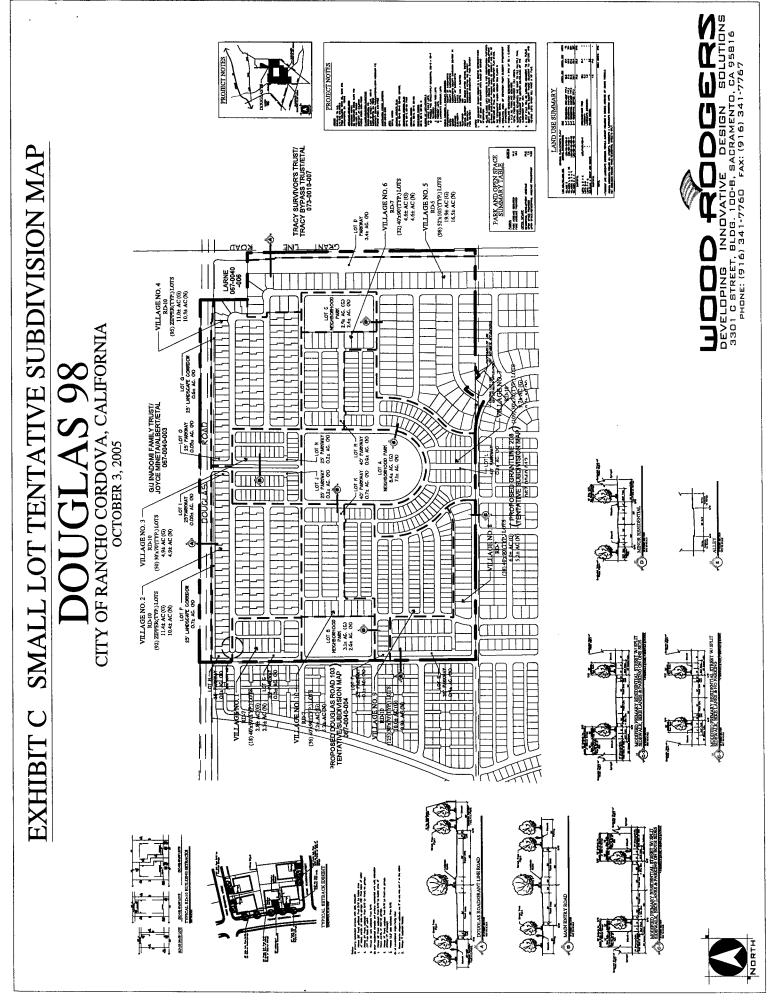
1 Tune 2600 Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date





DEPARTMENT OF THE ARMY PERMIT

Permittee:	Jim Galovan Douglas Grantline 103 Investors, LLC 111 Woodmere Drive, Suite 190 Folsom, California 95630
Permit Number:	199700006
Issuing Office:	U.S. Army Engineer District, Sacramento Corps of Engineers 1325 "J" Street Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description:

To place dredged or fill material into 1.98 acres of waters of the United States to construct a mixed use development on an approximately 106.4-acre site.

All work is to be completed in accordance with the attached plan(s).

Project Location:

Within the SunRidge Specific Plan Area in Rancho Cordova, California, Section 10, Township 8 North, Range 7 East, on the U.S.G.S. Buffalo Creek 7.5" quadrangle.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2012. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The project shall comply with the provisions of the Conceptual Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area dated June, 2004.

2. This Corps permit does not authorize you to take any threatened or endangered species, in particular the vernal pool fairy shrimp (Branchinecta lynchi), vernal pool tadpole shrimp (Lepidurus packardi), or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply.) The USFWS Biological Opinion (Number 1-1-06-F-0041, dated March 16, 2006), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with the incidental take statement in the Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities. The plan shall address all mitigation phases and include mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation.

4. To mitigate for the loss of 1.98 acres of waters of the United States, and indirect impacts to an additional 5.27 acres of waters of the United States, you shall construct 7.25 acres of vernal pool habitat at a Corps approved location. In order to help ensure the success and long-term viability of the created habitats, they should be created at a density that approximates that found near the creation site in naturally-occurring

complexes of the same aquatic type.

5. You shall construct the required compensatory mitigation for each phase; as shown by the enclosed May 02, 2007, electronic mail from Ellen Berryman of Berryman Ecological; concurrently with, or in advance of, the start of construction of that phase of the permitted activity.

6. You shall complete construction of the compensatory mitigation for each development phase by October 1st of the year in which the phase was initiated.

7. To insure that compensatory mitigation is completed as required, you shall notify the District Engineer of the date you start construction of each phase of the authorized work and the start date and completion date of each phase of the compensatory mitigation construction, in writing and no later than ten (10) calendar days after each date.

8. To provide a permanent record of the completed compensatory mitigation work, you shall provide two complete sets of as-builts of the completed work within the off-site mitigation area(s) to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. The as-builts for each phase shall be provided to this office no later than 60 days after the completion of construction of the phase's mitigation area wetlands.

9. You shall establish and maintain, in perpetuity, wetland and wildlife preserves containing the 7.25 acres of created/restored vernal pool habitat required by Special Condition 4, the 2.99 acres of jurisdictional waters located at the on-site preserve, and 5.89 acres of naturally-occurring vernal pool habitat at a Corps approved location.

10. To minimize external disturbance to preserved or created/restored waters of the United States, you shall establish an adequate buffer, consisting of native upland or wetland vegetation surrounding the entire perimeter of all created, restored, or preserved waters of the United States, including wetlands within the off-site preserves. The buffer widths shall be proposed within the compensatory mitigation and monitoring plan and the preserve management plans and shall be explicitly approved in writing by the Corps prior to any work in waters of the U.S. The on-site preserve shall contain a buffer as shown on the enclosed site plan.

11. To insure that the preserves are properly managed, you shall develop specific and detailed preserve management plans for the on-site and off-site mitigation, preservation, and avoidance areas. The plans shall be submitted to and specifically approved, in writing, by the Corps of Engineers prior to engaging in any work authorized by this permit. The plans shall describe in detail any activities that are proposed within the preserve areas and the long term funding and maintenance of each of the preserve areas.

12. To prevent unauthorized access and disturbance, you shall, prior to December 31, 2007, install fencing and appropriate signage around the entire perimeter of the preserves. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas. Examples of this type of fencing include chain link and wrought iron.

13. To protect the integrity of the preserves and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within the on-site or off-site mitigation, preservation, and avoidance areas without specific, advance written approval from the Corps of Engineers.

14. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of

mitigation, preservation, and avoidance areas:

a. Establish fully-funded endowments to provide for maintenance and monitoring of the on-site and off-site mitigation, preservation, and avoidance areas.

b. Designate appropriate and Corps-approved conservation-oriented third party entities to function as preserve managers and to hold the required conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction and conservation easement language shall be provided to the Corps of Engineers for approval prior to recordation.

d. Provide copies of the recorded documents to the Corps of Engineers prior to the start of construction of any of the activities authorized by this permit. Construction may not commence until the Corps reviews the recorded documents and provides written approval.

15. To assure success of the preserved and created waters of the United States, you shall monitor compensatory mitigation, avoidance, and preservation areas for five years or until the success criteria described in the approved mitigation plan(s) are met, whichever is greater. This period shall commence upon completion of the construction of the mitigation wetlands. Additionally, continued success of the mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

16. You shall submit monitoring reports to this office for each year of the five-year monitoring period, and for each additional year, if remediation is required, by December 1st of each year. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the mitigation program without human intervention.

17. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

18. You shall have a biologist, who is familiar with vernal pools, monitor all construction activities within 250 feet of the preserve boundary. The monitor shall ensure no unauthorized activities occur within the preserve boundary during project implementation.

19. You shall design and construct all crossings of waters of the United States to retain a natural substrate, and to accommodate all reasonably foreseeable wildlife passage and expected high flows.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

Page 5

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170)

accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

6 - 12 - 2*00* 7 Date Permitte Galovian, Authorized Agent

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

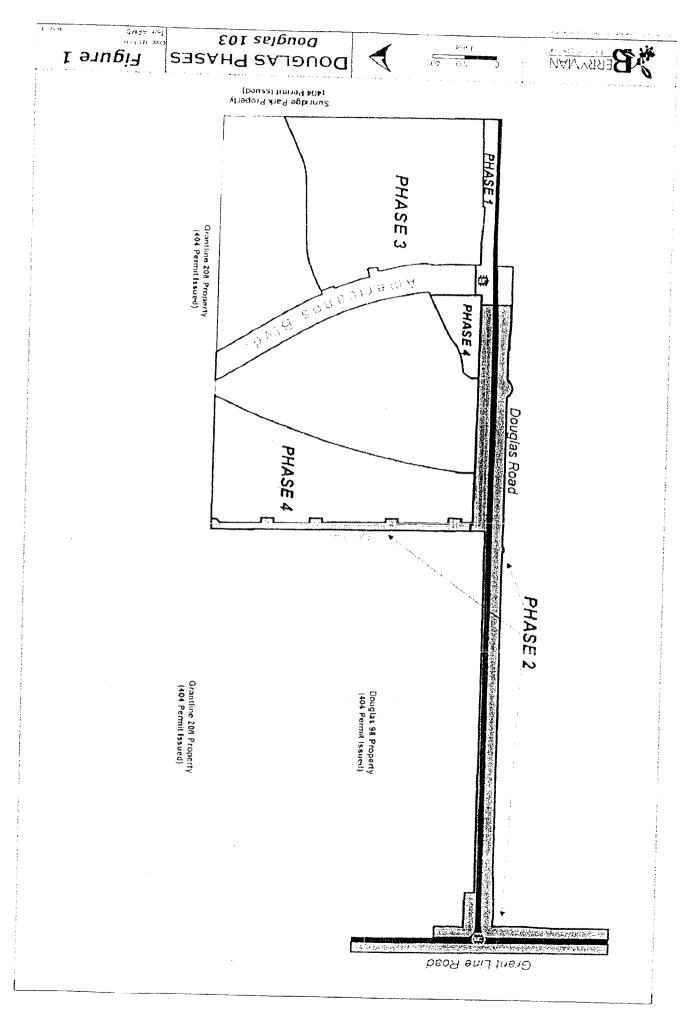
Michael Jewell Chief, Regulatory Branch (For the District Engineer)

<u>15 Jun 07</u> Date

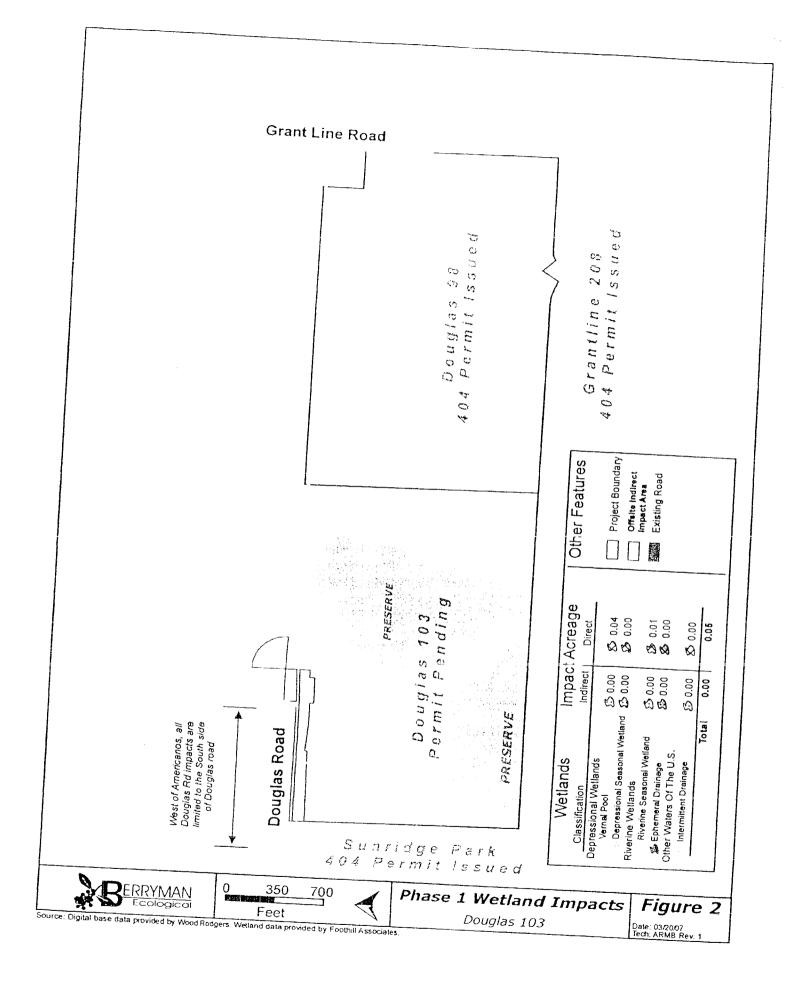
When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transfere sign and date below.

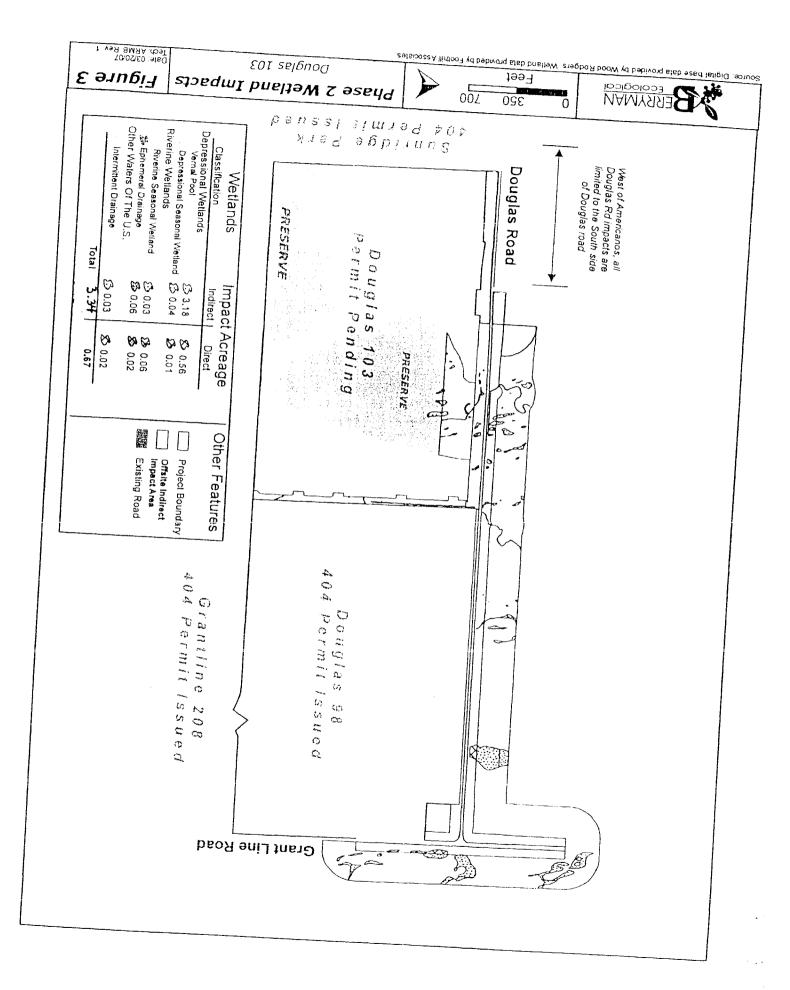
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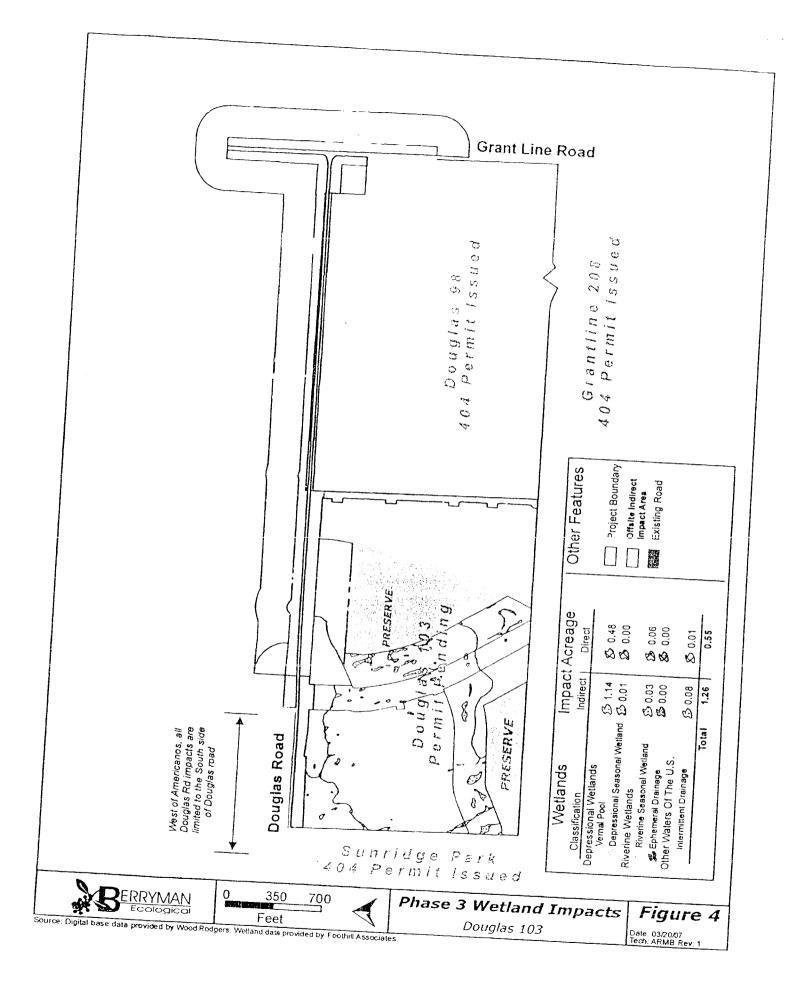
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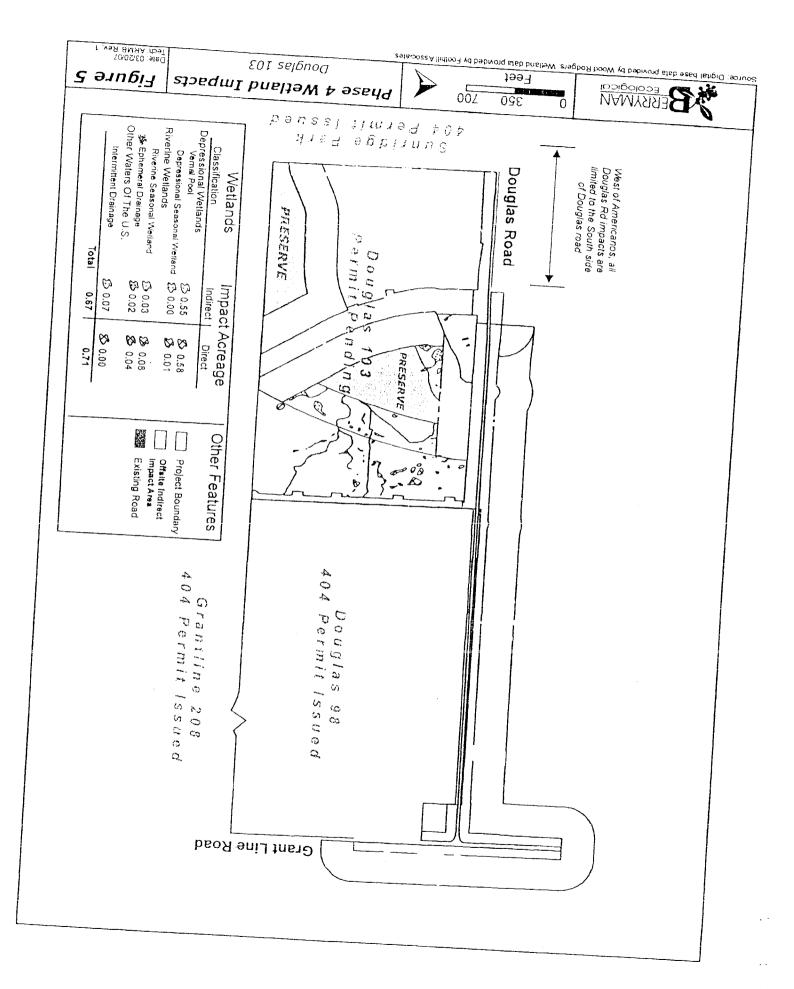


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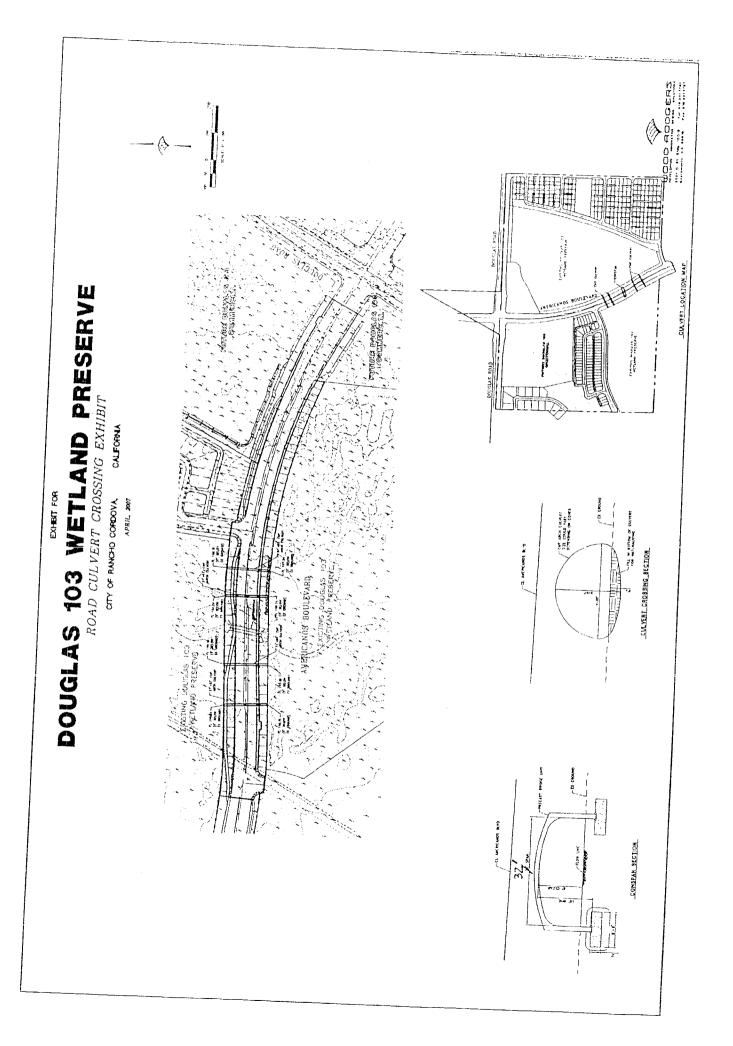


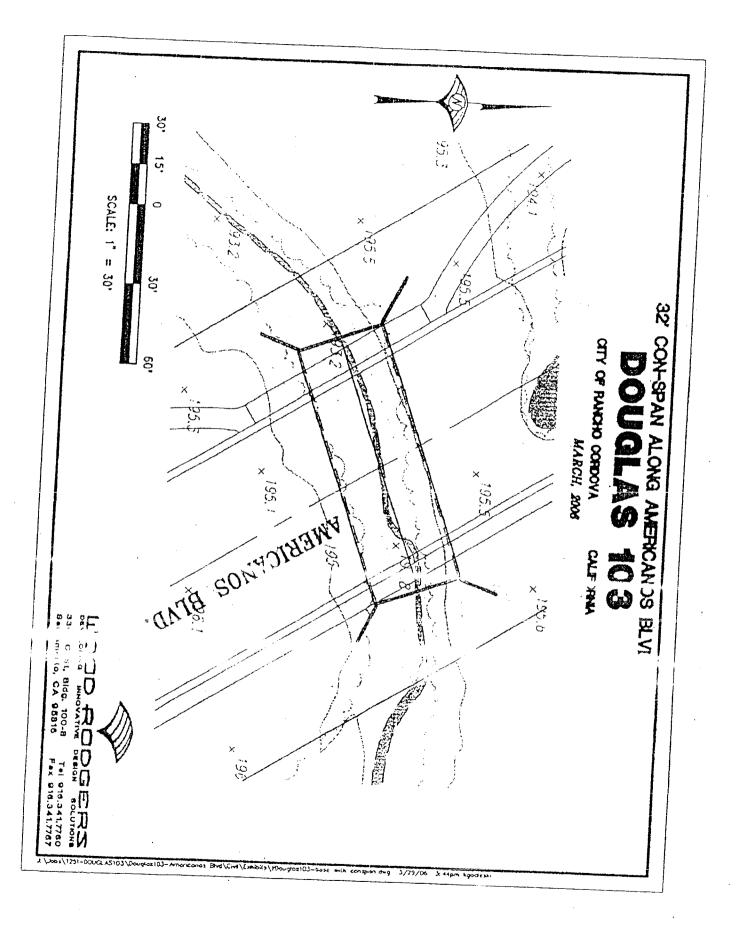






CNS03088





Ness, William W SPK

Page 1 of

From: Ellen Berryman [ellen@berrymanecological.com]

Sent: Wednesday, May 02, 2007 1:14 PM

To: Ness, William W SPK

Subject: FW: Douglas 103

Hello Will,

As a follow-up to our phone conversation earlier, the following is an impact and mitigation table to replace the table in the March 26, 2007 letter. As you pointed out, the agreement between the Corps and Jim Galovan of Woodside Home was for the applicant to provide 1:1 preservation for indirect impacts, except for indirect impacts resulting from improvements to existing roads. The following table reflects this modification.

Phase	Type of Impact	Impact Acreage	Restoration acres	Preservation
				acres
Phase 1	Direct	0.05	(1:1) 0.05	(2:1) 0.10
	Indirect	0	0	
	Total Pha	ase 1 mitigation:	0.05	0.10
Phase 2	Direct	0.67	(1:1) 0.67	
	Indirect	3.34	(1:1) 3.34	(2:1) 1.34
	Total Pha	se 2 mitigation:	4.01	(0:1) 0
Phase 3	Direct	0.55	(1:1) 0.55	1.34
	Indirect	1.26	(1:1) 1.26	(2:1) 1.10
	Total Phase 3 mitigation:		1.81	(1:1) 1.26
Phase 4	Direct	0.71	and the second se	2.36
	Indirect	0.67	(1:1) 0.71	(2:1) 1.42
	Total Phase 4 mitigation:		(1:1) 0.67	(1:1) 0.67
TOTAL	Direct	1.98	1.38	1.42
	Indirect	5.27	1.98	3.96
		AL mitigation	5.27	1.93
		AL mugation	7.25	5.89

Thanks, Ellen



In reply refer to: 1-1-06-F-0041

United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



MAR 1 6 2006

1 2006

Mr. Will Ness Chief, Sacramento Valley Office U.S. Army Corps of Engineers 1325 J Street Sacramento, California 95814-2922

> Subject: Formal Endangered Species Consultation on the proposed Douglas Road 103 Project (Corps File Number 199700006), Sacramento County, California

Dear Mr. Ness:

This is in response to your December 20, 2005, letter and supporting documentation requesting Section 7 consultation for the proposed Douglas Road 103 project (proposed project) in Sacramento County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on December 21, 2005. At issue are potential adverse effects to the federally-listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Surveys conducted on the proposed project site have not detected the federally-listed slender Orcutt grass (*Orcuttia tenuis*), the Sacramento Orcutt grass (*Orcuttia viscida*), and the California tiger salamander (*Ambystoma californiense*). This document represents the Service's biological opinion on the effects of the project on the federally-threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp, in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et* seq.) (Act).

The findings and requirements in this consultation are based on: (1) the May 31, 2005, *Douglas Road 103 Section 7 Biological Assessment*, prepared by Foothill Associates, Inc.; (2) your December 20, 2005, letter initiating formal consultation; (3) a site visit attended by Ellen Berryman of Berryman Ecological and Rick Kuyper of the Service on January 9, 2006; (4) meetings and correspondences as described in the following consultation history; (5) the January 31, 2006, electronic mail correspondence from Ellen Berryman to Rick Kuyper regarding proposed compensation for additional vernal pool crustacean habitat found within the proposed project site; (6) the March 3, 2006, letter from Ellen Berryman to yourself regarding a revised conservation proposal; and (7) other information available to the Service.



Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers (Corps), and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the SunRidge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid 2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004 the Federal agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File # 1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

December 20, 2005: The Corps initiated section 7 consultation with the Service for the proposed project.

January 9, 2006: A site visit was attended by Ellen Berryman of Berryman Ecological and Rick Kuyper of the Service.

January 31, 2006: Ellen Berryman sent an electronic mail correspondence to Rick Kuyper regarding proposed compensation for additional vernal pool crustacean habitat found within the proposed project site.

February 2, 2006: Ellen Berryman sent an electronic mail correspondence to Ken Sanchez of the Service regarding a revised conservation proposal.

March 3, 2006: Ellen Berryman sent a letter to the Corps regarding a revised conservation proposal.

BIOLOGICAL OPINION

The Action Area

The Action Area includes all areas in which listed species would be directly and indirectly affected by the proposed project. The proposed project is expected to result in direct and indirect effects to vernal pool crustaceans on the proposed project site and within 250 feet of the proposed development. Therefore, the Action Area includes the all land on the proposed project site and within 250 feet of proposed development.

Location of the Proposed Action

The proposed project site is located in southeastern Sacramento County, approximately five miles south of Highway 50, east of Sumrise Boulevard and the Folsom South Canal, and north of Jackson Road (Highway 16) within the City of Rancho Cordova. The proposed project site is located west of Grant Line Road and south of Douglas Road. The proposed Americanos Boulevard bisects the site north to south. The site is located in Section 15, Township 8 North, Range 7 East within the U.S.G.S. "Buffalo Creek, California" 7.5' quadrangle. The 106.4 ± acre proposed project site is within the 6,042 acre Sunrise Douglas Community Plan area located within the Sacramento County General Plan Urban Service Boundary and Policy area. The proposed project is also located within the SunRidge Specific Plan area, which provides a greater detailed land use plan for development of approximately 2,632 acres within the Sunrise Douglas Community Plan area.

The proposed project site is located within the headwaters of the Morrison Creek watershed. The extreme upper portion of this watershed is located in dredge tailings north of the property. From the headwaters, Morrison Creek conveys stormwater southwest across the proposed project site towards Mather Field to the south of the proposed project site. The existing channels and tributaries of Morrison Creek are downcut intermittent drainages.

Description of the Proposed Action

The proposed project involves grading portions of the $106.4 \pm \text{acre site}$ in order to construct mixed residential and commercial development with associated infrastructure, and off-site road improvements on an additional $16.8 \pm \text{acres}$. Approximately $43.8 \pm \text{acres}$ of the proposed project site would be preserved as on-site open space. The proposed project would result in direct effects to 1.97 acres and 2.91 acres of indirect effects to vernal pool crustacean habitat.

Off-site road improvements would be necessary to accommodate the proposed Douglas Road 103 development. Douglas Road is proposed for widening from the intersection with Grantline Road westward to the proposed Americanos Boulevard, and improvements would be made to Americanos Boulevard from the Douglas Road interchange to approximately 400 feet north. Improvements would be made to the interchange at Douglas Road and Grantline Road. Turn lanes would be constructed along Grantline Road at the interchange with Douglas Road and approximately 800 feet to the north and south. Douglas Road is currently a four-lane rural road, but is proposed as a primary six-lane east-west arterial. The proposed road widening project would include grading road alignments, installation of culverts, placement and compaction of road base, and paving of the road surface. All work would occur in existing Sacramento County rights of way.

Proposed Conservation Measures

Construction Stormwater Pollution Prevention Plan

The proposed project is designed to minimize off-site stormwater runoff that might otherwise

impact surrounding habitat. Measures would be implemented during project construction to avoid adverse impacts to the open space/wetland preserve and adjacent properties. Standard construction Best Management Practices (BMPs) would be incorporated into construction designs, plans and specifications, and required of contractors during construction. A Storm Water Pollution Prevention Plan (SWPPP) would be prepared for the project, with the following objectives; (1) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project; (2) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges, from the site during construction; (3) to outline and provide guidance for BMP monitoring; (4) to identify project discharge points and receiving waters; (5) to address postconstruction BMP implementation and monitoring; and (6) to address sediment, siltation, turbidity, and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy. The construction BMPs for the proposed project would include the following specific measures for avoiding adverse impacts to the open space preserve and adjacent properties.

Hydroseeding

All constructed slopes adjacent to the preserve would be hydroseeded with a native grassland mix. The hydroseed mix would be applied with a tackifying agent at a rate of at least 2 tons/acre and based on manufacturer's recommendations. The tackifying agent would be a hydraulic matrix which when applied, and upon drying, adheres to the soil to form a 100 percent cover which is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix would not be applied before, during, or immediately after rainfall so that the matrix would have an opportunity to dry 24 hours after installation.

Sediment and Erosion Control

Certified weed-free straw wattles would be installed at the base of all slopes adjacent to the open space/wetland preserve, along the perimeters of the detention pond, and along the property lines of the Property Site. Prior to installation of the straw wattles, a concave key trench dug by hand approximately two to four inches deep would be contoured along the proposed installation route Soil excavated for the trenching would be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes would be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles would be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized.

Excavated Material

During construction all excavated materials would be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing would be available at the construction site for periodic site-specific use as needed.

Staging Areas

Staging areas for construction equipment would be located so that spills of oil, grease or other petroleum by-products would not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment would take place within 100 feet of the open space preserve or adjacent off-site habitat. All machinery would be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from the equipment would be reported and cleaned up in accordance with applicable local, state and/or federal regulations.

Construction Fencing

Temporary fencing would be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto the open space preserve or adjacent off-site habitat.

Construction Monitoring

An environmental monitor would be employed to ensure compliance with construction-related impact avoidance measures. The monitor would report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, would be authorized to stop work orders and to take actions necessary to prevent damage to the open space preserve and off-site habitat. Monitoring reports would be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until the Open Space Project construction is finished.

Wetland Preservation and Restoration

Direct effects to vernal pool habitat would be offset through habitat preservation of aquatic habitat at a 2:1 to 4:1 ratio and restoration/creation at a 1:1 ratio, and preservation of sufficient surrounding land to support the aquatic habitat as part of a functioning vernal pool complex. The proposed project would result in direct effects to 1.97 acres and 2.91 acres of indirect effects to vernal pool crustacean habitat.

The proposed project would preserve approximately 43.8 acres of vernal pool crustacean habitat and supporting uplands, including 2.77 acres of aquatic vernal pool crustacean habitat (2.52 acres of vernal pools, and 0.25 acre of intermittent drainage). This land would be preserved in perpetuity and managed to sustain the long-term functions and values of the on-site vernal pool complex.

According to the conservation strategy agreed to by the agencies and landowners within the SunRidge Specific Plan area, vernal pool crustacean habitat not indirectly affected by adjacent development would be eligible for preservation credits on a case by case basis. Therefore, of the 2.77 acres preserved, 0.66 acres would be eligible for preservation credits (Table 1). Additional preservation would be achieved through either: (1) purchase of credits at a Service-approved

vernal pool conservation bank within the Suntise Douglas Community Plan Area at a 2:1 ratio; (2) purchase of credits at a Service-approved vernal pool conservation bank outside of the Sunrise Douglas Community Plan Area at a 4:1 ratio; (3) preservation of a Service-approved site within the Sunrise Douglas Community Plan Area at a 2:1 ratio; or (4) preservation of a Serviceapproved site outside of the Sunrise Douglas Community Plan Area at a 4:1 ratio. If option 3 or 4 is chosen, the site would be preserved with a conservation easement, and managed in perpetuity consistent with a Service-approved preserve management plan. A long-term, Service-approved, funding mechanism to fund the preserve management would be put in place upon Service approval of the site.

Type of Effect	Affected Acreage	On-Site Preservation Credit	Off-site Preservation (acres)	Restoration (1:1) Acres
Direct	1.97	0.66 acres	$\begin{array}{c} (2:1 \text{ to } 4:1) \\ 3.28 \text{ to } 6.56^{4} \end{array}$	1.97
Indirect	2.91	0	(1:1 to 2:1) 2.91 to 5.82	2.91
Total	4.88	0.66 acres	6.19 to 12.38	4.88

Table 1: Compensation for effects to vernal pool crustacean habitat.

¹0.66 acre of on-site preservation provides compensation at a 2:1 ratio. On-site preservation compensates for 0.33 acre of adverse effects. 1.97 minus 0.33 = 1.64. $1.64 \times 4 = 6.56$.

The project applicant proposes to compensate for direct and indirect effects to vernal pool crustacean habitat by restoring vernal pool habitat at a 1:1 ratio (Table 1). Habitat creation/restoration would be achieved through either: (1) purchase of vernal pool restoration/creation credits at a Service-approved bank; or (2) restoration of vernal pool habitat at a Service-approved site within Sacramento County that meets the following criteria:

- (i) The restoration site's soils would be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
- (ii) The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
- (iii) The restoration site would have a conservation casement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Vernal pool crustacean habitat within 250 feet of the proposed project boundaries to the southwest could be indirectly affected by the proposed project. Habitat to the north is divided from the proposed project site by the existing Douglas Road, a major roadway, and therefore indirect effects are not anticipated. Because lands to the east, west, and south are within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan, habitat in these areas would be directly affected and offset by proposed development there. Therefore, separate section

STATUS OF THE SPECIES

A final rule was published on September 19, 1994 (Service 1994), to list the vernal pool fairy shrimp as threatened and the vernal pool tadpole shrimp as endangered under the Act. The final rule to designate critical habitat for 15 vernal pool species, including the vernal pool fairy shrimp and the vernal pool tadpole shrimp, was published on August 6, 2003 (Service 2003). A final rule designating critical habitat was published again on August 11, 2005 (Service 2005), in which the Service did not designate any critical habitat for the vernal pool crustaceans in Sacramento County. Further information on the life history and ecology of the vernal pool fairy shrimp may be found in the final listing rule, the final rule to designate critical habitat, Eng *et al.* (1990) and Simovich *et al.* (1992).

Life History

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952, Longhurst 1955, Pennak 1989). It is primarily a benthic animal that swims with its legs down. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanway 1974, Ahl 1991). The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains till the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and can reproduce until the pools dry up in the spring (Ahl 1991, Simovich *et al.* 1992).

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in short-lived shallow pools (Simovich *et al.* 1992).

Distribution

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 168 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County (CNDDB 2005). It inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 342 occurrences extending from Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, CNDDB 2005) and Riverside County. Five disjunctive populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon. The vernal pool fairy shrimp inhabits vernal pools with clear to teacolored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Dispersal

The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp. The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

ENVIRONMENTAL BASELINE

Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. However, conversion of vernal pools and vernal pool complexes has resulted in a 91 percent loss of vernal pool resources in California (State of

California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp, the vernal pool fairy shrimp, and slender and Sacramento Orcutt grasses. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988). In addition to direct habitat loss, the two shrimp populations have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in small isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to geographic isolation from other source populations.

Human population growth in Sacramento County has steadily increased. On the average, Sacramento County has experienced an annual population increase of 1.38 percent for the period between 1991 and 1999 (Service 2000). For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent (State of California 2002). Annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent vernal pool resource development are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 59 (17 percent) out of the total of 342 reported occurrences of vernal pool fairy shrimp, and 59 (34 percent) out of the total of 173 reported occurrences of vernal pool tadpole shrimp (CNDDB 2005). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp. Of these 345 locations support the vernal pool fairy shrimp. Of this total, 63 locations (6 percent) were within Sacramento County.

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of human-

caused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect effects can result in adverse effects to vernal pool species.

A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service issued approximately 157 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species from 1994, when the two species were proposed to be listed, to 2005. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or ones that the Service issued a conference opinion. No State of California actions have taken place within Sacramento County that have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. Thus, the trend for the two vernal pool species within the county is most likely static. The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, 2004), based on an analysis of the California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that an estimated 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., Richard Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetted vernal pool acreage (pers. comm., Lora Konde, California Department of Fish and Game, 2003).

Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pool of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2005). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2005). The data from the CNDDB do not reflect additional reported records in

the Sunrise/Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp, and two occurrences of slender Orcutt grass and four occurrences of Sacramento Orcutt grass are reported (pers. comm., Arnold Roessler, Service, 2004). An additional occurrence of slender Orcutt grass has been reported, but not recorded in the CNDDB (pers. comm. Pete Balfour, ECORP Consulting, 2004).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, youngterrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared.

Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow vernal pools.

There are two predominant soil types found within south Sacramento County, the Valley Springs type and the Laguna type. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County and approximately 12 miles southeast of the project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools and are typically smaller and more shallow. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (Holland, pers. comm., 2004).

The Laguna geologic formation and its associated soils entirely characterize the Sunrise/Douglas Community Plan Area. Vernal pools found within this soil type are old-terrace types. Oldterrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, they occur more frequently in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). This potential preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and

northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County-owned, Multi Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected.

There are 366 records of vernal pool fairy shrimp and 209 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB 2005). Of these records, 59 vernal pool fairy shrimp records and 59 vernal pool tadpole shrimp records are from Sacramento County (CNDDB 2005). Vernal pool fairy shrimp and vernal pool tadpole shrimp have both been observed in wetlands throughout the Sunrise Douglas area.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been incidentally observed on the proposed project site during site visits by Foothill Associates. In addition, these species are known from other parcels within the Sunrise Douglas Community Plan area and vicinity. The nearest reported occurrence in the CNDDB for the vernal pool tadpole shrimp is approximately 1 mile north of the proposed project site and the nearest reported occurrence in the CNDDB for the vernal pool fairy shrimp is approximately one mile south of the proposed project (CNDDB 2005).

EFFECTS OF THE PROPOSED ACTION

Direct Effects

Direct effects are the effects of the action that would directly affect the species, for example, those actions that would immediately remove or destroy habitat or displace animals and plants. The construction of the proposed project would result in the direct loss of 1.97 acres of vernal pool crustacean habitat and the death of an unknown number of vernal pool fairy shrimp and vernal pool tadpole shrimp and/or their cysts. The proposed project would also result in the loss of approximately 73.5 acres of surrounding upland habitat which provides a supporting matrix for the aquatic habitat.

The proposed project would preserve 2.77 acres of vernal pool habitat onsite, as well as preserving 6.19 to 12.38 acres of vernal pool habitat at an offsite location (depending on whether preservation occurred within or outside of the Sunrise Douglas Community Plan Area). The Service's *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (2006) recommends a preservation rate of at least 85 percent, and up to 95 percent, for vernal pool crustacean habitat in southern Sacramento County. Therefore, the compensation measures to offset direct effects resulting from the proposed project do not achieve the recovery goal for listed vernal pool species in the region. To do so, the project proponent would need to preserve, at a minimum, 11.82 acres to achieve an 85 percent rate of preservation of this diminishing habitat (1.97 at a 6:1 ratio achieves 85 percent preservation). To achieve a 95 percent rate of vernal pool habitat preservation, the project proponent would need to preserve at least 37.43 acres of vernal pool habitat in the region (1.97 at a 19:1 ratio achieves 95 percent preservation). Regardless, the proposed project does not approach these levels of habitat preservation.

Indirect Effects

Vernal pool habitat indirectly affected includes all aquatic habitat supported by upland and swale areas that will be destroyed by construction activities, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. The proposed project would result in 2.91 acres of indirect effects which includes all habitat supported by future destroyed upland areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. A description of potential indirect effects follows.

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat. Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affecting water quality. Many of these chemical compounds are thought to have adverse affects on the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

In addition to the adverse effects detailed above, the proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons that the vernal pool fairy shrimp and vernal pool tadpole shrimp have declined. The proposed project will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in Sacramento County and throughout the range of these two listed vernal pool crustaceans.

Again, the proposed project does not achieve the recovery goal for listed vernal pool species in the region. To compensate for indirect effects, the project proponent would need to preserve, at a minimum, 17.46 acres to achieve an 85 percent rate of preservation of this diminishing habitat (2.91 at a 6:1 ratio achieves 85 percent preservation). To achieve a 95 percent rate of vernal pool habitat preservation, the project proponent would need to preserve at least 55.29 acres of vernal pool habitat in the region (2.91 at a 19:1 ratio achieves 95 percent preservation). Regardless, the proposed project does not approach these levels of habitat preservation.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire SunRidge Specific Plan area (Foothill Associates 2004). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Sares-Regis property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the SunRidge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas. Therefore, the majority of the remaining 44 acres of vernal pools outside the Sares-Regis property are expected to be filled for future urban development (Foothill Associates 2004).

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-96-F-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2004).

All infrastructure improvements are required to serve the already permitted Anatolia project. Affects resulting from offsite infrastructure development and road widening to Sunrise Boulevard from White Rock Road, to Pyramid Road, to Douglas Road from Sunrise Boulevard, and to Americanos Road, are covered under separate Nationwide14 Permits (Corps file number 200300697), which are currently in review by the Service. Two additional road improvement projects will be permitted under Phase I and will provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements will affect less than one-tenth an acre (Foothill Associates 2004).

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the

proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise/Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thannophis gigas*), the valley elderberry longhom beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California redlegged frog (*Rana aurora draytonii*), the delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, if completed, the SSHCP may eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and State listed species known at this time that may be affected by actions that are reasonably foreseeable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed action of the proposed project.

Cumulative Effects

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Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

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A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

Conclusion

After reviewing the current status of the vernal pool tadpole shrimp and vernal pool fairy shrimp, the environmental baseline for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Douglas Road 103 project, as proposed, is not likely to jeopardize the continued existence of the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not located within designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp, and therefore, no destruction or adverse modification of critical habitat is anticipated.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(0)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(0)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pools/ponded depressions (vernal pool crustacean habitat) that will become unsuitable for vernal pool crustaceans due to direct or indirect effects as a result of the action. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 4.88 acres of vernal pool habitat will become harassed, harmed, injured, or killed, as a result of the proposed action.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool fairy shrimp or the vernal pool tadpole shrimp. This action will not result in destruction or adverse modification of critical habitat.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect effects to federally-listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this proposed project.
- 2. The Corps shall fully implement the Agencies' March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent in the May 31, 2005, *Douglas Road 103 Section 7 Biological Assessment*, and identified by the Service in the project description of this biological opinion (pages 4-7) are fully implemented.
- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction.
- 5. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the proposed project that are issued by the County to all contractors. The project proponents shall provide the Deputy Assistant Field Supervisor for Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
- 6. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the proposed project.
- 7. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day. The biological monitor shall ensure that no clearing of vegetation and scraping, or digging, of soil occurs in the avoided/preserve area.

- 8. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
- 9. Prior to groundbreaking, high-visibility fencing that is at least 4 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the proposed project is completed.
- 10. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access road will observe a speed limit of 20 miles per hour. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas. All fueling, cleaning, and maintenance of vehicles and other equipment will occur only within designated areas and at least 250 feet away from any wetland habitats. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately. Such spills will be reported in the post-construction compliance reports.
- 11. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Description of the Proposed Action section of this Biological Opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto adjacent offsite wetland habitats.
- 12. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging

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areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.

- 13. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.
- 14. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat loss through habitat preservation offsite. Prior to any ground disturbance on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder, etc., for Service approval.
- 15. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat through habitat restoration or creation. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use a service-approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for Service approval. The following criteria will be used by the Service when approving a restoration/creation site: (1) the restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning); (2) the restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and (3) the restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Reporting Requirements

A post-construction compliance report prepared by the monitoring biologists must be submitted to the Deputy Assistant Field Supervisor of the Endangered Species Division (Central Valley) at the Sacramento Fish and Wildlife Office within thirty (30) calendar days of the completion of

construction activity or within thirty (30) calendar days of any break in construction activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that groundbreaking started and when the project was completed; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on federally-listed species, if any; (v) occurrences of incidental take of any these species; and (vi) other pertinent information.

The project applicant must report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this biological opinion. The project applicant must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contact is the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee, who during routine operations and maintenance activities, inadvertently kills or injures a federally-listed species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. The Service recommends the following conservation measures:

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. The Corps should work with the Service to implement the Service's 2006 Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.

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5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the proposed Douglas Road 103 project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Rick Kuyper or Holly Herod, the Sacramento Valley Branch Chief, at (916) 414-6645, if you have any questions regarding this biological opinion for the proposed Douglas Road 103 project.

Sincerely,

Kenneth D. Sanchez Acting Field Supervisor

cc:

ARD (ES), Portland, Oregon

Mr. Kent Smith, California Dept. of Fish and Game, Rancho Cordova, California Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, California Ms. Ellen Berryman, Berryman Ecological, Meadow Vista, California

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Secretary for

California Regional Water Quality Control Board

Central Valley Region Robert Schneider, Chair

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Arnold Schwarzenegger Governor

Environmental Protection Sacramento Main Office 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114 Phone (916) 464-3291 - FAX (916) 464-4645 http://www.waterboards.ca.gov/centralvalley

21 September 2006

Mr. Jim Galovan Douglas Grantline 103 Investors, LLC 111 Woodmere Drive, Suite 190 Folsom, CA 95630 SEP 25 2006

ACTION ON REQUEST FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE DOUGLAS ROAD 103 PROJECT, (WDID#5A34CR00258) SACRAMENTO COUNTY

ACTION:

- 1.
 Order for Standard Certification
- 2. Order for Technically-conditioned Certification
- 3.
 Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

- 1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and
- §3867 of Title 23 of the California Code of Regulations (23 CCR).
- 2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- 3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.
- 4. Certification is valid for the duration of the described project. The Douglas Grantline 103 Investors, LLC shall notify the Regional Board in writing within 7 days of project completion.

California Environmental Protection Agency

Recycled Paper

ADDITIONAL CONDITIONS (for Certification Action 2):

In addition to the four standard conditions, the applicant shall satisfy the following:

- 1. Douglas Grantline 103 Investors, LLC shall notify the Board in writing of the start of any inwater activities.
- 2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.
- 3. The discharge of petroleum products or other excavated materials to surface waters is prohibited.
- 4. Activities shall not cause turbidity increases in surface waters to exceed:
 - (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
 - (b) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
 - (c) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
 - (d) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

- 5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.
- 6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.
- 7. All areas disturbed by project activities shall be protected from washout or erosion.
- 8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during
			in water work
Settleable Material	ml/l	Grab	Same as above.

9. Douglas Grantline 103 Investors, LLC shall notify the Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

10. Douglas Grantline 103 Investors, LLC shall notify the Board immediately of any spill of petroleum products or other organic or earthen materials.

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- 11. Douglas Grantline 103 Investors, LLC shall comply with all Department of Fish and Game 1600 requirements for the project.
- 12. Douglas Grantline 103 Investors, LLC must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board.
- 13. Douglas Grantline 103 Investors, LLC must provide compensatory mitigation for the fill or loss of all State waters resulting from the project (at least a 1:1 replacement ratio).
- 14. Douglas Grantline 103 Investors. LLC shall submit a copy of the final Wetland Mitigation Plan to Water Board staff. The final Wetland Mitigation Plan must be approved by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

ADDITIONAL STORM WATER QUALITY CONDITIONS:

The applicant shall also satisfy the following additional storm water quality conditions:

- 1. During the construction phase, Douglas Grantline 103 Investors, LLC must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:
 - (a) the Storm Water Pollution Prevention Plan (SWPPP) must be prepared during the project planning and design phases and before construction.
 - (b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.
- 2. During the post-construction phase, Douglas Grantline 103 Investors, LLC must minimize the short and long-term impacts on receiving water quality from the Douglas Road 103 Project by doing the following:
 - (a) minimize the amount of impervious surfaces.
 - (b) implement pollution prevention methods supplemented by pollutant source controls and/or treatment controls.
 - (c) ensure existing waters of the State (i.e. wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls. Any discharges from the Douglas Road 103 Project must be treated prior to being discharged into the surrounding wetlands and/or Morrison and Laguna Creeks.

- (d) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.
- (c) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges).
- (f) use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural Best management Practices (BMPs) to mitigate the projected increases in pollutant loads in runoff.
- (g) identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion sediment loss.
- (h) control post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.
- 3. Douglas Grantline 103 Investors, LLC must ensure that all development within Douglas Road 103 Project provides verification of maintenance provisions for post-construction structural and treatment control BMPs. Verification shall include one or more of the following as applicable:
 - (a) the developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; or
 - (b) written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; or
 - (c) written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control BMPs; or
 - (d) any other legally enforceable agreement that assigns responsibility for maintenance of structural or treatment control BMPs.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Patrick G. Gillum, Environmental Scientist 11020 Sun Center Drive #200 Rancho Cordova, California 95670-6114 (916) 464-4709 pgillum@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the Douglas Grantline 103 Investors, LLC, Douglas Road 103 Project (WDID #5A34CR00258) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under Regional Board Resolution No. R5-2003-0008 "Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge: Type 12 Projects for which Water Quality Certification is issued by the Regional Board, " which requires compliance with all conditions of this Water Quality Certification.

- 5 -

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

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PAMELA C. CREEDON Executive Officer

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cc:

Enclosure: Project Information

U.S. Army Corps of Engineers, Sacramento

Timothy Vendlinski, Wetlands Section Chief (WTR-8), U.S. Environmental Protection Agency, Region 9, San Francisco

U.S. Fish & Wildlife Service, Sacramento

Oscar Balaguer, Certification Unit, State Water Resources Control Board, Sacramento Rebecca Loeffler, Foothill Associates, Rocklin

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PROJECT INFORMATION

Application Date: 13 January 2006

Applicant: Mr. Jim Galovan Douglas Grantline 103 Investors. LLC 111 Woodmere Drive, Suite 190 Folsom. CA 95630

Applicant Representatives: Rebecca Loeffler Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718

Project Name: Douglas Road 103 Project

Application Number: WDID#5A34CR00258

US. Corps File Number: 199400365

Type of Project: Construction of a Residential Development

Project Location: Section 10, Township 8 North, Range 7 East, MDB&M. Latitude: 38°33'25" and Longitude: 121°12'00".

County: Sacramento County

Receiving Water(s) (hydrologic unit): Unnamed tributary to Morrison Creek, which is tributary to the Sacramento River, Valley- American Hydrologic Unit #519.21, Lower American HSA

Water Body Type: Wetlands

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The Douglas Road 103 project consists of a grading and construction on +/- 106- acre site. Construction will result in the loss of 2.03 acres of wetlands, including 1.71 acres of vernal pools, 0.10 acres of ephemeral drainage, and 0.22 acres of seasonal wetlands.

Preliminary Water Quality Concerns: The construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: Douglas Grantline 103 Investors, LLC will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Douglas Grantline 103 Investors, LLC will conduct turbidity and settleable matter testing during in water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: 3,274 cubic yards of clean soil will be used to fill 2.03-acres of jurisdictional wetland.

Dredge Volume: <0.0 cubic yards

U.S. Army Corps of Engineers Permit Number: Individual Permit # 199400365

Department of Fish & Game Streambed Alteration Agreement: Douglas Grantline 103 Investors, LLC applied for a Streambed Alteration Agreement on 13 January 2006.

Possible Listed Species: Vernal pool fairy shrimp, and Vernal pool tadpole shrimp.

Status of CEQA Compliance: Douglas Grantline 103 Investors, LLC received a signed Mitigated Negative Declaration from the County of Sacramento in July 2005.

Compensatory Mitigation: There will be 2.03-acres of jurisdictional wetland created off-site at a Corps approved mitigation site. A receipt for the mitigation units purchased will be forwarded to Water Board staff.

Application Fee Provided: A fee of \$4,864.50 was submitted on 13 January 2006 as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e).

DISTRIBUTION LISTS

U.S. Army Corp of Engineers Sacramento District Office 1325 J Street Sacramento, CA 95814-2922

Mr. Timothy Vendlinski Wetlands Section Chief (W-3) United States Environmental Protection Agency 75 Hawthorne Street San Francisco, CA 94105

United States Fish & Wildlife Service Sacramento Fish & Wildlife Office 2800 Cottage Way Sacramento, CA 95825

Mr. Oscar Balaguer State Water Resources Control Board, Certification Unit P.O. Box 944213 Sacramento, CA 94244-2130

Rebecca Loeffler Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718

Appendix D

USFWS Biological Opinions for Sunridge Properties



United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



In reply refer to: 1-1-04-F-0339

Mr. Justin Cutler Chief, Sacramento Valley Office Department of the Army U.S. Army Engineer District, Sacramento 1325 J Street, 14th Floor Sacramento, California 95814-2922

Subject:

Formal Endangered Species Consultation on the proposed Anatolia IV Project (Corps File Number 2004 199400210) Sacramento County, California

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DEC

Dear Mr. Cutler:

This is in response to your March 24, 2004, letter and supporting documentation requesting Section 7 consultation for the proposed Anatolia IV project (proposed project) in Sacramento County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on March 26, 2004. At issue are potential adverse effects to the federally-listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Surveys conducted of the proposed project site have not indicated the presence of the federally-listed slender Orcutt grass (*Orcuttia tenuis*), the Sacramento Orcutt grass (*Orcuttia viscida*), and the California tiger salamander (*Ambystoma californiense*). This document represents the Service's biological opinion on the effects of the project on the threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp, in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

The findings and requirements in this consultation are based on: 1) permitting strategies discussed during the May 10- November 22, 2004 meetings attended by landowners, developers, and their representatives. staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers, and the Environmental Protection Agency; 2) the September 8, 2004, *Anatolia IV Section 7 Biological Assessment* and the Conservation Proposal, prepared by Foothill Associates, Inc.; 3) a March 24, 2004, letter from the Corps to the Service requesting initiation of formal consultation on proposed project; 4) site visits: 5) meetings, electronic mail (email) correspondence, and telephone conversations between representatives of the Service, Corps, Foothill Associates; 6) other information available to the Service.

Consultation History



Beginning on May 10. 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers (Corps), and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sun Ridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid 2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004 the Federal agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan. Service file #1-1-03-I-0411

July 18, 2002. To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File # 1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

March 24, 2004. U.S. Army Corps of Engineers requested to initiate Section 7 consultation for the proposed project.

September 8, 2004. Foothill Associates submitted *Anatolia IV Section 7 Biological Assessment* to the Service dated September 8, 2004. The Service received the document on September 24, 2004.

September 15, 2004. The Service sent Foothill Associates an email explaining our inclination to consider all wetland types (variously classified) as endangered species habitat. One exception might be stock ponds, given the species under consultation.

September 21, 2004. Foothill Associates submitted a letter to the Service, providing proposed conservation measures for the vernal pool crustacean habitat that would be directly and indirectly affected by the proposed project. The Service received this letter on September 27, 2004.

October 7, 2004. Meeting with Foothill Associates and Service representatives regarding clarification on minimization strategies for each proposed project.

October 13, 2004. Foothill Associates sent the Service an email revising the minimization strategy that was outlined in their September 21, 2004 letter to the Service.

BIOLOGICAL OPINION

Description of the Proposed Action

The following is taken from the document titled *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area*, prepared by the Service, the Corps, and the EPA (enclosed). This document and the accompanying planning map developed by the three Federal agencies are hereby incorporated by reference into the project description. Thus, our biological opinion on this proposed action, the Anatolia IV project, is based on application and full implementation of the Federal agencies conservation strategy outlined in this document and map, on all future projects in the SDCPA.

"In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts."

The Anatolia IV project site is located in southeastern Sacramento County in the City of Rancho Cordova approximately five miles south of Highway 50, east of Sunrise Boulevard and the

Folsom South Canal, and north of Jackson Road (Highway 16). The Anatolia IV project site is within the Sunridge Specific Plan area (SSPA), which is part of the Sunrise Douglas Community Plan. The Anatolia IV project lies one mile south of Douglas Road and west of and adjacent to Jaeger Road. The project site is located in Section 17 of Township 8 North, Range 7 East on the U.S.G.S. Buffalo Creek 7.5' quadrangle.

The Project Site is within the 6,042 acre SDCPA located within the Sacramento County General Plan Urban Service Boundary and Policy Area. The project is also located within the SSPA, which provides a greater detailed land use plan for development of approximately 2,632 acres within the SDCPA. The SDCPA is located within the headwaters of both the Morrison Creek and Laguna Creek watersheds.

The proposed project involves grading the ± 25 -acre site to construct a low density residential development including associated infrastructure (sewer mains and laterals, water mains, and utility lines). The project proponents are proposing to develop approximately 134 single family homes. The proposed project site consists of a ± 25 -acre parcel that includes 1.36 acres of vernal pools subject to Clean Water Act jurisdiction. These wetlands are found primarily in the northern portion of the property. Grading would result in the loss of the 1.36 acres of on-site wetlands. The proposed project boundaries are not contiguous with any open space or preserved areas. There are projects under construction, or proposed projects on all sides adjacent to the propose project site.

Proposed Conservation Measures

The project applicant has proposed the following conservation measures in the September 8, 2004, *Anatolia IV Section 7 Biological Assessment* and the October 13, 2004 electronic letter revising the minimization strategy to minimize adverse effects to the two federally-listed vernal pool crustacean species.

- 1. Standard construction Best Management Practices (BMPs) will be incorporated into construction designs, plans and specifications, and required of contractors during construction. The BMPs would include the following:
 - (a) All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least 2 tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix which when applied, and upon drying, adheres to the soil to form a 100% cover which is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry 24 hours after installation:
 - (b) Certified weed-free straw wattles will be installed at the base of all slopes along the property lines of the proposed property site. The existing Jaeger Road currently provides additional erosion and sediment control to the east. Road improvement projects will be subject to a Storm Water Pollution Prevention Plan (SWPP) and BMP monitoring. Prior to installation of the straw wattles, a concave

key trench approximately 2 to 4 inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized;

- (c) During construction all excavated materials will be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.;
- (d) Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from the equipment will be reported and cleaned up in accordance with applicable local, state and/or federal regulations;
- (e) Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat; and
- (f) An environmental monitor will be employed to ensure compliance with construction-related impact avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until construction is finished.
- 2. A SWPPP will be prepared for the proposed project, with the following objectives; (a) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project: (b) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges, from the site during construction; (c) to outline and provide guidance for BMP monitoring; (d) to identify project discharge points and receiving waters; (e) to address post-construction BMP implementation and monitoring; and (f) to address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.
- 3. Habitat Preservation and Restoration

- a. Direct effects to 1.36 acres of vernal pool crustacean habitat will be offset through habitat preservation (refer to Tables 1 and 2). Habitat preservation will be achieved through:
 - i. The preservation of 5.44 acres of vernal pool crustacean habitat at Borden Ranch. This site will be preserved with a conservation easement and protected and managed in perpetuity consistent with a Service-approved preserve management plan. The preserve management plan needs to be received by the service 120 days prior to construction for review. A longterm funding mechanism (*i.e.*, an endowment fund) to fund the preserve management will be established upon Service approval of the site.
- b. Direct effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation at a 1:1 ratio (refer to Tables 1 and 2). The restoration/creation goal will be to create and enhance wetlands with habitat functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat creation/restoration will be achieved through either:
 - i. The purchase of vernal pool restoration/creation credits equivalent to 1.36 acres (at a 1:1 ratio) at a Service-approved bank; or
 - ii. The restoration of 1.36 acres of vernal pool crustacean habitat at a Serviceapproved site within Sacramento County that meets the following criteria:
 - 1. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding. Corning);
 - 2. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat;
 - 3. The restoration site will have a conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Table 1 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if Credits Purchased at Anatolia Conservation Bank

Туре	Acres of Direct Effects	Acres of Indirect Effects	2:1 Preservation Compensation	1:1 Creation Compensation
Vernal Pool	1.36	0	2.72	1.36
TOTAL	1.36	0	2.72	1.36

Table 2 - Vernal Pool Crustacean Habitat Effects and Compensation Acreages if Credits

Туре	Acres of Direct Effects	Acres of Indirect Effects	4:1 Preservation Compensation	1:1 Creation Compensation
Vernal Pool	1.36	0	5.44	1.36
TOTAL	1.36	0	5.44	1.36

Purchased at Borden Ranch Preserve or at Another Service-Approved Site

STATUS OF THE SPECIES

The vernal pool tadpole shrimp and vernal pool fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994. Final critical habitat was designated for these species on August 6, 2003 (68 **FR** 46684). Complete descriptions of these species are found in 59 FR 48136, the final rule listing these species under the Act. These crustaceans are restricted to vernal pools and swales and other seasonal aquatic habitats in California. Eng *et al.* (1990), Simovich *et al.* (1992), and (Service 1994c) provide further details about their life history and ecology. The Service did not designate any critical habitat for the vernal pool crustaceans in Sacramento County. Although the Service designated critical habitat for the vernal pool fairy shrimp in San Joaquin County, none will be affected by the proposed project.

Life History

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952, Longhurst 1955, Pennak 1989). It is primarily a benthic animal that swims with its legs down. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanway 1974, Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991, Simovich *et al.* 1992).

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry cggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into

adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in short-lived shallow pools (Simovich *et al.* 1992).

Distribution

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 168 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 342 occurrences extending from Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, CNDDB 2004) and Riverside County. Five disjunctive populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County: one near Rancho California in Riverside County; and one on the Agate Desert near Medford. Oregon. The vernal pool fairy shrimp inhabits vernal pools with clear to teacolored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Dispersal

The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp. The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

ENVIRONMENTAL BASELINE

Historically, vernal pools and vernal pool complexes occurred extensively throughout the

Sacramento Valley of California. However, conversion of vernal pools and vernal pool complexes has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp, the vernal pool fairy shrimp (shrimp), and slender and Sacramento Orcutt grasses. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988).

In addition to direct habitat loss, the two shrimp populations have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in small isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987a,b). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to physical (geographic) isolation from other (source) populations.

Human population growth in Sacramento County has steadily increased. On the average, Sacramento County has experienced an annual population increase of 1.38 percent for the period between 1991 and 1999 (Service 2000). For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5 percent (State of California 2002). This annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent vernal pool resource development are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 58 (17 percent) out of the total of 342 reported occurrences of vernal pool fairy shrimp, and 58 (34 percent) out of the total of 173 reported occurrences of vernal pool tadpole shrimp (CNDDB 2004). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County.

locations checked, 178 locations (6 percent) were found to support the vernal pool fairy shrimp. Of this total, 63 locations (35 percent) were within Sacramento County.

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of humancaused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects. land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect effects can result in adverse effects to vernal pool species.

A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued approximately 157 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, and those that have insufficient information to conclude an effects analysis, those that were amended, or ones that the Service issued a conference opinion. No State of California actions have taken place within Sacramento County that has adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. Thus, the trend for the two vernal pool species within the county is most likely static.

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, 2004), based on an analysis of the California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that an estimated 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., Richard Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23.533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetted vernal pool acreage (pers. comm., Lora Konde, California Department of Fish and Game, 2003).

Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within

the USB. contain a high density of occupied pool of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2003). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2003). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2003). The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp, and 2 occurences of orcutt grasses (2 slender Orcutt grass and 4 Sacramento Orcutt grass) are reported (pers. comm., Arnold Roessler, Service, 2004). An additional occurrence of slender Orcutt grass has been reported, but not recorded in the CNDDB (pers. Comm., Pete Balfour, ECORP Consulting, 2004).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, young-terrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared (Ref: Fuller, pers. comm. 2004). Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County, approximately 12 miles southeast of the proposed project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and shallower. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (Ref: Holland, pers. comm. 2004).

The Laguna geologic formation and its associated soils entirely characterize the SDCPA. Vernal pools found within this soil type are old-terrace types. Old-terrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, but more frequently in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento

Valley Conservancy (SVC). This potential preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento Countyowned Multi Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

There are 342 records of vernal pool fairy shrimp and 173 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB 2004). Of these records, 58 vernal pool fairy shrimp records and 58 vernal pool tadpole shrimp records are from Sacramento County (CNDDB 2004). Vernal pool fairy shrimp and vernal pool tadpole shrimp have both been observed in wetlands throughout the Sunrise Douglas area. Surveys were conducted on the proposed Anatolia IV project area for federally threatened slender Orcutt grass or the federally endangered Sacramento Orcutt grass. No Orcutt grass was found in the proposed project site.

Vernal pool fairy shrimp located within the Sunridge Specific Plan: There is one record within the Sunridge Specific Plan boundaries, and another 17 records located within five miles of the Sunridge Specific Plan area boundaries. The nearest occurrence (# 43) of this species, observed in March 1996, is a half of a mile southwest of the proposed project site.

Vernal pool tadpole shrimp within the Sunridge Specific Plan: There are two records within the Sunridge Specific Plan boundaries, and another 23 records within five miles of these boundaries. The nearest two occurrences (# 54 and # 23) of this species are within 1.5 miles of the proposed project site. One of these recorded occurrences (# 54), located to the west of the site, was observed in February of 1993; and the other recorded occurrence (# 23), located to the east of the site, was observed in 1996.

EFFECTS OF THE PROPOSED ACTION

Although vernal pool fairy shrimp and vernal pool tadpole shrimp exhibit slightly differing habitat requirements and life cycles, they often inhabit the same vernal pool complexes and have been known to co-occur in individual vernal pools. These species are supported by similar habitat types, including vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, alkali flats, and other depressions that hold water of similar volume, depth. area, and duration. Therefore, both species are subject to a common set of threats and considerations.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been documented to occur within the SSPA. Although no surveys have been done on the proposed project site, these species are known from other parcels within the SSPA. The project site is located in Unit 13 of the proposed critical habitat for vernal pool fairy shrimp and in Unit 8 of the proposed critical habitat for vernal pool tadpole shrimp. All of the vernal pools and seasonal wetlands on the proposed project site, however, provide appropriate habitat for both vernal pool fairy shrimp and

vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site. Therefore, construction of the proposed project in any portion of the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp.

Direct Effects

Direct effects are the immediate effects of the proposed project on the species or its habitat and include the effects of interrelated action and interdependent actions. Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those actions that have not independent utility apart from the proposed action (50 CFR §402.02). Our analysis is based on the assumption that the proposed project will be implemented within two (2) calendar years of the date of the issuance of this biological opinion.

The proposed project would result in fill of 1.36 acres of suitable habitat that may be potentially occupied by vernal pool fairy shrimp and vernal pool tadpole shrimp. The Service considers an entire vernal pool or seasonal wetland to be directly affected when even a portion of it is filled or subject to similar direct affects.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2004). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Sares-Regis property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas. Therefore, the majority of the remaining 44 acres of vernal pools outside the Sares-Regis property are expected to be filled for future urban development (Foothill Associates 2004).

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-96-F-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2004).

All infrastructure improvements are required to serve the already permitted Anatolia project. Affects resulting from offsite infrastructure development and road widening to Sunrise Boulevard from White Rock Road, to Pyramid Road, to Douglas Road from Sunrise Boulevard, and to Americanos Road, are covered under separate Nationwide14 Permits (Corps file number 200300697), which are currently in review by the Service. Two additional road improvement projects will be permitted under Phase I and will provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements will affect less than one-tenth an acre (Foothill Associates 2004).

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California red-legged frog (*Rana aurora draytonii*), the delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, if completed, the SSHCP may eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and State listed species known at this time that may be affected by actions that are reasonably foreseeable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of

Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed project and the future projects.

Indirect Effects

Vernal pool habitat indirectly affected includes all habitat supported by future destroyed upland areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. The project will not result in any indirect effects. Vernal pool crustacean habitat within 250 feet of the proposed project boundaries to the north, west, and south could be indirectly impacted by the project. Habitat to the east is divided from the Project Site by a major roadway and therefore indirect impacts are not anticipated. Because lands to the north, west, and south are within the approved SDCP/SSPA, habitat in these areas would be directly removed and offset by adjacent proposed development. Therefore, separate Section 7 consultation will be initiated on lands adjacent to the project site and indirect impacts to these areas are expected to be offset through this process.

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat (Zelder 1987). Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affected water quality. Many of these chemical compounds are thought to have adverse affects on all of the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals. In addition to the adverse effects detailed above, the proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons that the vernal pool fairy shrimp and vernal pool tadpole shrimp have declined. The proposed project will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in south Sacramento County and throughout the range of these two listed vernal pool crustaceans.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

The Service is aware of other projects currently under review by the State, County, and local authorities where biological surveys have documented the occurrence of federally-listed species. These projects include such actions as urban expansion, water transfer projects that may not have a Federal nexus, and continued agricultural development. The cumulative effects of these known actions pose a significant threat to the eventual recovery of these species. Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coastal ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California, the Service anticipates that a wide range of activities will affect these species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects. (4) highway projects, (5) utility projects, (6) chemical contaminants, and (7) conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act).

The proposed project is located is a region where future destruction and modification of vernal pool crustacean habitat is anticipated. Sacramento County will continue to develop within the County's sphere of influence. This development will result in increased direct loss of habitats for these listed species. Continued loss of these habitats throughout the region could conceivably affect the genetic diversity of the local population(s) of listed vernal pool crustaceans. Any loss of genetic diversity can have significant effects on a population's ability to respond to environmental change over time (Frankel and Soulé 1981). Within the proposed action area, the predominant types of non-federal actions that might affect the listed vernal pool crustaceans consist of residential and commercial development.

Conclusion

After reviewing the current status of the vernal pool tadpole shrimp and vernal pool fairy shrimp, the environmental baseline for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Anatolia IV project, as proposed, is not likely to jeopardize the continued existence of the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not located within designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp, and therefore, no destruction or adverse modification of critical habitat is anticipated

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(0)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(0)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pools/ponded depressions (vernal pool crustacean habitat) that will become unsuitable for vernal pool crustaceans due to direct or indirect effects as a result of the action. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 1.36 acres of vernal pool habitat will become harassed, harmed, injured, or killed, as a result of the proposed action.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool fairy shrimp or the vernal pool tadpole shrimp. This action will not result in destruction or adverse modification of critical habitat.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Corps shall fully implement the March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" and the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.

- 2. The Corps shall assure all conservation measures as proposed by the project proponent in the September 8, 2004, *Anatolia IV Section 7 Biological Assessment*, and the October 13, 2004, and December 7, 2004, electronic mails from Foothill Associates to the Service, and identified by the Service in the project description of our biological opinion are fully implemented.
- 3. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
 - b. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project.
 - c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
 - d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
 - e. Prior to groundbreaking, high-visibility fencing that is at least 4 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat.

The fencing shall be established at a minimum distance of 250 feet from the edge of the vernal pools. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.

- f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access road will observe a speed limit of 20 miles per hour. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas. All fueling, cleaning, and maintenance of vehicles and other equipment will occur only within designated areas and at least 250 feet away from any wetland habitats. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately. Such spills will be reported in the post-construction compliance reports.
- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Description of the Proposed Action section of this Biological Opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto adjacent offsite wetland habitats.
- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill

occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.

i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area.

5. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.

6. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat loss through habitat preservation offsite. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder etc. for our approval.

7. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat through habitat restoration or creation. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 120 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. The following criteria will be used by the Service when approving a restoration/creation site:

- a. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding, Corning);
- b. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
- c. The restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Reporting Requirements

A post-construction compliance report prepared by the monitoring biologists must be submitted to the Chief of the Endangered Species Division (Central Valley) at the Sacramento Fish and Wildlife Office within thirty (30) calendar days of the completion of construction activity or within thirty (30) calendar days of any break in construction activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that groundbreaking at the project started and the project was completed; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures. if any; (iv) known project effects on the giant garter snake and the valley elderberry longhorn beetle, if any; (v) occurrences of incidental take of any these species; and (vi) other pertinent information.

The project applicant must report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this biological opinion. The project applicant must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contact is the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee, who during routine operations and maintenance activities, inadvertently kills or injures a federally-listed species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. The Service recommends the following conservation measures:

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. As recovery plans for listed vernal pool crustacean species are developed, the Corps should assist the Service in their implementation.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.
- 5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the proposed Anatolia IV project. As provided in 50 CFR \$402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion: (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding the proposed Anatolia IV project, please contact me at (916) 414-6700

Sincerely,

Susan K More Wayne S. White Field Supervisor

cc: ARD (ES), Portland, OR Ms. Terry Roscoe, California Dept. of Fish and Game, Rancho Cordova, CA Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA

Enclousres:

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Addresses:

ARD (ES), Portland, Oregon

Ms. Terry Roscoe California Dept. of Fish and Game, Region 2 1701 Nimbus Road Rancho Cordova, California 95670

Ms. Elizabeth Goldman U.S. Environmental Protection Agency- Region IX 75 Hawthorne Street San Francisco, California 94105

A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

June 2004

In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts.

Strategy Principles and Standards:

1. <u>Maintain natural (existing) watershed integrity and flows to downstream reaches</u> (distribution, frequency and duration), including restricting summer nuisance flows.

2. <u>Maintain corridors and large areas for wildlife and the propagation of flora</u>. Preserve vernal pool hydrology and integrity to benefit listed plants and invertebrates. Establish interconnected conservation areas that are managed in perpetuity and tie into existing local and regional planning efforts. Provide for meaningful conservation of sensitive plant habitats for species integrity and long-term survival.

3. <u>Manage stormwater to retain the natural flow regime and water quality</u> including not altering baseline flows in the receiving waters, not allowing untreated discharges to occur into existing aquatic resources, and not using existing aquatic resources for detention or transport of flows above current hydrology, duration, and frequency. All stormwater flows generated on-site and entering preserve boundaries would be pre-treated to reduce oil, sediment, and other contaminants.

4. <u>Use elevated roads, arched crossings and other practices for transportation corridors that must</u> <u>traverse Preserve Areas</u> to minimize direct and indirect impacts to aquatic resources and maintain the integrity of Preserve Areas. Hydrologic and biologic functions and values of the Preserve Areas would not be significantly impacted by road crossings.

5. <u>Use conservation design elements</u>. These elements include construction techniques such as using single-loaded roads where housing abuts Preserve Areas, designing roadside landscaping to drain (surface and subsurface) toward urban features and not toward the preserve boundary, and orienting houses such that the front living area faces the Preserve Area. Fences would be low and not restrict visibility into the Preserve Area. Impervious surfaces would be minimized. Stormwater/water runoff plans would be designed to maintain watershed integrity by employing such means as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat stormwater and water runoff from the large increases in impervious surfaces.

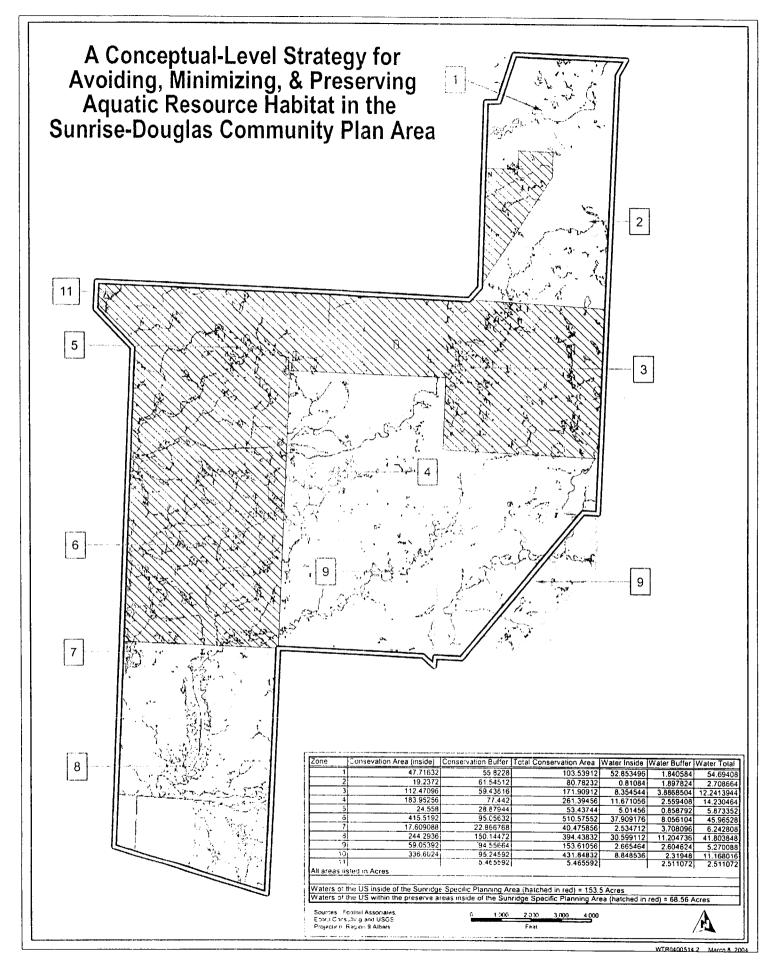
6. Locate compatible land uses next to preserves. Acceptable land uses include parks, hiking trails, athletic fields, and other forms of open space. Developed trails would be outside the preserve boundary. Any irrigated fields or landscaping must not drain toward preserves. Cut and fill activities adjacent to the preserve boundaries would be minimized.

7. <u>Mow-only firebreaks may be located at the outer edges of Preserve Areas.</u> Mowing within the Preserve Areas should be conducted consistent with achieving the goals of the preserve management plan, including promoting native/discouraging non-native species. Firebreaks that necessitate herbicide application or tilling, plowing or other soil disturbance would be located outside of the Preserve Areas.

8. <u>Ensure Preservation Areas are protected in perpetuity</u>. This includes establishing buffers and not locating lot lines within the preserve boundary. Areas would be protected in perpetuity through conservation easement that is adequately funded for maintenance and managed by a conservation-oriented third-party. Preserve Areas would be fenced and signed.

9. Implement mitigation measures (avoidance, minimization, and compensation) that adequately offset direct and indirect impacts to aquatic resources and listed species. In general, establishing the Preserve Areas is considered a regional measure to achieve impact avoidance and minimization. Vernal pools that are directly impacted by projects should be mitigated at ratios equal to or greater than 2:1 for preservation and 1:1 for creation/restoration. Vernal pools indirectly affected should be mitigated at ratios equal to or greater than 1:1 for preservation and 1:1 for creation/restoration. Vernal pools in the same watershed but not within, or in a way that would affect, existing wetland complexes. On a case-by-case basis, preservation credit may be given for vernal pools in the Preserve Areas (except for the 250-foot wide indirect impact zone). Excellent opportunities exist in or near the SDCPA for the establishment of a vernal pool conservation bank(s) and a wetland compensatory (i.e., restoration/creation) mitigation bank(s).

10. Recognize the realities and constraints placed on construction design due to infrastructure and market-driven forces.





United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



AUG 3 0 2006

In reply refer to: 1-1-06-F-0232

Mr. David Leput U.S. Army Corps of Engineers District, Sacramento 1325 J Street, Room 1480 Sacramento, California 95814-2922

Subject:

Amendment to the Sunridge Village J Project [Service File number 1-1-02-F-0357, Corps file number 200100230], Sacramento County, California

Dear Mr. Leput:

This is in response to the U.S. Army Corps of Engineers' (Corps) July 13, 2006 request to re-initiate formal consultation with the U.S. Fish and Wildlife Service (Service) on the Sunridge Village J project (project) in Sacramento County, California. This document represents the Service's biological opinion on the effects of the action on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) (vernal pool crustaceans), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act). In a March 24, 2004, letter to the Service, you requested formal consultation on the federally threatened California tiger salamander (*Ambystoma californiense*). The proposed Sunridge Village J project site and the entire Sunridge Specific Plan are outside of the range of the California tiger salamander. Therefore, the proposed project will not affect the California tiger salamander.

The findings and recommendations in this consultation are based on: (1) the previous biological opinion (1-1-02-F-0357); (2) the May 19, 2006, letter from Cresleigh Homes to the Corps; and (3) other information available to the Service.

This letter revises the off-site preservation ratios for indirect effects and constitutes an amendment to the December 22, 2004, biological opinion for the Sunridge Village J project. On May 19, 2006, Cresleigh Homes submitted a proposal to the Corps to <u>reduce</u> the amount of preservation from two (2) acre to one (1) acre for each acre of vernal pool indirectly affected. In addition, the consultant proposed to create or restore one (1) acre of vernal pool for each acre indirectly affected in order to be consistent with the June 2004 Conceptual Strategy. We believe the most conservation-oriented plan would be to keep the original preservation proposal, and to subsequently add one (1) acre of vernal pool restoration or creation. This, too, is consistent with



and is in the spirit of the June 2004 Conceptual Strategy because the language clearly states preservation rates should be "...equal to or greater than 1:1..." (p. 2). However, if the project applicant's intent is to reduce the amount of preservation that occurs, then the Service's December 22, 2004, biological opinion for the project is so amended. Therefore, the December 22, 2004, amendment is now amended as follows:

Page 3 – Add to Consultation History Specific to the Proposed Project:

May 9, 2006. The Service received a May 1, 2006, letter from Cresleigh Homes requesting a revision of Sunridge Village J Biological Opinion (1-1-02-F-0357).

May 17, 2006. The Service sent electronic mail to Mr. Trythall of Cresleigh Homes indicating the Corps must request re-initiation of section seven consultation to amend a biological opinion.

July 13, 2006. U.S. Army Corps of Engineers requests re-initiation of formal section seven consultation. Included within the initiation request was a May19, 2006 letter from Cresleigh Homes proposing to change conservation measures for indirect effects in order to be consistent with the Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving On-Site Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area (Conceptual Strategy).

Page 6-7 – Change Proposed Conservation Measure 1c. From:

c. Indirect effects to 0.39 acres of vernal pool crustacean habitat will be offset through habitat preservation (refer to Tables 1 and 2). The Service considers vernal pool habitat located within 250 feet of construction activities to be indirectly affected. Vernal pool crustacean habitat located within 250 feet of the northern and western boundaries of the proposed project site is separated from the proposed project site by two major roadways that act as hydrologic barriers, and, therefore, indirect affects to habitat in these areas are not anticipated. Vernal pool crustacean habitat within 250 feet of the eastern boundary of the site is located on the proposed Sunridge Park project site; project-related effects to this vernal pool habitat are being reviewed under a separate section 7 consultation by the Service. Vernal pool crustacean habitat within 250 feet of the southern boundary of the proposed project site, however, will be indirectly affected by construction activities associated with the implementation of the proposed project. The applicant has proposed to offset indirect affects to vernal pool crustacean habitat located within 250 feet of the southern and eastern boundaries of the proposed project site through habitat preservation. Habitat preservation will be achieved through the preservation of four (4) acres of vernal pool habitat for every acre of vernal pool habitat that is directly affected at the Bryte Ranch Conservation Bank, totaling 1.56 acres.

c. Indirect effects to 0.39 acres of vernal pool crustacean habitat will be offset through habitat preservation and habitat restoration/creation (refer to Table 1). The Service considers vernal pool habitat located within 250 feet of construction activities to be indirectly affected. Vernal pool crustacean habitat located within 250 feet of the northern and western boundaries of the proposed project site is separated from the proposed project site by two major roadways that act as hydrologic barriers, and, therefore, indirect affects to habitat in these areas are not anticipated. Vernal pool crustacean habitat within 250 feet of the eastern boundary of the site is located on the proposed Sunridge Park project site; projectrelated effects to this vernal pool habitat are being reviewed under a separate section 7 consultation by the Service. Vernal pool crustacean habitat within 250 feet of the southern boundary of the proposed project site, however, will be indirectly affected by construction activities associated with the implementation of the proposed project. The applicant has proposed to offset indirect affects to vernal pool crustacean habitat located within 250 feet of the southern and eastern boundaries of the proposed project site through habitat preservation and habitat restoration/creation. Habitat preservation will be achieved through the preservation of one (1) acre of vernal pool habitat at the Bryte Ranch Conservation Bank for every acre of vernal pool habitat that is indirectly affected, totaling 0.39 acres. Habitat restoration/creation will be achieved through the restoration/creation of one (1) acre of vernal pool habitat for every acre of vernal pool habitat that is indirectly affected. Habitat restoration/creation must be completed at a Service-approved vernal pool restoration/creation bank that includes the project area within its service area.

Page 7 – Change Table 1 From:

Table 1 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if
Credits Purchased at Bryte Ranch Conservation Bank

Туре	Acres of Direct Effects	Acres of Indirect Effects	4:1 Preservation Compensation (in acres)	1:1 Creation Compensation (in acres)
Seasonal Wetland	0.22	0.03	1.00	0.22
Vernal Pool	1.88	0.36	8.96	1.88
TOTAL	2.10	0.39	9.96	2.10

To:

Туре	Acres of Direct Effects	Acres of Indirect Effects	Preservation Compensation (in acres) 4:1 Direct/2:1 Indirect	1:1 Creation Compensation (in acres) 1:1 Direct/Indirect)
Seasonal	0.22	0.03	0.94	0.25
Wetland				
Vernal Pool	1.88	0.36	8.24	2.24
TOTAL	2.10	0.39	9.18	2.49

 Table 2 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages

The other portions of the project description, species baseline, effects analysis, conclusion, reasonable and prudent measures, and conservation recommendations in the December 22, 2004, biological opinion remain the same.

This concludes formal consultation with the U.S. Army Corps of Engineers on the amended Sunridge Village J project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact this office at (916) 414-6645 if you have questions regarding this amendment to the biological opinion for the Sunridge Village J project.

Sincerely,

Kenneth Sanchez Acting Field Supervisor

cc:

Kent Smith, California Department of Fish and Game, Rancho Cordova, CA Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA Robert J. Uram, Sheppard Mullin Richter & Hampton, LLP, San Francisco, CA



United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846

In reply refer to: 1-1-02-F-0357

DEC 2 2 2004

Mr. Justin Cutler Chief, Sacramento Office U.S. Army Corps of Engineers District, Sacramento 1325 J Street Sacramento, California 95814-29223

DEC 28 200%

Subject:

Section 7 Consultation for the Proposed Sunridge Village J Project [Corps file number 200100230], Sacramento County, California

Dear Mr. Cutler:

This is in response to the U.S. Army Corps of Engineers' (Corps) request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Sunridge Village J project (proposed project) in Sacramento County, California. Your February 2, 2002, request was received in our office on February 7, 2002. This document represents the Service's biological opinion on the effects of the action on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) (vernal pool crustaceans), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act). In a March 24, 2004, letter to the Service, you requested formal consultation on the federally threatened California tiger salamander (*Ambystoma californiense*). The proposed Sunridge Village J project site and the entire Sunridge Specific Plan are outside of the range of the California tiger salamander.

The findings and recommendations in this consultation are based on: (1) letters from Foothill Associates to the Service, dated September 21, October 14, and November 2, 2004; (2) the *Sunrise Village J Section 7 Biological Assessment* (Biological Assessment) dated January 6, 2004, prepared by Foothill Associates; (3) a February 5, 2002, letter from Corps to the Service requesting initiation of formal consultation on proposed project; (4) site visits; (5) meetings, electronic mail (email) correspondence, and telephone conversations between representatives of the Service, Corps, Cresleigh Homes, and Foothill Associates (consultant); and (6) other information available to the Service.



Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers (Corps), and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sun Ridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid 2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004 the Federal agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File # 1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

September 21, 2004. Foothill Associates submitted a letter to the Service, providing proposed conservation measures for the vernal pool crustacean habitat that would be directly and indirectly affected by the proposed project. The Service received this letter on September 27, 2004.

October 7, 2004. Representatives of the Service and Foothill Associates met to discuss the effects of and the conservation measures for the proposed project.

October 14, 2004. Foothill Associates submitted a letter to the Service, updating the quantification of effects of the proposed project on vernal pool crustacean habitat, as well as the proposed conservation measures. The Service received this on October 14, 2004.

November 2, 2004. Foothill Associates submitted a letter to the Service, providing comments to the draft biological opinion on the proposed project. The Service received this letter on November 3, 2004.

BIOLOGICAL OPINION

Description of the Proposed Action

The following is taken from the document titled A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, prepared by the Service, the Corps, and the EPA (enclosed). This document and the accompanying planning map developed by the three Federal agencies are hereby incorporated by reference into the project description. Thus, our biological opinion on this proposed action, the Sunridge Village J project, is based on application and full implementation of the Federal agencies conservation strategy outlined in this document and map, on all future projects in the SDCPA.

"In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts."

The approximately 81.8-acre proposed Sunridge Village J development site is located in southeastern Sacramento County, approximately five miles south of Highway 50, east of Sunrise Boulevard and the Folsom South Canal, and north of Jackson Road (Highway 16), in the City of

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Rancho Cordova. The proposed project site is situated south of and adjacent to Douglas Road, east of and adjacent to Jaeger Road, and north of the proposed Pyramid Road. The site is located in portions of Sections 9 and 16 of Township 8 North, Range 7 East, as shown on the U.S. Geological Survey's (USGS) Buffalo Creek 7.5-minute quadrangle.

The proposed project site is within the 6,042-acre SDCPA located within the Sacramento County General Plan Urban Service Boundary and Policy Area. As shown on the September 2004 Developers Map, the proposed project site is also located within the Sunridge Specific Plan area, which provides a more detailed land use plan for development of approximately 2,632 acres within the SDCPA. The SDCPA is located within the headwaters of both the Morrison Creek and Laguna Creek watersheds.

Historically, the SDCPA, including the proposed project site, has been used for dry land farming and grazing. The surrounding land use is predominantly grassland utilized for cattle grazing and related agricultural activities. A few homesteads, including rural residences, barns, and pens, are scattered around this area.

The proposed Sunridge Village J project involves the construction of approximately 346 singlefamily residential lots, a five-acre neighborhood park, and a landscape corridor along the north and west property boundaries. Required infrastructure (*e.g.*, sewer mains and laterals, water mains, and utility lines) will be developed in association with surrounding projects within the Sunridge Specific Plan area. The proposed land uses for the proposed project site are consistent with the planned land uses set forth in the Sunrise Douglas Community Plan and Sunridge Specific Plan.

The proposed project will adversely affect approximately 2.49 acres of habitat for vernal pool crustaceans. A total of 1.88 acres of vernal pools and 0.22 acre of seasonal wetlands will be directly affected by the proposed project and a total of 0.36 acre of vernal pools and 0.03 acre of seasonal wetlands would be indirectly affected by the proposed project.

It should be noted that the acreages of vernal pool habitat on the proposed project site have fluctuated between documents provided to the Service (see Foothill Associate 2004a, b). These variations can be accounted for by examining the different analyses and assumptions of wetland verification. For example, the Biological Assessment (Foothill Associates 2004a) considered that all depressional seasonal wetlands (potential vernal pool crustacean habitat) extending onto adjacent properties to the east, south, and west would be indirectly affected by the proposed project. Subsequently, the Service indicated that directly and indirectly vernal pool crustacean habitat within the Sunridge Specific Plan (*e.g.*, DJ Enterprises to the west and Sunridge Park to the east) would be addressed through separate section 7 consultations but that directly and indirectly affected vernal pool crustacean habitat extending onto the Sunridge 530 property to the south, which is outside of the Sunridge Specific Plan, would be addressed under the consultation for the proposed project. This approach has been confirmed in recent correspondence from Foothill Associates (2004c), which indicated that the proposed project would directly affect 2.10 acres and indirectly affect 0.39 acres of vernal pool crustacean habitat.

Proposed Conservation Measures

The applicant, Cresleigh Homes, has proposed conservation measures to avoid, minimize, and compensate for effects to vernal pool fairy shrimp and vernal pool tadpole shrimp that result from the implementation of the proposed project.

- 1. Habitat Preservation and Restoration
 - a. Direct effects to 2.10 acres of vernal pool crustacean habitat will be offset through habitat preservation (refer to Tables 1 and 2). Habitat preservation will be achieved through the preservation of four (4) acres of vernal pool habitat for every acre of vernal pool habitat that is directly affected at the Bryte Ranch Conservation Bank, totaling 8.40 acres.
 - b. Direct effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation at a 1:1 ratio (refer to Tables 1 and 2). The restoration/creation goal will be to create and enhance wetlands with habitat functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat creation/restoration will be achieved through the restoration of 2.10 acres of vernal pool crustacean habitat at a Service-approved site within Sacramento County that meets the following criteria:
 - 1. The restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
 - 2. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
 - 3. The restoration site will have a conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.
 - c. Indirect effects to 0.39 acres of vernal pool crustacean habitat will be offset through habitat preservation (refer to Tables 1 and 2). The Service considers vernal pool habitat located within 250 feet of construction activities to be indirectly affected. Vernal pool crustacean habitat located within 250 feet of the northern and western boundaries of the proposed project site is separated from the proposed project site by two major roadways that act as hydrologic barriers, and, therefore, indirect affects to habitat in these areas are not anticipated. Vernal pool crustacean habitat within 250 feet of the eastern boundary of the site is located on the proposed Sunridge Park project site; project-related effects to this vernal pool

habitat are being reviewed under a separate section 7 consultation by the Service. Vernal pool crustacean habitat within 250 feet of the southern boundary of the proposed project site, however, will be indirectly affected by construction activities associated with the implementation of the proposed project. The applicant has proposed to offset indirect affects to vernal pool crustacean habitat located within 250 feet of the southern and eastern boundaries of the proposed project site through habitat preservation. Habitat preservation will be achieved through the preservation of four (4) acres of vernal pool habitat for every acre of vernal pool habitat that is directly affected at the Bryte Ranch Conservation Bank, totaling 1.56 acres.

Table 1 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if Credits Purchased at Bryte Ranch Conservation Bank

Туре	Acres of	Acres of	4:1 Preservation	1:1 Creation
	Direct	Indirect	Compensation	Compensation
	Effects	Effects	(in acres)	(in acres)
Seasonal Wetland	0.22	0.03	1.00	0.22
Vernal Pool	1.88	0.36	8.96	1.88
TOTAL	2.10	0.39	9.96	2.10

- 2. Construction Storm Water Pollution Prevention Plan
 - a. Minimize off-site stormwater runoff that might otherwise affect surrounding vernal pool crustacean habitat. Measures, which will be implemented during project construction to avoid adverse affects to the open space/wetland preserve and adjacent properties, include the following:
 - b. Incorporate standard construction Best Management Practices (BMPs) into construction designs, plans and specifications. Contractors will be required to implement them during construction.
 - c. Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the proposed project with the following objectives:
 - i. Identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the proposed project;
 - ii. Identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the proposed project site during construction;
 - iii. Outline and provide guidance for BMP monitoring;

- iv. Identify project discharge points and receiving waters;
- v. Address post-construction BMP implementation and monitoring; and
- vi. Address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.
- d. The construction BMPS for the proposed project will include the following specific measures for avoiding adverse impacts to the open space preserve and adjacent properties:
 - i. Hydroseeding: All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least two tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix that when applied, and upon drying, adheres to the soil to form a 100% cover that is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry for a minimum of 24 hours after installation.
 - ii. Sediment and Erosion Control: Certified weed-free straw wattles will be installed at the base of all slopes along the property lines of the proposed project site. The existing Jaeger Road currently provides additional erosion and sediment control to the west. Road improvement projects will be subject to a SWPPP and BMP monitoring. Prior to installation of the straw wattles, a concave key trench approximately two to four inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized.
 - iii. Excavated Material: During construction activities associated with the implementation of the proposed project, all excavated materials will be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.
 - iv. Staging Areas: Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. All

workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.

- v. Construction Fencing: Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat.
- vi. Construction Monitoring: A Service-approved environmental monitor will be employed to ensure compliance with construction-related avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until construction is finished.

Status of the Species

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp and vernal pool fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994. Final critical habitat was designated for these species on August 6, 2003 (68 FR 46684). Complete descriptions of these species are found in 59 FR 48136, the final rule listing these species under the Act. These crustaceans are restricted to vernal pools and swales and other seasonal aquatic habitats in California. Eng *et al.* (1990), Simovich *et al.* (1992), and (Service 1994) provide further details about their life history and ecology. The Service did not designate any critical habitat for the vernal pool crustaceans in Sacramento County. Although the Service designated critical habitat for the vernal pool fairy shrimp in San Joaquin County, none will be affected by the proposed project.

Life History. Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952, Longhurst 1955, Pennak 1989). It is primarily a benthic animal that swims with its legs down. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanaway 1974, Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991, Simovich *et al.* 1992).

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in short-lived shallow pools (Simovich *et al.* 1992).

Distribution. Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 168 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 342 occurrences extending from Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, CNDDB 2004) and Riverside County. Five disjunctive populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon. The vernal pool fairy shrimp inhabits vernal pools with clear to teacolored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Dispersal. The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp. The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

Environmental Baseline

Vernal Pools

Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. However, conversion of vernal pools and vernal pool complexes has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp, the vernal pool fairy shrimp (shrimp), and slender and Sacramento Orcutt grasses. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988).

In addition to direct habitat loss, the two shrimp populations have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in small isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987a, b). If an extirpation event occurs in a population that has been fragmented, the opportunities for re-colonization would be greatly reduced due to physical (geographic) isolation from other (source) populations.

Human population growth in Sacramento County has steadily increased. On the average, Sacramento County has experienced an annual population increase of 1.38 percent for the period between 1991 and 1999 (Service 2000). For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5 percent (State of California 2002). This annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California

2000, 2003c). Population growth and concomitant housing demand and subsequent vernal pool resource development are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 58 (17 percent) out of the total of 342 reported occurrences of vernal pool fairy shrimp, and 58 (34 percent) out of the total of 173 reported occurrences of vernal pool tadpole shrimp (CNDDB 2004). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County. Further, of the 3,092 locations checked, 178 locations (6 percent) were found to support the vernal pool fairy shrimp. Of this total, 63 locations (35 percent) were within Sacramento County.

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of humancaused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect effects can result in adverse effects to vernal pool species.

A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued approximately 157 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or ones that the Service issued a conference opinion. No State of California actions have taken place within Sacramento County that have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. Thus, the trend for the two vernal pool species within the county is most likely static.

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, CDFG, 2004), based on an analysis of the California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that an estimated 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., Richard Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetted vernal pool acreage (pers. comm.., Lora Konde, CDFG, 2003).

Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pool of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2004). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2004). The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp, and 2 occurences of orcutt grasses (2 slender Orcutt grass and 4 Sacramento Orcutt grass) are reported (pers. comm., Arnold Roessler, Service, 2004). An additional occurrence of slender Orcutt grass has been reported, but not recorded in the CNDDB (pers. comm.. Pete Balfour, ECORP Consulting, 2004).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, young-terrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared (pers. comm., K. Fuller, Service, 2004). Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow vernal pools.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County, approximately 12 miles southeast of the proposed project site. Vernal pools found within the Valley Springs soil type are

the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and more shallow. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils (pers. comm., Holland, 2004).

The Laguna geologic formation and its associated soils entirely characterizes the Sunrise Douglas Community Plan Area. Vernal pools found within this soil type are old-terrace types. Oldterrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, but more frequently in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). This potential preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County-owned Multi Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

There are 342 records of vernal pool fairy shrimp and 173 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB 2004). Of these records, 58 vernal pool fairy shrimp records and 58 vernal pool tadpole shrimp records are from Sacramento County (CNDDB 2004). Vernal pool fairy shrimp and vernal pool tadpole shrimp have both been observed in wetlands throughout the Sunrise Douglas area.

Vernal pool fairy shrimp located within the Sunridge Specific Plan: There is one record within the Sunridge Specific Plan boundaries, and another 17 records located within five miles of the Sunridge Specific Plan area boundaries. The nearest occurrence (# 43) of this species, observed in March 1996, is a half of a mile southwest of the proposed project site (CNDDB 2004).

Vernal pool tadpole shrimp within the Sunridge Specifi Plan: There are two records within the Sunridge Specific Plan boundaries, and another 23 records within five miles of these boundaries. The nearest two occurrences (# 54 and # 23) of this species are within 1.5 miles of the proposed project site. One of these recorded occurrences (# 54), located to the west of the site, was

observed in February of 1993; and the other recorded occurrence (# 23), located to the east of the site, was observed in 1996 (CNDDB 2004).

The proposed Sunridge Village J project site has not been surveyed for the presence of either of these vernal pool crustaceans. All of the vernal pools and seasonal wetlands on the proposed project site, however, provide appropriate habitat for both vernal pool fairy shrimp and vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site (Foothill Associates 2004a).

Effects of the Proposed Action

Although vernal pool fairy shrimp and vernal pool tadpole shrimp exhibit slightly differing habitat requirements and life cycles, they often inhabit the same vernal pool complexes and have been known to co-occur in individual vernal pools. These species are supported by similar habitat types, including vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, alkali flats, and other depressions that hold water of similar volume, depth, area, and duration. Therefore, both species are subject to a common set of threats and considerations.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been documented to occur within the Sunridge Specific Plan area. Focused surveys for vernal pool crustaceans were conducted on the proposed project using the Service's current Dip Net protocol between February and March of 1993 by Sugnet and Associates (1993). The results of these surveys indicated the presence of California linderiella (*Linderiella occidentalis*) from four discrete locations and vernal pool fairy shrimp from one location. All of the vernal pools and seasonal wetlands on the proposed project site, however, provide appropriate habitat for both vernal pool fairy shrimp and vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp in all solves of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site.

Direct Effects

Direct effects are the immediate effects of the proposed project on the species or its habitat and include the effects of interrelated action and interdependent actions. Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those actions that have not independent utility apart from the proposed action (50 CFR §402.02). Our analysis is based on the assumption that the proposed project will be implemented within two (2) calendar years of the date of the issuance of this biological opinion.

The proposed project would result in fill of 1.88 acres of vernal pools and 0.22 acres of seasonal wetlands that provide suitable habitat for and may be potentially occupied by vernal pool fairy shrimp and vernal pool tadpole shrimp. The Service considers an entire vernal pool or seasonal wetland to be directly affected when even a portion of it is filled or subject to similar direct affects. Therefore, although 0.07 acre of the directly affected vernal pools extends beyond the proposed project site onto an adjacent property, the Service considers these portions to also be directly affected.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2004a). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Anatolia I,II, III property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas.

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia I, II, III project (Service file number 1-1-96-F-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2004a).

All infrastructure improvements are required to serve the already permitted Anatolia project. Affects resulting from offsite infrastructure development and road widening to Sunrise Boulevard from White Rock Road, to Pyramid Road, to Douglas Road from Sunrise Boulevard, and to Americanos Road, are covered under separate Nationwide14 Permits (Corps file number 200300697), which are currently in review by the Service. Two additional road improvement projects will be permitted under Phase I and will provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements will affect less than one-tenth an acre (Foothill Associates 2004a).

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed

species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the California tiger salamander (*Ambystoma californiense*), the California red-legged frog (*Rana aurora draytonii*), the delta smelta (*Hypomesus transpacificus*) and its designated critical habitat, and the slender Orcutt grass (*Orcuttia tenuis*).

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, if completed, the SSHCP may eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and State listed species known at this time that may be affected by actions that are reasonably foreseeable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of Sacramento County and are reasonably foreseeable as a result of the proposed action the entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed as a result of the proposed action at the propos

Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action (50 CFR §402.02).

Indirect effects to vernal pools in the project vicinity that could result from the implementation of the proposed project include hydrologic alteration, habitat fragmentation, disturbances from construction equipment, non-point source pollution, and impacts from human encroachment.

The Service considers all vernal pool crustacean habitat not considered to be directly affected but within 250 feet of proposed construction activities to be indirectly affected by project implementation. Indirectly affected habitat includes all habitat supported by future destroyed areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the proposed project.

The proposed project activities will indirectly affect 0.39 acres of vernal pool crustacean habitat, including 0.36 acres of vernal pools and 0.03 acres of seasonal wetlands. Although these features exist on land that is proposed for future development, (*i.e.*, Sunridge 530), assurance is not given to the timing of groundbreaking on the proposed Sunridge 530 project, and therefore, effects must be accounted for as they occur. These features will be indirectly affected by construction activities occurring within 250 feet of them. Individual crustaceans and their cysts, which may inhabit these vernal pools and seasonal wetlands, may be injured or killed by any of the following indirect effects:

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat (Zelder 1987). Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affected water quality. Many of these chemical compounds are thought to have adverse affects on all of the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

In addition to the adverse effects detailed above, the proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons that the vernal pool

fairy shrimp and vernal pool tadpole shrimp have declined. The proposed project will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in south Sacramento County and throughout the range of these two listed vernal pool crustaceans.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Large areas within south Sacramento County, including the SDCPA, have been designated for development in the next 20 years under the Sacramento General Plan. The timeline for development in these areas began in the early 1990s and is expected to continue for the next 5 to 10 years. This growth and conversion would contribute to several potentially significant affects to listed species, including loss, alteration, or degradation of habitat, particularly of wetlands, degradation of water quality, and increases in the frequency and intensity of flooding.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

The Service is aware of other projects currently under review by the State, County, and local authorities where biological surveys have documented the occurrence of federally-listed species. These projects include such actions as urban expansion, water transfer projects that may not have a Federal nexus, and continued agricultural development. The cumulative effects of these known actions pose a significant threat to the eventual recovery of these species. Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coastal ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California, the Service anticipates that a wide range of activities will affect these

species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects, (4) highway projects, (5) utility projects, (6) chemical contaminants, and (7) conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act).

The proposed project is located is a region where future destruction and modification of vernal pool crustacean habitat is anticipated. Sacramento County will continue to develop within the County's sphere of influence. This development will result in increased direct loss of habitats for these listed species. Continued loss of these habitats throughout the region could conceivably affect the genetic diversity of the local population(s) of listed vernal pool crustaceans. Any loss of genetic diversity can have significant effects on a population's ability to respond to environmental change over time (Frankel and Soulé 1981). Within the proposed action area, the predominant types of non-federal actions that might affect the listed vernal pool crustaceans consist of residential and commercial development.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp and vernal pool tadpole shrimp, the environmental baselines for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that Sunridge Village J project, as proposed, is not likely to jeopardize the continued existence of these species. Critical habitat has not been designated in Sacramento County for either the vernal pool fairy shrimp or the vernal pool tadpole shrimp. Therefore, the proposed project is not likely to destroy or adversely modify designated critical habitat for the vernal pool fairy shrimp and the vernal pool tadpole shrimp.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(0)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require any entity participating in the project to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(0)(2) may lapse.

Amount or Extent of Take

The implementation of the proposed project will directly affect 2.10 acres and indirectly affect 0.39 acre of vernal pool crustacean habitat. The Service anticipates incidental take of vernal pool tadpole shrimp and vernal pool fairy shrimp will be difficult to detect or quantify for the following reasons: the aquatic nature of the organisms and their relatively small body size make the finding of a dead specimen unlikely; losses may be masked by seasonal fluctuations in numbers and other causes; and the species occurs in habitat that makes them difficult to detect. Due to the difficulty in quantifying the number of vernal pool fairy shrimp and vernal pool tadpole shrimp that will be killed as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pool crustacean habitat that will become unsuitable for the listed species due to direct or indirect affects as a result of the proposed project. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 2.49 acres of vernal pool crustacean habitat will harassed, harmed, injured, or killed, as a result of the proposed project.

Upon implementation of the following reasonable and prudent measures, all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 2.49 acres of vernal pool crustacean habitat will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects associated with the proposed Sunridge Park project. The listed vernal pool crustaceans may be harmed, harassed or killed in association with the acres exempted under Section 9 of the Act. No other forms of take are authorized under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not likely to result in destruction or adverse modification of designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp because no critical habitat for these species has been designated in the proposed action area.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.
- 2. The Corps shall fully implement the March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent (pages 10-12 of the Sunrise Village J Section 7 Biological Assessment (Foothill Associates 2004a), in the September 21, 2004, letter from Foothill Associates to the Service, in the October 14, 2004, letter from Foothill Associates to the Service, and in the November 2, 2004, letter from Foothill Associates to the Service), and identified by the Service in the project description of our biological opinion are fully implemented.
- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.

- b. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project.
- c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
- d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
- e. Prior to groundbreaking, high-visibility fencing that is at least 5 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.
- f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access road will observe a speed limit of 20 miles per hour. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas. All fueling, cleaning, and maintenance of vehicles and other equipment will occur only within designated areas and at least 250 feet away from any wetland habitats. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately. Such spills will be reported in the post-construction compliance reports.
- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley

Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Description of the Proposed Action section of this Biological Opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto the adjacent offsite wetland habitats.

- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.
- i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area
- 6. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.
- 7. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat loss through habitat preservation offsite. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder etc. for our approval.
- 8. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat through habitat restoration or creation. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be

dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. The following criteria will be used by the Service when approving a restoration/creation site:

- a. The restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
- b. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
- c. The restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Reporting Requirements

The Service-approved biologist shall notify the Service immediately if any listed species are found on site, and shall submit a report including the date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The Service-approved biologist shall submit locality information to the CDFG, using completed California Native Species Field Survey Forms, no more than 30 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site, such as a photocopy of a portion of the appropriate 7.5-minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5-minute or 15-minute quadrangle; dates (day, month, year) of field work; number of individuals and life stage, where appropriate, encountered; and a description of the habitat by community-vegetation type. The Service-approved biologist shall also provide a high quality copy of this information to the staff zoologist, California Department of Fish and Game, 1807 13th Street #202, Sacramento, California, 95814, phone (916) 445-0045.

Any contractor or employee who, during routine operations and maintenance activities, inadvertently kills or injures a listed wildlife species must immediately report the incident to their representative. The Service is to be notified within one (1) working day of the finding of any dead or injured listed wildlife species or any unanticipated take of the species addressed in this biological opinion. The Service contact persons for this are the Division Chief, Endangered Species Division (Central Valley) at (916) 414-6600 and Resident Agent-in-charge Scott Heard at (916) 414-6660.

The project proponents shall submit a post-construction compliance report prepared by the monitoring biologists to the Sacramento Fish and Wildlife Office (SFWO) within 30 calendar

days of the completion of construction activity. This report shall detail the following: (1) dates that construction occurred; (2) pertinent information concerning the success of the project in meeting conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the snake, if any; (5) occurrence of incidental take of vernal pool crustaceans and snakes, if any; and (6) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. As recovery plans for listed vernal pool crustacean species are developed, the Corps should assist the Service in their implementation.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.
- 5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation with the Corps on the proposed Sunridge Village J project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new

information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact this office at (916) 414-6645 if you have any questions regarding the proposed Sunridge Village J project.

Sincerely,

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Susan Moore Acting Field Supervisor

cc:

ARD (ES), Portland, OR

Ms. Terry Roscoe, California Dept. of Fish and Game, Rancho Cordova, CA Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA

Table 1 – In Text

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A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area

June 2004

In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act, while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004 (see attached). To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydrogeomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts.

Strategy Principles and Standards:

1. <u>Maintain natural (existing) watershed integrity and flows to downstream reaches</u> (distribution, frequency and duration), including restricting summer nuisance flows.

2. <u>Maintain corridors and large areas for wildlife and the propagation of flora</u>. Preserve vernal pool hydrology and integrity to benefit listed plants and invertebrates. Establish interconnected conservation areas that are managed in perpetuity and tie into existing local and regional planning efforts. Provide for meaningful conservation of sensitive plant habitats for species integrity and long-term survival.

3. <u>Manage stormwater to retain the natural flow regime and water quality</u> including not altering baseline flows in the receiving waters, not allowing untreated discharges to occur into existing aquatic resources, and not using existing aquatic resources for detention or transport of flows above current hydrology, duration, and frequency. All stormwater flows generated on-site and entering preserve boundaries would be pre-treated to reduce oil, sediment, and other contaminants.

4. <u>Use elevated roads, arched crossings and other practices for transportation corridors that must</u> <u>traverse Preserve Areas</u> to minimize direct and indirect impacts to aquatic resources and maintain the integrity of Preserve Areas. Hydrologic and biologic functions and values of the Preserve Areas would not be significantly impacted by road crossings.

5. <u>Use conservation design elements</u>. These elements include construction techniques such as using single-loaded roads where housing abuts Preserve Areas, designing roadside landscaping to drain (surface and subsurface) toward urban features and not toward the preserve boundary, and orienting houses such that the front living area faces the Preserve Area. Fences would be low and not restrict visibility into the Preserve Area. Impervious surfaces would be minimized. Stormwater/water runoff plans would be designed to maintain watershed integrity by employing such means as vegetated swales, infiltration trenches, and constructed wetland filter strips to treat stormwater and water runoff from the large increases in impervious surfaces.

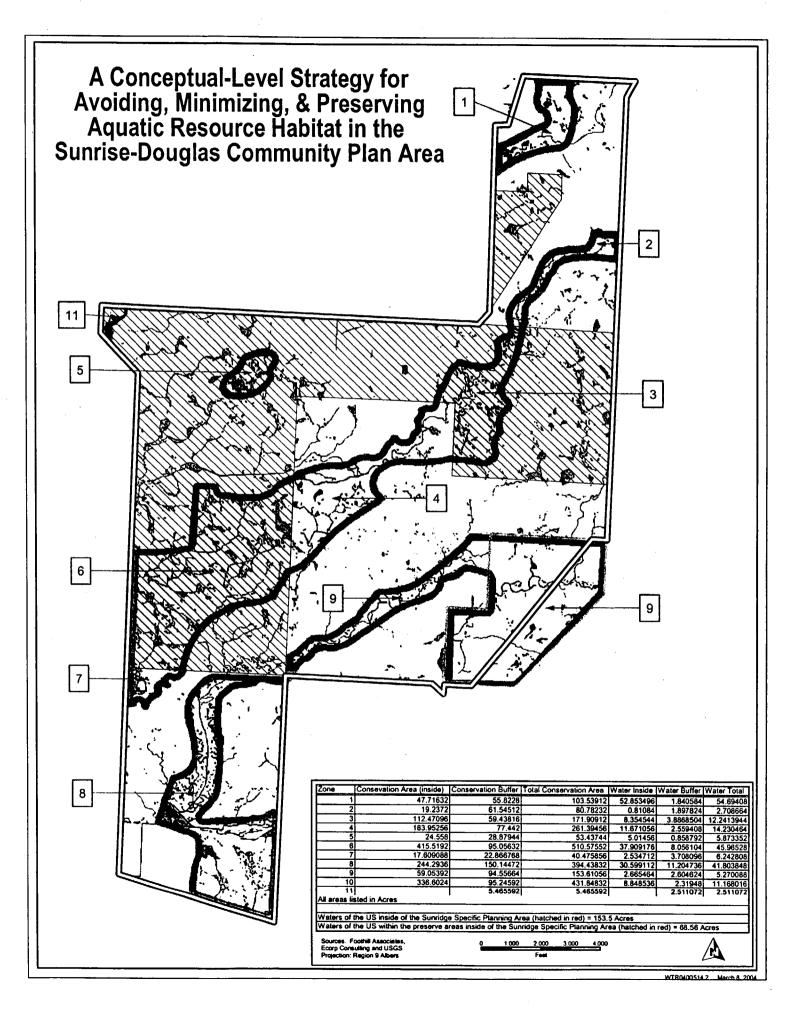
6. <u>Locate compatible land uses next to preserves</u>. Acceptable land uses include parks, hiking trails, athletic fields, and other forms of open space. Developed trails would be outside the preserve boundary. Any irrigated fields or landscaping must not drain toward preserves. Cut and fill activities adjacent to the preserve boundaries would be minimized.

7. <u>Mow-only firebreaks may be located at the outer edges of Preserve Areas.</u> Mowing within the Preserve Areas should be conducted consistent with achieving the goals of the preserve management plan, including promoting native/discouraging non-native species. Firebreaks that necessitate herbicide application or tilling, plowing or other soil disturbance would be located outside of the Preserve Areas.

8. <u>Ensure Preservation Areas are protected in perpetuity</u>. This includes establishing buffers and not locating lot lines within the preserve boundary. Areas would be protected in perpetuity through conservation easement that is adequately funded for maintenance and managed by a conservation-oriented third-party. Preserve Areas would be fenced and signed.

9. Implement mitigation measures (avoidance, minimization, and compensation) that adequately offset direct and indirect impacts to aquatic resources and listed species. In general, establishing the Preserve Areas is considered a regional measure to achieve impact avoidance and minimization. Vernal pools that are directly impacted by projects should be mitigated at ratios equal to or greater than 2:1 for preservation and 1:1 for creation/restoration. Vernal pools indirectly affected should be mitigated at ratios equal to or greater than 1:1 for preservation and creation/restoration. Vernal pools indirectly affected should be mitigated at ratios equal to or greater than 1:1 for preservation and creation/restoration will generally be completed in the same watershed but not within, or in a way that would affect, existing wetland complexes. On a case-by-case basis, preservation credit may be given for vernal pools in the Preserve Areas (except for the 250-foot wide indirect impact zone). Excellent opportunities exist in or near the SDCPA for the establishment of a vernal pool conservation bank(s) and a wetland compensatory (i.e., restoration/creation) mitigation bank(s).

10. <u>Recognize the realities and constraints placed on construction design due to infrastructure and market-driven forces.</u>





United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



MAY 18 2006

In reply refer to: 1-1-05-F-0305

Mr. Will Ness Chief, Sacramento Office U.S. Army Corps of Engineers District, Sacramento 1325 J Street Sacramento, California 95814-29223

MAY 2 2 2008

Subject: Section 7 Consultation for the Proposed Grantline 208 Project [Corps file number 199400365], Sacramento County, California

Dear Mr. Ness:

This is in response to the U.S. Army Corps of Engineers' (Corps) request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Grantline 208 project (proposed project) in Sacramento County, California. Your September 27, 2005, request was received in our office on September 28, 2005. This document represents the Service's biological opinion on the effects of the action on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) (vernal pool crustaceans), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

In your letter to the Service, you requested formal consultation on the federally-listed California tiger salamander (*Ambystoma californiense*), slender Orcutt grass (*Orcuttia tenuis*) and the Sacramento Orcutt grass (*Orcuttia viscida*) (listed plant species). The proposed Grantline 208 project site and the entire Sunridge Specific Plan are outside of the range of the California tiger salamander. Surveys conducted of the proposed project site in October 2003, and August 2004, did not indicate the presence of slender Orcutt grass or Sacramento Orcutt grass. Therefore, the proposed project will not affect the California tiger salamander or these listed plant species.

The findings and recommendations in this consultation are based on: (1) letters from Foothill Associates to the Service, dated January 25, 2005, and March 10 and 24, 2006; (2) the April 11, 2005, *Grantline 208 Section 7 Biological Assessment* (Biological Assessment), prepared by Foothill Associates; (3) a September 27, 2005, letter from Corps to the Service requesting initiation of formal consultation on proposed project; (4) site visits; (5) meetings,



electronic mail (email) correspondence, and telephone conversations between representatives of the Service, Corps, Riverwest Investments (RWI), and Foothill Associates (consultant); and (6) other information available to the Service.

Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game (CDFG), the Service, the-Corps, and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sunridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid-2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal Agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent Federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of Federal law; the need to preserve ecosystem integrity and the habitat of endangered and threatened species; the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004, the Federal Agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework

for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File #1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

January 25, 2005. Foothill Associates submitted a letter to the Service, providing information about the proposed project. Enclosed was a January 25, 2005, *Draft Grantline 208 Section 7 Biological Assessment*, prepared by Foothill Associates. The Service received this letter and enclosure on January 26, 2005.

September 27, 2005. The Corps submitted a letter to the Service, requesting the intitiaton of formal consultation on the proposed project. Enclosed was an April 11, 2005, *Grantline 208 Section 7 Biological Assessment*, prepared by Foothill Associates. The Service received this letter and enclosure on September 28, 2005.

February 13, 2006. The Service issued a letter to the Corps, requesting additional information about surveys conducted for federally-listed plant species on the proposed project site (Service file #1-1-05-I-2111).

March 1, 2006. Kelly Fitzgerald and Ken Fuller of the Service met with Ken Whitney and Kyrsten Shields of Foothill Associates during a site visit for another proposed project. During this site visit, Ms. Fitzgerald and Mr. Fuller discussed with Mr. Whitney outstanding informational needs for the consultation on the proposed Grantline 208 project. Mr. Whitney indicated that he would submit the additional information to the Service.

March 11, 2006. Foothill Associates submitted a letter to the Service, providing the results of a focused plant survey on the proposed project site that was conducted in August 2004. Enclosed with this letter were also a copy of the October 2003 focused plant survey report for the proposed project site and the resumes of the botanists who conducted these surveys. The Service received this letter and enclosures on March 13, 2006.

March 24, 2006. Foothill Associates submitted a letter to the Service, providing additional information about the focused plant surveys conducted on the proposed project in 2003 and 2004. The Service received this letter on March 27, 2006.

April 11, 2006. Ellen Berryman of Berryman Ecological emailed additional information about the proposed project's conservation measures to Ms. Fitzgerald.

BIOLOGICAL OPINION

Description of the Proposed Action

The following is taken from the June 2004, document titled *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area*, prepared by the Service, the Corps, and the EPA. This document and the accompanying planning map (Agency map) developed by the three Federal Agencies are hereby incorporated by reference into the project description. Thus, our biological opinion on this proposed action, the Grantline 208 project, is based on application and full implementation of the Federal Agencies' conservation strategy outlined in this document and map, on all future projects in the SDCPA.

"In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act (ESA), while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004. To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydro-geomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts."

The approximately 208-acre proposed Grantline 208 development site is located in southeastern Sacramento County, approximately five miles south of Highway 50, east of Sunrise Boulevard and the Folsom South Canal, and north of Jackson Road (Highway 16), in the City of Rancho Cordova. The proposed project site is situated west of and adjacent to Grantline Road, south of Douglas Road, and north of the proposed Pyramid Boulevard. The proposed Americanos Boulevard bisects the site north to south. The site is located in Section 15 of Township 8 North, Range 7 East, on the U.S. Geological Survey's (USGS) Buffalo Creek 7.5-minute quadrangle.

The proposed project site is within the 6,042-acre SDCPA located within the Sacramento County General Plan Urban Service Boundary and Policy Area. As shown on the September 2004, Developers Map, the proposed project site is also located within the Sunridge Specific Plan area. which provides a more detailed land use plan for development of approximately 2,632 acres within the SDCPA. The SDCPA is located within the headwaters of both the Morrison Creck and Laguna Creek watersheds. Land uses anticipated in the SDCPA and the Sunridge Specific Plan area, including the proposed project site, include low-, medium-, and high-density residential development, commercial mixed uses (*e.g.*, retail, office, and retail professional) and neighborhood parks. Other planned land uses in the vicinity include elementary, junior and senior high schools.

Historically, the SDCPA, including the proposed project site, has been used for dry land farming and grazing. The surrounding land use is predominantly grassland utilized for cattle grazing and related agricultural activities. A few homesteads, including rural residences, barns, and pens, are scattered around this area. The proposed project site is currently utilized as rangeland for the grazing of cattle.

The proposed Grantline 208 project involves the construction of approximately 111 acres of residential development, an 11.4-acre school site, 0.2 acre of commercial development, and an approximately 68-acre open space wetland preserve, which would be protected in perpetuity. An

additional 9.4 acres of land would be dedicated to roads, easements, and landscaped areas. Required infrastructure (*e.g.*, sewer mains and laterals, water mains, and utility lines) will be developed in association with surrounding projects within the Sunridge Specific Plan area. The proposed land uses for the proposed project site are consistent with the planned land uses set forth in the Sunrise Douglas Community Plan and Sunridge Specific Plan.

The proposed 68-acre wetland preserve would be located in the western third of the proposed project site. Approximately 4.85 acres of vernal pools and 0.26 acre of riverine seasonal wetland would be located within this wetland preserve. While the shape of the proposed wetland preserve is slightly different from the design shown on the Agency map, it appears to be consistent with Service principles.

The proposed project will directly affect approximately 5.55 acres of habitat for vernal pool crustaceans, including 5.22 acres of vernal pools, 0.30 acre of seasonal wetlands, and 0.03 acre of ephemeral drainage. A total of 0.45 acre of vernal pool crustacean habitat, including features located within the proposed 68-acre wetland preserve that are within 250 of the proposed development, would be indirectly affected by the proposed project.

Proposed Conservation Measures

The applicant has proposed conservation measures to avoid, minimize, and compensate for effects to vernal pool fairy shrimp and vernal pool tadpole shrimp that result from the implementation of the proposed project.

- 1. Habitat Preservation and Restoration
 - a. A total of 6.0 acres of vernal pool crustacean habitat would be directly (5.55 acres) and indirectly (0.45 acre) affected by the proposed project. These direct and indirect effects will be offset through habitat preservation (refer to Tables 1 and 2). Habitat preservation to compensate for direct affects will be achieved partially through the on-site preservation of 4.65 acres of vernal pool crustacean habitat in the proposed 68-acre wetland preserve. The on-site preservation of 4.65 acres would compensate for direct effects to 2.325 acres of vernal pool crustacean habitat (at a ratio of two (2) acres preserved for every one (1) acre directly affected). Additional habitat preservation to compensate for the remaining vernal pool crustacean habitat that would be directly (3.225 acres) and indirectly (0.45 acre) affected will be achieved through either:
 - i. The preservation of an additional 6.90 acres of vernal pool crustacean habitat either at a 158.59-acre parcel known as the "Town Center" property located at the southeast corner of Grantline Road and Jackson Highway, or at the Anatolia Conservation Bank. This would effectively preserve two (2) acres of vernal pool crustacean habitat for every one (1) acre of vernal pool habitat that is directly affected and one (1) acre of habitat for every one (1) acre of habitat that is indirectly affected; or

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- ii. The preservation of an additional 13.80 acres of vernal pool crustacean habitat at the Bryte Ranch Conservation Bank or other Service-approved location. This would effectively preserve four (4) acres of vernal pool habitat for every one (1) acre of vernal pool habitat that is directly affected and two (2) acres of habitat for every one (1) acre that is indirectly affected.
- b. At least 90 days prior to any fill of wetlands on the proposed project site, the Service must receive the following for review and approval:
 - i. A Service-approved Perpetual Conservation Easement for the on-site wetland preservation area;
 - ii. A description of the mechanism for funding the monitoring, maintenance. and management of the on-site wetland preservation area; and
 - iii. A Monitoring, Maintenance, and Management Plan for the on-site wetland preservation area.
 - iv. The funding instrument shall be in place and Perpetual Conservation Easement shall be recorded within 90 days following the commencement of filling wetlands on the proposed project site.
- c. Direct and indirect effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation at a 1:1 ratio (refer to Tables 1 and 2). The restoration/creation goal will be to create and enhance wetlands with habitat functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat creation/restoration will be achieved through the restoration of 6.0 acres of vernal pool crustacean habitat at a Service-approved site within Sacramento County that meets the following criteria:
 - i. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding, Corning);
 - ii. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
 - iii. The restoration site will have a conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Table 1 – Vernal Pool Crustacean Habitat Effects and Compensation Habitat Preservation Occurs at the Town Center Property or at the Conservation Bank	on Acreages if e Anatolia

	Acres of Effects	Preservation Compensation (in acres) [2:1 Direct/1:1 Indirect]	Creation Compensation (in acres) [1:1 Direct & Indirect]
Direct Effects	5.55	11.10	5.55
Indirect Effects	0.45	0.45	0.45
TOTAL	6.00	11.55	6.00
On-site Preserve		4.65	and the second
Town Center Property/ Anatolia Conservation Bank		6.90	

 Table 2 – Vernal Pool Crustacean Habitat Effects and Compensation Acreages if

 Habitat Preservation Credits Purchased at the Bryte Ranch Conservation Bank

The standard of the second standard standards	Line Digte Runch Conservation Bank			
	Acres of Effects	On-site Preservation [2:1 portion of direct]	Off-site Preservation Compensation (in acres) [4:1 Direct/2:1 Indirect]	Creation Compensation (in acres) [1:1 Direct & Indirect]
Direct Effects	5.55	4.65	12.90	5.55
Indirect Effects	0.45	0	0.90	0.45
TOTAL	6.00	4.65	13.80	6.00

*Note: These tables do not include portions of directly and indirectly affected vernal pools/wetlands that extend onto adjacent properties north (Douglas 98 and Doulas 103), south (Arista del Sol) of the proposed project site. Those that extend to east are excluded from consideration due to the presence of Grant Line Road.

- 2. Construction Storm Water Pollution Prevention Plan
 - a. Minimize off-site storm water runoff that might otherwise affect surrounding vernal pool crustacean habitat. Measures, which will be implemented during project construction to avoid adverse affects to the open space/wetland preserve and adjacent properties, include the following:
 - b. Incorporate standard construction Best Management Practices (BMPs) into construction designs, plans and specifications. Contractors will be required to implement them during construction.
 - c. Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the proposed project with the following objectives:

- i. Identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the proposed project;
- ii. Identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the proposed project site during construction;
- iii. Outline and provide guidance for BMP monitoring;
- iv. Identify project discharge points and receiving waters;
- v. Address post-construction BMP implementation and monitoring; and
- vi. Address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.
- d. The construction BMPS for the proposed project will include the following specific measures for avoiding adverse impacts to the open space preserve and adjacent properties:
 - i. Hydroseeding: All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least two tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix that when applied, and upon drying, adheres to the soil to form a 100% cover that is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry for a minimum of 24 hours after installation.
 - ii. Sediment and Erosion Control: Certified weed-free straw wattles will be installed at the base of all slopes adjacent to the open space/wetland preserve and along the property lines of the proposed project site. Prior to installation of the straw wattles, a concave key trench approximately two to four inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized.
 - iii. Excavated Material: During construction activities associated with the implementation of the proposed project, all excavated materials will be deposited or stored such that this material cannot be washed into any

watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.

- iv. Staging Areas: Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the open space preserve or adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. Any spills or hazardous materials will be reported and cleaned up immediately in accordance with applicable local, state and/or Federal regulations.
- v. Construction Fencing: Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto the open space wetland preserve and adjacent off-site habitat.
- vi. Construction Monitoring: A Service-approved environmental monitor will be employed to ensure compliance with construction-related avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to the open space wetland preserve and off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter, until the open space wetland preserve construction is finished.

Status of the Species

The vernal pool tadpole shrimp and vernal pool fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994 (59 FR 48136). The final rule to designate critical habitat for 15 vernal pool species, including these two crustaceans, was published on August 6, 2003 (68 FR 46684), with further clarifications on critical habitat designations for listed vernal pool species published in an August 11, 2005, final rule (70 FR 46923). Further information on the life history and ecology of the vernal pool fairy shrimp and vernal pool tadpole shrimp may be found in the final listing rule, the final rule to designate critical habitat, Eng *et al.* (1990), Helm (1998), and Simovich *et al.* (1992). The Service's reevaluation of Critical Habitat in 2005 designated several critical habitat units in Sacramento County within Unit 11, but the proposed project is not located in any critical habitat units.

Life History. The vernal pool tadpole shrimp has dorsal compound eyes, an approximately oneinch long large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952; Longhurst 1955; Pennak 1989). It is primarily a benthic animal that swims with its legs down. Vernal pool tadpole shrimp climb or scramble over objects, and plow along bottom sediments as they forage for food. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989; Fryer 1987). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts, and during the dry months of the year, they lie dormant in the dry pool sediments (Lanaway 1974; Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, its dormant cysts may hatch in as little as four days (Ahl 1991; Rogers 2001), and the animals may become sexually mature within three to four weeks after hatching (Ahl 1991; Helm 1998; King 1996). A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991), and will generally survive for as long as its habitat remains inundated, sometimes for six months or more (Ahl 1991; Gallagher 1996; Helm 1998). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991; Gallagher 1996; Simovich *et al.* 1992).

Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of phyllopods, or gill-like structures that also serve as legs. Typically less than one-inch long, they swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The second pair of antennae in adult male fairy shrimp are greatly enlarged and specialized for clasping the females during copulation. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation, and they can remain viable in the soil for decades after deposition. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults and may become sexually mature within two weeks after hatching (Gallagher 1996; Helm 1998). Such quick maturation permits populations to persist in short-lived shallow bodies of water (Simovich et al. 1992). In pools that persist for several weeks to a few months, fairy shrimp may have multiple hatches during a single season (Helm 1998; Gallagher 1996).

Distribution. Vernal pool tadpole shrimp are found only in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands in California (Helm 1998). The vernal pool tadpole shrimp is known from 219 occurrences in the Central Valley (CNDDB 2005), ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie in Solano County; the potential ponding depth of occupied habitat ranges from 1.5 inches to 59 inches. Although

vernal pool tadpole shrimp are found on a variety of geologic formations and soil types, Helm (1998) found that over 50 percent of vernal pool tadpole shrimp occurrences were on High Terrace landforms and Redding and Corning soils. Vernal pool tadpole shrimp are uncommon even where vernal pool habitat occurs (Service 2005b). The largest concentration of vernal pool tadpole shrimp occurrences are found in the Southeastern Sacramento Valley Vernal Pool Region, as defined in the Service's *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (2005b). In this vernal pool region, this species occurs on a number of public and private lands in Sacramento County, and from a few locations in Yuba and Placer Counties, including Beale Air Force Base.

Vernal pool fairy shrimp are found only in ephemeral freshwater habitats, including alkaline pools, ephemeral drainages, rock outcrop pools, vernal pools, and vernal swales in California and Southern Oregon (Eriksen and Belk 1999). Occupied habitats range in size from rock outcrop pools as small as 11 square feet to large vernal pools up to 12 acres; the potential ponding depth of occupied habitat ranges from 1.2 inches to 48 inches. The vernal pool fairy shrimp is known from 363 occurrences extending from the Stillwater Plain in Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng et al. 1990; Fugate 1992; Sugnet and Associates 1993; CNDDB 2005). Five additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon (CNDDB 2005; Helm 1998; Eriksen and Belk 1999; Service 2003). Three of these isolated populations each contain only a single pool known to be occupied by the vernal pool fairy shrimp. Although the vernal pool fairy shrimp is distributed more widely than most other fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur (Eng et al. 1990; Eriksen and Belk 1999). The greatest number of known occurrences of the vernal pool fairy shrimp are found in the Southeastern Sacramento Vernal Pool Region (see Service 2005b), where it is found in scattered vernal pool habitats in Placer, Sacramento, and San Joaquin Counties, in the vicinity of Beale Air Force Base in Yuba County, and at a single location in El Dorado County.

Although the vernal pool crustaceans addressed in this biological opinion are not often found in the same vernal pool at the same time, when coexistence does occur, it is generally in deeper, longer lived pools (Eng *et al.* 1990; Thiery 1991; Gallagher 1996). In larger pools, vernal pool crustacean species may be able to coexist by utilizing different physical portions of the vernal pool or by eating different food sources (Daborn 1978; Mura 1991; Thiery 1991), or by hatching at different temperatures or developing at different rates (Thiery 1991; Hathaway and Simovich 1996).

Dispersal. The primary historic large-scale dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed colonization of different individual vernal pools and other vernal pool complexes (King 1996). This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp (King 1996;

Simovich *et al.* 1992). The eggs of these branchiopods are either ingested (Krapu 1974; Swanson *et al.* 1974; Driver 1981; Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats. Cysts may also be dispersed by a number of other species, such as cattle and humans (Eriksen and Belk 1999).

At the local level, vernal pool crustaceans are often dispersed from one pool to another through surface swales that connect one vernal pool to another. These dispersal events allow for genetic exchange between pools and create a population of animals that extends beyond the boundaries of a single pool. These dispersal events also allow vernal pool crustaceans to move into pools with a range of sizes and depths. In dry years, animals may only hatch in the largest and deepest pools. In wet years, animals may be present in all pools. The movement of vernal pool crustaceans into vernal pools of different sizes and depths allows these species to survive the environmental variability that is characteristic of their habitats.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species may be small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites. Vernal pool fairy shrimp and vernal pool tadpole shrimp continue to be threatened by all of the factors which led to the original listing of this species, primarily habitat loss through agricultural conversion and urbanization (CNDDB 2005).

Reasons for Decline and Threats to Survival. The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of human-caused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These can result in adverse effects to vernal pool species.

In addition to direct loss, the habitats of the vernal pool tadpole shrimp and the vernal pool fairy shrimp have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in smaller isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987a, 1987b). If an extirpation event occurs in a population that has been fragmented, the opportunities for re-colonization would be greatly reduced due to geographic isolation from other source populations. Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. Conversion of vernal pools and vernal pool complexes.

however, has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In subsequent years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. The Corps' Sacramento District has several thousand vernal pools under its jurisdiction (Coe 1988), which includes most of the known populations of these listed species. Between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to the Corps' Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp and the vernal pool fairy shrimp. King (1996) has estimated that approximately 15 to 33 percent of the original biodiversity of Central Valley vernal pool crustaceans has been lost since the 1800s. On-going and increasing amounts of human activities are expected to contribute to the extensive loss upwards of 60 to 70 percent—of remaining vernal pools (Coe 1988).

Environmental Baseline

Status of the Species in the Action Area. Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the total of 375 reported occurrences of vernal pool fairy shrimp, and 59 (33 percent) out of the total of 175 reported occurrences of vernal pool tadpole shrimp (CNDDB 2005). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County. Further, of the 3,092 locations checked, 178 locations (35 percent) were within Sacramento County.

Throughout the Central Valley, approximately 13,000 acres of vernal pool habitats, including mitigation banks, have been set aside for the vernal pool fairy shrimp specifically as terms and conditions of section 7 consultations (Service 2005b). In the Southeastern Sacramento Valley Vernal Pool Region, vernal pool fairy shrimp occurrences are protected from development at a number of private mitigation areas, compensation banks, private ranches with conservation easements, and the Beale Air Force Base in Yuba County. Very few actions have been taken specifically to benefit the vernal pool tadpole shrimp, although several Habitat Conservation Plans are developing vernal pool conservation plans in the region, including Sacramento and Placer Counties (Service 2005b).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, young

terrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared (pers. comm., K. Fuller, Service, 2004). Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County, approximately 12 miles southeast of the proposed project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and shallower. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (pers. comm., R. Holland, 2004).

The Laguna geologic formation and its associated soils entirely characterize the SDCPA. Vernal pools found within this soil type are old-terrace types. Old-terrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, they are more frequently found in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). The proposed contiguous preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County owned Multi-Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

Factors Affecting the Species within the Action Area. A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued, to date, approximately 195 biological opinions to Federal agencies on proposed projects in Sacramento

County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or conference opinions. No State of California actions that have taken place within Sacramento County have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. The trend for the two vernal pool species within the county, however, is most likely downward as the current rate of habitat preservation is less than the rate of historical and current habitat loss.

On-going residential and commercial developments within Sacramento County also affect the listed vernal pool crustaceans and their habitats. Human population growth in Sacramento County has steadily increased. For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5 percent (State of California 2002). The annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000. 2003c). Population growth and concomitant housing demand and subsequent loss of vernal pool habitat are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm. D. Gifford, CDFG, 2004), based on an analysis of California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm. R. Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetland vernal pool acreage (pers. comm. L. Konde, CDFG, 2003).

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

Vernal Pool Crustacean Presence in the Proposed Action Area. Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pools of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2005). There are 25 known occurrences of vernal

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been documented to occur within the Sunridge Specific Plan area, including the proposed project site. Focused surveys for vernal pool crustaceans were conducted on the parcels within the Sunridge Specific Plan area using the Service's current Dip Net protocol between February and March of 1993 by Sugnet and Associates (1993). The results of these surveys indicated the presence of California linderiella (*Linderiella occidentalis*) from four discrete locations and vernal pool fairy shrimp from one location; vernal pool crustaceans were identified on the proposed Grantline 208 project site. All of the vernal pool sand seasonal wetlands on the proposed project site provide appropriate habitat for both vernal pool fairy shrimp and vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site (Foothill Associates 2005). Therefore, construction of the proposed project in any portion of the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp.

Effects of the Proposed Action

Although vernal pool fairy shrimp and vernal pool tadpole shrimp exhibit slightly differing habitat requirements and life cycles, they often inhabit the same vernal pool complexes and have been known to co-occur in individual vernal pools. These species are supported by similar habitat types, including vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, alkali flats, and other depressions that hold water of similar volume, depth, area, and duration. Therefore, both species are subject to a common set of threats and considerations.

Direct Effects

Direct effects are the immediate effects of the proposed project on the species or its habitat and include the effects of interrelated action and interdependent actions. Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those actions that have not independent utility apart from the proposed action (50 CFR §402.02).

The proposed project would result in fill of 5.55 acres of vernal pool crustacean habitat, including 5.22 acres of vernal pools, 0.30 acre of riverine seasonal wetlands, and 0.03 acre of ephemeral drainage. The Service considers an entire vernal pool or seasonal wetland to be directly affected when even a portion of it is filled or subject to similar direct affects.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2005). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Anatolia I, II, III property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas.

In 2004, the Federal Agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map [Agency map]) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. The conceptual design consists of two preserve areas, one entirely within the Sunridge Ranch project site (i.e., the Western Preserve) and one that incorporates portions of Sunridge Park, Douglas 103, Pappas/Arista del Sol, and the proposed project site (i.e., the Eastern Preserve). The approximately 50-acre Western Preserve was designed to protect populations of slender Orcutt grass, vernal pool fairy shrimp, and vernal pool tadpole shrimp. The approximately 161-acre Eastern Preserve would be designed to protect the headwaters of one of the forks of Morrison Creek as well as habitat for listed vernal pool crustaceans. The combined total of approximately 211 acres of wetland preserves would protect 17.32 acres of vernal pool crustacean habitat (Foothill Associates 2005). These preserves would be protected through conservation easements aimed at protecting preserve functions and values; the easements would be held and managed by a habitat management-focused non-profit entity, chosen by the land owners and approved by the Federal Agencies. These preserves would be managed and funded in perpetuity according to a preserve management plan prepared by landowners and approved by the Federal Agencies.

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-F-96-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2005).

All infrastructure improvements are required to serve the already permitted Anatolia project. Road improvement projects will be planned to provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road, south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements are not expected to result in an appreciable loss of vernal pool crustacean habitat (Foothill Associates 2005). The development of the Sunridge Specific Plan area for residential and commercial purposes would be facilitated by the proposed road widening project.

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California red-legged frog (*Rana aurora draytonii*), the Delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, the SSHCP, if completed, will eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and state listed species known at this time that may be affected by actions that are reasonably foresceable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed action, including

Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and arc reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action (50 CFR §402.02).

Indirect effects to vernal pools in the project vicinity that could result from the implementation of the proposed project include hydrologic alteration, habitat fragmentation, disturbances from construction equipment, non-point source pollution, and impacts from human encroachment. The Service considers all vernal pool crustacean habitat not considered to be directly affected but within 250 feet of proposed construction activities to be indirectly affected by project implementation. Indirectly affected habitat includes all habitat supported by future destroyed areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the proposed project.

The proposed project could result in indirect effects to a total of 0.45 acre of suitable vernal pool crustacean habitat. Although these features exist on land that is proposed for the on-site wetland preserve, these features will be indirectly affected by construction activities occurring within 250 feet of them. Indirect effects to vernal pools in the project vicinity that could result from the proposed project include hydrologic alteration, disturbance from construction equipment, non-point source pollution, and impacts from human encroachment. Individual crustaceans and their cysts, which may inhabit these vernal pools and seasonal wetlands, may be injured or killed by any of the following indirect effects:

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat (Zelder 1987). Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season,

thereby adversely affected water quality. Many of these chemical compounds are thought to have adverse affects on all of the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

Insecticide Contamination – Recent research suggests that pyrethroid insecticide use in residential developments will cause toxicity, and even mortality, to aquatic species (Weston *et al.*, in press). The application of these insecticides, and subsequent runoff into aquatic features surrounding residential developments, was demonstrated to be a limiting factor for aquatic invertebrates; in fact, the abundance of resident macroinvertebrates was inversely correlated with concentrations of pyrethroid insecticides (Weston *et al.*, in press).

The proposed project will contribute to a local and range-wide trend of habitat loss, fragmentation, and degradation—the principle reasons that the vernal pool tadpole shrimp and vernal pool fairy shrimp have declined and were given protection under the Act. The proposed project, in combination with ongoing loss of habitat, will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in south Sacramento County and is expected to lead to the reduction in the range of both of these listed vernal pool crustaceans.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Large areas within south Sacramento County, including the SDCPA, have been designated for development in the next 20 years under the Sacramento General Plan. The timeline for development in these areas began in the early 1990s and is expected to continue for the next 5 to 10 years. This growth and conversion would contribute to several potentially significant affects to listed species, including loss, alteration, or degradation of habitat, particularly of wetlands, degradation of water quality, and increases in the frequency and intensity of flooding.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool

crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/ pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

The Service is aware of other projects currently under review by the State, County, and local authorities where biological surveys have documented the occurrence of federally-listed species. These projects include such actions as urban expansion, water transfer projects that may not have a Federal nexus, and continued agricultural development. The cumulative effects of these known actions pose a significant threat to the eventual recovery of these species. Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coastal ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California, the Service anticipates that a wide range of activities will affect these species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects, (4) highway projects, (5) utility projects, (6) chemical contaminants, and (7) conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act).

The proposed project is located is a region where future destruction and modification of vernal pool crustacean habitat is anticipated. Sacramento County will continue to develop within the County's sphere of influence. This development will result in increased direct loss of habitats for these listed species. Continued loss of these habitats throughout the region could conceivably affect the genetic diversity of the local population(s) of listed vernal pool crustaceans. Any loss of genetic diversity can have significant effects on a population's ability to respond to environmental change over time (Frankel and Soulé 1981). Within the proposed action area, the predominant types of non-federal actions that might affect the listed vernal pool crustaceans consist of residential and commercial development, with effects the same as, or similar to, those described above.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp and vernal pool tadpole shrimp, the environmental baselines for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Grantline 208 project, as proposed, is not likely to jeopardize the continued existence of these species. Critical habitat has been designated in Sacramento County for the vernal pool fairy shrimp or the vernal pool tadpole shrimp, although the proposed project is not located within critical habitat designated for these listed species. Therefore, the proposed project is not likely to destroy or adversely modify designated critical habitat for both the vernal pool fairy shrimp and the vernal pool tadpole shrimp, or any other listed species.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require any entity participating in the project to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The implementation of the proposed project will directly affect 5.55 acres and indirectly affect 0.45 acre of vernal pool crustacean habitat. The Service anticipates incidental take of vernal pool tadpole shrimp and vernal pool fairy shrimp will be difficult to detect or quantify for the following reasons: the aquatic nature of the organisms and their relatively small body size make the finding of a dead specimen unlikely; losses may be masked by seasonal fluctuations in numbers and other causes; and the species occurs in habitat that makes them difficult to detect. Due to the difficulty in quantifying the number of vernal pool fairy shrimp and vernal pool tadpole shrimp that will be killed as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pool crustacean habitat that will become unsuitable for the listed species due to direct or indirect affects as a result of the proposed project. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 6.0 acres of vernal pool crustacean habitat will harassed, harmed, injured, or killed, as a result of the proposed project.

Upon implementation of the following reasonable and prudent measures, all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 6.0 acres of vernal pool crustacean habitat will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects associated with the proposed Grantline 208 project. The listed vernal pool crustaceans

may be harmed, harassed or killed in association with the acres exempted under Section 9 of the Act. No other forms of take are authorized under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not likely to result in destruction or adverse modification of designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp because no critical habitat for these species has been designated in the proposed action area.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.
- 2. The Corps shall fully implement the March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent (pages 9-12 of the *Grantline 208 Section 7 Biological Assessment* (Foothill Associates 2005) and identified by the Service on pages 6-10 in the project description of our biological opinion are fully implemented.

- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
 - b. The project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project at least 30 calendar days prior to ground-breaking.
 - c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
 - d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
 - e. Prior to groundbreaking, high-visibility fencing that is at least 5 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat and the onsite wetland preserve. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.
 - f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access roads will observe a speed limit of 20 miles per hour.

- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Proposed Conservation Measures section on pages 8-10 of this biological opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto the onsite wetland preserve and adjacent offsite wetland habitats. This SWPPP should be submitted to the Service for review and approval at least 90 days prior to any ground-breaking activity on the proposed project site.
- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or Federal regulations. Such spills will be reported in the post-construction compliance reports.
- i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area
- 5. The Corps shall ensure that applicant avoids activities that would impact the onsite avoided area/preserve areas such as:
 - a. Alteration of topography within the preserve;
 - b. Placement of any new structures (including outfalls, culverts, electrical/gas transmission lines) within the preserve unless specifically addressed in the project description;
 - c. Dumping, burning, and/or burying of rubbish, garbage, or any other wastes and fill materials in the preserve area;

- d. Fire protection activities not required to protect existing structures at the proposed project site; and
- e. Use of pesticides or other toxic chemicals in the preserve unless addressed in the project description of subsequent management plans.
- 6. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.
- 7. The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat loss through a combination of on-site and offsite habitat preservation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder etc. for our approval.
- 8. The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat through habitat restoration or creation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. The following criteria will be used by the Service when approving a restoration/creation site:
 - a. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding, Corning), and should be located on the Laguna geologic formation;
 - b. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat;
 - c. The restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval;
 - d. Any vernal pool restoration/creation must minimize effects to any adjacent and existing vernal pools and wetlands; and

e. Densities of restored/created vernal pools must not be greater than historical densities for the geologic formation.

Reporting Requirements

The Service-approved biologist shall notify the Service immediately if any listed species arc found on site, and shall submit a report including the date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The Service-approved biologist shall submit locality information to the CDFG, using completed California Native Species Field Survey Forms, no more than 30 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site, such as a photocopy of a portion of the appropriate 7.5-minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5-minute or 15-minute quadrangle; dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation to the staff zoologist, California Department of Fish and Game, 1807 13th Street #202, Sacramento, California, 95814, phone (916) 445-0045.

Any contractor or employee who, during routine operations and maintenance activities, inadvertently kills or injures a listed wildlife species must immediately report the incident to their representative. The Service is to be notified within one (1) working day of the finding of any dead or injured listed wildlife species or any unanticipated take of the species addressed in this biological opinion. The Service contact persons for this are the Division Chief, Endangered Species Division (Central Valley) at (916) 414-6600 and Resident Agent-in-charge Scott Heard at (916) 414-6660.

The project proponents shall submit a post-construction compliance report prepared by the monitoring biologists to the Sacramento Fish and Wildlife Office (SFWO) within 30 calendar days of the completion of construction activity. This report shall detail the following: (1) dates that construction occurred; (2) pertinent information concerning the success of the project in meeting conservation measures; (3) an explanation of failure to meet such measures, if any; (4) occurrences of incidental take of vernal pool crustaceans, if any; and (6) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.

- 2. The Corps should assist the Service in implementing the February 2006 final recovery plan for vernal pool species.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routinc maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.
- 5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation with the Corps on the proposed Grantline 208 project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact this office at (916) 414-6645 if you have any questions regarding the proposed Grantline 208 project.

Sincerely,

Ken Sanchez Assistant Field Supervisor

cc:

ARD (ES), Portland, OR

Mr. Kent Smith, California Dept. of Fish and Game, Rancho Cordova, CA Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA Ms. Ellen Berryman, Berryman Ecological, Meadow Vista, CA Ms. Peggy Lee, Foothill Associates, Rocklin, CA Hilary Anderson, Planning Department, City of Rancho Cordova, Rancho Cordova, CA Brian Vail, River West Investments, Sacramento, CA Jim Galovan, Woodside Homes, Folsom, CA

CNS09185

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United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



In reply refer to: 1-1-04-F-0314

Mr. Justin Cutler Chief, Sacramento Valley Office Department of the Army U.S. Army Engineer District, Sacramento 1325 J Street Sacramento, California 95814-2922

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Subject: Formal Endangered Species Consultation on the proposed Douglas Road 98 Project (Corps File Number 200200568), Sacramento County, California

Dear Mr. Cutler:

This is in response to your September 23, 2004, letter and supporting documentation requesting Section 7 consultation for the proposed Douglas Road 98 project (proposed project) in Sacramento County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on September 27, 2004. At issue are potential adverse effects to the federally-listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Surveys conducted of the proposed project site have not indicated the presence of the federally-listed slender Orcutt grass (*Orcuttia tenuis*), the Sacramento Orcutt grass (*Orcuttia viscida*), and the California tiger salamander (*Ambystoma californiense*). This document represents the Service's biological opinion on the effects of the project on the threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp, in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

The findings and requirements in this consultation are based on: (1) the July 30, 2004, *Douglas Road 98 Section 7 Biological Assessment, Sacramento County, California*, prepared by Foothill Associates, Inc.; (2) your September 23, 2004, letter initiating formal consultation; (3) the October 7, 2004, meeting attended by Ken Sanchez, Kelly Fitzgerald, and Stephanie Rickabaugh of the Service and Ellen Berryman of Foothill Associates; (4) an October 14, 2004, letter to the Service from Foothill Associates providing additional information based on questions raised at the October 7, 2004, meeting; (5) the October 26, 2004, letter from Foothill Associates to the Service; (6) the January 11, 2005, electronic mail correspondence from Ellen Berryman of Foothill Associates to the Service.



Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers (Corps), and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sun Ridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid 2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004 the Federal agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File # 1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

September 21, 2004. Foothill Associates submitted a letter to the Service, providing proposed conservation measures for the vernal pool crustacean habitat that would be directly and indirectly affected by the proposed project. The Service received this letter on September 27, 2004.

September 23, 2004. The Corps requested initiation of Section 7 consultation with the Service. The Service received this request on September 27, 2004.

October 7, 2004. A meeting was attended by Ken Sanchez, Kelly Fitzgerald, and Stephanie Rickabaugh of the Service and Ellen Berryman of Foothill Associates to discuss the proposed project and other projects within the Sunrise Douglas Community Plan.

October 14, 2004. Foothill Associates submitted a letter to the Service providing additional information regarding questions raised by the Service during the meeting between the Service and Foothill Associates on October 7, 2004.

October 15, 2004. The Service provided a draft version of this biological opinion to the Corps.

October 26, 2004. Foothill Associates submitted a letter to the Service providing comments on the draft biological opinion that was provided to the Corps on October 15, 2004.

January 10, 2005. Ken Sanchez of the Service sent an electronic mail correspondence to Ellen Berryman of Foothill Associates regarding compensation measures for effects to federally-listed vernal pool crustaceans.

January 11, 2005. Ellen Berryman of Foothill Associates sent an electronic mail correspondence to Ken Sanchez of the Service clarifying the project applicant's proposed compensation measures for effects to federally-listed vernal pool crustaceans.

BIOLOGICAL OPINION

Description of the Proposed Action

The Douglas 98 project site is located in southeastern Sacramento County in the City of Rancho Cordova approximately five miles south of Highway 50. The project site is south and adjacent to Douglas Road, west and adjacent to Grantline Road, east of the proposed Americano Boulevard, and north of the proposed Pyramid Boulevard. The site is located in Section 10 of Township 8 North, Range 7 East on the U.S.G.S. Buffalo Creek 7.5' quadrangle.

The proposed project site is within the 6,042 acre Sunrise Douglas Community Plan area located within the Sacramento County General Plan Urban Service Boundary and Policy area. The project is also located within the Sunridge Specific Plan area, which provides a greater detailed land use plan for development of approximately 2,632 acres within the Sunrise Douglas Community Plan area.

The proposed project site consists of a ± 105 -acre parcel on which portions will be graded resulting in the loss of 3.91 acres of waters of the U.S. including 3.70 acres of vernal pools, 0.04 acres of depressional seasonal wetlands, 0.09 acres of riverine seasonal wetlands, and 0.08 acres of ephemeral drainages subject to Clean Water Act jurisdiction. The proposed general plan land use designation for the project area is Low Density Residential (LDR), Medium Density Residential (MDR), and Commercial and Office. The Proposed Project involves grading portions of the ± 105 -acre site in order to construct approximately 483 single family residences, a 2.1-acre multifamily residential site, a 3.6-acre school site, and associated infrastructure (sewer mains and laterals, water mains, and utility lines).

Proposed Conservation Measures

The project applicant has proposed the following conservation measures in the July 30, 2004, *Douglas Road 98 Section 7 Biological Assessment*, and the October 14 and 26, 2004, letters to the Service, and the January 11, 2005, electronic mail correspondence from Foothill Associates to the Service to minimize adverse effects to the two federally-listed vernal pool crustacean species.

- 1. Standard construction Best Management Practices (BMPs) will be incorporated into construction designs, plans and specifications, and required of contractors during construction. The BMPs would include the following:
 - (a) All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least 2 tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix which when applied, and upon drying, adheres to the soil to form a 100% cover which is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied

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before, during, or immediately after rainfall so that the matrix will have an opportunity to dry 24 hours after installation;

- (b) Certified weed-free straw wattles will be installed at the base of all slopes along the property lines of the Property Site. The existing Douglas Road currently provides additional erosion and sediment control to - improvement projects will be subject to a SWPPP and BMP monitoring. Prior to installation of the straw wattles, a concave key trench approximately 2 to 4 inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized;
- (c) During construction all excavated materials will be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.;
- (d) Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from the equipment will be reported and cleaned up in accordance with applicable local, state and/or federal regulations;
- (e) Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat; and
- (f) An environmental monitor will be employed to ensure compliance with construction-related impact avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until construction is finished.
- 2. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the Project, with the following objectives; (a) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project;

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(b) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges, from the site during construction; (c) to outline and provide guidance for BMP monitoring; (d) to identify project discharge points and receiving waters; (e) to address post-construction BMP implementation and monitoring; and (f) to address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.

3. Habitat preservation and restoration has been proposed in the October 26, 2004, letter from Foothill Associates to the Service:

(a) Direct effects to 3.91 acres of vernal pool crustacean habitat will be offset through habitat preservation. The project applicant proposes to provide compensatory preservation as follows:

1. Two preservation acres of in kind habitat at the Anatolia preserve for each acre affected (2 acres : 1 acre); or

2. Four preservation acres of in kind habitat at Borden Ranch for each acre affected (4 acres : 1 acre).

(b) Direct effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation equivalent to 3.91 acres (at a 1:1 ratio) at the Silva Consolidated Conservation Bank. The restoration/creation goal will be to create and enhance wetlands with habitat functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat creation/restoration will be achieved through the purchase of vernal pool restoration/creation acreage

STATUS OF THE SPECIES

The vernal pool tadpole shrimp and vernal pool fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994. Final critical habitat was designated for these species on August 6, 2003 (68 FR 46684). Complete descriptions of these species are found in 59 FR 48136, the final rule listing these species under the Act. These crustaceans are restricted to vernal pools and swales and other seasonal aquatic habitats in California. Eng *et al.* (1990), Simovich *et al.* (1992), and (Service 1994c) provide further details about their life history and ecology. The Service did not designate any critical habitat for the vernal pool crustaceans in Sacramento County. Although the Service designated critical habitat for the vernal pool fairy shrimp in San Joaquin County, none will be affected by the proposed project.

Life History

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952, Longhurst 1955, Pennak 1989). It is primarily a benthic

animal that swims with its legs down. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanway 1974, Ahl 1991). The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991, Simovich *et al.* 1992).

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in short-lived shallow pools (Simovich *et al.* 1992).

Distribution

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 168 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 342 occurrences extending from Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, CNDDB 2004) and Riverside County. Five disjunctive populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon. The vernal pool fairy shrimp inhabits vernal pools with clear to teacolored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of

the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Dispersal

The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp. The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

ENVIRONMENTAL BASELINE

Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. However, conversion of vernal pools and vernal pool complexes has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp, the vernal pool fairy shrimp (shrimp), and slender and Sacramento Orcutt grasses. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988). In addition to direct habitat loss, the two shrimp populations have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in small isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to physical (geographic) isolation from other (source) populations.

Human population growth in Sacramento County has steadily increased. On the average, Sacramento County has experienced an annual population increase of 1.38 percent for the period between 1991 and 1999 (Service 2000). For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5

percent (State of California 2002). This annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent vernal pool resource development are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 58 (17 percent) out of the total of 342 reported occurrences of vernal pool fairy shrimp, and 58 (34 percent) out of the total of 173 reported occurrences of vernal pool tadpole shrimp (CNDDB 2004). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County. Further, of the 3,092 locations checked, 178 locations (6 percent) were found to support the vernal pool fairy shrimp. Of this total, 63 locations (35 percent) were within Sacramento County.

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of humancaused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect effects can result in adverse effects to vernal pool species.

A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued approximately 157 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or ones that the Service issued a conference opinion. No State of California actions have taken place within Sacramento County that have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting

compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. Thus, the trend for the two vernal pool species within the county is most likely static.

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, 2004), based on an analysis of the California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that an estimated 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., Richard Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetted vernal pool acreage (pers. comm.., Lora Konde, California Department of Fish and Game, 2003).

Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pool of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2003). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2004). The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp, and 2 occurences of orcutt grasses (2 slender Orcutt grass and 4 Sacramento Orcutt grass) are reported (pers. comm., Arnold Roessler, Service, 2004). An additional occurrence of slender Orcutt grass has been reported, but not recorded in the CNDDB (pers. comm. Pete Balfour, ECORP Consulting, 2004).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, youngterrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared. Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow vernal pools.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County and approximately 12 miles southeast of the project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and more shallow. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (Holland, pers. comm., 2004).

The Laguna geologic formation and its associated soils entirely characterizes the Sunrise Douglas Community Plan Area. Vernal pools found within this soil type are old-terrace types. Oldterrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, but more frequently in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). This potential preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County-owned Multi Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

There are 342 records of vernal pool fairy shrimp and 173 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB 2004). Of these records, 58 vernal pool fairy shrimp records and 58 vernal pool tadpole shrimp records are from Sacramento County (CNDDB 2004). Vernal pool fairy shrimp and vernal pool tadpole shrimp have both been observed in wetlands throughout the Sunrise Douglas area.

Vernal pool fairy shrimp located within the Sunridge Specific Plan: There is one record within the Sunridge Specific Plan boundaries, and another 17 records located within five miles of the Sunridge Specific Plan area boundaries. The nearest occurrence (# 43) of this species, observed in March 1996, is a half of a mile southwest of the proposed project site.

Vernal pool tadpole shrimp within the Sunridge Specifi Plan: There are two records within the Sunridge Specific Plan boundaries, and another 23 records within five miles of these boundaries.

The nearest two occurrences (# 54 and # 23) of this species are within 1.5 miles of the proposed project site. One of these recorded occurrences (# 54), located to the west of the site, was observed in February of 1993; and the other recorded occurrence (# 23), located to the east of the site, was observed in 1996.

Focused surveys on the proposed project Site for vernal pool crustaceans were conducted between February and March of 1993, by Sugnet and Associates (1993). The results of this survey indicated the presence of California linderiella (*Linderiella occidentalis*) from four discrete locations, and vernal pool fairy shrimp from one location. However, all of the vernal pools and seasonal wetlands on the proposed project site provide appropriate habitat for both vernal pool fairy shrimp and vernal pool tadpole shrimp. In addition, these species are known from other parcels within the Sunrise Douglas Community Plan area and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the proposed project sites.

EFFECTS OF THE PROPOSED ACTION

Direct Effects

Direct effects are the effects of the action that would directly affect the species, for example, those actions that would immediately remove or destroy habitat or displace animals and plants. The construction of the proposed project would result in the direct loss of 3.91 acres of vernal pool crustacean habitat and the death of an unknown number of vernal pool fairy shrimp and vernal pool tadpole shrimp and/or their cysts. Our analysis is based on the assumption that the proposed project will be implemented within two (2) calendar years of the date of the issuance of this biological opinion.

Indirect Effects

Vernal pool habitat indirectly affected includes all habitat supported by future destroyed upland areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. The proposed project will not result in any indirect effects. Habitat to the north and east is divided from the proposed project site by a major roadways and therefore indirect impacts are not anticipated. Because lands to the west and south are within the approved Sunrise Douglas Community Plan/Sunridge Specific Plan, habitat in these areas would be directly removed and offset by adjacent proposed development. Therefore, separate Section 7 consultation will be initiated on lands adjacent to the project site and indirect impacts to these areas are expected to be offset through this process.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2004). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Sares-Regis property that included approximately 71 acres of vernal

pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas. Therefore, the majority of the remaining 44 acres of vernal pools outside the Sares-Regis property are expected to be filled for future urban development (Foothill Associates 2004).

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-96-F-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2004).

All infrastructure improvements are required to serve the already permitted Anatolia project. Affects resulting from offsite infrastructure development and road widening to Sunrise Boulevard from White Rock Road, to Pyramid Road, to Douglas Road from Sunrise Boulevard, and to Americanos Road, are covered under separate Nationwide14 Permits (Corps file number 200300697), which are currently in review by the Service. Two additional road improvement projects will be permitted under Phase I and will provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements will affect less than one-tenth an acre (Foothill Associates 2004).

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

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These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California red-legged frog (*Rana aurora draytonii*), the delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, if completed, the SSHCP may eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and State listed species known at this time that may be affected by actions that are reasonably foreseeable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed action the proposed project.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases; however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development

such as urban run-off altering the hydrologic regime.

Conclusion

After reviewing the current status of the vernal pool tadpole shrimp and vernal pool fairy shrimp, the environmental baseline for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Douglas Road 98 project, as proposed, is not likely to jeopardize the continued existence of the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not located within designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp, and therefore, no destruction or adverse modification of critical habitat is anticipated

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pools/ponded depressions (vernal pool

crustacean habitat) that will become unsuitable for vernal pool crustaceans due to direct or indirect effects as a result of the action. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 3.91 acres of vernal pool habitat will become harassed, harmed, injured, or killed, as a result of the proposed action.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool fairy shrimp or the vernal pool tadpole shrimp. This action will not result in destruction or adverse modification of critical habitat.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.
- 2. The Corps shall fully implement the Agencies' March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent in the July 30, 2004, *Douglas Road 98 Section 7 Biological Assessment*, and the October 14 and 26, 2004, letters from Foothill Associates to the Service, and the January 11, 2005, electronic mail correspondence from Foothill Associates to the Service, and identified by

the Service in the project description of our biological opinion are fully implemented.

- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
 - b. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project.
 - c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
 - d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
 - e. Prior to groundbreaking, high-visibility fencing that is at least 4 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.
 - f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the

minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access road will observe a speed limit of 20 miles per hour. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas. All fueling, cleaning, and maintenance of vehicles and other equipment will occur only within designated areas and at least 250 feet away from any wetland habitats. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately. Such spills will be reported in the post-construction compliance reports.

- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Description of the Proposed Action section of this Biological Opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto adjacent offsite wetland habitats.
- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.
- i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area.

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5. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.

- 6. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat loss through habitat preservation offsite. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder etc. for our approval. Habitat preservation and restoration has been proposed in the October 26, 2004, letter from Foothill Associates to the Service:
 - (a) Direct effects to 3.91 acres of vernal pool crustacean habitat will be offset through habitat preservation. The project applicant proposes to provide compensatory preservation as follows:

1. Two preservation acres of in kind habitat at the Anatolia preserve for each acre affected (2 Acre : 1 Acre); or

2. Four preservation acres of in kind habitat at Borden Ranch for each acre affected (4 acres : 1 acre).

7. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat through habitat restoration or creation. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. The following criteria will be used by the Service when approving a restoration/creation/creation site:

- a. The restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
- b. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
- c. The restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Reporting Requirements

A post-construction compliance report prepared by the monitoring biologists must be submitted to the Chief of the Endangered Species Division (Central Valley) at the Sacramento Fish and Wildlife Office within thirty (30) calendar days of the completion of construction activity or within thirty (30) calendar days of any break in construction activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that groundbreaking at the project started and the project was completed; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on federally-listed species, if any; (v) occurrences of incidental take of any these species; and (vi) other pertinent information.

The project applicant must report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this biological opinion. The project applicant must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contact is the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee, who during routine operations and maintenance activities, inadvertently kills or injures a federally-listed species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. The Service recommends the following conservation measures:

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. As recovery plans for listed vernal pool crustacean species are developed, the Corps should assist the Service in their implementation.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance

guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.

5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the proposed Douglas Road 98 project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact this office at (916) 414-6645, if you have any questions regarding the proposed Douglas Road 98 project.

Sincerely,

Susan Moore Acting Field Supervisor

cc:

ARD (ES), Portland, Oregon

Mr. Kent Smith, California Dept. of Fish and Game, Rancho Cordova, CA Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA

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In reply refer to: 1-1-06-F-0041

United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



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Mr. Will Ness Chief, Sacramento Valley Office U.S. Army Corps of Engineers 1325 J Street Sacramento, California 95814-2922

> Subject: Formal Endangered Species Consultation on the proposed Douglas Road 103 Project (Corps File Number 199700006), Sacramento County, California

Dear Mr. Ness:

This is in response to your December 20, 2005, letter and supporting documentation requesting Section 7 consultation for the proposed Douglas Road 103 project (proposed project) in Sacramento County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on December 21, 2005. At issue are potential adverse effects to the federally-listed vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Surveys conducted on the proposed project site have not detected the federally-listed slender Orcutt grass (*Orcuttia tenuis*), the Sacramento Orcutt grass (*Orcuttia viscida*), and the California tiger salamander (*Ambystoma californiense*). This document represents the Service's biological opinion on the effects of the project on the federally-threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp, in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et* seq.) (Act).

The findings and requirements in this consultation are based on: (1) the May 31, 2005, *Douglas Road 103 Section 7 Biological Assessment*, prepared by Foothill Associates, Inc.; (2) your December 20, 2005, letter initiating formal consultation; (3) a site visit attended by Ellen Berryman of Berryman Ecological and Rick Kuyper of the Service on January 9, 2006; (4) meetings and correspondences as described in the following consultation history; (5) the January 31, 2006, electronic mail correspondence from Ellen Berryman to Rick Kuyper regarding proposed compensation for additional vernal pool crustacean habitat found within the proposed project site; (6) the March 3, 2006, letter from Ellen Berryman to yourself regarding a revised conservation proposal; and (7) other information available to the Service.



Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game, the Service, Department of Army-Corps of Engineers (Corps), and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003, with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the SunRidge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid 2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004 the Federal agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File # 1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

December 20, 2005: The Corps initiated section 7 consultation with the Service for the proposed project.

January 9, 2006: A site visit was attended by Ellen Berryman of Berryman Ecological and Rick Kuyper of the Service.

January 31, 2006: Ellen Berryman sent an electronic mail correspondence to Rick Kuyper regarding proposed compensation for additional vernal pool crustacean habitat found within the proposed project site.

February 2, 2006: Ellen Berryman sent an electronic mail correspondence to Ken Sanchez of the Service regarding a revised conservation proposal.

March 3, 2006: Ellen Berryman sent a letter to the Corps regarding a revised conservation proposal.

BIOLOGICAL OPINION

The Action Area

The Action Area includes all areas in which listed species would be directly and indirectly affected by the proposed project. The proposed project is expected to result in direct and indirect effects to vernal pool crustaceans on the proposed project site and within 250 feet of the proposed development. Therefore, the Action Area includes the all land on the proposed project site and within 250 feet of proposed development.

Location of the Proposed Action

The proposed project site is located in southeastern Sacramento County, approximately five miles south of Highway 50, east of Sumrise Boulevard and the Folsom South Canal, and north of Jackson Road (Highway 16) within the City of Rancho Cordova. The proposed project site is located west of Grant Line Road and south of Douglas Road. The proposed Americanos Boulevard bisects the site north to south. The site is located in Section 15, Township 8 North, Range 7 East within the U.S.G.S. "Buffalo Creek, California" 7.5' quadrangle. The 106.4 ± acre proposed project site is within the 6,042 acre Sunrise Douglas Community Plan area located within the Sacramento County General Plan Urban Service Boundary and Policy area. The proposed project is also located within the SunRidge Specific Plan area, which provides a greater detailed land use plan for development of approximately 2,632 acres within the Sunrise Douglas Community Plan area.

The proposed project site is located within the headwaters of the Morrison Creek watershed. The extreme upper portion of this watershed is located in dredge tailings north of the property. From the headwaters, Morrison Creek conveys stormwater southwest across the proposed project site towards Mather Field to the south of the proposed project site. The existing channels and tributaries of Morrison Creek are downcut intermittent drainages.

Description of the Proposed Action

The proposed project involves grading portions of the $106.4 \pm \text{acre site}$ in order to construct mixed residential and commercial development with associated infrastructure, and off-site road improvements on an additional $16.8 \pm \text{acres}$. Approximately $43.8 \pm \text{acres}$ of the proposed project site would be preserved as on-site open space. The proposed project would result in direct effects to 1.97 acres and 2.91 acres of indirect effects to vernal pool crustacean habitat.

Off-site road improvements would be necessary to accommodate the proposed Douglas Road 103 development. Douglas Road is proposed for widening from the intersection with Grantline Road westward to the proposed Americanos Boulevard, and improvements would be made to Americanos Boulevard from the Douglas Road interchange to approximately 400 feet north. Improvements would be made to the interchange at Douglas Road and Grantline Road. Turn lanes would be constructed along Grantline Road at the interchange with Douglas Road and approximately 800 feet to the north and south. Douglas Road is currently a four-lane rural road, but is proposed as a primary six-lane east-west arterial. The proposed road widening project would include grading road alignments, installation of culverts, placement and compaction of road base, and paving of the road surface. All work would occur in existing Sacramento County rights of way.

Proposed Conservation Measures

Construction Stormwater Pollution Prevention Plan

The proposed project is designed to minimize off-site stormwater runoff that might otherwise

impact surrounding habitat. Measures would be implemented during project construction to avoid adverse impacts to the open space/wetland preserve and adjacent properties. Standard construction Best Management Practices (BMPs) would be incorporated into construction designs, plans and specifications, and required of contractors during construction. A Storm Water Pollution Prevention Plan (SWPPP) would be prepared for the project, with the following objectives; (1) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project; (2) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges, from the site during construction; (3) to outline and provide guidance for BMP monitoring; (4) to identify project discharge points and receiving waters; (5) to address postconstruction BMP implementation and monitoring; and (6) to address sediment, siltation, turbidity, and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy. The construction BMPs for the proposed project would include the following specific measures for avoiding adverse impacts to the open space preserve and adjacent properties.

Hydroseeding

All constructed slopes adjacent to the preserve would be hydroseeded with a native grassland mix. The hydroseed mix would be applied with a tackifying agent at a rate of at least 2 tons/acre and based on manufacturer's recommendations. The tackifying agent would be a hydraulic matrix which when applied, and upon drying, adheres to the soil to form a 100 percent cover which is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix would not be applied before, during, or immediately after rainfall so that the matrix would have an opportunity to dry 24 hours after installation.

Sediment and Erosion Control

Certified weed-free straw wattles would be installed at the base of all slopes adjacent to the open space/wetland preserve, along the perimeters of the detention pond, and along the property lines of the Property Site. Prior to installation of the straw wattles, a concave key trench dug by hand approximately two to four inches deep would be contoured along the proposed installation route Soil excavated for the trenching would be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes would be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles would be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized.

Excavated Material

During construction all excavated materials would be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing would be available at the construction site for periodic site-specific use as needed.

Staging Areas

Staging areas for construction equipment would be located so that spills of oil, grease or other petroleum by-products would not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment would take place within 100 feet of the open space preserve or adjacent off-site habitat. All machinery would be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from the equipment would be reported and cleaned up in accordance with applicable local, state and/or federal regulations.

Construction Fencing

Temporary fencing would be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto the open space preserve or adjacent off-site habitat.

Construction Monitoring

An environmental monitor would be employed to ensure compliance with construction-related impact avoidance measures. The monitor would report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, would be authorized to stop work orders and to take actions necessary to prevent damage to the open space preserve and off-site habitat. Monitoring reports would be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter until the Open Space Project construction is finished.

Wetland Preservation and Restoration

Direct effects to vernal pool habitat would be offset through habitat preservation of aquatic habitat at a 2:1 to 4:1 ratio and restoration/creation at a 1:1 ratio, and preservation of sufficient surrounding land to support the aquatic habitat as part of a functioning vernal pool complex. The proposed project would result in direct effects to 1.97 acres and 2.91 acres of indirect effects to vernal pool crustacean habitat.

The proposed project would preserve approximately 43.8 acres of vernal pool crustacean habitat and supporting uplands, including 2.77 acres of aquatic vernal pool crustacean habitat (2.52 acres of vernal pools, and 0.25 acre of intermittent drainage). This land would be preserved in perpetuity and managed to sustain the long-term functions and values of the on-site vernal pool complex.

According to the conservation strategy agreed to by the agencies and landowners within the SunRidge Specific Plan area, vernal pool crustacean habitat not indirectly affected by adjacent development would be eligible for preservation credits on a case by case basis. Therefore, of the 2.77 acres preserved, 0.66 acres would be eligible for preservation credits (Table 1). Additional preservation would be achieved through either: (1) purchase of credits at a Service-approved

vernal pool conservation bank within the Suntise Douglas Community Plan Area at a 2:1 ratio; (2) purchase of credits at a Service-approved vernal pool conservation bank outside of the Sunrise Douglas Community Plan Area at a 4:1 ratio; (3) preservation of a Service-approved site within the Sunrise Douglas Community Plan Area at a 2:1 ratio; or (4) preservation of a Serviceapproved site outside of the Sunrise Douglas Community Plan Area at a 4:1 ratio. If option 3 or 4 is chosen, the site would be preserved with a conservation easement, and managed in perpetuity consistent with a Service-approved preserve management plan. A long-term, Service-approved, funding mechanism to fund the preserve management would be put in place upon Service approval of the site.

Type of Effect	Affected Acreage	On-Site Preservation Credit	Off-site Preservation (acres)	Restoration (1:1) Acres
Direct	1.97	0.66 acres	$\begin{array}{c} (2:1 \text{ to } 4:1) \\ 3.28 \text{ to } 6.56^{4} \end{array}$	1.97
Indirect	2.91	0	(1:1 to 2:1) 2.91 to 5.82	2.91
Total	4.88	0.66 acres	6.19 to 12.38	4.88

Table 1: Compensation for effects to vernal pool crustacean habitat.

¹0.66 acre of on-site preservation provides compensation at a 2:1 ratio. On-site preservation compensates for 0.33 acre of adverse effects. 1.97 minus 0.33 = 1.64. $1.64 \times 4 = 6.56$.

The project applicant proposes to compensate for direct and indirect effects to vernal pool crustacean habitat by restoring vernal pool habitat at a 1:1 ratio (Table 1). Habitat creation/restoration would be achieved through either: (1) purchase of vernal pool restoration/creation credits at a Service-approved bank; or (2) restoration of vernal pool habitat at a Service-approved site within Sacramento County that meets the following criteria:

- (i) The restoration site's soils would be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning);
- (ii) The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
- (iii) The restoration site would have a conservation casement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Vernal pool crustacean habitat within 250 feet of the proposed project boundaries to the southwest could be indirectly affected by the proposed project. Habitat to the north is divided from the proposed project site by the existing Douglas Road, a major roadway, and therefore indirect effects are not anticipated. Because lands to the east, west, and south are within the approved Sunrise Douglas Community Plan/SunRidge Specific Plan, habitat in these areas would be directly affected and offset by proposed development there. Therefore, separate section

STATUS OF THE SPECIES

A final rule was published on September 19, 1994 (Service 1994), to list the vernal pool fairy shrimp as threatened and the vernal pool tadpole shrimp as endangered under the Act. The final rule to designate critical habitat for 15 vernal pool species, including the vernal pool fairy shrimp and the vernal pool tadpole shrimp, was published on August 6, 2003 (Service 2003). A final rule designating critical habitat was published again on August 11, 2005 (Service 2005), in which the Service did not designate any critical habitat for the vernal pool crustaceans in Sacramento County. Further information on the life history and ecology of the vernal pool fairy shrimp may be found in the final listing rule, the final rule to designate critical habitat, Eng *et al.* (1990) and Simovich *et al.* (1992).

Life History

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952, Longhurst 1955, Pennak 1989). It is primarily a benthic animal that swims with its legs down. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanway 1974, Ahl 1991). The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains till the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and can reproduce until the pools dry up in the spring (Ahl 1991, Simovich *et al.* 1992).

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in short-lived shallow pools (Simovich *et al.* 1992).

Distribution

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 168 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County (CNDDB 2005). It inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 342 occurrences extending from Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, CNDDB 2005) and Riverside County. Five disjunctive populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon. The vernal pool fairy shrimp inhabits vernal pools with clear to teacolored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Dispersal

The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp. The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

ENVIRONMENTAL BASELINE

Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. However, conversion of vernal pools and vernal pool complexes has resulted in a 91 percent loss of vernal pool resources in California (State of

California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp, the vernal pool fairy shrimp, and slender and Sacramento Orcutt grasses. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988). In addition to direct habitat loss, the two shrimp populations have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in small isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to geographic isolation from other source populations.

Human population growth in Sacramento County has steadily increased. On the average, Sacramento County has experienced an annual population increase of 1.38 percent for the period between 1991 and 1999 (Service 2000). For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent (State of California 2002). Annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent vernal pool resource development are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 59 (17 percent) out of the total of 342 reported occurrences of vernal pool fairy shrimp, and 59 (34 percent) out of the total of 173 reported occurrences of vernal pool tadpole shrimp (CNDDB 2005). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp. Of these 345 locations support the vernal pool fairy shrimp. Of this total, 63 locations (6 percent) were within Sacramento County.

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of human-

caused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect effects can result in adverse effects to vernal pool species.

A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service issued approximately 157 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species from 1994, when the two species were proposed to be listed, to 2005. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or ones that the Service issued a conference opinion. No State of California actions have taken place within Sacramento County that have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of these species resulting in both negative and positive effects to the species. Thus, the trend for the two vernal pool species within the county is most likely static. The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, 2004), based on an analysis of the California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that an estimated 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., Richard Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetted vernal pool acreage (pers. comm., Lora Konde, California Department of Fish and Game, 2003).

Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pool of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2005). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2005). The data from the CNDDB do not reflect additional reported records in

the Sunrise/Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp, and two occurrences of slender Orcutt grass and four occurrences of Sacramento Orcutt grass are reported (pers. comm., Arnold Roessler, Service, 2004). An additional occurrence of slender Orcutt grass has been reported, but not recorded in the CNDDB (pers. comm. Pete Balfour, ECORP Consulting, 2004).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, youngterrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared.

Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow vernal pools.

There are two predominant soil types found within south Sacramento County, the Valley Springs type and the Laguna type. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County and approximately 12 miles southeast of the project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools and are typically smaller and more shallow. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (Holland, pers. comm., 2004).

The Laguna geologic formation and its associated soils entirely characterize the Sunrise/Douglas Community Plan Area. Vernal pools found within this soil type are old-terrace types. Oldterrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, they occur more frequently in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). This potential preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and

northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County-owned, Multi Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected.

There are 366 records of vernal pool fairy shrimp and 209 records of vernal pool tadpole shrimp recorded in the CNDDB for the entire state of California (CNDDB 2005). Of these records, 59 vernal pool fairy shrimp records and 59 vernal pool tadpole shrimp records are from Sacramento County (CNDDB 2005). Vernal pool fairy shrimp and vernal pool tadpole shrimp have both been observed in wetlands throughout the Sunrise Douglas area.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been incidentally observed on the proposed project site during site visits by Foothill Associates. In addition, these species are known from other parcels within the Sunrise Douglas Community Plan area and vicinity. The nearest reported occurrence in the CNDDB for the vernal pool tadpole shrimp is approximately 1 mile north of the proposed project site and the nearest reported occurrence in the CNDDB for the vernal pool fairy shrimp is approximately one mile south of the proposed project (CNDDB 2005).

EFFECTS OF THE PROPOSED ACTION

Direct Effects

Direct effects are the effects of the action that would directly affect the species, for example, those actions that would immediately remove or destroy habitat or displace animals and plants. The construction of the proposed project would result in the direct loss of 1.97 acres of vernal pool crustacean habitat and the death of an unknown number of vernal pool fairy shrimp and vernal pool tadpole shrimp and/or their cysts. The proposed project would also result in the loss of approximately 73.5 acres of surrounding upland habitat which provides a supporting matrix for the aquatic habitat.

The proposed project would preserve 2.77 acres of vernal pool habitat onsite, as well as preserving 6.19 to 12.38 acres of vernal pool habitat at an offsite location (depending on whether preservation occurred within or outside of the Sunrise Douglas Community Plan Area). The Service's *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (2006) recommends a preservation rate of at least 85 percent, and up to 95 percent, for vernal pool crustacean habitat in southern Sacramento County. Therefore, the compensation measures to offset direct effects resulting from the proposed project do not achieve the recovery goal for listed vernal pool species in the region. To do so, the project proponent would need to preserve, at a minimum, 11.82 acres to achieve an 85 percent rate of preservation of this diminishing habitat (1.97 at a 6:1 ratio achieves 85 percent preservation). To achieve a 95 percent rate of vernal pool habitat preservation, the project proponent would need to preserve at least 37.43 acres of vernal pool habitat in the region (1.97 at a 19:1 ratio achieves 95 percent preservation). Regardless, the proposed project does not approach these levels of habitat preservation.

Indirect Effects

Vernal pool habitat indirectly affected includes all aquatic habitat supported by upland and swale areas that will be destroyed by construction activities, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. The proposed project would result in 2.91 acres of indirect effects which includes all habitat supported by future destroyed upland areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. A description of potential indirect effects follows.

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat. Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affecting water quality. Many of these chemical compounds are thought to have adverse affects on the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

In addition to the adverse effects detailed above, the proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons that the vernal pool fairy shrimp and vernal pool tadpole shrimp have declined. The proposed project will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in Sacramento County and throughout the range of these two listed vernal pool crustaceans.

Again, the proposed project does not achieve the recovery goal for listed vernal pool species in the region. To compensate for indirect effects, the project proponent would need to preserve, at a minimum, 17.46 acres to achieve an 85 percent rate of preservation of this diminishing habitat (2.91 at a 6:1 ratio achieves 85 percent preservation). To achieve a 95 percent rate of vernal pool habitat preservation, the project proponent would need to preserve at least 55.29 acres of vernal pool habitat in the region (2.91 at a 19:1 ratio achieves 95 percent preservation). Regardless, the proposed project does not approach these levels of habitat preservation.

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire SunRidge Specific Plan area (Foothill Associates 2004). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Sares-Regis property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the SunRidge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas. Therefore, the majority of the remaining 44 acres of vernal pools outside the Sares-Regis property are expected to be filled for future urban development (Foothill Associates 2004).

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-96-F-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2004).

All infrastructure improvements are required to serve the already permitted Anatolia project. Affects resulting from offsite infrastructure development and road widening to Sunrise Boulevard from White Rock Road, to Pyramid Road, to Douglas Road from Sunrise Boulevard, and to Americanos Road, are covered under separate Nationwide14 Permits (Corps file number 200300697), which are currently in review by the Service. Two additional road improvement projects will be permitted under Phase I and will provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. The two road improvements will affect less than one-tenth an acre (Foothill Associates 2004).

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area. The exact route of the

proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The proposed Laguna Creek Interceptor would service an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise/Douglas development. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively. Construction for the proposed Laguna Creek Interceptor is proposed for 2010 through 2024.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thannophis gigas*), the valley elderberry longhom beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California redlegged frog (*Rana aurora draytonii*), the delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, if completed, the SSHCP may eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and State listed species known at this time that may be affected by actions that are reasonably foreseeable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will address actions that are within the land use authority of Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed action of the proposed project.

Cumulative Effects

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Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

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A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

Conclusion

After reviewing the current status of the vernal pool tadpole shrimp and vernal pool fairy shrimp, the environmental baseline for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Douglas Road 103 project, as proposed, is not likely to jeopardize the continued existence of the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not located within designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp, and therefore, no destruction or adverse modification of critical habitat is anticipated.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(0)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(0)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pools/ponded depressions (vernal pool crustacean habitat) that will become unsuitable for vernal pool crustaceans due to direct or indirect effects as a result of the action. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 4.88 acres of vernal pool habitat will become harassed, harmed, injured, or killed, as a result of the proposed action.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool fairy shrimp or the vernal pool tadpole shrimp. This action will not result in destruction or adverse modification of critical habitat.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect effects to federally-listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this proposed project.
- 2. The Corps shall fully implement the Agencies' March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent in the May 31, 2005, *Douglas Road 103 Section 7 Biological Assessment*, and identified by the Service in the project description of this biological opinion (pages 4-7) are fully implemented.
- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction.
- 5. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the proposed project that are issued by the County to all contractors. The project proponents shall provide the Deputy Assistant Field Supervisor for Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
- 6. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the proposed project.
- 7. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day. The biological monitor shall ensure that no clearing of vegetation and scraping, or digging, of soil occurs in the avoided/preserve area.

- 8. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.
- 9. Prior to groundbreaking, high-visibility fencing that is at least 4 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the proposed project is completed.
- 10. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access road will observe a speed limit of 20 miles per hour. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas. All fueling, cleaning, and maintenance of vehicles and other equipment will occur only within designated areas and at least 250 feet away from any wetland habitats. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately. Such spills will be reported in the post-construction compliance reports.
- 11. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales, vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Description of the Proposed Action section of this Biological Opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto adjacent offsite wetland habitats.
- 12. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging

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areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or federal regulations. Such spills will be reported in the post-construction compliance reports.

- 13. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.
- 14. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat loss through habitat preservation offsite. Prior to any ground disturbance on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder, etc., for Service approval.
- 15. The applicant has proposed to offset direct and/or indirect effects of vernal pool crustacean habitat through habitat restoration or creation. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use a service-approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for Service approval. The following criteria will be used by the Service when approving a restoration/creation site: (1) the restoration site's soils will be appropriate vernal pool soil types (e.g., San Joaquin, Redding, Corning); (2) the restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and (3) the restoration site will have a Service-approved conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

Reporting Requirements

A post-construction compliance report prepared by the monitoring biologists must be submitted to the Deputy Assistant Field Supervisor of the Endangered Species Division (Central Valley) at the Sacramento Fish and Wildlife Office within thirty (30) calendar days of the completion of

construction activity or within thirty (30) calendar days of any break in construction activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that groundbreaking started and when the project was completed; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on federally-listed species, if any; (v) occurrences of incidental take of any these species; and (vi) other pertinent information.

The project applicant must report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this biological opinion. The project applicant must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contact is the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee, who during routine operations and maintenance activities, inadvertently kills or injures a federally-listed species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. The Service recommends the following conservation measures:

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. The Corps should work with the Service to implement the Service's 2006 Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.

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5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the proposed Douglas Road 103 project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Rick Kuyper or Holly Herod, the Sacramento Valley Branch Chief, at (916) 414-6645, if you have any questions regarding this biological opinion for the proposed Douglas Road 103 project.

Sincerely,

Kenneth D. Sanchez Acting Field Supervisor

cc:

ARD (ES), Portland, Oregon

Mr. Kent Smith, California Dept. of Fish and Game, Rancho Cordova, California Ms. Elizabeth Goldman, Environmental Protection Agency, San Francisco, California Ms. Ellen Berryman, Berryman Ecological, Meadow Vista, California

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Secretary for

California Regional Water Quality Control Board

Central Valley Region Robert Schneider, Chair

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Arnold Schwarzenegger Governor

Environmental Protection Sacramento Main Office 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114 Phone (916) 464-3291 - FAX (916) 464-4645 http://www.waterboards.ca.gov/centralvalley

21 September 2006

Mr. Jim Galovan Douglas Grantline 103 Investors, LLC 111 Woodmere Drive, Suite 190 Folsom, CA 95630 SEP 25 2006

ACTION ON REQUEST FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE DOUGLAS ROAD 103 PROJECT, (WDID#5A34CR00258) SACRAMENTO COUNTY

ACTION:

- 1.
 Order for Standard Certification
- 2. Order for Technically-conditioned Certification
- 3.
 Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

- 1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and
- §3867 of Title 23 of the California Code of Regulations (23 CCR).
- 2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- 3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.
- 4. Certification is valid for the duration of the described project. The Douglas Grantline 103 Investors, LLC shall notify the Regional Board in writing within 7 days of project completion.

California Environmental Protection Agency

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ADDITIONAL CONDITIONS (for Certification Action 2):

In addition to the four standard conditions, the applicant shall satisfy the following:

- 1. Douglas Grantline 103 Investors, LLC shall notify the Board in writing of the start of any inwater activities.
- 2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.
- 3. The discharge of petroleum products or other excavated materials to surface waters is prohibited.
- 4. Activities shall not cause turbidity increases in surface waters to exceed:
 - (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
 - (b) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
 - (c) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
 - (d) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

- 5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.
- 6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.
- 7. All areas disturbed by project activities shall be protected from washout or erosion.
- 8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during
			in water work
Settleable Material	ml/l	Grab	Same as above.

9. Douglas Grantline 103 Investors, LLC shall notify the Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

10. Douglas Grantline 103 Investors, LLC shall notify the Board immediately of any spill of petroleum products or other organic or earthen materials.

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- 11. Douglas Grantline 103 Investors, LLC shall comply with all Department of Fish and Game 1600 requirements for the project.
- 12. Douglas Grantline 103 Investors, LLC must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board.
- 13. Douglas Grantline 103 Investors, LLC must provide compensatory mitigation for the fill or loss of all State waters resulting from the project (at least a 1:1 replacement ratio).
- 14. Douglas Grantline 103 Investors. LLC shall submit a copy of the final Wetland Mitigation Plan to Water Board staff. The final Wetland Mitigation Plan must be approved by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

ADDITIONAL STORM WATER QUALITY CONDITIONS:

The applicant shall also satisfy the following additional storm water quality conditions:

- 1. During the construction phase, Douglas Grantline 103 Investors, LLC must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:
 - (a) the Storm Water Pollution Prevention Plan (SWPPP) must be prepared during the project planning and design phases and before construction.
 - (b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.
- 2. During the post-construction phase, Douglas Grantline 103 Investors, LLC must minimize the short and long-term impacts on receiving water quality from the Douglas Road 103 Project by doing the following:
 - (a) minimize the amount of impervious surfaces.
 - (b) implement pollution prevention methods supplemented by pollutant source controls and/or treatment controls.
 - (c) ensure existing waters of the State (i.e. wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls. Any discharges from the Douglas Road 103 Project must be treated prior to being discharged into the surrounding wetlands and/or Morrison and Laguna Creeks.

- (d) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.
- (c) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges).
- (f) use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural Best management Practices (BMPs) to mitigate the projected increases in pollutant loads in runoff.
- (g) identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion sediment loss.
- (h) control post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.
- 3. Douglas Grantline 103 Investors, LLC must ensure that all development within Douglas Road 103 Project provides verification of maintenance provisions for post-construction structural and treatment control BMPs. Verification shall include one or more of the following as applicable:
 - (a) the developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; or
 - (b) written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; or
 - (c) written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control BMPs; or
 - (d) any other legally enforceable agreement that assigns responsibility for maintenance of structural or treatment control BMPs.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Patrick G. Gillum, Environmental Scientist 11020 Sun Center Drive #200 Rancho Cordova, California 95670-6114 (916) 464-4709 pgillum@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the Douglas Grantline 103 Investors, LLC, Douglas Road 103 Project (WDID #5A34CR00258) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under Regional Board Resolution No. R5-2003-0008 "Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge: Type 12 Projects for which Water Quality Certification is issued by the Regional Board, " which requires compliance with all conditions of this Water Quality Certification.

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Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

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PAMELA C. CREEDON Executive Officer

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cc:

Enclosure: Project Information

U.S. Army Corps of Engineers, Sacramento

Timothy Vendlinski, Wetlands Section Chief (WTR-8), U.S. Environmental Protection Agency, Region 9, San Francisco

U.S. Fish & Wildlife Service, Sacramento

Oscar Balaguer, Certification Unit, State Water Resources Control Board, Sacramento Rebecca Loeffler, Foothill Associates, Rocklin

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PROJECT INFORMATION

Application Date: 13 January 2006

Applicant: Mr. Jim Galovan Douglas Grantline 103 Investors. LLC 111 Woodmere Drive, Suite 190 Folsom. CA 95630

Applicant Representatives: Rebecca Loeffler Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718

Project Name: Douglas Road 103 Project

Application Number: WDID#5A34CR00258

US. Corps File Number: 199400365

Type of Project: Construction of a Residential Development

Project Location: Section 10, Township 8 North, Range 7 East, MDB&M. Latitude: 38°33'25" and Longitude: 121°12'00".

County: Sacramento County

Receiving Water(s) (hydrologic unit): Unnamed tributary to Morrison Creek, which is tributary to the Sacramento River, Valley- American Hydrologic Unit #519.21, Lower American HSA

Water Body Type: Wetlands

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The Douglas Road 103 project consists of a grading and construction on +/- 106- acre site. Construction will result in the loss of 2.03 acres of wetlands, including 1.71 acres of vernal pools, 0.10 acres of ephemeral drainage, and 0.22 acres of seasonal wetlands.

Preliminary Water Quality Concerns: The construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: Douglas Grantline 103 Investors, LLC will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Douglas Grantline 103 Investors, LLC will conduct turbidity and settleable matter testing during in water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: 3,274 cubic yards of clean soil will be used to fill 2.03-acres of jurisdictional wetland.

Dredge Volume: <0.0 cubic yards

U.S. Army Corps of Engineers Permit Number: Individual Permit # 199400365

Department of Fish & Game Streambed Alteration Agreement: Douglas Grantline 103 Investors, LLC applied for a Streambed Alteration Agreement on 13 January 2006.

Possible Listed Species: Vernal pool fairy shrimp, and Vernal pool tadpole shrimp.

Status of CEQA Compliance: Douglas Grantline 103 Investors, LLC received a signed Mitigated Negative Declaration from the County of Sacramento in July 2005.

Compensatory Mitigation: There will be 2.03-acres of jurisdictional wetland created off-site at a Corps approved mitigation site. A receipt for the mitigation units purchased will be forwarded to Water Board staff.

Application Fee Provided: A fee of \$4,864.50 was submitted on 13 January 2006 as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e).

DISTRIBUTION LISTS

U.S. Army Corp of Engineers Sacramento District Office 1325 J Street Sacramento, CA 95814-2922

Mr. Timothy Vendlinski Wetlands Section Chief (W-3) United States Environmental Protection Agency 75 Hawthorne Street San Francisco, CA 94105

United States Fish & Wildlife Service Sacramento Fish & Wildlife Office 2800 Cottage Way Sacramento, CA 95825

Mr. Oscar Balaguer State Water Resources Control Board, Certification Unit P.O. Box 944213 Sacramento, CA 94244-2130

Rebecca Loeffler Foothill Associates 655 Menlo Drive, Suite 100 Rocklin, CA 95765-3718



In reply refer to: 1-1-06-TA-2000

United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



FEB 2 0 2007

FEB 2 6 2007

Robert Uram Sheppard Mullin Richter & Hampton, LLP 4 Embarcadero Center, 17th Floor San Francisco, California 94111-4106

Subject:

Comment Regarding the Biological Opinion for the Arista del Sol Project, Sacramento County, California (Service File Number 1-1-06-F-0138)

Dear Mr. Uram:

This is in response to your August 9, 2006, letter to the U.S. Fish and Wildlife Service (Service) requesting changes to the June 28, 2006, biological opinion for the Arista del Sol project (project) in Sacramento County, California (Service file number 1-1-06-F-0138). At issue are the effects of the project on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) (vernal pool crustaceans), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*). This letter revises the project description and the conservation measures for the vernal pool crustaceans. Because these revisions do not constitute any changes to the effects analysis in the June 28, 2006, biological opinion, no amendment is necessary. This letter is made under the authority of the Act.

The findings and recommendations in this letter are based on: (1) the August 9, 2006, letter from Sheppard Mullin Richter & Hampton, LLP to the Service; (2) the June 28, 2006, biological opinion for the project; (3) a May 17, 2006, electronic mail from Ken Sanchez of the Service to Mr. Uram; and (4) other information available to the Service.

Your August 9, 2006, letter indicated an error in one the project conservation measures of the June 28, 2006, biological opinion. Therefore, this letter corrects this proposed conservation measure as follows:

Pages 6-7: Change Proposed Conservation Measure 1.a.ii. from: The preservation of 20.18 acres of vernal pool crustacean habitat at a Service-approved conservation bank. This would effectively preserve two (2) acres of vernal pool crustacean habitat for every



Mr. Robert J. Uram

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one (1) acre of vernal pool habitat that is directly affected and two (1) acres [sic]of habitat for every one (1) acre that is indirectly affected.

To: The preservation of 20.18 acres of vernal pool crustacean habitat at a Service-approved conservation bank. This would effectively preserve two (2) acres of vernal pool crustacean habitat for every one (1) acre of vernal pool habitat that is directly affected and one (1) acre of habitat for every one (1) acre that is indirectly affected.

Further, your August 9, 2006, letter requested changes to conservation measures originally proposed in the project proponent's August 9, 2005, *Arista del Sol Section 7 Biological Assessment*, prepared by Foothill Associates. Therefore, this letter revises those proposed conservation measures as follows:

- Page 7: Change Proposed Conservation Measure 1.b. from: At least 90 days prior to any fill of wetlands on the proposed project site, the Service must receive the following for review and approval:
 - i. A Service-approved Perpetual Conservation Easement for the on-site wetland preservation area;
 - ii. A description of the mechanism for funding the monitoring, maintenance, and management of the on-site wetland preservation area; and
 - iii. A Monitoring, Maintenance, and Management Plan for the on-site wetland preservation area.
 - iv. The funding instrument shall be in place and Perpetual Conservation Easement shall be recorded within 90 days following the commencement of filling wetlands on the proposed project site.
- **To:** Prior to any fill of wetlands on the proposed project site, the Service must have reviewed and approved:
 - i. A Service-approved Perpetual Conservation Easement for the on-site wetland preservation area;
 - ii. A description of the mechanism for funding the monitoring, maintenance, and management of the on-site wetland preservation area; and
 - iii. A Monitoring, Maintenance, and Management Plan for the on-site wetland preservation area.

Mr. Robert J. Uram

- iv. The funding instrument shall be in place and Perpetual Conservation Easement shall be recorded within 90 days following the commencement of filling wetlands on the proposed project site.
- Page 10: Change Proposed Conservation Measure 2.d.vi. from: Construction Monitoring: A Service-approved environmental monitor will be employed to ensure compliance with construction-related avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to the open space wetland preserve and off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter, until the open space wetland preserve construction is finished.
- **To:** Construction Monitoring: A Service-approved environmental monitor will be employed to ensure compliance with construction-related avoidance measures. The monitor will be authorized to order work to stop and to take actions necessary to prevent damage to the open space wetland preserve and off-site habitat.

In addition, your August 9, 2006, letter requested changes to one of the terms and conditions of the June 28, 2006, biological opinion. Therefore, this letter revises Term and Condition 7 as follows:

- Page 27: Change Term and Condition 7 from: The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat loss through a combination of onsite and offsite habitat preservation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. This habitat preservation bank should be within the Sunrise Douglas Community Plan Area.
- **To:** The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat loss through a combination of on-site and offsite habitat preservation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. Habitat preservation should occur in a Service-approved conservation bank that services the project area, or at an otherwise ecologically appropriate site that is approved by the Service.

Finally, your August 9, 2006, letter requested that the Service provide the project proponent with "credit" for compensating for indirect effects to listed vernal pool crustacean habitat on adjacent

Mr. Robert J. Uram

property, should those vernal pools be filled during any future construction on the adjacent property. Therefore, this letter revises the proposed conservation measures as follows:

Pages 6-7: Amend Proposed Conservation Measure 1.a. to include: The project proponent has proposed to compensate for indirect effects to listed vernal pool crustacean habitat, which includes vernal pools located on adjacent property, within 250 feet of construction activities associated with the Arista del Sol project. In the future, should construction occur on the adjacent property, resulting in the fill of these vernal pools, the Service would recognize "credit" to the Arista del Sol project proponent for compensation that had already occurred to offset indirect effects to those vernal pools. The project proponent may apply this "credit" to its own future projects.

The other portions of the project description, species baseline, effects analysis, conclusion, reasonable and prudent measures, and conservation recommendations in the June 28, 2006, biological opinion remain the same.

Please contact this office at (916) 414-6645 if you have questions regarding this letter about the biological opinion for the Arista del Sol project.

Sincerely,

Kenneth Sanchez Assistant Field Supervisor

cc:

Will Ness, U.S. Army Corps of Engineers, Sacramento, CA Kent Smith, California Department of Fish and Game, Rancho Cordova, CA Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA



In reply refer to:

1-1-06-F-0138

United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846 'le

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JUN 28 2006

Mr. Will Ness Chief, Sacramento Office U.S. Army Corps of Engineers District, Sacramento 1325 J Street Sacramento, California 95814-29223

> Subject: Section 7 Consultation for the Proposed Arista del Sol Project [U.S. Army Corps of Engineers File Number 200400458], Sacramento County, California

Dear Mr. Ness:

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This is in response to the U.S. Army Corps of Engineers' (Corps) request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Arista del Sol (formerly Pappas Sunrise Douglas) project (proposed project) in Sacramento County, California. Your September 27, 2005, request was received in our office on September 28, 2005. This document represents the Service's biological opinion on the effects of the proposed action on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) (vernal pool crustaceans), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

In your letter to the Service, you requested formal consultation on the federally-listed California tiger salamander (*Ambystoma californiense*), slender Orcutt grass (*Orcuttia tenuis*) and the Sacramento Orcutt grass (*Orcuttia viscida*) (listed plant species). The proposed Arista del Sol project site and the entire Sunridge Specific Plan are outside of the range of the California tiger salamander. A survey conducted of the proposed project site June 18, 2004, did not indicate the presence of slender Orcutt grass or Sacramento Orcutt grass. Therefore, the proposed project will not affect the California tiger salamander or these listed plant species.

The findings and recommendations in this consultation are based on: (1) a May 31, 2006, electronic mail (email) and March 27, 2006, letter from Foothill Associates (project consultant) to the Service; (2) the August 9, 2005, *Arista del Sol Section 7 Biological Assessment* (Biological Assessment), prepared by Foothill Associates; (3) a September 27, 2005, letter from Corps to the Service requesting initiation of formal consultation on proposed project; (4) site visits;

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In reply refer to: 1-1-06-F-0138

United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825-1846



JUN 2 8 2006

Mr. Will Ness Chief, Sacramento Office U.S. Army Corps of Engineers District, Sacramento 1325 J Street Sacramento, California 95814-29223

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(5) meetings, email correspondence, and telephone conversations between representatives of the Service, Corps, Sheppard, Mullin, Richter, & Hampton, LLP (applicant's representative), and Foothill Associates; and (6) other information available to the Service.

Consultation History

Beginning on May 10, 2002, the Planning Department of the County of Sacramento initiated and facilitated a series of meetings to discuss and develop potential wetlands and endangered species permitting strategies for the Sunrise Douglas Community Planning Area (SDCPA). These meetings were attended by landowners, developers, and their representatives, staff from Congressman Doug Ose's office, California Department of Fish and Game (CDFG), the Service. the Corps, and the Environmental Protection Agency (EPA). The entire group met at least twelve times between May 10th and November 22, 2002, in an attempt to develop a strategy to address issues relating to endangered species and wetland protection within the SDCPA. By November of 2002, a resolution was not reached and discussions ceased at that time.

On July 17, 2002, during this initial phase of meetings, the Sacramento County Board of Supervisors approved both the larger SDCPA and the SunRidge Specific Plan. On July 1, 2003. with the incorporation of the City of Rancho Cordova ("City"), the SDCPA came under the City's land use jurisdiction.

A smaller group of project proponents representing the property owners in the Sunridge Specific plan area initiated several meetings with the Fish and Wildlife Service during mid-2003. Discussions focused on avoidance of endangered species habitats in the SDCPA and specific plan areas. Again, no resolution with the Service was reached.

In March 2004, Congressman Doug Ose initiated meetings with the Federal Agencies, local agencies, and the landowners/developer representatives to facilitate resolution of the issues that had emerged during the previous meetings. Congressman Ose urged the Federal Agencies to develop a conceptual strategy that would meet the requirements of the Federal Agencies respective statutes. Congressman Ose urged the regulated parties to work cooperatively with the Federal Agencies to explore mechanisms to accommodate the agencies' obligations to comply fully with pertinent Federal laws and regulations, which place a premium on the avoidance of onsite wetlands resources to the extent practicable and the need to avoid jeopardizing the continued existence of threatened and endangered species. In short, the Congressman encouraged the parties to work cooperatively with one another to develop a conceptual onsite avoidance and offsite compensation strategy that reached a proper and workable balance between and amongst the following: the mandates of Federal law; the need to acknowledge the planning policies and objectives of the City of Rancho Cordova; and the need to account for the economic realities facing private sector developers. These meetings continued through September 2004.

In June of 2004, the Federal Agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map) that outline our strategies for

conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. In addition, our strategy would provide some conceptual guidelines for permitting.

Service Correspondence

April 2, 1996, To: A. Champ-Corps of Engineers, Re: Formal Section 7 Consultation on Issuance of 404 Permit for the Sunrise Douglas Project (AKA Anatolia I, II, III), Service File #1-1-96-F-0062, Corps PN 190110021

November 22, 2002, To: M. Finan-Corps of Engineers, Re: Request for additional information on the Sunridge Specific Plan/Sunrise Douglas Community Plan, Service file #1-1-03-I-0411

July 18, 2002, To: D. Nottoli-Sacramento County Board of Supervisors, Re: Sunrise Douglas Community Plan and SunRidge Specific Plan-Service File #1-1-02-CP-2579

April 26, 2004, To: Col. Conrad-Corps of Engineers, Re: SunRidge Specific Plan, Service file #/Corps PN 200000336

Consultation History Specific to the Proposed Project

September 27, 2005. The Corps submitted a letter to the Service, requesting the initiation of formal consultation on the proposed project. Enclosed was an August 9, 2005, *Arista del Sol Section 7 Biological Assessment*, prepared by Foothill Associates. The Service received this letter and enclosure on September 28, 2005.

December 22, 2005. The Service issued a letter to the Corps, requesting additional information regarding proposed conservation measures for the project (Service file #1-1-05-I-1999).

March 27, 2006. Foothill Associates submitted a letter to the Service, providing a revised project description and additional conservation measures. The Service received this letter on March 28, 2006.

May 31, 2006. Sherri Dister of Foothill Associates emailed Kelly Fitzgerald of the Service additional information about proposed conservation measures for the project.

BIOLOGICAL OPINION

Description of the Proposed Action

The following is taken from the June 2004, document titled A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area, prepared by the Service, the Corps, and the EPA. This document and the accompanying planning map (Agency map) developed by the three Federal Agencies are hereby incorporated by reference into the project description. Thus, our biological opinion on this

proposed action, the Arista del Sol project, is based on application and full implementation of the Federal Agencies' conservation strategy outlined in this document and map, on all future projects in the SDCPA.

"In March through May 2004, representatives of the US Fish and Wildlife Service, US Environmental Protection Agency, and the US Army Corps Engineers (Agencies) met to formulate a conceptual-level strategy for avoiding, minimizing, and preserving aquatic resource habitat in the Sunrise-Douglas Community Plan Area (SDCPA). The intended result of this effort was to achieve reasonable protection and conservation of federally threatened and endangered species under the Endangered Species Act (ESA), while taking a regional approach to avoidance and minimization of impacts to waters of the US, including wetlands, in accordance with Section 404 (b)(1) guidelines under the Clean Water Act. The strategy also endeavors to ensure a viable South Sacramento County Habitat Conservation Plan (HCP) can be developed, given that a large proportion of vernal pool habitat under consideration by the HCP planners is at risk in the SDCPA.

The conceptual-level strategy is represented by preserve areas shown on the map titled Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection dated March 2004. To meet the goals of ESA and the Clean Water Act, the Agencies arrived at the boundaries of the "Preserve Areas" based on best professional judgment and a limited amount of information regarding regional and site-specific biology and hydro-geomorphology (such as wetland delineations, species accounts, and environmental impact reports), while recognizing that development is planned in the area. Of particular focus is the preservation of vernal pool complexes and corridors for Morrison Creek and Laguna Creek. The mapped boundaries are the smallest that would be acceptable to the Agencies and are predicated on ten principles and standards that would be followed by developers and planners as each element of the overall development proceeds.

The conceptual level strategy should be used by developers and planners to design and plan projects in the SDCPA. The Agencies will use the strategy to aid in the review of proposed development and evaluate the probable individual and cumulative effects on aquatic resources and sensitive species.

The Agencies anticipate that permit decisions and biological opinions will be completed on a case-by-case basis, using site-specific project and aquatic resource habitat information. Each proposed project would be evaluated on its own merits within the larger context of the SDCPA. Depending on the particular hydrology, habitat features, and development plans for a particular parcel, the conceptual preserve boundaries may need to be adjusted to minimize direct and indirect impacts to aquatic resources. Appropriate compensatory mitigation will be developed following demonstrated avoidance and minimization of project impacts."

The approximately 215-acre proposed Arista del Sol development site is located in southeastern Sacramento County, approximately five miles south of Highway 50, east of Sunrise Boulevard and the Folsom South Canal, and north of Jackson Road (Highway 16), in the City of Rancho Cordova. The proposed project site is situated west of and adjacent to Grantline Road, south of Douglas Road, and north of and adjacent to the proposed Chysanthy Boulevard. The proposed Americanos Boulevard would traverse the western third of proposed project site from north to south. The site is located in Sections 15 of Township 8 North, Range 7 East, on the U.S. Geological Survey's (USGS) Buffalo Creek 7.5-minute quadrangle.

The proposed project site is within the 6,042-acre SDCPA located within the Sacramento County General Plan Urban Service Boundary and Policy Area. As shown on the September 2004, Developers Map, approximately 210 acres of the proposed project site is also located within the Sunridge Specific Plan area, which provides a more detailed land use plan for development of approximately 2,632 acres within the SDCPA. (An additional five (5) acres is located on the Grantline 220 property boundary, south of and adjacent to the proposed project site; the Grantline 220 property is outside of the Sunridge Specific Plan boundary. The SDCPA is located within the headwaters of both the Morrison Creek and Laguna Creek watersheds. Land uses anticipated in the SDCPA and the Sunridge Specific Plan area, including the proposed project site, include low-, medium-, and high-density residential development, commercial mixed uses (*e.g.*, retail, office, and retail professional) and neighborhood parks. Other planned land uses in the vicinity include elementary, junior and senior high schools.

Historically, the SDCPA, including the proposed project site, has been used for dry land farming and grazing. The surrounding land use is predominantly grassland utilized for cattle grazing and related agricultural activities. A few homesteads, including rural residences, barns, and pens, are scattered around this area. The proposed project site is currently utilized as rangeland for the grazing of horses, and is developed with a residence and associated outbuildings.

The proposed Arista del Sol project involves the construction of approximately 133.5 acres of residential development, 5.6 acres of commercial development, 19.4 acres of neighborhood parks, 8.1 acres of drainage corridor and detention/water quality basins, and an approximately 41-acre open space wetland preserve, which would be protected in perpetuity. Project work within the adjacent Grantline 220 property includes road development and improvements needed to protect health and safety and fulfill the City of Rancho Cordova road improvement standards for the area. These improvements would include approximately 4.6 acres for the southern half of the Chrysanthy Road, such that development of the full width of Chrysanthy Road is covered by the proposed project, and approximately 0.4 acre for a transition lane in a 700-foot length on the west side of Grantline Road, south of the Arista del Sol property.

Required infrastructure (*e.g.*, sewer mains and laterals, water mains, and utility lines) will be developed in association with surrounding projects within the Sunridge Specific Plan area. The proposed land uses for the proposed project site are consistent with the planned land uses set forth in the Sunrise Douglas Community Plan and Sunridge Specific Plan.

The proposed 41.1-acre wetland preserve would be located in the western northern and central thirds of the proposed project site. Approximately 3.22 acres of vernal pools, 0.21 acre of

riverine seasonal wetland, and 0.01 acre of ephemeral drainage would be located within this wetland preserve. While the shape of the proposed wetland preserve is slightly different from the design shown on the Agency map, it appears to be consistent with Service principles.

The proposed project will directly affect approximately 10.52 acres of habitat for vernal pool crustaceans, including 5.37 acres of vernal pools, 0.36 acre of seasonal wetlands, 0.02 acre of ephemeral drainage, and 4.77 acres of pond. A total of 1.44 acres of vernal pool crustacean habitat, including 1.13 acres of wetland features located within the proposed 41.1-acre on-site wetland preserve that are within 250 of the proposed development, would be indirectly affected by the proposed project.

Proposed Conservation Measures

The applicant has proposed conservation measures to avoid, minimize, and compensate for effects to vernal pool fairy shrimp and vernal pool tadpole shrimp that result from the implementation of the proposed project.

- 1. Habitat Preservation and Restoration
 - a. A total of 11.96 acres of vernal pool crustacean habitat would be directly (10.52 acres) and indirectly (1.44 acre) affected by the proposed project. These direct and indirect effects will be offset through habitat preservation (refer to Table 1). Habitat preservation to compensate for direct affects will be achieved partially through the on-site preservation of 2.30 acres of vernal pool crustacean habitat in the proposed 41.1-acre on-site wetland preserve. The on-site preservation of 2.30 acres would compensate for direct effects to 1.15 acres of vernal pool crustacean habitat (at a ratio of two (2) acres preserved for every one (1) acre directly affected).

Additional habitat preservation to compensate for the remaining vernal pool crustacean habitat that would be directly (9.37 acres) and indirectly (1.44 acre) affected will be achieved through either:

- i. The preservation of 20.18 acres of vernal pool crustacean habitat at Service-approved site. The off-site wetland preservation site would be protected by a Conservation Easement held by a third party and managed in perpetuity consistent with a Service-approved preserve management plan. A long-term funding mechanism to fund the management of the offsite wetland preserve would be put in place upon Service approval of the site. This would effectively preserve two (2) acres of vernal pool crustacean habitat for every one (1) acre of vernal pool crustacean habitat that is directly affected and one (1) acre of habitat for every one (1) acre of habitat that is indirectly affected; or
- ii. The preservation of 20.18 acres of vernal pool crustacean habitat at a Service-approved conservation bank. This would effectively preserve two

(2) acres of vernal pool crustacean habitat for every one (1) acre of vernal pool habitat that is directly affected and two (1) acres of habitat for every one (1) acre that is indirectly affected.

- b. At least 90 days prior to any fill of wetlands on the proposed project site, the Service must receive the following for review and approval:
 - i. A Service-approved Perpetual Conservation Easement for the on-site wetland preservation area;
 - ii. A description of the mechanism for funding the monitoring, maintenance. and management of the on-site wetland preservation area; and
 - iii. A Monitoring, Maintenance, and Management Plan for the on-site wetland preservation area.
 - iv. The funding instrument shall be in place and Perpetual Conservation Easement shall be recorded within 90 days following the commencement of filling wetlands on the proposed project site.
- c. Direct and indirect effects to vernal pool crustacean habitat will be further offset through habitat restoration/creation at a 1:1 ratio (refer to Table 1). The restoration/creation goal will be to create and enhance wetlands with habitat functions and values equal to, or greater than, the wetland features affected by the implementation of the proposed project. Habitat restoration/creation will be achieved through the restoration of 11.96 acres of vernal pool crustacean habitat at a Service-approved site within Sacramento County that meets the following criteria:
 - i. The restoration site's soils will be appropriate vernal pool soil types (*e.g.*, San Joaquin, Redding, Corning);
 - ii. The restoration site's soil would have been disturbed at some point in the past, either through land leveling, ditching and draining, berming, or other disturbance that has removed or modified edaphic and hydrologic features necessary to support vernal pool habitat; and
 - iii. The restoration site will have a conservation easement, a preserve management plan, and a long-term funding mechanism in place upon Service approval.

	Acres de Lifects	Compensation (Compensation (in acres) [2:1 Direct 1:1 Indirect]	(in acres)
Direct Effects	10.52	21.04	10.52
Indirect Effects	1.44	1.44	1.44
TOTAL	11.96	22.48	11.96
On-site Preserve	<u></u>	2.30	
Off-site Preservation		20.18	· · · · · · · · · · · · · · · · · · ·

Table 1 - Vernal Pool Crustacean Habitat Effects and Compensation Acreages

*Note: This table does not include portions of directly and indirectly affected vernal pools/wetlands that extend onto the northern adjacent property (Grantline 208). Those that extend to the east are excluded from consideration due to the presence of Grant Line Road. This table includes portions of directly and indirectly affected vernal pools/wetlands that extend onto adjacent properties south (Grantline 220) and west (Sunridge 530).

- 2. Construction Storm Water Pollution Prevention Plan
 - a. Minimize off-site storm water runoff that might otherwise affect surrounding vernal pool crustacean habitat. Measures, which will be implemented during project construction to avoid adverse affects to the open space/wetland preserve and adjacent properties, include the following:
 - b. Incorporate standard construction Best Management Practices (BMPs) into construction designs, plans and specifications. Contractors will be required to implement them during construction.
 - c. Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the proposed project with the following objectives:
 - i. Identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the proposed project;
 - ii. Identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the proposed project site during construction;
 - iii. Outline and provide guidance for BMP monitoring;
 - iv. Identify project discharge points and receiving waters;
 - v. Address post-construction BMP implementation and monitoring; and

- vi. Address sediment / siltation / turbidity and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.
- d. The construction BMPS for the proposed project will include the following specific measures for avoiding adverse impacts to the open space preserve and adjacent properties:
 - i. Hydroseeding: All constructed slopes adjacent to the preserve will be hydroseeded with a native grassland mix. The hydroseed mix will be applied with a tackifying agent at a rate of at least two tons/acre and based on manufacturer's recommendations. The tackifying agent will be a hydraulic matrix that when applied, and upon drying, adheres to the soil to form a 100% cover that is biodegradable, promotes vegetation, and prevents soil erosion. The hydroseed mix will not be applied before, during, or immediately after rainfall so that the matrix will have an opportunity to dry for a minimum of 24 hours after installation.
 - ii. Sediment and Erosion Control: Certified weed-free straw wattles will be installed at the base of all slopes adjacent to the open space/wetland preserve and along the property lines of the proposed project site. Prior to installation of the straw wattles, a concave key trench approximately two to four inches deep will be contoured along the proposed installation route. Soil excavated for the trenching will be placed on the uphill or flow side of the straw wattles to prevent water from undercutting the straw wattles. Stakes will be driven in on alternating sides of the straw wattles, to hold them in place. The straw wattles will be maintained for a period of time at least until the native grassland vegetation is fully established and the soil is stabilized.
 - iii. Excavated Material: During construction activities associated with the implementation of the proposed project, all excavated materials will be deposited or stored such that this material cannot be washed into any watercourse, and excess supplies of certified weed-free straw bales and/or sedimentation fencing will be available at the construction site for periodic site-specific use as needed.
 - iv. Staging Areas: Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. No refueling, storage, servicing, or maintenance of equipment will take place within 100 feet of the open space preserve or adjacent off-site habitat. All machinery will be properly maintained and cleaned to prevent spills and leaks. Any spills or hazardous materials will be reported and cleaned up immediately in accordance with applicable local, state and/or Federal regulations.

- v. Construction Fencing: Temporary fencing will be installed prior to construction along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto the open space wetland preserve and adjacent off-site habitat.
- vi. Construction Monitoring: A Service-approved environmental monitor will be employed to ensure compliance with construction-related avoidance measures. The monitor will report directly to the City of Rancho Cordova Public Works project manager, and based on reports of non-compliance with environmental requirements, will be authorized to stop work orders and to take actions necessary to prevent damage to the open space wetland preserve and off-site habitat. Monitoring reports will be provided to the City of Rancho Cordova Department of Public Works project manager on a daily basis during initial ground breaking, and on a weekly basis (or more frequently as needed when problems arise) thereafter, until the open space wetland preserve construction is finished.

Status of the Species

The vernal pool tadpole shrimp and vernal pool fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994 (59 FR 48136). The final rule to designate critical habitat for 15 vernal pool species, including these two crustaceans, was published on August 6, 2003 (68 FR 46684), with further clarifications on critical habitat designations for listed vernal pool species published in an August 11, 2005, final rule (70 FR 46923). Further information on the life history and ecology of the vernal pool fairy shrimp and vernal pool tadpole shrimp may be found in the final listing rule, the final rule to designate critical habitat. Eng *et al.* (1990), Helm (1998), and Simovich *et al.* (1992). The Service's reevaluation of Critical Habitat in 2005 designated several critical habitat units in Sacramento County within Unit 11, but the proposed project is not located in any critical habitat units.

Life History. The vernal pool tadpole shrimp has dorsal compound eyes, an approximately oneinch long large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952; Longhurst 1955; Pennak 1989). It is primarily a benthic animal that swims with its legs down. Vernal pool tadpole shrimp climb or scramble over objects, and plow along bottom sediments as they forage for food. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989; Fryer 1987). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts, and during the dry months of the year, they lie dormant in the dry pool sediments (Lanaway 1974; Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, its dormant cysts may hatch in as little as four days (Ahl 1991; Rogers 2001), and the animals may become sexually mature within three to four weeks after hatching (Ahl 1991; Helm 1998; King 1996). A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991), and

will generally survive for as long as its habitat remains inundated, sometimes for six months or more (Ahl 1991; Gallagher 1996; Helm 1998). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991; Gallagher 1996; Simovich *et al.* 1992).

Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of phyllopods, or gill-like structures that also serve as legs. Typically less than one-inch long, they swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The second pair of antennae in adult male fairy shrimp are greatly enlarged and specialized for clasping the females during copulation. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation, and they can remain viable in the soil for decades after deposition. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults and may become sexually mature within two weeks after hatching (Gallagher 1996; Helm 1998). Such quick maturation permits populations to persist in short-lived shallow bodies of water (Simovich et al. 1992). In pools that persist for several weeks to a few months, fairy shrimp may have multiple hatches during a single season (Helm 1998; Gallagher 1996).

Distribution. Vernal pool tadpole shrimp are found only in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands in California (Helm 1998). The vernal pool tadpole shrimp is known from 219 occurrences in the Central Valley (CNDDB 2005), ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie in Solano County; the potential ponding depth of occupied habitat ranges from 1.5 inches to 59 inches. Although vernal pool tadpole shrimp are found on a variety of geologic formations and soil types, Helm (1998) found that over 50 percent of vernal pool tadpole shrimp occurrences were on High Terrace landforms and Redding and Corning soils. Vernal pool tadpole shrimp are uncommon even where vernal pool habitat occurs (Service 2005b). The largest concentration of vernal pool tadpole shrimp occurrences are found in the Southeastern Sacramento Valley Vernal Pool Region, as defined in the Service's Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (2005b). In this vernal pool region, this species occurs on a number of public and private lands in Sacramento County, and from a few locations in Yuba and Placer Counties, including Beale Air Force Base.

Vernal pool fairy shrimp are found only in ephemeral freshwater habitats, including alkaline pools, ephemeral drainages, rock outcrop pools, vernal pools, and vernal swales in California and Southern Oregon (Eriksen and Belk 1999). Occupied habitats range in size from rock outcrop pools as small as 11 square feet to large vernal pools up to 12 acres; the potential ponding depth of occupied habitat ranges from 1.2 inches to 48 inches. The vernal pool fairy shrimp is known from 363 occurrences extending from the Stillwater Plain in Shasta County through most of the

length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990; Fugate 1992: Sugnet and Associates 1993; CNDDB 2005). Five additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon (CNDDB 2005; Helm 1998; Eriksen and Belk 1999; Service 2003). Three of these isolated populations each contain only a single pool known to be occupied by the vernal pool fairy shrimp. Although the vernal pool fairy shrimp is distributed more widely than most other fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur (Eng *et al.* 1990; Eriksen and Belk 1999). The greatest number of known occurrences of the vernal pool fairy shrimp are found in the Southeastern Sacramento Vernal Pool Region (see Service 2005b). where it is found in scattered vernal pool habitats in Placer, Sacramento, and San Joaquin Counties, in the vicinity of Beale Air Force Base in Yuba County, and at a single location in El Dorado County.

Although the vernal pool crustaceans addressed in this biological opinion are not often found in the same vernal pool at the same time, when coexistence does occur, it is generally in deeper, longer lived pools (Eng *et al.* 1990; Thiery 1991; Gallagher 1996). In larger pools, vernal pool crustacean species may be able to coexist by utilizing different physical portions of the vernal pool or by eating different food sources (Daborn 1978; Mura 1991; Thiery 1991), or by hatching at different temperatures or developing at different rates (Thiery 1991; Hathaway and Simovich 1996).

Dispersal. The primary historic large-scale dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp likely was large scale flooding resulting from winter and spring rains which allowed colonization of different individual vernal pools and other vernal pool complexes (King 1996). This dispersal is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds may now be the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp (King 1996; Simovich *et al.* 1992). The eggs of these branchiopods are either ingested (Krapu 1974; Swanson *et al.* 1974; Driver 1981; Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats. Cysts may also be dispersed by a number of other species, such as cattle and humans (Eriksen and Belk 1999).

At the local level, vernal pool crustaceans are often dispersed from one pool to another through surface swales that connect one vernal pool to another. These dispersal events allow for genetic exchange between pools and create a population of animals that extends beyond the boundaries of a single pool. These dispersal events also allow vernal pool crustaceans to move into pools with a range of sizes and depths. In dry years, animals may only hatch in the largest and deepest pools. In wet years, animals may be present in all pools. The movement of vernal pool crustaceans into vernal pools of different sizes and depths allows these species to survive the environmental variability that is characteristic of their habitats.

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The genetic characteristics of these species, as well as ecological conditions, such as watershed continuity, indicate that populations of vernal pool crustaceans are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species may be small. Human-caused and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites. Vernal pool fairy shrimp and vernal pool tadpole shrimp continue to be threatened by all of the factors which led to the original listing of this species, primarily habitat loss through agricultural conversion and urbanization (CNDDB 2005).

Reasons for Decline and Threats to Survival. The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of human-caused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These can result in adverse effects to vernal pool species.

In addition to direct loss, the habitats of the vernal pool tadpole shrimp and the vernal pool fairy shrimp have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. Fragmentation results in smaller isolated shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1988; Goodman 1987a, 1987b). If an extirpation event occurs in a population that has been fragmented, the opportunities for re-colonization would be greatly reduced due to geographic isolation from other source populations.

Historically, vernal pools and vernal pool complexes occurred extensively throughout the Sacramento Valley of California. Conversion of vernal pools and vernal pool complexes, however, has resulted in a 91 percent loss of vernal pool resources in California (State of California 2003d). By 1973, between 60 and 85 percent of the area within the Central Valley that once supported vernal pools had been destroyed (Holland 1978). In subsequent years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. The Corps' Sacramento District has several thousand vernal pools under its jurisdiction (Coe 1988), which includes most of the known populations of these listed species. Between 1987 and 1992, 467 acres of wetlands within the Sacramento area were filled pursuant to the Corps' Nationwide Permit 26 (Service 1992). A majority of those wetlands losses involved vernal pools, the endemic habitat of the vernal pool tadpole shrimp and the vernal pool

fairy shrimp. King (1996) has estimated that approximately 15 to 33 percent of the original biodiversity of Central Valley vernal pool crustaceans has been lost since the 1800s. On-going and increasing amounts of human activities are expected to contribute to the extensive loss-upwards of 60 to 70 percent—of remaining vernal pools (Coe 1988).

Environmental Baseline

Status of the Species in the Action Area. Sacramento County represents important, high quality habitat for the two shrimp populations by providing large, nearly contiguous areas of relatively undisturbed vernal pool habitat. Sacramento County contains the greatest number of occurrences of vernal pool tadpole shrimp within the range of the species, and also is one of the two counties with the greatest number of occurrences of vernal pool fairy shrimp within the range of the species. Sacramento County contains 58 (17 percent) out of the total of 375 reported occurrences of vernal pool fairy shrimp, and 59 (33 percent) out of the total of 175 reported occurrences of vernal pool tadpole shrimp (CNDDB 2005). Further, Sugnet and Associates (1993) reported that of 3,092 "discrete populations" checked, only 345 locations, or about 11 percent of all locations checked, were found to support the vernal pool tadpole shrimp. Of these 345 locations supporting the vernal pool tadpole shrimp, 219 (63 percent) were in Sacramento County. Further, of the 3,092 locations checked, 178 locations (35 percent) were found to support the vernal pool fairy shrimp. Of this total, 63 locations (35 percent) were within Sacramento County.

Throughout the Central Valley, approximately 13,000 acres of vernal pool habitats, including mitigation banks, have been set aside for the vernal pool fairy shrimp specifically as terms and conditions of section 7 consultations (Service 2005b). In the Southeastern Sacramento Valley Vernal Pool Region, vernal pool fairy shrimp occurrences are protected from development at a number of private mitigation areas, compensation banks, private ranches with conservation easements, and the Beale Air Force Base in Yuba County. Very few actions have been taken specifically to benefit the vernal pool tadpole shrimp, although several Habitat Conservation Plans are developing vernal pool conservation plans in the region, including Sacramento and Placer Counties (Service 2005b).

The vernal pools on the proposed project site are classified as the old-terrace type and are located on soils associated with Laguna geologic formation. Old-terrace is a rapidly disappearing habitat type in Sacramento County that consists of ancient river channel deposits that were laid down from 600,000 to more than one million years ago by the American River. By comparison, young terrace formation dates from 100,000 to 200,000 years ago. Old-terrace formation generally has a higher density of vernal pools, deeper pools, and a greater number of special status plants and crustaceans than young-terrace formations. Some special status species found in old-terrace pools may have evolved from species inhabiting shores of ancient lakes in the Central Valley. Old-terrace pools may have served as refugia for these species as the lakes disappeared (pers. comm., K. Fuller, Service, 2004). Sacramento County contains an estimated 764 wetted acres of vernal pools on low terrace, 1,390 wetted acres of vernal pools on high terrace, and 189 wetted acres of vernal pools on volcanic mudflow.

There are two predominant soil types found within south Sacramento County. The Valley Springs soil type typifies Gill Ranch, located in Sacramento County, approximately 12 miles southeast of the proposed project site. Vernal pools found within the Valley Springs soil type are the young-terrace formation. Young-terrace formations, because they have a higher slope gradient, tend to have fewer vernal pools that are typically smaller and shallower. These vernal pools also are inundated for shorter durations. These factors typically result in lower species diversity. Generally, the larger the vernal pool on this soil type, the higher its biotic diversity. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and Sacramento Orcutt grass are less likely to occur in young-terrace formation vernal pools found on Valley Springs soils. (pers. comm., R. Holland, 2004).

The Laguna geologic formation and its associated soils entirely characterize the SDCPA. Vernal pools found within this soil type are old-terrace types. Old-terrace types, because they have a lower slope gradient, tend to have pools that are larger, deeper, and clearer. These pools are inundated for longer periods, but dry and refill less often than the Valley Springs soil type. Generally, the smaller the vernal pool on this soil type, the higher its invertebrate diversity. Although vernal pool fairy shrimp occur in pools on both soil types, they are more frequently found in pools on Laguna soils. Vernal pool tadpole shrimp are found almost exclusively in old-terrace formation vernal pools found on Laguna soils.

Several areas containing old-terrace formation have been protected for their high quality vernal pool habitat and high concentration of special status species populations by the Sacramento Valley Conservancy (SVC). The proposed contiguous preserve area, the SVC's Vernal Pool Prairie Preserve, would cover 2,000 to 3,000 acres and supports a variety of special status plants and animals on relatively undisturbed grasslands containing young and old terrace formations and northern hardpan vernal pools. Within the proposed Prairie Preserve, areas already protected include the Arroyo Seco Mitigation Bank, the Excelsior 184 parcel, and the Sacramento County owned Multi-Cultural Park; outside of the proposed Prairie Preserve, the Sunrise Douglas Preservation Bank, and a portion of Howard Ranch are protected. All of these preserves are within proposed critical habitat for the two listed vernal pool crustaceans addressed in this biological opinion.

Factors Affecting the Species within the Action Area. A number of State, local, private, and unrelated Federal actions have occurred within the project area and adjacent region affecting the environmental baseline of these species. Some of these projects have been subject to prior section 7 consultation. Based on an informal review, the Service has issued, to date, approximately 195 biological opinions to Federal agencies on proposed projects in Sacramento County that have adversely affected the shrimp species since the two species were proposed to be listed in 1994. This total does not reflect the formal consultations that were withdrawn, those that are suspended, those that have insufficient information to conclude an effects analysis, those that were amended, or conference opinions. No State of California actions that have taken place within Sacramento County have adversely affected the species in the action area. Although these proposed projects in Sacramento County have eliminated vernal pools and vernal pool complexes, the offsetting compensating measures are designed to minimize the effects of take of

this species resulting in both negative and positive effects to the species. The trend for the two vernal pool species within the county, however, is most likely downward as the current rate of habitat preservation is less than the rate of historical and current habitat loss.

On-going residential and commercial developments within Sacramento County also affect the listed vernal pool crustaceans and their habitats. Human population growth in Sacramento County has steadily increased. For the period between 1990 and 2000, population growth in Sacramento County increased 17.5 percent, with an average annual growth rate of 17.5 percent (State of California 2002). The annual growth appears to be increasing, as demonstrated by the 2.63 percent and 2.2 percent increases in population growth in 2001 and 2002, respectively (State of California 2003a, 2003b). Increased housing demand and urban development accompany the population growth in Sacramento County. Between 1990 and 2000, housing units in Sacramento County increased by 1.37 percent annually (State of California 2000, 2003c). Population growth and concomitant housing demand and subsequent loss of vernal pool habitat are projected to continue. Population projections for Sacramento County are expected to increase above 2000 levels by 19.7 percent in 2010, by 28 percent in 2015, and by 37.5 percent in 2020 (State of California 2001).

In south Sacramento County, the Urban Services Boundary (USB) is a planning boundary that coincides with the areas north of the Cosumnes River/Deer Creek drainage system. Between 1993 and 2000, an estimated 14,950 acres were converted to urban development within the USB (pers. comm., D. Gifford, CDFG, 2004), based on an analysis of California Department of Water Resources mapping data. An independent analysis of urban growth in Sacramento County estimated that 22,000 acres were converted between 1990 and 2000, averaging 2,200 acres per year (pers. comm., R. Radmacher, Sacramento County, 2004). As of 1998 (the most recent year for which vernal pool mapping from aerial photographs is available), there remained an estimated 23,533 acres of vernal pool grasslands within the USB, supporting approximately 946 acres of wetland vernal pool acreage (pers. comm., L. Konde, CDFG, 2003).

The actions listed above have resulted in both direct and indirect impacts to vernal pools within the region, and have contributed to the loss of vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Although a reduction of the two shrimp populations has not been quantified, the acreage of lost habitat continues to grow.

Vernal Pool Crustacean Presence in the Proposed Action Area. Vernal pool complexes, occurring north of the Cosumnes River/Deer Creek drainage and within the USB, contain a high density of occupied pools of both vernal pool tadpole shrimp and vernal pool fairy shrimp. There are 31 known occurrences of vernal pool tadpole shrimp inside the USB, compared to 17 occurrences outside the USB (CNDDB 2005). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2005). There are 25 known occurrences of vernal pool fairy shrimp inside the USB, compared to 18 occurrences outside the USB (CNDDB 2005). The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp and 46 occurrences of vernal pool fairy shrimp have been recorded.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp have been documented to occur within the Sunridge Specific Plan area, including the proposed project site. Focused surveys for vernal pool crustaceans were conducted on the parcels within the Sunridge Specific Plan area using the Service's current Dip Net protocol between February and March of 1993 by Sugnet and Associates (1993). The results of these surveys indicated the presence of California linderiella (Linderiella occidentalis) from four discrete locations and vernal pool fairy shrimp from one location; vernal pool crustaceans were identified on the proposed Arista del Sol project site. All of the vernal pools and seasonal wetlands and some of the ponds on the proposed project site provide appropriate habitat for both vernal pool fairy shrimp and vernal pool tadpole shrimp. Because these species are known from other parcels within the SDCPA and vicinity, and it is likely the vernal pool crustaceans would disperse within the watershed between the project sites, the applicant assumes presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in all suitable habitat on the proposed project site (Foothill Associates 2005). Therefore, construction of the proposed project in any portion of the proposed project site that supports suitable habitat is likely to adversely affect populations of vernal pool fairy shrimp and vernal pool tadpole shrimp.

Effects of the Proposed Action

Although vernal pool fairy shrimp and vernal pool tadpole shrimp exhibit slightly differing habitat requirements and life cycles, they often inhabit the same vernal pool complexes and have been known to co-occur in individual vernal pools. These species are supported by similar habitat types, including vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, alkali flats, and other depressions that hold water of similar volume, depth, area, and duration. Therefore, both species are subject to a common set of threats and considerations.

Direct Effects

Direct effects are the immediate effects of the proposed project on the species or its habitat and include the effects of interrelated action and interdependent actions. Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those actions that have not independent utility apart from the proposed action (50 CFR §402.02).

The proposed project would result in fill of 10.52 acres of vernal pool crustacean habitat, including 5.37 acres of vernal pools, 0.36 acre of riverine seasonal wetlands, 0.02 acre of ephemeral drainage, and 4.77 acres of ponds. The Service considers an entire vernal pool or seasonal wetland to be directly affected when even a portion of it is filled or subject to similar direct affects.

Only two of the three ponds occurring on the proposed project site were identified as habitat for vernal pool crustaceans as vernal pool tadpole shrimp had been previously identified there (Sugnet & Associates, 1993). The third, larger pond is inundated year round and is therefore not

considered suitable habitat for these species (Foothill Associates 2005). Three small segments of ephemeral drainage were included as habitat for vernal pool crustaceans as these features directly link nearby vernal pools (Foothill Associates 2005).

Interrelated and Interdependent Actions

Additional effects from interrelated and interdependent actions are expected from the proposed project. Approximately 115 acres of vernal pools are present in the entire Sunridge Specific Plan area (Foothill Associates 2005). The Corps issued a permit for the largest project in this area, the approximately 1,225-acre Anatolia I, II, III property that included approximately 71 acres of vernal pools (Corps file number 190110021). This Corps permit authorized fill of approximately 27 acres of vernal pool crustacean habitat, and required the preservation of 44 acres of vernal pools within a 482-acre on-site preserve. With the exception of this preserve and a designated open space area along Laguna Creek near Grant Line Road, the Sunridge Specific Plan land use designations and zoning provide for urban land use throughout the plan's areas.

In 2004, the Federal Agencies developed two documents ("A Conceptual-Level Strategy for Avoiding, Minimizing, and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area"; and the accompanying planning map [Agency map]) that outline our strategies for conserving threatened and endangered species and wetland habitats and to provide a framework for development proposals. The conceptual design consists of two preserve areas. one entirely within the Sunridge Ranch project site (i.e., the Western Preserve) and one that incorporates portions of Sunridge Park, Douglas 103, Grantline 208, and the proposed project site (i.e., the Eastern Preserve). The approximately 50-acre Western Preserve was designed to protect populations of slender Orcutt grass, vernal pool fairy shrimp, and vernal pool tadpole shrimp. The approximately 159-acre Eastern Preserve would be designed to protect the headwaters of one of the forks of Morrison Creek as well as habitat for listed vernal pool crustaceans. The combined total of approximately 209 acres of wetland preserves would protect 17.32 acres of vernal pool crustacean habitat (Foothill Associates 2005). These preserves would be protected through conservation easements aimed at protecting preserve functions and values: the easements would be held and managed by a habitat management-focused non-profit entity, chosen by the land owners and approved by the Federal Agencies. These preserves would be managed and funded in perpetuity according to a preserve management plan prepared by landowners and approved by the Federal Agencies. The management plan would establish specific goals and objectives to ensure that the conditions within the preserves are maintained and, where needed, enhanced.

Development of the SDCPA will require the extension of certain utilities and the enlargement of certain roads in areas outside of the SDCPA boundary. Utility improvements include the development of a well field, water supply lines, and water treatment facilities and sewer lines. Well locations have all been sited to avoid affects to aquatic habitats. The water treatment facility will be located on land permitted for take in the Anatolia project (Service file number 1-1-F-96-0062) within the SDCPA boundary. All offsite road improvements and the sewer and water lines will be constructed in existing rights-of-way with affects to aquatic resources totaling less than one-half of an acre (Foothill Associates 2005).

All infrastructure improvements are required to serve the already permitted Anatolia project. Road improvement projects will be planned to provide service to Anatolia and the remaining projects within the SDCPA. Jaeger Road, an existing two-lane, partially paved road, will be paved from Douglas Road, south to Pyramid Road. Pyramid Road, an existing dirt road, will be improved from Sunrise Boulevard to Jaeger Road. Direct and indirect effects to vernal pool crustacean habitat that would result from the implementation of these two road improvement projects would be offset with conservation measures that would stipulate habitat preservation and creation (Foothill Associates 2005). The development of the Sunridge Specific Plan area for residential and commercial purposes would be facilitated by the proposed road widening project.

Continuing development in southern Sacramento County requires the installation of supporting infrastructure, such as sewer interceptors. The proposed Laguna Creek Interceptor would carry waste from developments that are scheduled for the Laguna area, servicing an area which extends northwest from the intersection of Bradshaw and Calvin Roads nearly to the intersection of White Rock and Scott Roads, including the entire proposed Sunrise-Douglas development. The exact route of the proposed Laguna Creek Interceptor is not known at this time; however the proposed project could have both direct and indirect effects on listed vernal pool crustaceans, and other listed species. The proposed Laguna Creek Interceptor, approximately 87,000 feet in length, would extend eastward from the Sacramento Regional Water Treatment Plant (SRWTP) to east of Sunrise Boulevard (SRCSD 2000). The Laguna Creek Interceptor is proposed to be constructed between 2010 and 2024. This proposed interceptor would also provide tie-ins for the future Deer Creek Interceptor, approximately 90,000 feet in length, which is proposed for construction between 2021 and 2032, and the Aerojet Interceptor, approximately 55,000 feet in length, which is proposed for construction between 2014 through 2033 (SRCSD 2000). These two interceptors would eventually service areas east of Grant Line Road and northeast of Sunrise Road, respectively.

These future projects may adversely affect several federally-listed species, including the vernal pool crustaceans, the giant garter snake (*Thamnophis gigas*), the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the California tiger salamander, the California red-legged frog (*Rana aurora draytonii*), the Delta smelt (*Hypomesus transpacificus*) and its designated critical habitat, and the slender and Sacramento Orcutt grasses.

Currently, a South Sacramento Habitat Conservation Plan (SSHCP) is being developed. So therefore, while development activities in south Sacramento County may negatively affect vernal pool crustaceans and other listed species and their habitats, the SSHCP, if completed, will eventually ensure that development activities would avoid, minimize, and compensate for take of listed species to the greatest extent possible. The SSHCP would address the indirect affects of facilitated planned development that results from the interrelated and interdependent actions that result from the proposed project. At minimum, the SSHCP will address the Federal and state listed species known at this time that may be affected by actions that are reasonably foresceable as a result of the proposed action. Additional HCP-covered species may be added as the HCP is being developed. The SSHCP will be coordinated with CDFG and will include any appropriate State listed species. The SSHCP will address actions that are within the land use authority of

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Sacramento County and are reasonably foreseeable as a result of the proposed action, including land use approvals that are related to entitlements. Additional activities may be added as the SSHCP is developed. The SSHCP will cover a cumulative effects boundary area that is reasonably foreseeable as a result of the proposed project and the future projects.

Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action (50 CFR §402.02). The Service considers all vernal pool crustacean habitat not considered to be directly affected but within 250 feet of proposed construction activities to be indirectly affected by project implementation. Indirectly affected habitat includes all habitat supported by future destroyed areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the proposed project.

The proposed project could result in indirect effects to a total of 1.44 acres of suitable vernal pool crustacean habitat. Approximately 1.13 acres of these wetland features exist on land that is proposed for the on-site wetland preserve; however, these features will be indirectly affected by construction activities occurring within 250 feet of them. In addition, vernal pool crustacean habitat that is adjacent and south (Grantline 220) and east (Sunridge 530) of the proposed project site would be indirectly affected by the implementation of the proposed project. Vernal pool crustacean habitat to the east is divided from the proposed project site by Grantline Road, a major roadway, and therefore indirect effects are not anticipated. North and adjacent to the proposed project site is the Grantline 208 property, within the approved Sunrise Douglas Community Plan, that has submitted a Clean Water Act permit application to fill wetlands; a separate section 7 consultation has been completed for this project that addressed direct and indirect effects to vernal pool crustacean habitat on this.

Indirect effects to vernal pools in the project vicinity that could result from the implementation of the proposed project include hydrologic alteration, disturbances from construction equipment, non-point source pollution, and impacts from human encroachment. Individual crustaceans and their cysts, which may inhabit these vernal pools and seasonal wetlands, may be injured or killed by any of the following indirect effects:

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat

(Zelder 1987). Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.

Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affected water quality. Many of these chemical compounds are thought to have adverse affects on all of the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

Insecticide Contamination -- Recent research suggests that pyrethroid insecticide use in residential developments will cause toxicity, and even mortality, to aquatic species (Weston *et al.*, in press). The application of these insecticides, and subsequent runoff into aquatic features surrounding residential developments, was demonstrated to be a limiting factor for aquatic invertebrates; in fact, the abundance of resident macroinvertebrates was inversely correlated with concentrations of pyrethroid insecticides (Weston *et al.*, in press).

The proposed project will contribute to a local and range-wide trend of habitat loss, fragmentation, and degradation—the principle reasons that the vernal pool tadpole shrimp and vernal pool fairy shrimp have declined and were given protection under the Act. The proposed project, in combination with ongoing loss of habitat, will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in south Sacramento County and is expected to lead to the reduction in the range of both of these listed vernal pool crustaceans.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Large areas within south Sacramento County, including the SDCPA, have been designated for development in the next 20 years under the Sacramento General Plan. The timeline for development in these areas began in the early 1990s and is expected to continue for the next 5 to 10 years. This growth and conversion would contribute to several potentially significant affects to listed species, including loss, alteration, or degradation of habitat, particularly of wetlands, degradation of water quality, and increases in the frequency and intensity of flooding.

A number of on-going and proposed projects could contribute to adverse affects to vernal pool crustaceans within Sacramento County, particularly in the vicinity of the proposed project. In most cases, however, these actions would be subject to Federal review and would, therefore, not be considered cumulative to the proposed project. For instance, several large highway and light rail construction, road improvement, water transfer, and utility and interceptor installation projects are currently planned or underway in south Sacramento County. These projects will contribute to the loss and degradation of habitats of listed species across their range, particularly in south Sacramento County. These activities may alter vernal pool crustacean habitats and can potentially harass, harm, injure, or kill these species. Because these activities have a Federal nexus, the Service will analyze these projects to determine if they will result in the jeopardy of federally-listed species and/or adverse modification and destruction of critical habitat for these species. An undetermined number of future projects that alter the habitat of vernal pool crustaceans, however, could go forward without the need for a Corps 404 permit. Activities that would potentially affect listed vernal pool crustaceans include development associated with urban, water, flood control, highway/roadway and utility projects, application of herbicides/pesticides, conversion to agricultural use, and indirect effects of adjacent development such as urban run-off altering the hydrologic regime.

The Service is aware of other projects currently under review by the State, County, and local authorities where biological surveys have documented the occurrence of federally-listed species. These projects include such actions as urban expansion, water transfer projects that may not have a Federal nexus, and continued agricultural development. The cumulative effects of these known actions pose a significant threat to the eventual recovery of these species. Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coastal ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California, the Service anticipates that a wide range of activities will affect these species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects, (4) highway projects, (5) utility projects, (6) chemical contaminants, and (7) conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act).

The proposed project is located is a region where future destruction and modification of vernal pool crustacean habitat is anticipated. Sacramento County will continue to develop within the County's sphere of influence. This development will result in increased direct loss of habitats for these listed species. Continued loss of these habitats throughout the region could conceivably affect the genetic diversity of the local population(s) of listed vernal pool crustaceans. Any loss of genetic diversity can have significant effects on a population's ability to respond to environmental change over time (Frankel and Soulé 1981). Within the proposed action area, the predominant types of non-Federal actions that might affect the listed vernal pool crustaceans consist of residential and commercial development, with effects the same as, or similar to. those described above.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp and vernal pool tadpole shrimp, the environmental baselines for the area covered by this biological opinion, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Arista del Sol project, as proposed, is not likely to jeopardize the continued existence of these species. Critical habitat has been designated in Sacramento County for the vernal pool fairy shrimp or the vernal pool tadpole shrimp, although the proposed project is not located within critical habitat designated for these listed species. Therefore, the proposed project is not likely to destroy or adversely modify designated critical habitat for both the vernal pool fairy shrimp and the vernal pool tadpole shrimp, or any other listed species.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(0)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require any entity participating in the project to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(0)(2) may lapse.

Amount or Extent of Take

The implementation of the proposed project will directly affect 10.52 acres and indirectly affect 1.44 acres of vernal pool crustacean habitat. The Service anticipates incidental take of vernal pool tadpole shrimp and vernal pool fairy shrimp will be difficult to detect or quantify for the following reasons: the aquatic nature of the organisms and their relatively small body size make the finding of a dead specimen unlikely; losses may be masked by seasonal fluctuations in numbers and other causes; and the species occurs in habitat that makes them difficult to detect.

Due to the difficulty in quantifying the number of vernal pool fairy shrimp and vernal pool tadpole shrimp that will be killed as a result of the proposed action, the Service is quantifying take incidental to the project as the number of acres of vernal pool crustacean habitat that will become unsuitable for the listed species due to direct or indirect affects as a result of the proposed project. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 11.96 acres of vernal pool crustacean habitat will harassed, harmed, injured, or killed, as a result of the proposed project.

Upon implementation of the following reasonable and prudent measures, all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 11.96 acres of vernal pool crustacean habitat will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects associated with the proposed Arista del Sol project. The listed vernal pool crustaceans may be harmed, harassed or killed in association with the acres exempted under Section 9 of the Act. No other forms of take are authorized under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool tadpole shrimp and vernal pool fairy shrimp. The proposed project is not likely to result in destruction or adverse modification of designated critical habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp because no critical habitat for these species has been designated in the proposed action area.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the proposed project on the vernal pool fairy shrimp and vernal pool tadpole shrimp in the form of harm, harassment, and mortality in the form of habitat degradation will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. Minimize the direct and indirect effects to federally-listed vernal pool crustaceans resulting from habitat modification and habitat loss in the Sunrise Douglas Community Plan Area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1. The Corps shall fully implement the principles and standards outlined in the document titled, "June 2004 Conceptual Strategy for Avoiding Minimizing and Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area", for this project.
- The Corps shall fully implement the March 2004 map titled, "Sunrise-Douglas Community Plan Area Conceptual-Level Strategy for Aquatic Resource Protection" for this project.
- 3. The Corps shall assure all conservation measures as proposed by the project proponent (pages 9-12 of the *Arista del Sol Section 7 Biological Assessment* (Foothill Associates 2005) and in the May 31, 2006, email from Foothill Associates to the Service), and identified by the Service on pages 6-10 in the project description of our biological opinion are fully implemented.
- 4. The Corps shall assure the following "Best Management Practices" are implemented during project construction:
 - a. The project proponent shall include a copy of this biological opinion within its solicitations for construction of the proposed project, making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The project proponents shall make the terms and conditions in this biological opinion a required item in all contracts for the project that are issued by the County to all contractors. The project proponents shall provide the Division Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office with a hardcopy of the contract(s) for this project at least ten (10) working days before it is accepted or awarded.
 - b. At least 30 calendar days prior to initiating construction activities, the project proponents shall submit the names and curriculum vitae of the biological monitor(s) for the project.
 - c. A Service-approved biologist must be on-site during all construction-related activities that occur within 250 feet of vernal pool crustacean habitat, and that could result in the take of these federally-listed species. The biologist will have the authority to halt any action that might result in take of listed species. If the biologist exercises this authority, the Service and the CDFG shall be notified by telephone and letter within one (1) working day.
 - d. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before the commencement of construction. The program shall provide workers with information on their responsibilities with regard to the listed vernal pool crustaceans, an overview of the life-history of the species, information on take prohibitions, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within three (3) working days of the completion of instruction.

- e. Prior to groundbreaking, high-visibility fencing that is at least 5 feet tall shall be placed along the boundaries of the construction zone to clearly mark this zone and to prevent construction vehicles or personnel from straying onto adjacent off-site habitat and the onsite wetland preserve. Such fencing will be inspected by the on-site biologist at the beginning of each work day and maintained in good condition. The fencing may be removed only when the construction of the project is completed.
- f. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance, and all vehicle traffic on access roads will observe a speed limit of 20 miles per hour.
- g. To control erosion during and after implementation of the project, the applicant will implement best management practices (BMPs), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMPs, which retain soil or sediment, runoff from dust control, and hazardous materials on the construction site and prevent these from entering the vernal pool complexes, will be placed, monitored, and maintained throughout the construction operations. These measures and BMPs may include, but are not limited to, silt fencing, sterile hay bales. vegetative strips, hydroseeding, and temporary sediment disposal. The Stormwater Pollution Prevention Plan (SWPPP) described in the Proposed Conservation Measures section on pages 8-10 of this biological opinion shall include these and any other measures necessary to prevent the discharge of contaminated runoff onto the onsite wetland preserve and adjacent offsite wetland habitats. This SWPPP should be submitted to the Service for review and approval at least 90 days prior to any ground-breaking activity on the proposed project site.
- h. All heavy equipment, vehicles, and supplies will be stored at the designated staging area at the end of each work period. The stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas and exclusive of the open space/wetland preserve and offsite wetland avoidance areas. Staging areas for construction equipment will be located so that spills of oil, grease or other petroleum by-products will not be discharged into any watercourse or sensitive habitat. All fueling, cleaning, maintenance, and staging of vehicles and other equipment will occur only within designated areas and at least 250 feet away from the open space/wetland preserve and any off-site vernal pool crustacean habitats. All machinery will be properly maintained and cleaned to prevent spills and leaks. The applicant will ensure contamination of habitat does not occur during such operations. All workers will be informed of the importance of preventing spills and appropriate measures to take should a spill occur. Any spills or hazardous materials will be cleaned up immediately in accordance with applicable local, state and/or Federal regulations. Such spills will be reported in the post-construction compliance reports.

- i. No clearing of vegetation and scraping, or digging, of soil in the avoided/preserve area
- 5. The Corps shall ensure that applicant avoids activities that would impact the onsite avoided area/preserve areas such as:
 - a. Alteration of topography within the preserve;
 - b. Placement of any new structures (including outfalls, culverts, electrical/gas transmission lines) within the preserve unless specifically addressed in the project description;
 - c. Dumping, burning, and/or burying of rubbish, garbage, or any other wastes and fill materials in the preserve area;
 - d. Fire protection activities not required to protect existing structures at the proposed project site; and
 - e. Use of pesticides or other toxic chemicals in the preserve unless addressed in the project description of subsequent management plans.
- 6. The Corps shall ensure the applicant complies with the *Reporting Requirements* of this biological opinion.
- 7. The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat loss through a combination of on-site and offsite habitat preservation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat preservation bank and documentation provided to the Service. This habitat preservation bank should be within the Sunrise Douglas Community Plan Area.

If the applicant chooses not to use an approved preservation bank, then at least 120 days prior to construction, the applicant shall submit documentation of the preservation habitat including conservation easement, management plan, funding instrument, easement holder etc. for our approval.

8. The applicant has proposed to offset direct and indirect effects of vernal pool crustacean habitat through habitat restoration or creation, as described in the Proposed Conservation Measures section on pages 6-8 of this biological opinion. Prior to any fill of wetlands on the proposed project site, credits commensurate with acreage commitment shall be dedicated within a Service-approved habitat restoration/creation bank. If the applicant chooses not to use an approved creation/restoration bank, then at least 90 days prior to construction, the applicant shall submit documentation of the creation/restoration habitat including: construction plan, conservation easement, management plan, funding instrument, easement holder etc. for our approval. In addition to the criteria proposed by the project proponent, as described in the Proposed Conservation Measures section on

page 7 of this biological opinion, the Service shall utilize the following additional criteria when approving a restoration/creation site:

- a. Any vernal pool restoration/creation must minimize effects to any adjacent and existing vernal pools and wetlands; and
- b. Densities of restored/created vernal pools must not be greater than historical densities for the geologic formation.

Reporting Requirements

The Service-approved biologist shall notify the Service immediately if any listed species are found on site, and shall submit a report including the date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The Service-approved biologist shall submit locality information to the CDFG, using completed California Native Species Field Survey Forms, no more than 30 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site, such as a photocopy of a portion of the appropriate 7.5-minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5-minute or 15-minute quadrangle; dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation type. The Service-approved biologist shall also provide a high quality copy of this information to the staff zoologist, California Department of Fish and Game, 1807 13th Street #202, Sacramento, California, 95814, phone (916) 445-0045.

Any contractor or employee who, during routine operations and maintenance activities, inadvertently kills or injures a listed wildlife species must immediately report the incident to their representative. The Service is to be notified within one (1) working day of the finding of any dead or injured listed wildlife species or any unanticipated take of the species addressed in this biological opinion. The Service contact persons for this are the Division Chief, Endangered Species Division (Central Valley) at (916) 414-6600 and Resident Agent-in-charge Scott Heard at (916) 414-6660.

The project proponents shall submit a post-construction compliance report prepared by the monitoring biologists to the Sacramento Fish and Wildlife Office (SFWO) within 30 calendar days of the completion of construction activity. This report shall detail the following: (1) dates that construction occurred; (2) pertinent information concerning the success of the project in meeting conservation measures; (3) an explanation of failure to meet such measures, if any; (4) occurrences of incidental take of vernal pool crustaceans, if any; and (6) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and

threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

- 1. The Corps should work with the Service to address significant, unavoidable environmental effects resulting from projects proposed by non-Federal parties.
- 2. The Corps should assist the Service in implementing the final recovery plan for vernal pool species by requiring applicants to adhere to the conservation measures and rates of habitat preservation described in the document.
- 3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the affects of proposed projects on listed vernal pool crustacean species.
- 4. The Corps, in partnership with the Service, should develop maintenance guidelines for the Corps projects that will reduce adverse effects of routine maintenance on vernal pool crustaceans and their habitats. Such action may contribute to the delisting and recovery of the species by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.
- 5. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans, in Sacramento County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation with the Corps on the proposed Arista del Sol project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact this office at (916) 414-6645 if you have any questions regarding the proposed Arista del Sol project.

Sincerely,

Qo,

Ken Sanchez Assistant Field Supervisor

cc:

ARD (ES), Portland, OR Kent Smith, California Dept. of Fish and Game, Rancho Cordova, CA Elizabeth Goldman, Environmental Protection Agency, San Francisco, CA Sheri Dister, Foothill Associates, Rocklin, CA Robert Uram, Sheppard Mullin Richter & Hampton, LLP, San Francisco, CA Thad Johnson, Pappas Investments, Sacramento, CA

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Appendix E

Materials and Comments Provided during Scoping

SUNRIDGE SPECIFIC PLAN PROPERTIES

EIS SCOPING MEETING

Meeting Materials

&

Comments Provided During Scoping

Scoping Period

July 30 to August 31, 2009



Public Notice

US Army Corps of Engineers Sacramento District 1325 J Street Sacramento, CA 95814-2922

Public Notice Number: SPK-2009-00511 Date: July 20, 2009 Comments Due: August 31, 2009 In reply, please refer to the Public Notice Number

SUBJECT: Intent to Prepare a Draft Environmental Impact Statement for the Sunridge Specific Plan Projects, in Rancho Cordova, Sacramento County, CA

SUMMARY: The U.S. Army Corps of Engineers, Sacramento District, (Corps) will prepare a Environmental Impact Statement (EIS) for six residential development projects in the Sunridge Specific Plan area in Rancho Cordova, Sacramento County, California. The EIS is being prepared for the projects as part of ongoing litigation concerning Department of the Army permits issued by the Corps between 2005 and 2007 for five of the projects and a pending permit decision for the sixth. A stay in the litigation is in place while the Corps reevaluates the impacts of these projects through preparation of the EIS. Collectively the projects would require the filling of approximately 29.7 acres of waters of the United States, including wetlands.

ADDRESSES: Please send written comments to Michael Jewell, U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Room 1480, Sacramento, CA, 95814-2922.

FOR FURTHER INFORMATION CONTACT: Questions about the EIS can be answered by Michael Jewell, (916) 557-6605, email: *michael.s.jewell@usace.army.mil*, address: 1325 J Street, Room 1480, Sacramento, CA 95814-2922.

SUPPLEMENTARY INFORMATION:

The Sunridge Specific Plan area is a master-planned area consisting of nine residential and commercial developments located in eastern Rancho Cordova, Sacramento County, California. The Specific Plan, which was originally approved by the County of Sacramento in 2002, is part of a larger planning effort in the City of Rancho Cordova called the Sunrise-Douglas Community Plan. Three of the nine projects in the Sunridge Specific Plan area have been built. The proposed action is the construction of the remaining six projects in the Specific Plan area. Collectively, these six projects are referred to as the Sunridge Specific Plan Projects.

Between 2005 and 2007, the Corps completed Environmental Assessments, made Findings of No Significant Impact, and issued permits for five of the six Sunridge Specific Plan Projects. The permitted projects are Anatolia IV, Sunridge Village J, Grantline 208, Douglas Road 98, and Douglas Road 103. A permit decision has not been rendered for the sixth of the Sunridge Specific Plan Projects, Arista Del Sol.

1. Anatolia IV (ID SPK-1994-00210): The permitted project is located on a 25-acre site south of Douglas Road and adjacent to the west side of Jaeger Road. Approximately 1.36 acres of waters of the United States, including wetlands, are to be filled to construct 134 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 1.36 acres of wetland habitat. The permittee for this project is Sunridge, LLC.

2. Sunridge Village J (ID SPK-2001-00230): The permitted project is located on a 81.25-acre site in the southwest corner of the intersection formed by Douglas Road and Jaeger Road. Approximately 2.99 acres of waters of the United States, including wetlands, are to be filled to construct 369 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 3.38 acres of wetland habitat. The permittee for this project is Cresleigh Homes.

3. Grantline 208 (ID SPK 1994-00365): The permitted project is located on a 211-acre site in the southeast corner of the intersection formed by Douglas Road and Grantline Road. Approximately 5.7 acres of waters of the United States, including wetlands, are to be filled to construct 855 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 6.15 acres of wetland habitat. The permittee for this project is Grantline Investors, LLC.

4. Douglas Road 98 (ID SPK-2002-00568): The permitted project is located on a 105-acre site south of Douglas Road and adjacent to the west side of Grantline Road. Approximately 3.9 acres of waters of the United States, including wetlands, are to be filled to construct 693 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 3.9 acres of wetland habitat. The permittee for this project is Woodside Homes.

5. Douglas Road 103 (ID SPK-1997-00006): The permitted project is located on a 106-acre site adjacent to the south side of Douglas Road and west of Grantline Road. Approximately 2 acres of waters of the United States, including wetlands, are to be filled to construct 301 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 7.25 acres of wetland habitat. The permittee for this project is Douglas Grantline 103 Investors, LLC.

6. Arista Del Sol (ID SPK-2004-00458): The proposed project is located on a 210-acre site south of Douglas Road and adjacent to the west side of Grantline Road. Approximately 13.9 acres of waters of the United States, including wetlands, would be filled to construct 906 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee proposed to construct 13.9 acres of wetland habitat. The permit applicant for this project is Pappas Investments.

The EIS will include an evaluation of a reasonable range of alternatives. Currently, the following alternatives are expected to be analyzed in detail: (1) the no action alternative, (2) the proposed action (the applicants preferred projects), and (3) a reduced development footprint alternative. The no action alternative will be limited development on uplands, while avoiding all waters of the United States. A reduced development footprint alternative will involve less development with fewer impacts to waters of the United States.

The Corps' scoping process for the EIS includes a public involvement program with several opportunities to provide oral and written comments. In addition to public meetings and notifications in the Federal Register, the Corps will issue public notices when the draft and final EISs are available. Affected federal, state, and local agencies, Native American tribes, and other interested private organizations and parties are invited to participate.

Potentially significant issues to be analyzed in the EIS include, but are not limited to: hydrology, water supply, water quality, cultural resources, biological resources, traffic and transportation, and air quality.

The Corps is the lead agency for preparation of the EIS under the requirements of the National Environmental Policy Act (NEPA). The Corps has requested the U.S. Environmental Protection Agency (EPA) and U.S. Fish and Wildlife Service (USFWS) serve as cooperating agencies on the EIS. The Corps will coordinate with other agencies, such as the City of Rancho Cordova, in

preparation of the EIS.

Other environmental review and consultation requirements for the proposed actions include water quality certification under Section 401 of the Clean Water Act from the California Regional Water Quality Control Board. All six of the Sunridge Specific Plans projects have received water quality certification. In addition, because the projects may affect federally-listed endangered species, the Corps was required to consult with the USFWS in accordance with Section 7 of the federal Endangered Species Act. Biological Opinions were issued by the USFWS for all six projects.

Two public scoping meetings for the EIS will be held on July 30, 2009, with the first from 5:00pm to 6:00pm and the second from 7:00pm to 8:00pm. The meetings will be held at the Rancho Cordova City Hall, 2729 Prospect Park Drive, American River Room – South, Rancho Cordova, CA 95670. Interested parties can provide oral and written comments at the meetings. Scoping comments should be submitted before August 31, 2009 but may be submitted at any time prior to publication of the Draft EIS.

Interested parties may register for the Corps' public notice email notification lists at: http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pnlist.html. systems subject to the Privacy Act of 1974 (5 U.S.C. 552a), as amended. The proposed deletion is not within the purview of subsection (r) of the Privacy Act of 1974, (5 U.S.C. 552a), as amended, which requires the submission of a new or altered system report.

Dated: July 13, 2009.

Morgan E. Frazier,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

S434.15 DLA-C

SYSTEM NAME:

Automated Payroll Cost and Personnel System (APCAPS).

REASON:

Records are now covered under the DFAS Privacy notice T7205a, entitled "Defense Business Management System (DBMS)" published July 2, 2009, at 74 FR 31711.

[FR Doc. E9–17152 Filed 7–17–09; 8:45 am] BILLING CODE 5001–06–P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Intent To Prepare a Draft Environmental Impact Statement for the Sunridge Specific Plan Projects, in Rancho Cordova, Sacramento County, CA, ID SPK–2009–00511

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DOD. **ACTION:** Notice of intent.

SUMMARY: The U.S. Army Corps of Engineers, Sacramento District, (Corps) will prepare a Environmental Impact Statement (EIS) for six residential development projects in the Sunridge Specific Plan area in Rancho Cordova, Sacramento County, California. The EIS is being prepared for the projects as part of ongoing litigation concerning Department of the Army permits issued by the Corps between 2005 and 2007 for five of the projects and a pending permit decision for the sixth. A stay in the litigation is in place while the Corps reevaluates the impacts of these projects through preparation of the EIS. Collectively the projects would require the filling of approximately 29.7 acres of waters of the United States, including wetlands.

ADDRESSES: Please send written comments to Michael Jewell, U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Room 1480, Sacramento, CA, 95814–2922.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and EIS can be answered by Michael Jewell, (916) 557–6605, *e-mail: michael.s.jewell@usace.army.mil.*

SUPPLEMENTARY INFORMATION: The Sunridge Specific Plan area is a masterplanned area consisting of nine residential and commercial developments located in eastern Rancho Cordova, Sacramento County, California. The Specific Plan, which was originally approved by the County of Sacramento in 2002, is part of a larger planning effort in the City of Rancho Cordova called the Sunrise-Douglas Community Plan. Three of the nine projects in the Sunridge Specific Plan area have been built. The proposed action is the construction of the remaining six projects in the Specific Plan area. Collectively, these six projects are referred to as the Sunridge Specific Plan Projects.

Between 2005 and 2007, the Corps completed Environmental Assessments, made Findings of No Significant Impact, and issued permits for five of the six Sunridge Specific Plan Projects. The permitted projects are Anatolia IV, Sunridge Village J, Grantline 208, Douglas Road 98, and Douglas Road 103. A permit decision has not been rendered for the sixth of the Sunridge Specific Plan Projects, Arista Del Sol.

1. Anatolia IV (ID SPK-1994-00210): The permitted project is located on a 25acre site south of Douglas Road and adjacent to the west side of Jaeger Road. Approximately 1.36 acres of waters of the United States, including wetlands, are to be filled to construct 134 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 1.36 acres of wetland habitat. The permittee for this project is Sunridge, LLC.

2. Sunridge Village J (ID SPK-2001-00230): The permitted project is located on a 81.25-acre site in the southwest corner of the intersection formed by Douglas Road and Jaeger Road. Approximately 2.99 acres of waters of the United States, including wetlands, are to be filled to construct 369 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 3.38 acres of wetland habitat. The permittee for this project is Cresleigh Homes.

3. Grantline 208 (ID SPK 1994–00365): The permitted project is located on a 211-acre site in the southeast corner of the intersection formed by Douglas Road and Grantline Road. Approximately 5.7 acres of waters of the United States, including wetlands, are to be filled to construct 855 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 6.15 acres of wetland habitat. The permittee for this project is Grantline Investors, LLC.

4. Douglas Road 98 (ID SPK-2002-00568): The permitted project is located on a 105-acre site south of Douglas Road and adjacent to the west side of Grantline Road. Approximately 3.9 acres of waters of the United States, including wetlands, are to be filled to construct 693 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 3.9 acres of wetland habitat. The permittee for this project is Woodside Homes.

5. Douglas Road 103 (ID SPK-1997-00006): The permitted project is located on a 106-acre site adjacent to the south side of Douglas Road and west of Grantline Road. Approximately 2 acres of waters of the United States, including wetlands, are to be filled to construct 301 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee would construct 7.25 acres of wetland habitat. The permittee for this project is Douglas Grantline 103 Investors, LLC.

6. Arista Del Sol (ID SPK-2004-00458): The proposed project is located on a 210-acre site south of Douglas Road and adjacent to the west side of Grantline Road. Approximately 13.9 acres of waters of the United States, including wetlands, would be filled to construct 906 houses, several roads and other infrastructure. As compensation for the loss of waters, the permittee proposed to construct 13.9 acres of wetland habitat. The permit applicant for this project is Pappas Investments.

The EIS will include an evaluation of a reasonable range of alternatives. Currently, the following alternatives are expected to be analyzed in detail: (1) The no action alternative, (2) the proposed action (the applicants preferred projects), and (3) a reduced development footprint alternative. The no action alternative will be limited development on uplands, while avoiding all waters of the United States. A reduced development footprint alternative will involve less development with fewer impacts to waters of the United States.

The Corps' scoping process for the EIS includes a public involvement program with several opportunities to provide oral and written comments. In addition to public meetings and notifications in the **Federal Register**, the Corps will issue public notices when the draft and final EISs are available. Affected federal, state, and local agencies, Native American tribes, and other interested private organizations and parties are invited to participate.

Potentially significant issues to be analyzed in the EIS include, but are not limited to: Hydrology, water supply, water quality, cultural resources, biological resources, traffic and transportation, and air quality. The Corps is the lead agency for preparation of the EIS under the requirements of the National Environmental Policy Act (NEPA). The Corps has requested the **U.S. Environmental Protection Agency** (EPA) and U.S. Fish and Wildlife Service (USFWS) serve as cooperating agencies on the EIS. The Corps will coordinate with other agencies, such as the City of Rancho Cordova, in preparation of the EIS.

Other environmental review and consultation requirements for the proposed actions include water quality certification under Section 401 of the Clean Water Act from the California Regional Water Quality Control Board. All six of the Sunridge Specific Plans projects have received water quality certification. In addition, because the projects may affect federally-listed endangered species, the Corps was required to consult with the USFWS in accordance with Section 7 of the federal Endangered Species Act. Biological Opinions were issued by the USFWS for all six projects.

Two public scoping meetings for the EIS will be held on July 30, 2009, with the first from 5 p.m. to 6 p.m. and the second from 7 p.m. to 8 p.m. The meetings will be held at the Rancho Cordova City Hall, 2729 Prospect Park Drive, American River Room—South, Rancho Cordova, CA 95670. Interested parties can provide oral and written comments at the meetings. Scoping comments should be submitted before August 31, 2009 but may be submitted at any time prior to publication of the Draft EIS.

Interested parties may register for the Corps' public notice email notification lists at: http://www.spk.usace.army.mil/ organizations/cespk-co/regulatory/ pnlist.html.

Dated: July 9, 2009

James A. Porter,

Lt. Colonel, Corps of Engineers, Acting District Engineer.

[FR Doc. E9–17159 Filed 7–17–09; 8:45 am] BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Notice of Availability of the Final Environmental Impact Statement for the C–111 Spreader Canal Western Project Located in Miami-Dade Counties, FL

AGENCY: U.S. Army Corps of Engineers, DoD.

ACTION: Notice of availability.

SUMMARY: The U.S. Army Corps of Engineers (USACE) is issuing this notice to advise the public that a Final Environmental Impact Statement (EIS) has been completed and is available for review and comment.

DATES: In accordance with the National Environmental Policy Act (NEPA), we have filed the Final EIS with the U.S. Environmental Protection Agency (EPA) for publication of their notice of availability in the Federal Register. The EPA notice officially starts the 30-day review period for this document. It is the goal of the USACE to have this notice published on the same date as the EPA notice. However, if that does not occur, the date of the EPA notice will determine the closing date for comments on the Final EIS. Comments on the Final EIS must be submitted to the address below under Further Contact Information and must be received no later than 5 p.m. Eastern Standard Time, Monday, August 17, 2009.

ADDRESSES: The Final EIS can be viewed online at *http://*

www.saj.usace.army.mil/Divisions/ Regulatory/InterestItems.htm. Copies of the Final EIS are also available for review at the following libraries: Miami-Dade Public Library, Homestead Branch, 700 N. Homestead Blvd., Homestead, FL 33030. Miami-Dade Public Library, Main Branch, 101 West Flagler Street, Miami, FL 33130.

FOR FURTHER INFORMATION CONTACT: Ms. Alisa Zarbo, Project Manager, U.S. Army Corps of Engineers, Jacksonville District, 4400 PGA Boulevard, Suite 500, Palm Beach Gardens, Florida 33410, *Telephone:* 561–472–3516, *Fax:* 561–626–6971.

SUPPLEMENTARY INFORMATION: The South Florida Water Management District (SFWMD) proposes to construct the C-111 Spreader Canal Western Project in Miami-Dade County. The project addresses the need to restore ecosystem function in Taylor Slough and Florida Bay within the Everglades National Park, the adjacent Southern Glades, the Model Land, and other associated wetlands and estuarine systems. The SFWMD anticipates that this proposed project will become an authorized Comprehensive Everglades Restoration Plan (CERP) project, and that it will receive credit for the early construction of this proposed project as the local sponsor. This Final EIS builds upon the draft Project Implementation Report (PIR)/EIS that has already been released to the public under the CERP and the Regulatory program. As such, this EIS includes numerous discussions of compliance with CERP requirements. While not critical to the Department of the Army permit decision, this information provides more context than a typical EIS and also details about USACE planning policy.

The C–111 Spreader Canal Western Project is essential to achieving restoration of Taylor Slough and downstream areas within the affected areas in the Everglades National Park, the Model Land and the Southern Glades area, and plays an integral role in meeting the CERP system-wide ecosystem restoration goals and objectives. Structural and operational changes will be implemented to improve the quantity, timing, and distribution of water delivered to Florida Bay via Taylor Slough, as well as improve hydroperiods within the wetlands of the Southern Glades and Model Land. Hydroperiods and hydropatterns within the wetlands of the Southern Glades and Model Land will be improved by the construction of a new operable water control structure in the lower C-111 Canal, incremental operational changes at existing structure S-18C, changes in operations at the existing S-20 structure, construction of a plug at existing structure S-20A, and the installation of ten earthen plugs in the C-110 Canal. As a result of the construction and operation of the C-111 Spreader Canal Western project, approximately 200.73 acres (in total) of wetlands and waters of the United States would be permanently impacted and 39.98 acres (in total) of wetlands and waters of the United States would be temporarily impacted as a result of the placement of fill material, excavation, and/or flooding. In addition, approximately 149.26 acres of atypical wetlands (agricultural) would be impacted by excavation, then inundated with water. The SFWMD would need to obtain a U.S. Department of the Army permit from the USACE pursuant to Section 404 of the Clean Water Act. This final Environmental Impact Statement evaluates the environmental effects of seven alternatives, including the

PROOF OF PUBLICATION

STATE OF CALIFORNIA)

County of Sacramento)

I am a citizen of the United States and a resident of the Country aforesaid. I am over the age of eighteen years and not a party to or interested in the above entitled matter. I am the principal clerk of the printer of THE GRAPEVINE INDEPENDENT, a newspaper of general circulation published in the County of Sacramento, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of Sacramento, State of California, under date of September 18, 1969, Case Number 195380 that the notice, of which the annexed is a printer copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

)ss.

July 24, 2009

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

SIGNATURE Date

July 24, 2009

THE GRAPEVINE INDEPENDENT 3338 Mather Field Rd., Rancho Cordova, CA 95670

Notice of Public Meetings July 30, 2009 Sunridge Specific Plan Projects EIS

The U.S. Army Corps of Engineers, Sacramento District (Corps) invites interested individuals to attend a public scoping meeting for the preparation of an Environmental Impact Statement (EIS) for six projects in the Sunridge Specific Plan Area, in the City of Rancho Cordova. The EIS will address five projects permitted by the Corps between 2005 and 2007 and one project with a permit decision pending. Collectively the projects would involve the filling of approximately 29.7 acres of waters of the United States, including wetlands.

Two public scoping meetings for the EIS will be held on July 30, 2009. The first meeting will be held 5:00 pm to 6:00 pm and the second 7:00 pm to 8:00 pm. Both meetings will be held at the Rancho Cordova City Hall, American River Room - South, 2729 Prospect Park Drive, Rancho Cordova, CA 95670

Interested parties may register for the Corps' public notices and email notifications at:

http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pnlist.html.

Written comments on the scope of the EIS should be submitted to Michael Jewell, U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Room 1480 Sacramento, CA 95814-2922

The Deadline for Providing Comments on the EIS Scope is August 31, 2009

Published in the Grapevine Independent on July 24, 2009.

NOTICE OF TRUSTEE'S SALE TRUSTEE SALE # CA0939197-2 LOAN# 1720030032 ORDER # 4071182 YOU ARE IN DEFAULT UNDER A DEED OF TRUST DATED 04/16 2007. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY. IT MAY BE SOLD AT A PUBLIC SALE IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROTECTION OF THE NATURE OF 500, (94) T / PAY OFI 252-830 Grape st 7 e Grapevine aust 7, 2009.

PUBLIC LIEN SALE Hom Road Self Storage 9973 Hom Road Sacramento, CA 95827 (916)366-6226 Fax:(916)366-6263



NOTICE IS HEREBY GIVEN
that the undersigned intends to sell the personal property described below to end business & Professions Code Section 2328 of the UCC, Section 353 of the Penal Code and provisions of the Civil Code.
The Undersigned will sell at public sale by competitive bidding on August 6, 2009, at 10:00 a.m. on the premises where said property has been stored and which are located at Horn Road Self Storage, 9973 Horn Road, Sacramento, County of Sacramento, State of California, the following: Miscellaneous boxes (contents unknown), household goods and various items.
Name: Unit#3010 Unit#1053 Tools, Lights, Bicycles(2), Tarp, and Lots of Misc. Items.
Paula Rhoades Unit#1058 Sofa, Folding Tables(2) Shelving unit, Lots of Misc. Items.
Stacy Owens Unit#3103 Unit#3112
William Wilson Unit#3112
William Wilson Unit#3112

 baj sandhu
 Unit#4040
 One Picture in Frame, 2 Tool Boxes, Jumper-Cables and Misc. Doxes and bags.

 Marita Roediger
 Unit#4045
 Joggers Baby Carrier, a Record Turntable, a Box of LP Albums, Misc. Tools, 2

 Christopher Smythe
 Unit#4050
 One Large Oak Entertainment Center with Beveled Glass Cabinet Doors, Toys, HD DVD Player, Clothes, Mirror, Lots of Misc. Boxes and Totes.

 Purchases must be paid for at the time of purchase in cash only. All purchased items sold as is, where is and must be removed at the time of sale. Sale subject to cancellation in the event of settlement between owner and obligated party. Auctioneer's Name: Forrest O' Brien CA#00104533207

 Signed: Bonnie J. Fauser
 www.storageauction.com

Published in The Grapevine Indepe nt on July 24 and 31, 2009.

NOTICE OF TRUSTIES SALE IS NO. 09-0047132 TITLE ORDER NO. 1072334 40223
 NVESTOR/NSURRENO. 11727334 40223
 NVESTOR/NSURRENO. 11727344 4023
 NO. 067-0644 032-000 YOU ARE IN DEFAULT UNDER A DEED OF TRUST. DATED 01/24/2006. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY. IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE INAL TURE OF THE PROCEEDING AGAINST YOU. YOU SHOULD CONTACT A LAW. YER/ NOICE is hereby given that a RECONTRUST COMPANY. N.A. as duly appointed truste pursuant to the Deed of Trust EXECUTED BY ANDY TRUONG AND MITE AS JOINT TENANTS. dated 01/24/2006 and

DEFAULT UNDER A DEED OF TRUST.
DATED 04/06/2007. UNLESS YOU TAKE
TACTION TO PROTECT YOUR PROPERTY.
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PYOU, YOU SHOULD CONTACT A LAW.
EX PTER. Notice is hereby given that
RECONTRUST COMPANY. N.A., as duly appined trustee pursuant to the DEED OF
P. pointed trustee pursuant to the DEED OF
A. TRUST EXECUTED RAY GREG L.
WISEMAN, A MARRIED MAN, AS HIS
YOU, YOU SHOULD CONTACT A LAW.
EXECONTRUST COMPANY. N.A., as duly appined trustee pursuant to the DEED OF
A. TRUST EXECUTED RAY GREG L.
WISEMAN, A MARRIED MAN, AS HIS
YOU SOLE AND SEPARATE PROPERTY. dated 04
YOU SOLE AND SEPARATE PROPERTY. dated 04
YOU SOLE AND SEPARATE PROPERTY. dated 04
Conder of Sacrameno County. State of California WILL SELL ON 06/14/2009 AT 9: 30AM.
AT THE COUNTY COURTHOUSE, 720 9TH
YIREET. SACRAMENTO, CA95814 at pubConder of Sacrameno County. State of Californa more fully described below, payable in full at time
A an more fully described in the above referand now held by it under said County and State
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These County A. CA. 95670. The undersigned the property discribed above is and other comThese addischains and VIATE address and other common designation, if any, shown herein. The to-

Notice of Public Meetings July 30, 2009 Sunridge Specific Plan Projects EIS

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Interested parties may register for the Corps' public notices and email notifications at: http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pnlist.html.

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The Deadline for Providing Comments on the EIS Scope is August 31, 2009

FICTITIOUS BUSINESS NAME STATEMENT Jeff M. Perkins of 11142 UI Rancho Cordova, CA 95670 under the ficitious business eign and Domestic Automote at 917 N. Market Boulevan mento, CA 95834. Filed Sa Clerk File Number: 0906751 Grapevine Independent on J 7 and 14, 2009. FICTITIOUS BUSINESS NAME STATEMENT IL-Kyun and Shin-Hwa Hyur Lode Circle, Gold River, CA business under the ficitious t Bread Shed Deli at 631 N. N Sacramento, CA 95834. F County Circle File Number: 0 in The Grupevine Independe August 7 and 14, 2009.

VADONO

ORDER TO SHOW CAUS CHANGE OF NAME WHEREAS, Barrington Ma Mais of 9130 Kicfer Boul mente, CA 95826, has filed Clerk of the Superior Coo County of Sacramento, for the names of Brenton Lloyd Anthony Mais: IT IS ORDERED that all p the above entitled matter app at 9:00 a.m. on September 4, room of Department 54, at 9th Street, 3^{re} Floor, Sacrame show cause, if any, why the of name should not be grant Dated July 20, 2009-0005 Ludge Shelleyanne W. L. Ct Case number 34, 2009-0005

ORDER TO SHOW CAUS CHANGE OF NAME WHERAS. Christopher PP 2040 Maryale Way. Ranc 95670, has filed a petition wi Superior Court of California mento, for an order chang Christopher Phillip Despall Phillip Neumann Despallar IT SORDERED that all pe the above entitled matter app a 9:00 a.m. on August 26. room of Department 54. at 0 9th Street, 3th Floor, Sacrame show cause. If any, why the of name-should not be grant Dated July 15, 2009. Ludge Shelleyame W. L. Ch Case number 34:2000-20005. Published in *The Grapevine I* 24, 31, August 7 and 14, 200

of name should Dated July 20, Judge Shelleya Case number 3 Published in *Th* Published in *Th* 24, 31, August

NOTICE OF PROPOSED ORDINANCE The following is a sum-mary of an ordinance pro-posed for adoption by the City Coun-cil of the City of Rancho Cordova at its meeting of August 17, 2009 ORDINANCE NO, 14-2009 AN ORDINANCE OF THE CITY OF RANCHO CORDOVA ESTABLISHING ASPECIAL TAX FOR TRANSIT-RELATED SERVICES FOR THE CORDOVA CASINO AND RESTAURANT SUBJECT TO VOTER CONFIRMATION The full text of the proposed ordinance is available in the City Clerk's office, 2729 Prospect Park Drive. Rancho Cordova, CA 95670 Dated: July 24, 2009 Brenda Lehr Deputy City Clerk

Published in the Grapevine Independent on July 24, 2009

Published in the Grapevine Independent on July 24, 2009.

ROAD States server the struct address and other mon designation, if any, shown herein. The l amount of the unpaid balance with inter-thereon of the obligation secured by the perty to be sold plus reasonable estimated s, expenses and advances at the time of the al publication of the NOTICE OF SALE S320,069-88. It is possible that at the time ale the opening bid may be less than the l indebtedness due. In addition to cash, the sec or learnal credit union, or a check drawn on a corrected l credit union, or a check drawn on a corrected law and bank, a check drawn by a state or federal credit union, or a check drawn by a state or federal avyings and loan associa-, asvings association, or savings bank speci-l regarding title, possession or encum-nees, to satisfy the indebtedness secured by thout covenant or warranty, express or im-nees, to satisfy the indebtedness secured by thout covenant or warranty, express or im-nees, to satisfy the indebtedness secured by thout covenant or warranty, express or im-nees, thereon as provided in said Note, plus s, charges and expenses of the Truste and the trusts created by said Deed of Trust with rest secured by said Deed of Trust with rest secured by said Deed of Trust with rest second by said Deed of Trust with rest of the former RECONTRUST COM-NY, NA. 1800 Tape Canyon Rd., CA6-914 94 SIMI VALLEF, CA 93063 Phone (800) with second the draper and the unpaid purpose. ASAP#3190707 Pub-leet a debt. Any information obtained will used for that purpose. ASAP#319077 Pub-den the Grapevine Independent on July 24, and August 7, 2009. any, of the real property described above ported to be: 2628 LAS CASAS WAY, CHO CORDOVA, CA, 95670. The un-

STATEMENTS CONTAINED THANGUT THAN COMMENCING AND HANDLING SUCH COMMENCING AND HANDLING SUCH CLUDING FILING THE NOTICE OF SALE ON THE FORECLOSURE IDECLARE UN DER PENALTY OF PERJURY OF THE BESTOF MY KNOWLEDGE THE FOREGO ING STATEMENTS ARE TRUE AND COR-signed, on behalf of the beneficiary, Ioan servicer or authorized agent, declares as fol-lows: X Servicer does hereby state that Servicer has obtained from the commissioner a final or temporary order of exemption pursuant to Sec-tion 2923.53 that is current and valid on the date of the notice of sale specified in subdivision (a) Section 2923.52 is a Does not ap-ply pursuant to section 2923.52 of 2923.53 Dated: 07124/2009 MTC FINANCIAL INC DBATRUSTEE CORPS, as Successor Trustee BY ERNIE AGUILAR. TRUSTEE SALES OFFICER *TRUSTEE CORPS, 2112 BUSL ITON CONTACT: (14/1730-221, (14/170, 1920, 949) 252-8300 FOR REINSTATEMENT 1700, 0499) 252-8300 FOR REINSTATEMENT 1704 CONTACT: (14/1730-221, 714) 724-2009.

NOTICE OF TRUSTEE'S SALETS NO. 09-0049817 TITLE ORDER NO. 09-8-150479 INVESTOR/INSURER NO. 10-8-150479 INVESTOR/INSURER NO. 10-8-150479 INVESTOR/INSURER NO. 10-8-150479 INVESTOR/INSURER NO. 10-8-150479 APPN NO. 056-0241-012-0004 YOU ARE IN DEFAULT UNDER A DEED OF TRUST. TATED 04/06/2007. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY. IT MAY BE SOLD AT A PUBLIC SALE IF YOU NEED AN EXPLANATION OF THE And Alexandron Sale, and a written dersigned caused said Notice of Default and Election to Sell to be recorded in the county where the real property is located. FOR TRUSTEE SALE INFORMATION PLEASE CALL: AGENCY SALES & POSTING 320 ELCAMINO REAL, SUITE 200 IRVINE, CA 926027144730-2727 www.lpsasap.com NDEX West, LLC. MAY BE ACTING TO COLLECT A DEBT. ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE 07/20/2009 NDEX West, LLC. 5000 Sur-veyor Boulevard, Suite 500 Addison, Texas 75001-9013 Telephone: (866) 795-1852 Telecopier: (972) 661-7800 ASAP# 3191111 Published in the Grapevine Independent on July 24, 31 and August 7, 2009. the property to be sold and reasonable estimated costs, expenses and advances at the time of the initial publication of the NOTICE OF SALE **IS \$313,791.92**. The beneficiary under said Deed of Trust heretofore executed and deliv-ered to the undersigned a written Declaration of Default and Demand for Sale, and a written Norice of Default and Floring to Sol The un-Norice of the understand and Floring to Sol The un-Norice of the understand and Floring to Sol The un-Norice of the understand solution to Sol The un-

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MEETING

UNITED STATES ARMY CORPS OF ENGINEERS

SACRAMENTO DISTRICT

PUBLIC SCOPING MEETING SUNRIDGE SPECIFIC PLAN PROJECTS

RANCHO CORDOVA CITY HALL AMERICAN RIVER ROOM - SOUTH 2729 PROSPECT PARK DRIVE RANCHO CORDOVA, CALIFORNIA

THURSDAY, JULY 30, 2009

5:00 P.M.

GIN/L_

ORIGINAL

Reported by: Peter Petty

PETERS SHORTHAND REPORTING CORPORATION 11344 COLOMA ROAD, SUITE 740, GOLD RIVER, CA 95670 / (916) 362-2345

APPEARANCES

US Army Corps of Engineers

Lisa Clay

Hunter Merritt

John Suazo

Tyler Stalker

Contractors

John W. Ayres, Brown and Caldwell Randy E. Marx, Brown and Caldwell Ilana R. Cohen, Camp Dresser & McKee, Inc. John Clerici, CirclePoint

Members of the Public

Deana Ellis, Sunridge Lot J Judy Waegell, Resident Cori Resha, City of Rancho Cordova Thad Johnson, Pappas Investments

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Reporter's Certificate	10

	1
1	PROCEEDINGS
2	5:32 p.m.
3	MR. CLERICI: Thank you all for coming. Could I
4	see a show of hands of people that aren't either from the
5	Corps of Engineers, Brown and Caldwell or CDM.
6	MS. ELLIS: I'm sorry, would you clarify, please.
7	I'm tired, I got about three hours of sleep.
8	MR. CLERICI: I'm just wondering who here wasn't
9	from the Corps or from the technical team that is doing the
10	study. I'm just curious, I'm trying to get a real
11	quickly, where are you all from?
12	MS. WAEGELL: I'm Judy Waegell and I'm just the
13	projects in the area.
14	MR. SUAZO: You're just here, okay.
15	MS. RESHA: I'm Cori Resha, I'm with the City of
16	Rancho Cordova.
17	MR. CLERICI: Okay.
18	MS. ELLIS: Deana Ellis with Lot J in the study.
19	MR. CLERICI: Okay.
20	MR. JOHNSON: Thad Johnson with Pappas.
21	MR. CLERICI: Okay, thank you.
22	My name is John Clerici and I am part of the study
23	team, Brown and Caldwell and CDM, I'm with CirclePoint. I'm
24	going to mention the rest of the team here and I hope I
25	don't mess up these names.

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We have John Ayres and Randy Marx from Brown and 1 2 Caldwell, very good. Ilana Cohen from CDM, very good. 3 And let's see. And then from the Corps, Tyler Stalking, John 4 Suazo, Lisa Clay and Hunter Merritt. 5 Did I miss anybody? 6 Oh, we have the court reporter but he remains 7 anonymous, or he prefers to do that. 8 9 So anyway, we do have a --This meeting is a scoping meeting associated with 10 the Sunridge projects. It's very much at the beginning of 11 12 the environmental process. It's basically to get your input regarding some of the environmental impacts and whatnot. 13 Also to describe the NEPA process to you. Most of 14 you probably already know this. But we have a very nice 15 slide show which John has been studying and he is going to 16 go ahead and go through it. 17 But the idea is to collect input and we do have 18 various ways to do that. We have -- if you came over here 19 -- please do sign in by the way so we know who is here. 20 And then also we have information. We have the 21 The notice of this meeting, also the Notice of 22 notices. Intent that was printed in the Federal Register. 23 There is also a comment sheet. It's really good 24 to get comments in writing. We would prefer to get your 25

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1 comments in writing, that would be very good, if you choose 2 to leave a comment about the scope of the environmental 3 process that we are embarking on here. Please put it in 4 writing.

5 You will also have the aforementioned anonymous 6 court reporter over there that you can go and give comments 7 to during the course of the evening once we are done with 8 the presentation.

9 I would ask that you -- you know, this is such a
10 nice small crowd. If you have a question, if something
11 comes up and you go, what's that, but a clarifying question,
12 then I think we can probably just answer it, try to go
13 through it. I don't think that will be a problem.

But if we do get into an area where maybe your question starts to sound either more like a statement or a scoping comment we may stop you and ask you to actually get that down in writing so that we make sure we go through this process. Because we want to make sure that we do it correctly to inform the process the best we can.

20 So anyway, I am going to go sit down -- I'm not 21 too far away -- and John is going to go ahead and do the 22 rest of the presentation, thank you.

23 MR. SUAZO: Thank you, everyone. As Mr. Clerici 24 has stated I am John Suazo with the Corps of Engineers. I 25 am filling in for Mike Jewell.

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For those of you who have been along this process
 for awhile probably know who Mike Jewell is and you know
 that I am not him.

(Laughter.)

4

5 MR. SUAZO: The reason why we wanted to -- first 6 of all, there is a reason why we are having this meeting. 7 It's a scoping meeting, which is part of the NEPA process. 8 Since some of you are actually with the developers you have 9 been along for the ride long enough to know why we are here. 10 But I'll act like you don't know and I'll present some of 11 the information.

Under NEPA one of the primary tenets is to involve the public through the opportunity to partake in the scoping process. And it gives you the opportunity to either give input to the scope of the process itself or comment on the scope.

In this particular case the project that is at hand really involves bringing together six projects that have previously been considered by Regulatory Division for permits under development. And the six projects are listed here, Anatolia IV, Sunridge Village J, Douglas Road 103 as well as Douglas Road 98, Grantline 208 and Arista Del Sol.

There are also three, actually three other projects within what is considered the Sunridge Specific Plan area that have already been constructed.

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And all of these projects have already been considered under CEQA. However, this is just the NEPA process that we will be dealing with with this effort because of the litigation that is at hand.

5 This is a regional vicinity map. The project area 6 is actually to our east.

7 And this is a little bit more specific depiction 8 of the project areas. There is also a larger map at the 9 rear of the room which is even a bigger area associated with 10 this. And there's some greater attention that I'll bring to 11 this in a moment.

Why is the Corps involved? In this case the regulatory division of the Corps of Engineers regulates the discharge of fill into waters of the United States to include, I think most importantly in this particular area, are wetlands and vernal pools, which have come into question with the project area.

The six Specific Plan projects associated with this effort would require filling approximately 30 acres of seasonal streams and wetlands. And most importantly, many of these are considered vernal pools.

We are preparing an EIS. First of all because the Corps is the lead agency.

24 Second of all, because there is litigation 25 associated with that. And probably most of the people in

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1 the room are aware of that litigation. I won't go into it 2 for a couple of reasons. Because this is the beginning of 3 the project.

Secondly, because I am not a technical expert on 4 My background is in civil works and I am familiar with 5 it. the NEPA process and the processing and development of NEPA 6 documents. But I am not a regulatory expert. Lisa Clay who 7 is with our Office of Counsel has been associated with the 8 9 project for a period of time and may be able to answer some 10 questions, or Mike Jewell would have been able to. His 11 contact information is actually in the back of the room and 12 it is also the last slide in the presentation.

Associated with the reason why we are in litigation is probably the last point. Cumulative effects was a very big issue that came up with the whole area involving the Sunridge Specific Plan area.

In mentioning that, in considering the cumulative effects, any project within the area in the reasonable past, present or foreseeable future must be considered in the realm of cumulative effects for the Environmental Impact Statement that we are embarking on.

22 So here we are at the beginning of the scoping 23 process. We have published the Notice of Intent in the 24 Federal Register as well as mailing out the public notice. 25 We are having this public meeting, offering anyone

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who is interested to give us comments or present any
 concerns that you have on the project.

The next part of the process will be the preparation of the Draft EIS, working toward the Final, and then eventually the Record of Decision.

The decision that the Corps will be involved in is whether the previously issued permits for five of the projects -- and I believe the only project which did not have a permit was Arista Del Sol. Is that correct?

And whether or not a permit would be issued forthe sixth.

12 This is a very rough schedule. Going back to the 13 previous, I'm sorry, list of activities. Here we are at the 14 scoping meeting.

Approximately nine months from now we will expectto have the Draft EIS.

And hopefully five months later we will be at thepoint of finalizing the document.

19And the Record of Decision produced in time for20the court-mandated date of November of 2010.

Here is how you can participate.

You can write out your comment card, submit that.You can provide your comments to the court

24 reporter.

21

25

Or they can be submitted by letter or by e-mail to

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Mr. Jewell.

1

2	And that's pretty short and sweet.
3	If you have any questions regarding clarification
4	of any of the information we'll answer those questions. But
5	if you have any other comments, perhaps regarding the scope,
6	any of the other details regarding any of the developments
7	or the properties associated with it, you know, we'd really
8	like you to submit those as public comments.
9	Anything I might be able to answer for you?
10	Going once, twice, sold.
11	(Laughter.)
12	MR. CLERICI: Thank you, John, that was very good.
13	We will be around now for awhile so if you do have
14	any questions I do invite you to look at some of the
15	displays. We have quite a bit of information back there.
16	There's also the information materials that were
17	over here.
18	And as I mentioned before, if you could sign in to
19	make sure that we know who was at this meeting that would be
20	great.
21	We will be here for another many hours actually.
22	(Laughter.)
23	MR. SUAZO: We'll be here until eight.
24	MR. CLERICI: And if you didn't get all of John's
25	presentation we'll probably be showing it again here in

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	9
1	about an hour and a half or so.
2	So anyway, I do thank you all very much for
3	coming.
4	And once again just to remind you, the deadline
5	for submitting scoping comments is August 30.
6	We are going to be around. Have at it, thank you.
7	(Thereupon, the July 30, 2009, Public
8	Scoping Meeting of the US Army Corps of
9	Engineers was adjourned at 5:43 p.m.)
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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing US Army Corps of Engineers, Sacramento District, Public Scoping meeting was reported by me and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties in this matter, nor in any way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 12th day of August, 2009.

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2

Peter Petty Official Reporter

California Native Plant Society

August 31, 2009

Michael Jewell U.S. Army Corps of Engineers Sacramento District 1325 J Street, Room 1480 Sacramento, CA, 95814-2922 michael.s.jewell@usace.army.mil

VIA EMAIL

Subject: Sunridge Specific Plan Public Notice Number SPK-2009-00551

Dear Mr. Jewell,

The California Native Plant Society (CNPS) is a statewide non-profit organization of some 10,000 scientists, educators, and laypeople dedicated to the conservation and understanding of the California native flora. As a science-based conservation organization, we believe that good land use decisions must be accompanied by a thorough assessment of the environmental impacts as required by the state and federal Endangered Species Acts, the Clean Water Act, the National Environmental Policy Act, the California Environmental Quality Act, and other resource protection laws.

The Sacramento Valley Chapter of CNPS has been highly involved in participating in and commenting upon land use decisions at all levels that affect vernal pool ecosystems in Sacramento County. Chapter volunteers serve on the South Sacramento Habitat Conservation Plan steering committee and biological subcommittee. Chapter volunteers serve on a stakeholders group to determine land use planning for the former Mather Air Force Base and its vernal pool grassland ecosystem. Chapter volunteers serve on local land trust boards, steering committees, and management committees. Chapter volunteers have testified at innumerable planning commission, board of supervisors, and city council meetings on projects that impact vernal pool resources.

The Sacramento Valley Chapter of CNPS has long viewed the region that was ultimately proposed for the Sunrise-Douglas Community Planning Area as the "Yellowstone" of vernal pool landscapes in Sacramento County. Due to its extraordinary biological resources, CNPS lobbied extensively to exclude this area from future development during the last Sacramento County General Plan update. Geospatial analysis independently conducted for the developing South Sacramento Habitat Conservation Plan has confirmed that this region is unique within Sacramento County from the perspective of both density and diversity of vernal pools present, and in listed species presence. The diversity of vernal pool sizes, shapes, and hydroperiods is strongly correlated to high species diversity and a high level of ecosystem supporting function. The density of aquatic resources and listed species indicates that losses of this habitat will not easily be mitigated for elsewhere in the county.

Proposed Project

The Sunridge Specific Plan project, as proposed in the above cited public notice, contains only six of the nine individual projects in the specific planning area. The proposed EIS must analyze the impacts of the three related projects that have already irreparably destroyed vernal pool habitats. These three projects are: Montelena (2000-00336), North Douglas 1&2 (1994-00218 and 1994-00529) and Sunridge Park (2001-00252)



Dedicated to the preservation of California native flora

Alternatives Analysis

CNPS requests that an alternative that is even more protective of resources than the "Conceptual-level Strategy" (or "Applicants' Preferred Projects) be analyzed in the EIS for the Sunridge Specific Plan project. Specifically, we request that the tributaries to Morrison and Laguna Creeks be fully buffered by at least 500 feet on both. Furthermore, the edges of the proposed onsite avoidance area must be smoothed in order to minimize edge effects. These changes would considerably reduce indirect effects.

Cumulative Impacts Analysis

The EIS for the Sunridge Specific Plan must consider and cross-walk with the various other EISs being prepared for other projects in and around the Sunrise-Douglas Community Plan Area (SDCPA). Within the SDCPA are "The Preserve", Sun-Creek, Heritage Falls, and The Arboretum. Nearby are Rio Del Oro, Cordova Hills, Folsom Sphere of Influence, Glenborough, Easton Place and the Kiefer Landfill.

CNPS specifically requests that the U.S. Army Corps of Engineers consider any parcel for which a wetland delineation has been received, or for which a pre-application meeting has been held, regardless of the status of the permit application, within a five mile radius of Sunridge Specific Plan project be included in the cumulative impacts analysis.

CNPS specifically requests that the U.S. Army Corps of Engineers also analyze the cumulative impacts of unregulated vernal pool losses as has been recently disclosed through a mapping project conducted by Dr. Robert F. Holland. We anticipate the final report and GIS layers for this project to be available in early November and will forward additional information at that time.

Summary

On behalf of CNPS, I appreciate the opportunity to comment on this Notice of Intent. Please keep me informed of activities related to projects in this area that might impact vernal pool grasslands and endangered species habitat.

Sincerely,

Carol W. Witham

Carol W. Witnam CNPS Vice-President 1141 37th Street Sacramento CA 95816 (916) 452-5440 cwitham@ncal.net



Cox, Castle & Nicholson LLP 555 California Street, 10th Floor San Francisco, California 94104-1513 P 415.392.4200 F 415.392.4250

Andrew B. Sabey 415.262.5103 asabey@coxcastle.com

File No. 56585



BY OVERNIGHT DELIVERY

Michael Jewell U.S. Army Corps of Engineers, Sacramento District 1325 J Street, Room 1480 Sacramento, CA 95814-2922



Re: Comments on Notice of Intent to Prepare a Draft Environmental Impact Statement for the Sunridge Specific Plan Projects in Rancho Cordova, Sacramento County, CA, ID SPK-2009-00511

Dear Mr. Jewell:

We represent Cresleigh Homes ("Cresleigh") in connection with its Sunridge Village J Project, ID SPK-2001-00230 ("Project"), located in the Sunridge Specific Plan area in the City of Rancho Cordova, California. We have reviewed the Notice of Intent ("NOI") for the Draft Environmental Impact Statement ("DEIS") for the Sunridge Specific Plan, and have the following comments.

1. The Description of the Project Is Misleading and Incomplete.

As indicated in the NOI, Cresleigh is the permittee for the Project. Cresleigh received its Clean Water Act Section 404 permit ("Permit") from the U.S. Army Corps of Engineers ("Corps") on October 24, 2006. The Permit authorizes the fill of approximately 2.99 acres of waters of the United States on an 81.25-acre site. As mitigation for the impacts associated with this fill, the Permit requires the construction of at least 3.38 acres of vernal pool habitat at the Gill Ranch Mitigation Area (off-site mitigation area) as compensatory mitigation, and the purchase of 9.18 acres of vernal pool crustacean habitat at the Bryte Ranch Conservation Bank as preservation mitigation.

By stating that "the permittee would construct 3.39 acres of wetland habitat," the NOI is misleading and incomplete. Cresleigh has in fact already complied with both the compensatory and the preservation mitigation requirements under the Permit by constructing 3.38 acres of vernal pool habitat and preserving 9.18 acres of vernal pool crustacean habitat. Cresleigh therefore has satisfied these terms of the Permit. It is our understanding that many of the other projects evaluated in the DEIS have already satisfied their mitigation requirements as well. We request the Corps include this information in the DEIS and all other documents related to the Corps' environmental review process for the Sunridge Specific Plan. Michael Jewell August 28, 2009 Page 2

2. The DEIS Should Specify Projects Included in the Cumulative Effects Analysis.

Although the NOI does not refer to the analysis of cumulative effects in the DEIS, the Corps' scoping meetings for the DEIS included a presentation that indicated the Corps would analyze cumulative effects "from past, present and reasonably foreseeable actions." However, this presentation did not specify which projects would be included in that cumulative effects analysis. We request the DEIS specify those projects, including "past, present and reasonably foreseeable" projects, that will be evaluated as part of the DEIS's cumulative effects analysis.

* * *

Thank you for the opportunity to comment on the NOI. We look forward to reviewing and commenting on the DEIS.

Sincerely, Andrew B. Saber

56585\149306v1

cc: Deana Ellis, Cresleigh Homes



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IX 75 Hawthorne Street San Francisco, CA 94105

SEP 0 3 2009

Mr. Mike Jewell, Chief Regulatory Division U.S. Army Corps of Engineers 1325 J. Street, 14th Floor Sacramento, CA 95814

Subject: Request for U.S. Environmental Protection Agency (EPA) Participation as a Cooperating Agency for the Sunridge Specific Plan area, Sacramento County, California; SPK-2009-00511

Dear Mr. Jewell:

The EPA received your July 2, 2009 request to participate as a cooperating agency during the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) development process for the Sunridge Specific Plan area, City of Rancho Cordova, Sacramento County, California. We appreciate the Corps' invitation and are interested in coordinating with the Corps, but due to resource constraints, we decline the request to serve as a cooperating agency in a formal capacity for this project.

EPA considers coordination with the Corps, as well as other environmental resource agencies, a high priority. To that end we will provide review and input on the Project during the NEPA process. We are especially interested in working with the Corps on the development of alternatives screening criteria and alternatives selection, as well as environmental impact avoidance and mitigation measures prior to completion of the Draft EIS. EPA also regards Clean Water Act Section 404 (b)(1) compliance to be an important opportunity for ongoing coordination between our two agencies.

In the event any early EPA NEPA coordination takes place, please be aware that our independent responsibilities under Section 309 of the Clean Air Act, to review and comment publicly on all Draft EISs, still apply.

If you have any questions, please contact me at 415-972-3521 or Tom Kelly, the lead reviewer for this project. Tom can be reached at 415-972-3856 or <u>kelly.thomasp@epa.gov</u>.

Sincerely,

Kathleen M. Goforth, Manager Environmental Review Office

Cc:

Mr. Horst Greczmiel, Council on Environmental Quality



July 21, 2009

Michael S. Jewell U. S. Army Corps of Engineers, Sacramento District 1325 J Street, Room 1480 Sacramento, California 95814-2922

Dear Mr. Jewell:

This is in response to your request for comments on Public Notice Number SPK-2009-00511 dated July 20, 2009 - Intent to Prepare a Draft Environmental Impact State for the Sunridge Specific Plan Projects, in Rancho Cordova, Sacramento County, California.

Please review the current effective countywide Sacramento County Flood Insurance Rate Maps (FIRMs) for the City of Rancho Cordova (Community Number 060772), Maps revised December 8, 2008. Please note that the City of Rancho Cordova, Sacramento County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any *development* must not increase base flood elevation levels. The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials. A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

Michael S. Jewell, Project Manager Page 2 July 21, 2009

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Rancho Cordova floodplain manager can be reached by calling Cyrus Abhar, Director, Department of Public Works, at (916) 851-8711. The Sacramento County floodplain manager can be reached by calling George H. Booth, Senior Civil Engineer, Department of Water Resources, at (916) 874-6851.

If you have any questions or concerns, please do not hesitate to call Cynthia McKenzie of the Mitigation staff at (510) 627-7190.

Sincerely, 14.005

Gregor Blackburn, CFM, Branch Chief Floodplain Management and Insurance Branch

cc:

Cyrus Abhar, Director, Department of Public Works, City of Rancho Cordova George H. Booth, Senior Civil Engineer, Sacramento County, Department of Water Resources Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources, Southern District

Cynthia McKenzie, Senior Floodplanner, CFM, DHS/FEMA Region IX Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

Appendix F

URBEMIS 2007 Modeling Runs

5/10/2010 4:03:09 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\DHooper\Desktop\temp at home work folder\ACE Sunridge\URBEMIS_No Action Alternative\Sunridge GHG Emissions_No action alternative.urb924

Project Name: Sunridge GHG emissions no action alternative

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:	
CONSTRUCTION EMISSION ESTIMATES	
	<u>CO2</u>
2011 TOTALS (tons/year unmitigated)	8,203.53
2012 TOTALS (tons/year unmitigated)	8,238.25
2013 TOTALS (tons/year unmitigated)	8,241.01
2014 TOTALS (tons/year unmitigated)	8,243.44
2015 TOTALS (tons/year unmitigated)	8,245.04
2016 TOTALS (tons/year unmitigated)	8,245.31

5/10/2010 4:03:09 PM

AREA SOURCE EMISSION ESTIMATES

	<u>CO2</u>		
TOTALS (tons/year, unmitigated)	9,849.70		
TOTALS (tons/year, mitigated)	8,326.23		
Percent Reduction	15.47		
OPERATIONAL (VEHICLE) EMISSION ESTIMATES			
	<u>CO2</u>		
TOTALS (tons/year, unmitigated)	28,636.75		
TOTALS (tons/year, mitigated)	28,560.91		
Percent Reduction	0.26		
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES			
	<u>CO2</u>		
TOTALS (tons/year, unmitigated)	38,486.45		
TOTALS (tons/year, mitigated)	36,887.14		
Percent Reduction	4.16		

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>CO2</u>

2011	8,203.53	
Asphalt 01/01/2011-12/31/2016	211.05	
Paving Off-Gas	0.00	
Paving Off Road Diesel	184.45	
Paving On Road Diesel	8.45	
Paving Worker Trips	18.16	
Building 01/01/2011-12/31/2016	6,675.17	
Building Off Road Diesel	293.71	
Building Vendor Trips	1,053.75	
Building Worker Trips	5,327.72	
Coating 01/01/2011-12/31/2016	12.06	
Architectural Coating	0.00	
Coating Worker Trips	12.06	
Fine Grading 01/01/2011- 12/31/2016	1,305.24	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,268.93	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	36.31	

2013	8,241.01	
Asphalt 01/01/2011-12/31/2016	211.88	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	8.48	
Paving Worker Trips	18.24	
Building 01/01/2011-12/31/2016	6,706.71	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,058.14	
Building Worker Trips	5,353.73	
Coating 01/01/2011-12/31/2016	12.12	
Architectural Coating	0.00	
Coating Worker Trips	12.12	
Fine Grading 01/01/2011- 12/31/2016	1,310.30	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,273.81	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	36.49	

2014	8,243.44	
Asphalt 01/01/2011-12/31/2016	211.89	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	8.48	
Paving Worker Trips	18.25	
Building 01/01/2011-12/31/2016	6,709.11	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,058.34	
Building Worker Trips	5,355.94	
Coating 01/01/2011-12/31/2016	12.13	
Architectural Coating	0.00	
Coating Worker Trips	12.13	
Fine Grading 01/01/2011- 12/31/2016	1,310.31	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,273.81	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	36.50	

2015	8,245.04	
Asphalt 01/01/2011-12/31/2016	211.89	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	8.48	
Paving Worker Trips	18.26	
Building 01/01/2011-12/31/2016	6,710.69	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,058.52	
Building Worker Trips	5,357.33	
Coating 01/01/2011-12/31/2016	12.13	
Architectural Coating	0.00	
Coating Worker Trips	12.13	
Fine Grading 01/01/2011- 12/31/2016	1,310.32	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,273.81	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	36.51	

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2016	8,245.31	
Asphalt 01/01/2011-12/31/2016	211.90	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	8.48	
Paving Worker Trips	18.26	
Building 01/01/2011-12/31/2016	6,710.96	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,058.64	
Building Worker Trips	5,357.48	
Coating 01/01/2011-12/31/2016	12.13	
Architectural Coating	0.00	
Coating Worker Trips	12.13	
Fine Grading 01/01/2011- 12/31/2016	1,310.32	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,273.81	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	36.51	

Phase Assumptions

Phase: Fine Grading 1/1/2011 - 12/31/2016 - Default Fine Site Grading Description Total Acres Disturbed: 343.5 Maximum Daily Acreage Disturbed: 85.88 Fugitive Dust Level of Detail: Default 20 lbs per acre-day

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On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2011 - 12/31/2016 - Default Paving Description

Acres to be Paved: 85.88

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2011 - 12/31/2016 - Default Building Construction Description Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2011 - 12/31/2016 - Default Architectural Coating Description Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Area Source Unmitigated Detail Report:						
AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitiga						
Source	<u>CO2</u>					
Natural Gas	7,900.65					
Hearth	1,935.26					
Landscape	13.79					
Consumer Products						
Architectural Coatings						
TOTALS (tons/year, unmitigated)	9,849.70					
Area Source Mitigated Detail Report:						
AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated						
Source	CO2	r cur, milgateu				
Natural Gas	6,377.18					
Hearth	1,935.26					
Landscape	13.79					
Consumer Products						
Architectural Coatings						
TOTALS (tons/year, mitigated)	8,326.23					
	3,020.20					

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2	
Single family housing	25,845.23	
City park	52.91	
General office building	2,738.61	
TOTALS (tons/year, unmitigated)	28,636.75	

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	CO2
Single family housing	25,776.37
City park	52.78
General office building	2,731.76
TOTALS (tons/year, mitigated)	28,560.91

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	303.00	8.98 d	welling units	2,060.00	18,498.80	138,468.37

Summary of Land Uses							
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT	
City park		1.59	acres	31.50	50.09	285.66	
General office building		11.01	1000 sq ft	196.00	2,157.96	14,726.49	
					20,706.85	153,480.52	
		Vehicle Fleet N	<u>lix</u>				
Vehicle Type	Percent Type		Non-Cataly	vst	Catalyst	Diesel	
Light Auto		47.6	1.1		98.7	0.2	
Light Truck < 3750 lbs		10.0	2.0		92.0	6.0	
Light Truck 3751-5750 lbs		22.5	0.9		98.7	0.4	
Med Truck 5751-8500 lbs		10.2 1.0		.0	99.0	0.0	
Lite-Heavy Truck 8501-10,000 lbs	2.1		0.0		76.2	23.8	
Lite-Heavy Truck 10,001-14,000 lbs		0.9		.0	55.6	44.4	
Med-Heavy Truck 14,001-33,000 lbs		1.6 0.0		.0	18.8	81.2	
Heavy-Heavy Truck 33,001-60,000 lbs		0.5	0	.0	0.0	100.0	
Other Bus		0.1	0	.0	0.0	100.0	
Urban Bus		0.0		.0	0.0	0.0	
Motorcycle		3.5	62.9		37.1	0.0	
School Bus		0.1	0.0		0.0	100.0	
Motor Home		0.9	0	.0	88.9	11.1	

Travel Conditions								
		Residential		Commercial				
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer		
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3		
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0		
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0		
% of Trips - Residential	32.9	18.0	49.1					
% of Trips - Commercial (by land use)								
City park				5.0	2.5	92.5		
General office building				35.0	17.5	47.5		

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\DHooper\Desktop\temp at home work folder\ACE Sunridge\URBEMIS_proposed Project\Sunridge GHG Emissions.urb924

Project Name: Sunridge GHG emissions proposed project alternative

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:CONSTRUCTION EMISSION ESTIMATES2011 TOTALS (tons/year unmitigated)12,234.312012 TOTALS (tons/year unmitigated)12,286.382013 TOTALS (tons/year unmitigated)12,290.742014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.122016 TOTALS (tons/year unmitigated)12,297.55		
CO22011 TOTALS (tons/year unmitigated)12,234.312012 TOTALS (tons/year unmitigated)12,286.382013 TOTALS (tons/year unmitigated)12,290.742014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12	Summary Report:	
2011 TOTALS (tons/year unmitigated)12,234.312012 TOTALS (tons/year unmitigated)12,286.382013 TOTALS (tons/year unmitigated)12,290.742014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12	CONSTRUCTION EMISSION ESTIMATES	
2012 TOTALS (tons/year unmitigated)12,286.382013 TOTALS (tons/year unmitigated)12,290.742014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12		<u>CO2</u>
2013 TOTALS (tons/year unmitigated)12,290.742014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12	2011 TOTALS (tons/year unmitigated)	12,234.31
2013 TOTALS (tons/year unmitigated)12,290.742014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12		
2014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12	2012 TOTALS (tons/year unmitigated)	12,286.38
2014 TOTALS (tons/year unmitigated)12,294.592015 TOTALS (tons/year unmitigated)12,297.12		
2015 TOTALS (tons/year unmitigated) 12,297.12	2013 TOTALS (tons/year unmitigated)	12,290.74
2015 TOTALS (tons/year unmitigated) 12,297.12		
	2014 TOTALS (tons/year unmitigated)	12,294.59
2016 TOTALS (tons/year unmitigated) 12,297.55	2015 TOTALS (tons/year unmitigated)	12,297.12
2016 TOTALS (tons/year unmitigated) 12,297.55		
	2016 TOTALS (tons/year unmitigated)	12,297.55

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AREA SOURCE EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	15,797.26
TOTALS (tons/year, mitigated)	13,387.81
Percent Reduction	15.25
OPERATIONAL (VEHICLE) EMISSION ESTIMATES	
	<u>CO2</u>
TOTALS (tons/year, unmitigated)	44,220.18
TOTALS (tons/year, mitigated)	44,094.96
Percent Reduction	0.28
SUM OF AREA SOURCE AND OPERATIONAL EMISSION	I ESTIMATES
	<u>CO2</u>
TOTALS (tons/year, unmitigated)	60,017.44
TOTALS (tons/year, mitigated)	57,482.77
Percent Reduction	4.22

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>CO2</u>

2011	12,234.31	
Asphalt 01/01/2011-12/31/2016	215.96	
Paving Off-Gas	0.00	
Paving Off Road Diesel	184.45	
Paving On Road Diesel	13.36	
Paving Worker Trips	18.16	
Building 01/01/2011-12/31/2016	10,432.21	
Building Off Road Diesel	293.71	
Building Vendor Trips	1,699.17	
Building Worker Trips	8,439.33	
Coating 01/01/2011-12/31/2016	19.43	
Architectural Coating	0.00	
Coating Worker Trips	19.43	
Fine Grading 01/01/2011- 12/31/2016	1,566.71	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,523.14	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.57	

2012	12,286.38	
Asphalt 01/01/2011-12/31/2016	216.81	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.24	
Building 01/01/2011-12/31/2016	10,477.31	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,705.96	
Building Worker Trips	8,476.51	
Coating 01/01/2011-12/31/2016	19.51	
Architectural Coating	0.00	
Coating Worker Trips	19.51	
Fine Grading 01/01/2011- 12/31/2016	1,572.76	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.76	

2013	12,290.74	
Asphalt 01/01/2011-12/31/2016	216.81	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.24	
Building 01/01/2011-12/31/2016	10,481.63	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,706.26	
Building Worker Trips	8,480.53	
Coating 01/01/2011-12/31/2016	19.52	
Architectural Coating	0.00	
Coating Worker Trips	19.52	
Fine Grading 01/01/2011- 12/31/2016	1,572.78	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.79	

2014	12,294.59	
Asphalt 01/01/2011-12/31/2016	216.82	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.25	
Building 01/01/2011-12/31/2016	10,485.44	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,706.57	
Building Worker Trips	8,484.03	
Coating 01/01/2011-12/31/2016	19.53	
Architectural Coating	0.00	
Coating Worker Trips	19.53	
Fine Grading 01/01/2011- 12/31/2016	1,572.80	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.80	

2015	12,297.12	
Asphalt 01/01/2011-12/31/2016	216.83	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.26	
Building 01/01/2011-12/31/2016	10,487.95	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,706.88	
Building Worker Trips	8,486.24	
Coating 01/01/2011-12/31/2016	19.54	
Architectural Coating	0.00	
Coating Worker Trips	19.54	
Fine Grading 01/01/2011- 12/31/2016	1,572.81	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.82	

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2016	12,297.55	
Asphalt 01/01/2011-12/31/2016	216.83	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.26	
Building 01/01/2011-12/31/2016	10,488.38	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,707.07	
Building Worker Trips	8,486.48	
Coating 01/01/2011-12/31/2016	19.54	
Architectural Coating	0.00	
Coating Worker Trips	19.54	
Fine Grading 01/01/2011- 12/31/2016	1,572.81	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.82	

Phase Assumptions

Phase: Fine Grading 1/1/2011 - 12/31/2016 - Default Fine Site Grading Description Total Acres Disturbed: 543.21 Maximum Daily Acreage Disturbed: 135.8 Fugitive Dust Level of Detail: Default 20 lbs per acre-day

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On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 2 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
- 2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 4 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2011 - 12/31/2016 - Default Paving Description

Acres to be Paved: 135.8

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2011 - 12/31/2016 - Default Building Construction Description Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2011 - 12/31/2016 - Default Architectural Coating Description Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Area Source Unmitigated Detail Report:						
AREA SOURCE EMISSION ESTIMATE	S Annual Tons Pe	r Year, Unmitigated				
Source CO2						
Natural Gas	12,715.02					
Hearth	3,060.72					
Landscape	21.52					
Consumer Products						
Architectural Coatings						
TOTALS (tons/year, unmitigated)	15,797.26					
Area Course Mitigated Datail Departs						
Area Source Mitigated Detail Report:						
AREA SOURCE EMISSION ESTIMATE	S Annual Tons Pe	r Year, Mitigated				
Source	<u>CO2</u>					
Natural Gas	10,305.57					
Hearth	3,060.72					
Landscape	21.52					
Consumer Products						
Architectural Coatings						
TOTALS (tons/year, mitigated)	13,387.81					

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Single family housing	37,689.31
City park	75.58
General office building	6,455.29
TOTALS (tons/year, unmitigated)	44,220.18

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	CO2
Single family housing	37,580.41
City park	75.40
General office building	6,439.15
TOTALS (tons/year, mitigated)	44,094.96

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	477.00	8.28 d	welling units	3,258.00	26,976.24	201,924.23

Summary of Land Uses						
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
City park		1.59	acres	45.00	71.55	408.08
General office building		11.01	1000 sq ft	462.00	5,086.62	34,712.43
					32,134.41	237,044.74
		Vehicle Fleet N	<u>lix</u>			
Vehicle Type	Percent	Туре	Non-Cataly	vst	Catalyst	Diesel
Light Auto		47.6	1	.1	98.7	0.2
Light Truck < 3750 lbs		10.0	2	.0	92.0	6.0
Light Truck 3751-5750 lbs		22.5	0	.9	98.7	0.4
Med Truck 5751-8500 lbs		10.2	1	.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs		2.1	0	.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs		0.9	0	.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs		1.6	0	.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs		0.5	0	.0	0.0	100.0
Other Bus		0.1	0	.0	0.0	100.0
Urban Bus		0.0	0	.0	0.0	0.0
Motorcycle		3.5	62	.9	37.1	0.0
School Bus		0.1	0	.0	0.0	100.0
Motor Home		0.9	0	.0	88.9	11.1

		Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5
General office building				35.0	17.5	47.5

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\DHooper\Desktop\temp at home work folder\ACE Sunridge\URBEMIS_Reduced Footprint Alternative\Sunridge GHG Emissions_Reduced Footprint Alternative.urb924

Project Name: Sunridge GHG emissions reduced footprint alternative

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:			
CONSTRUCTION EMISSION ESTIMATES			
	<u>CO2</u>		
2011 TOTALS (tons/year unmitigated)	10,300.89		
2012 TOTALS (tons/year unmitigated)	10,344.60		
2013 TOTALS (tons/year unmitigated)	10,348.14		
2014 TOTALS (tons/year unmitigated)	10,351.28		
2015 TOTALS (tono/your upmitigated)	10 252 22		
2015 TOTALS (tons/year unmitigated)	10,353.33		
2016 TOTALS (tons/year unmitigated)	10,353.68		
	10,000.00		

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AREA SOURCE EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	12,328.45
TOTALS (tons/year, mitigated)	10,471.45
Percent Reduction	15.06
OPERATIONAL (VEHICLE) EMISSION ESTIMATES	
	<u>CO2</u>
TOTALS (tons/year, unmitigated)	37,087.23
TOTALS (tons/year, mitigated)	36,986.98
Percent Reduction	0.27
SUM OF AREA SOURCE AND OPERATIONAL EMISSIO	N ESTIMATES
	<u>CO2</u>
TOTALS (tons/year, unmitigated)	49,415.68
TOTALS (tons/year, mitigated)	47,458.43
Percent Reduction	3.96

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>CO2</u>

2011	10,300.89	
Asphalt 01/01/2011-12/31/2016	215.96	
Paving Off-Gas	0.00	
Paving Off Road Diesel	184.45	
Paving On Road Diesel	13.36	
Paving Worker Trips	18.16	
Building 01/01/2011-12/31/2016	8,502.99	
Building Off Road Diesel	293.71	
Building Vendor Trips	1,332.31	
Building Worker Trips	6,876.98	
Coating 01/01/2011-12/31/2016	15.22	
Architectural Coating	0.00	
Coating Worker Trips	15.22	
Fine Grading 01/01/2011- 12/31/2016	1,566.71	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,523.14	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.57	

2012	10,344.60	
Asphalt 01/01/2011-12/31/2016	216.81	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.24	
Building 01/01/2011-12/31/2016	8,539.74	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,337.64	
Building Worker Trips	6,907.27	
Coating 01/01/2011-12/31/2016	15.29	
Architectural Coating	0.00	
Coating Worker Trips	15.29	
Fine Grading 01/01/2011- 12/31/2016	1,572.76	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.76	

2013	10,348.14	
Asphalt 01/01/2011-12/31/2016	216.81	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.24	
Building 01/01/2011-12/31/2016	8,543.26	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,337.87	
Building Worker Trips	6,910.55	
Coating 01/01/2011-12/31/2016	15.29	
Architectural Coating	0.00	
Coating Worker Trips	15.29	
Fine Grading 01/01/2011- 12/31/2016	1,572.78	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.79	

2014	10,351.28	
Asphalt 01/01/2011-12/31/2016	216.82	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.25	
Building 01/01/2011-12/31/2016	8,546.36	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,338.12	
Building Worker Trips	6,913.41	
Coating 01/01/2011-12/31/2016	15.30	
Architectural Coating	0.00	
Coating Worker Trips	15.30	
Fine Grading 01/01/2011- 12/31/2016	1,572.80	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.80	

2015	10,353.33	
Asphalt 01/01/2011-12/31/2016	216.83	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.26	
Building 01/01/2011-12/31/2016	8,548.39	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,338.36	
Building Worker Trips	6,915.20	
Coating 01/01/2011-12/31/2016	15.30	
Architectural Coating	0.00	
Coating Worker Trips	15.30	
Fine Grading 01/01/2011- 12/31/2016	1,572.81	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.82	

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2016	10,353.68	
Asphalt 01/01/2011-12/31/2016	216.83	
Paving Off-Gas	0.00	
Paving Off Road Diesel	185.16	
Paving On Road Diesel	13.41	
Paving Worker Trips	18.26	
Building 01/01/2011-12/31/2016	8,548.73	
Building Off Road Diesel	294.84	
Building Vendor Trips	1,338.50	
Building Worker Trips	6,915.40	
Coating 01/01/2011-12/31/2016	15.30	
Architectural Coating	0.00	
Coating Worker Trips	15.30	
Fine Grading 01/01/2011- 12/31/2016	1,572.81	
Fine Grading Dust	0.00	
Fine Grading Off Road Diesel	1,528.99	
Fine Grading On Road Diesel	0.00	
Fine Grading Worker Trips	43.82	

Phase Assumptions

Phase: Fine Grading 1/1/2011 - 12/31/2016 - Default Fine Site Grading Description Total Acres Disturbed: 543.21 Maximum Daily Acreage Disturbed: 135.8 Fugitive Dust Level of Detail: Default 20 lbs per acre-day

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On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 2 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
- 2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 4 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2011 - 12/31/2016 - Default Paving Description

Acres to be Paved: 135.8

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2011 - 12/31/2016 - Default Building Construction Description Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2011 - 12/31/2016 - Default Architectural Coating Description Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250 Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Area Source Unmitigated Detail Report:		
AREA SOURCE EMISSION ESTIMATE	S Annual Tons Pe	r Year, Unmitigated
Source	<u>CO2</u>	
Natural Gas	9,952.80	
Hearth	2,358.95	
Landscape	16.70	
Consumer Products		
Architectural Coatings		
TOTALS (tons/year, unmitigated)	12,328.45	
Area Source Mitigated Detail Report:		
AREA SOURCE EMISSION ESTIMATE	S Annual Tons Pe	r Year, Mitigated
Source	<u>CO2</u>	
Natural Gas	8,095.80	
Hearth	2,358.95	
Landscape	16.70	
Consumer Products		
Architectural Coatings		
TOTALS (tons/year, mitigated)	10,471.45	

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Single family housing	30,556.36
City park	75.58
General office building	6,455.29
TOTALS (tons/year, unmitigated)	37,087.23

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses								
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT		
Single family housing	477.00	8.71	dwelling units	2,511.00	21,870.81	163,708.75		
City park		1.59	acres	45.00	71.55	408.08		
General office building		11.01	1000 sq ft	462.00	5,086.62	34,712.43		
					27,028.98	198,829.26		
Vehicle Fleet Mix								
Vehicle Type	Percent	Туре	Non-Cataly	/st	Catalyst	Diesel		
Light Auto		47.6	1	1.1	98.7	0.2		
Light Truck < 3750 lbs		10.0	2	2.0	92.0	6.0		

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Vehicle Fleet Mix							
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel			
Light Truck 3751-5750 lbs	22.5	0.9	98.7	0.4			
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0			
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8			
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4			
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2			
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0			
Other Bus	0.1	0.0	0.0	100.0			
Urban Bus	0.0	0.0	0.0	0.0			
Motorcycle	3.5	62.9	37.1	0.0			
School Bus	0.1	0.0	0.0	100.0			
Motor Home	0.9	0.0	88.9	11.1			

Travel Conditions							
		Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3	
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				

% of Trips - Commercial (by land use)

City park

5.0	2.5	92.5

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Travel Conditions

		Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
General office building				35.0	17.5	47.5

Appendix G

Comments and Responses to the DEIS



United States Department of the Interior

OFFICE OF THE SECRETARY Office of Environmental Policy and Compliance Pacific Southwest Region 1111 Jackson Street, Suite 520 Oakland, California 94607

IN REPLY REFER TO: ER# 10/561

Electronically Filed

09 August 2010

Michael Jewell Chief of the Regulatory Division U.S. Army Corps of Engineers, Sacramento District 1325 J Street, Room 1480 Sacramento, CA 95814-2922

Subject: Review of the Draft Environmental Impact Statement for the Sunridge Properties in the Sunridge Specific Plan Area, Rancho Cordova, Sacramento County, CA.

Dear Mr. Jewell,

The Department of the Interior has received and reviewed the subject document and has no comments to offer.

Thank you for the opportunity to review this project.

Sincerely,

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Jankin Mar

Patricia Sanderson Port Regional Environmental Officer



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IX 75 Hawthorne Street San Francisco, CA 94105-3901

Mr. Mike Jewell Chief of Regulatory Division U.S. Army Corps of Engineers Sacramento District 1325 J. Street, Room 1480 Sacramento, CA 95814-2922

Subject: Draft Environmental Impact Statement (DEIS) for Sunridge Properties in the Sunridge Specific Plan (Project), City of Rancho Cordova, and Sacramento County, California. (CEQ# 20100241)

Dear Mr. Jewell:

The U.S. Environmental Protection Agency (EPA) has reviewed the DEIS for Sunridge Properties pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

Based on our review, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2) (see enclosed "*Summary of Rating Definitions*"), due primarily to our concerns regarding the possible adverse impacts of construction related emissions on air quality. In addition, we recommend that the project incorporate green building design and low impact development principles and practices. With regard to protection of aquatic resources, EPA supports the framework developed in the Conceptual Strategy as a tool to evaluate alternatives in project-specific assessments. We look forward to working with the Corps and all of the stakeholders in using that tool to achieve sustainable resource protection in the project area in compliance with Federal regulations.

EPA appreciates the United States Army Corps of Engineers' (USACE) coordination to date, and the opportunity to provide input on this DEIS. When the FEIS is released, please send one hard copy and two CDs to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact James Munson, the lead reviewer for this project. James can be reached at (415) 972-3800 or <u>munson.james@epa.gov</u>.

Sincerely

Kathleen M. Goforth, Manager Environmental Review Office

Enclosures: EPA Summary of Rating Definitions EPA Detailed Comments

ENVIRONMENTAL PROTECTION AGENCY'S DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SUNRIDGE PROPERTIES IN THE SUNRIDGE SPECIFIC PLAN, AUGUST 18, 2010

Air Quality

The Project area is located within the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD) and is designated as a moderate nonattainment area for particulate matter of 10 micrometers (PM-10), and a severe 8-hour ozone nonattainment area, pursuant to National Ambient Air Quality Standards (NAAQS).

The FEIS should clarify whether or not the project is in conformance with applicable state air quality implementation plans (SIPs). EPA's General Conformity rule [40 CFR part 93, subpart B, and 40 CFR Part 51, Subpart W, approved into the California State Implementation Plans (SIPs) on April 23, 1999 (see 64 FR 19916), hereafter cited as 40 CFR Part 93] establishes an applicability test for determining which Federal actions are subject to the conformity requirement. If a proposed action would result in emissions increases less than identified de minimis thresholds, then no conformity determination need be made. If emissions from a proposed action would exceed the de minimis threshold for any given maintenance or nonattainment pollutant (or precursor), then the Federal Agency must make a positive conformity determination for that pollutant(s) on the basis of one of the criteria listed in 40 CFR 93.158.

The DEIS does not identify the total air emissions related to the preferred alternative or the other alternatives. Although the DEIS discusses project emissions being over SMAQMD's significance thresholds, and applying the District's mitigation measures, the DEIS does not identify the resulting total emissions. As a federal entity, the Corps is subject to requirements of U.S. EPA's General Conformity Rule (GCR). Although that rule is not required to be implemented in the context of a DEIS/FEIS, we nonetheless believe that it would serve the Corps' purpose to explain whether the Corps believes that the emissions from the preferred alternative are below the GCR de minimis level. If the project emissions are over the de minimis level, the requirements of the rule could have a substantial effect on the project's emissions levels and those effects should be discussed in the FEIS.

EPA supports incorporating mitigation strategies to reduce or minimize fugitive dust emissions, as well as emission controls for PM and ozone precursors for construction-related activity. All applicable State and local requirements and the additional and/or revised measures listed below should be included in the FEIS in order to reduce impacts associated with ozone precursors, PM, and toxic emissions from construction-related activities.

Recommendations:

The FEIS should clarify what effect the SMAQMD's required mitigation measures, *California Environmental Quality Act (CEQA)*, and the federal General Conformity Rule have on the

EPA-1

project, in particular what the total amount of emissions are projected to be under the preferred | EPA-1 alternative.

The federal General Conformity regulations underwent major revisions that are currently in effect. The revisions removed the 10% regionally significant applicability threshold; therefore, we recommend removing that part of the applicability discussion on page 3.4-4. Note that the citation at the bottom of that page should include a period to read "40 CFR 93.153".

We recommend that the conformity discussion in section 3.4 include a list of the de minimis thresholds that apply to Sacramento County, and an analysis of the project's preferred alternative with respect to those thresholds.

Due to the serious nature of the PM_{10} and 8-hour ozone conditions in the Sacramento Valley Air Basin, EPA recommends that the best available control measures (BACM), all applicable requirements under local rules, and the following additional measures be implemented at all times and incorporated into the FEIS, a Construction Emissions Mitigation Plan, and the Record of Decision:

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing, and phase grading operations, where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage, and limit speeds to 15 miles per hour (mph). Limit speed of earthmoving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Reduce use, trips, and unnecessary idling of heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at California Air Resources Board (CARB) and/or EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. CARB has a number of mobile source anti-idling requirements. See their website at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal or State Standards.

EPA-4

• Utilize EPA-registered particulate traps and other appropriate controls where suitable, to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Administrative controls:

- Identify all commitments to reduce construction emissions and incorporate these reductions into the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures. Identify where mitigation measures are deemed to be not implementable due to economic infeasibility, and provide comparable determinations for similar projects as justification for this decision.
- Prepare an inventory of all equipment prior to construction, and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.) Meet CARB diesel fuel requirement for off-road and on-highway (i.e., 15 ppm), and, where appropriate, use alternative fuels such as natural gas and electric.
- Develop a construction traffic and parking management plan that minimizes Identify sensitive receptors in the project area, such as children, elderly, and infirm, and specify the means by which you will minimize impacts to these populations. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.

Page 3.4-2 of the DEIS contains errors which should be corrected in the FEIS, as follows:

- In Table 3.4-1, replace: "Non-Attainment, Classification = Serious (8-hour Standard)", with "Non-Attainment, Classification = Severe (8-hour Standard)". Note that the area's 8-hour ozone classification changed from serious to severe, effective June 4, 2010.
- Also in Table 3.4-1, regarding ozone, you may wish to add: "The County is a federal severe 1-hour ozone nonattainment area." Note that although the County is nonattainment for the 1-hour ozone NAAQS, that NAAQS has been revoked and does not apply to the area for General Conformity purposes.
- On Page 3.4-2, in the paragraph preceding Table 3.4-1, the text states that the air district "must" request an attainment designation. This is incorrect. If the intent here is to indicate that, although the area has clean data, it remains designated as nonattainment until it requests redesignation and meets several other Clean Air Act redesignation criteria, including submittal of a maintenance plan, EPA supports that distinction and recommends that "The District must request redesignation to attainment and submit a maintenance plan" be replaced with: "Although monitoring data show the area is attaining the PM-10 NAAQS, the

EPA-4

EPA-5

3

District remains nonattainment for PM-10 until EPA approves a redesignation to attainment request from the State." Please note that, regardless of the above statement, as a nonattainment area, Sacramento County is subject to general conformity for PM-10. This would still be the case as a PM-10 attainment maintenance area.

- We also recommend that the text of the sentence preceding the above be amended to indicate the PM-10 air quality beyond 2003, up to the present, or perhaps to refer the reader to the subsequent air monitoring discussion in the document.
- Revise the same paragraph to indicate that the state's reclassification ("bump-up") request of the area to severe has been acted upon by EPA. The area (including Sacramento County) is severe nonattainment for the 1997 ozone NAAQS, effective June 4, 2010.
- Finally in that paragraph, the last sentence describes a boundary for the federal PM2.5 NAAQS. We have already acted on that boundary recommendation and designated all areas of the nation as meeting or not meeting the 2006 PM2.5 NAAQS. We recommend revising the sentence to read, "Sacramento County is also part of a larger area that has been designated by EPA as nonattainment for the 2006 PM2.5 NAAQS", or something to that effect.

Green Building

EPA commends the applicant's commitment to ensure that all residential, commercial, and public buildings meet the minimum "15% reduction in operational related (long-term) emissions, consistent with General Plan," (page 3.4-17); however we have concerns regarding the timeline for meeting these standards in light of the changes that may occur over the long lifespan of this project. In addition, although the DEIS describes mitigation measures as "including a provision for mixed uses, transit accessibility, bicycle and pedestrian improvement and participation in a Transportation Management Association" (page 3.4-17), very little is included regarding policies and actions such as green building design to reduce impacts to Air Quality.

Recommendations:

If there is likely to be a long delay between permit application submittal and approval, EPA recommends the FEIS commit to building designs that operate at 15% or better than standards at the time of *permit approval* rather than when the project permit applications are filed.

The FEIS should include commitments to maximize the use of green building design and to obtain Leadership in Energy and Environmental Design (LEED) certification. For information on green building, please contact USEPA Residential Green Building Coordinator Leif Magnuson, EPA at (415) 972-3286 or by email at <u>magnuson.leif@epa.gov</u>. EPA also recommends that the Corps and project proponent work with the Sacramento Municipal Utility Distict (SMUD) to ensure that the latest

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technology available is incorporated into the structures built as part of the Sunridge Properties Project. For more information on SMUD's move towards Leadership in Energy and Environmental Design Platinum Certified construction ideas go to: <u>http://www.smud.org/en/residential/homeofthefuture/Pages/projects-rjwalter.aspx</u>

EPA-6

Protection of Aquatic Resources

The area encompassed by the Proposed Project is rich in vernal pools and related aquatic resources. These vernal pool habitats contain a wide array of plants and animals, many of which have some level of protection under the federal and/or state endangered species acts.

Since at least 2002, EPA has worked collaboratively with USACE, the U.S. Fish and Wildlife Service (FWS), the California Department of Fish and Game (DFG), local governments, and landowners and potential developers to identify the most effective way to protect aquatic resources in the Proposed Project area, while also allowing for appropriate development. That effort led to development of the Conceptual Strategy, a large landscape framework for identifying and protecting resources of concern in the general Proposed Project area.

Consistent with the framework outlined in the Conceptual Strategy, and with the additional site-specific information developed in conjunction with the proposed Clean Water Act section 404 permits, the Proposed Project (Alternative 2) would construct 3,258 residential units, while preserving 153.6 acres of undeveloped wetlands. This would result in fill of 29.9 acres of waters of the U.S. (WUS). Alternative 2 would include compensatory mitigation in the form of 34 acres of created vernal pools and 53 acres of offsite preserved wetland area (DEIS: p.ES-2).

Recommendation:

- The FEIS should document progress in securing mitigation commitments and achieving the ecosystem goals in the created vernal pools.
- The FEIS should describe the safeguards that will be employed to assure that protected vernal pools are not adversely affected during the construction process.
- To compensate for unavoidable impacts to waters of the United States, mitigation must be in compliance with *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* dated April 10, 2008 (40 CFR Part 230).

For further assistance with issues pertaining to waters of the U.S., please continue to coordinate with Paul Jones, EPA Wetlands Office. Paul can be reached at (415) 972-3470, or by email at jones.paul@epa.gov.

Stormwater Management

The DEIS states that the project area is "dominated by seasonal stormwater run-off, (page 3.3-3)." Although the DEIS states that drainage and detention improvements would bring the project's impacts down to less than significant, EPA is concerned with potential impacts to water

resources due to substantial increases in impervious surfaces that could increase pollutant loading to surface waters and reduce infiltration rates, thereby resulting in diminished recharge of the local aquifer. EPA encourages stormwater management measures which infiltrate, evapotranspire, or harvest and reuse urban stormwater to reduce pollutant loads in the stormwater discharges and minimize changes in stream hydrology associated with urbanization. Such techniques are often referred to as Low Impact Development (LID) or green infrastructure. In addition to the water quality improvement and benefits for stream hydrology, numerous other benefits have been identified from LID, including increased groundwater recharge, air quality improvement, and reduced energy use.

Recommendation:

The FEIS should describe the benefits of LID, and include a commitment to maximize the use of LID throughout the project. For more information go to State Water Resources Control Board website:

http://www.waterboards.ca.gov/water issues/programs/low_impact_development/.

Water Supply

The DEIS states that the water supply source is "uncertain and under litigation" (page EPA-11 ES-11). The FEIS should describe existing and/or proposed sources of water supply for the Project, anticipated water demand from the Project, and direct, indirect, and cumulative impacts to water resources that may occur. Because the proposed Project could result in significant increases in water demands for an indefinite period of time, EPA strongly encourages including a discussion in the FEIS of all water conservation measures that will be implemented to reduce water demands for the proposed Project. The Project design should maximize conservation measures such as appropriate use of recycled water for landscaping and industry, xeric EPA-12 landscaping, a water pricing structure that accurately reflects the economic and environmental costs of water use, and water conservation education. An estimate of the water resource benefits that result from each mitigation and conservation measure proposed should be included in the FEIS. Water saving strategies can be found in the EPA's publications *Protecting Water Resources with Smart Growth* at www.epa.gov/piedpage/pdf/waterresources with sg.pdf, and USEPA Water Conservation Guidelines at www.epa.gov/watersense/docs/app a508.pdf.

Climate Change

EPA commends the USACE for the attention given to the issue of climate change (page 3.16-2); however the FEIS should include measures to avoid, minimize, or mitigate the effects of climate change on the proposed project. The FEIS should also explore the extent to which climate change may alter the impacts of the proposed project on the environment. Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Effects on weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates can be expected. Such changes may affect the scope and intensity of impacts resulting from the proposed project.

EPA-10

Recommendations:

• Consider how climate change could affect the proposed project and the affected environment, specifically within sensitive areas, and assess how the impacts of the proposed project could be exacerbated by climate change.	EPA-13
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SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

United States Environmental Protection Agency Kathleen M. Goforth, Manager

August 18,2010	
EPA-1	The requested information was added to the conformity discussion under Section 3.4.3.1 Federal Plans, Policies, Regulations, and Laws (p. 3.4-6).
EPA-2	The revision to the federal General Conformity regulations which affected the regionally significant applicability threshold has been updated in the conformity discussion under Section 3.4.3.1 Federal Plans, Policies, Regulations, and Laws (p. 3.4-6).
EPA-3	The requested information was added to the conformity discussion under Section 3.4.3.1 Federal Plans, Policies, Regulations, and Laws (p. 3.4-6).
EPA-4	The requested information was added to Mitigation Measure 3.4-1 (p. 3.4-15 and 16).
EPA-5	The requested additions and revisions regarding Sacramento County air attainment status and related federal regulations were made to Table 3.4-1 and the corresponding text (p. 3.4-2).
EPA-6	The permit decisions were made for 5 of the 6 projects between 2005 and 2007. Although they are evaluated programmatically in this EIS, the projects will adhere to building design requirements in place at that time and as approved by the City of Rancho Cordova. After the FEIS is issued, and should one or more permits be reinstated, construction is expected to begin within 5 years.
EPA-7	The EIS has been revised to identify the status of mitigation efforts related to the 6 projects being considered for permits under the EIS (p. 2-13, 2-21, and 2-22).
EPA-8	Text has been added (Mitigation Measure 3.2-1b) regarding safeguards that would be in place during construction (p. 3.2-19 and 20).
EPA-9	Permit applications for each of the six projects were received by the USACE prior to the final rule was issued in April 2008. As such, and as discussed in the rule, compensatory mitigation plans for the projects are not required to comply with 40 CFR Part 230. However, we note that each plan approved by the USACE largely comports with the requirements of the rule.
EPA-10	Mitigation Measure 3.3.2 has been expanded on to include low impact development measures (p. 3.3-27).
EPA-11	The Executive Summary has been revised to better reflect the status of water supply to the project alternatives (p. ES-11).
EPA-12	Mitigation Measure 3.3.10 has been expanded to include water conservation measures (p. 3.3-35).
EPA-13	The interaction between the impacts of this project and the impacts of climate change has been added to the impact analysis (p. 3.16-18).

California Native Plant Society

August 18, 2010

Michael Jewell, Chief, Regulatory Division U.S. Army Corps of Engineers Sacramento District 1325 J Street, Room 1480 Sacramento, CA, 95814-2922 <u>michael.s.jewell@usace.army.mil</u>

VIA EMAIL

Subject: Sunridge Specific Plan DEIS Public Notice Number SPK-2009-00551

Dear Mr. Jewell,

The California Native Plant Society (CNPS) submitted comments on the Notice of Intent for the above referenced project on August 31, 2009. The background of our long-standing interest in projects that impact vernal pools, and specifically with respect to the Sunrise Douglas area, is contained in that letter and is not repeated here.

CNPS provides the following comments on the Sunridge Specific Plan Draft Environmental Impact Statement published as available on July 2, 2010 and open for a 45 day public comment period ending on August 15, 2010. That deadline was later extended to August 18, 2010.

General Comments

A. Inadequate Project Description & Scope of Environmental Review

The DEIS describes the project as the five permits issued and the one permit pending that are subject to the Preliminary Injunction issued by the federal district court. However, certain specified mitigation measures – such as, but not limited to, Mitigation Measure 3.2-1a, Mitigation Measure 3.2-2a and Mitigation Measure 3.2-2b – will have environmental impact in addition to the project description and outside of the project area. You just cannot create 20.4-34.2 acres of wetlands without having some environmental impact. Even if a portion of these impacts might be tiered off of other NEPA documents related to the mitigation banks, this DEIS cannot simply ignore them. Essentially, these additional impacts are not disclosed within the DEIS and any additional mitigation measures related to them are put off to some future date and document which will not be subject to public disclosure and comment.

Whether or not these mitigation measures are actually feasible and will result in the desired goals is not discussed within the DEIS. Therefore it is impossible for a layperson to judge whether the mitigation measures are adequate and appropriate. Simply requiring the implementation of a "Compensatory Mitigation Plan" does constitute mitigation unless measurable goals, objectives and outcomes (success criteria) are specified as part of the mitigation measure. Again, many key aspects of implementing the project will be put off to some future date and document and not be subject to public disclosure and comment.



Dedicated to the preservation of California native flora

As a whole, the DEIS fails to fully disclose the scope of the project and the entirety of its potential environmental impacts. It also appears to defer details of mitigation to a later date, and simply assumes that they will be adequate without stipulating measurable criteria that might assure the public that the measures will do the job and/or give them an opportunity to challenge the as-yet-to-be-created mitigation documents. We are disinclined to just trust that these future plans will work as the DEIS seems to suggest we should.

B. Missing Documents & Document Discrepancies

We were unable to locate the amended Biological Opinion (1-1-06-F-0232, dated August 30, 2006) for Permit 200100230 in the appendices.

Pages 2, 4 and 6 are missing from Permit 200200568 for the Douglas Road 98 project.

The table below compares preservation acreages specified in the U.S. Army Corps of Engineers permit and the U.S. Fish and Wildlife Service's Biological Opinion for each of the projects. The discrepancies between the documents may constitute changed circumstances requiring reinitiation with the U.S. Fish and Wildlife Service under Section 7 Consultation. This is discussed in more detail in the following sections of this comment letter.

Preservation	U.S. Army Corps of Engineers		ation U.S. Army Corps of Engineers U.S. Fish and Wildlife Se		Wildlife Service
Acreage	Permit (File)	Preservation	Biological	Preservation	
Comparison	Number	Acreage	Opinion	Acreage	
Anatolia IV	199400210	2.72*	1-1-04-F-0339 (Dec 9, 2004)	2.72 ^a –5.44 ^b	
Sunridge Village J	200100230	9.18°	Amendment 1-1-06-F-0232 (Aug 30, 2006)	unk	
Grantline 208	199400365	6.90*	1-1-05-F-0305 (May 18, 2006)	6.90 ^d -13.80 ^c	
Douglas Road 98	200200568	7.82†	1-1-04-F-0314 (Jan 12, 2005)	7.82 ^a –15.64 ^b	
Douglas Road 103	199700006	5.89†	1-1-06-F-0041 (Mar 16, 2006)	6.19 ^e –12.38 ^f	
Arista del Sol	200400458	unk	1-1-06-F-0138 (Jun 28, 2006)	20.18‡	

Location Specified as:

* Vernal pool habitat at a Corps and U.S. Fish and Wildlife Service approved location.

† Vernal pool habitat at a Corps approved location.

[‡] Vernal pool crustacean habitat at a Service-approved site.

Anatolia Conservation Bank (within SDCPA and the Mather Core Recovery Area).

^b Borden Ranch or at another Service-approved site (outside SDCPA and outside Mather Core Recovery Area).

^c Bryte Ranch Conservation Bank (outside SDCPA, but within Mather Core Recovery Area).

^d Anatolia or Town Center (within or adjacent to SDCPA and within the Mather Core Recovery Area).

^e Within the Sunrise Douglas Community Plan Area.

Outside the Sunrise Douglas Community Plan Area.

CNPS-1

CNPS-2

Specific Comments

1. Impact 3.2-1 and Mitigation Measure 3.2-1a (pages 3.2-13 through 3.2-15)

The DEIS states: *"The implementation of Mitigation Measure 3.2-1a would be anticipated to reduce impacts at the population level such that impacts related to loss of vernal pool [threatened, endangered or candidate] species would be less than significant." This conclusion is not supported by evidence in the DEIS or supporting documents. For example, the following contradict this conclusion:*

- Page 3.2-8 states: "[T]he Mather Core Area contains approximately 74% of all of the vernal pool tadpole shrimp occurrences in the southeastern Sacramento Valley." From this statement attributed to the USFWS, one might conclude that areas outside the Mather Core Recovery area are only one-third as likely to support this species and/or would support only one-third of the number of occurrences.
- The Biological Opinion for each of the projects state: "There are 31 known occurrences of vernal pool tadpole shrimp inside the USB and 17 occurrences outside the USB... The data from the CNDDB do not reflect additional reported records in the Sunrise-Douglas area, where 137 occurrences of vernal pool tadpole shrimp... are reported." From these statements, one might conclude that areas outside the USB (and outside the Mather Core Recovery Area) are, at best, about one-half as likely to support this species.
- The Biological Opinions, with the exception of Arista del Sol, require a 2:1 ratio for preservation in the immediate vicinity of Sunrise Douglas (inside the Mather Core Recovery Area) but increase that ratio to 4:1 for areas further removed (on the edge of and outside the Mather Core Recovery Area. This additional mitigation appears to compensate for the reduced likelihood of areas outside the vicinity having occurrences of vernal pool tadpole shrimp.

Permits issued to date and the DEIS only require the minimum preservation ratio (2:1), discounting the opinion of the Fish and Wildlife Service that Gill Ranch, Borden Ranch and other areas removed from Sunrise Douglas area would require a higher ratio (4:1) in order to reach a no jeopardy conclusion. The Service's judgment that the Gill Ranch is inappropriate for mitigating impacts to vernal pool tadpole shrimp within the Sunrise Douglas area is further illustrated by the service area for that conservation bank. Please note that the attached service area map specifically excludes the Mather Core Recovery Area.

The DEIS also states that: *"Preservation credits will be purchased at the Bryte Ranch conservation bank. The off-site mitigation would occur at Gill Ranch in eastern Sacramento County, or other appropriate site, that consists of annual grassland with vernal pool complexes throughout."* This would seem to mean that preservation would occur within the USB and Mather Core Recovery Unit and creation/restoration would occur at the Gill Ranch. However, the Anatolia IV project was allowed to purchase preservation credits at Gill Ranch and at the minimum ratio (2:1) instead of the higher ratio (4:1) stated in the BO for the nearby Borden Ranch.

We do not conclude from the above information that implementation of minimum preservation ratios, regardless of the geographic location and density of vernal pool tadpole occurrences, will result in reducing the impacts to threatened, endangered and candidate vernal pool species to

less than significant levels. The DEIS does not provide the reasoning that the USACE followed to reach that conclusion. Additionally since insufficient information has been provided on *species-level* goals, objectives and success criteria for the vernal pool creation component, it is impossible to evaluate how or if this component might mitigate for species loss.

2. Impact 3.2-2 and Mitigation Measures 3.2-2a & 3.2-2b (pages 3.2-15 through 3.2-16)

We disagree with the statement in the DEIS that implementation of a no-net-loss Compensatory Mitigation Plan for impacts to waters was the sole reason that *"the USFWS determined the five projects were not likely to jeopardize the continued existence of the vernal pool fairy shrimp and the vernal pool tadpole shrimp."* Each of the BOs discuss the no jeopardy determination based on the *"project, as proposed."* From that we infer that the determinations considered both the compensatory mitigation and the preservation components (including a range of ratios depending upon geographic location of preservation) of the proposed projects.

3. Impact 3.2-3 and Mitigation Measure 3.2-3a (pages 3.2-16 through 3.2-17)

Insufficient information has been provided in the DEIS on the details and implementation of the Compensatory Mitigation Plan and how the preservation lands will be chosen, configured and managed to benefit the unimpeded movement of wildlife species. Additional information that clarifies this issue would be appropriate and should also discuss temporal loss associated with time lag between project impact and the mitigation measure meeting an as-yet-to-be identified success threshold.

4. Impact 3.2-4 and Mitigation Measures 3.2-4a (pages 3.2-17 through 3.2-18)

Again, insufficient information has been provided in the DEIS on the details and implementation of the Compensatory Mitigation Plan and how the any preservation lands will be chosen, configured and managed to mitigate for substantial population loss of any native wildlife. And once again, additional information that clarifies this issue would be appropriate. Measurable goals for the preservation lands and their management should be provided.

5. <u>4.2.3.2 USFWS Vernal Pool Recovery Plan and Table 4-3 (pages 4-9, 4-13 though 4-14)</u>

Table 4-3 should be modified to show how much vernal pool preservation is occurring within the Mather Core Recovery Unit and how much is occurring outside of it. Returning to the table of discrepancies on page two of this letter and our first specific comment, the USFWS considers preservation within the Mather Core Recovery Area to be approximately twice as biologically valuable for impacts in the Sunridge Projects area. Please disclose the extent to which preservation is occurring within or outside the Core.

6. <u>4.2.3.3 Off-site Constructed Vernal Pools (pages 4-10 through 4-11)</u>

The entire text of this section outlines why "no-net-loss" mitigation does not adequately replace wetland function and values. It goes on to discuss the Recovery Plan's habitat protection priorities as "first, preservation of existing natural vernal pool habitat, followed by restoration of former or degraded habitat, and lastly, creation of vernal pools if necessary to maintain the range of vernal pool habitat." Yet the permits issued for the six projects essentially ignore the USFWS's opinion on what constitutes appropriate preservation, in terms of both ratio and location, in order to make a no jeopardy determination.

CNPS-6

CNPS-4

CNPS-5

CNPS-7

Summary & Recommendations

The California Native Plant Society requests that the Draft Environmental Impact Statement for Sunridge Properties (SPK-2009-00511) be revised to provide a more complete project description, includes analysis of the environmental effects of the mitigation measures, and provides a more thorough explanation of discrepancies between the opinions of USFWS personnel and the permit documents. The Revised Draft Environmental Impact Statement must be recirculated for public comment.

Should the USACE chose to approve the Proposed Project Alternative and (re-)issue the permits, they should include the preservation requirements indicated in the USFWS Biological Opinions and not just the minimum wetted acreage. If the permits are (re-)issued as currently written, we believe the USACE must reinitiate consultation with the USFWS under Section 7 because the minimum wetted acres for preservation, regardless of geographic location, constitutes changed circumstances.

Finally, on behalf of CNPS, I appreciate the opportunity to comment on this Draft Environmental Impact Statement. Please keep me informed of activities related to projects in this area that might impact vernal pool grasslands and endangered species habitat.

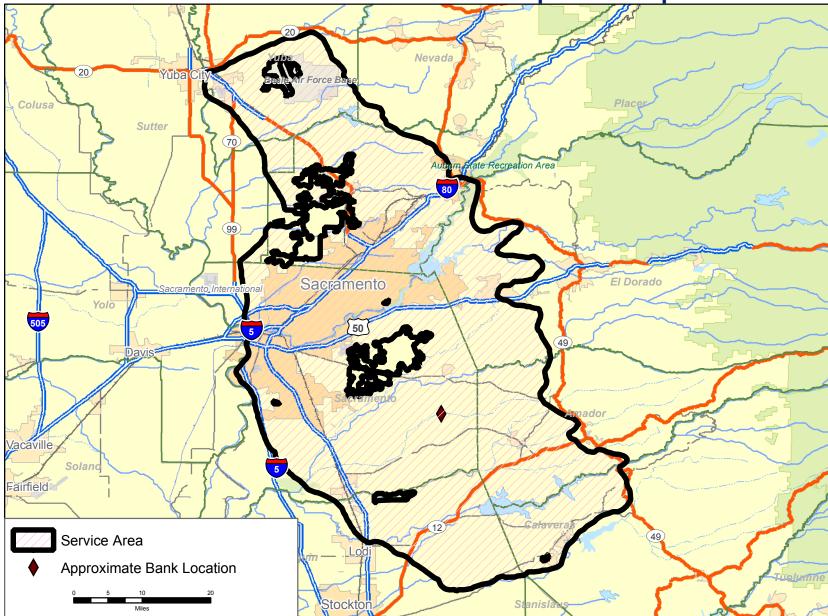
Sincerely,

Carol W. Witham CNPS Vice-President 1141 37th Street Sacramento CA 95816 (916) 452-5440 cwitham@ncal.net

Attachment (1):

Gill Ranch Conservation Bank Vernal Pool Tadpole Shrimp Service Area

Cc: Interested parties



Gill Ranch Conservation Bank Vernal Pool Tadpole Shrimp Service Area

California Native Plant Society Carol W. Witham, CNPS Vice President

August 18, 2010	
CNPS-1	The merits of each compensatory mitigation plan were evaluated by the USACE, USEPA and USFWS before any biological opinions and DA permit decisions were issued. This evaluation considered whether the plan would adequately and appropriately offset the functions of the aquatic resources lost by implementation of the project, without additional adverse effects, incompatibility with existing land use, or less than a high probability for long-term success. This is standard practice for the agency review of compensatory mitigation plans. Information about proposed mitigation for each project was disclosed in public notices and comments were solicited by the USACE.
	Every compensatory mitigation project is required to have measurable performance and success criteria before it can be approved by the USACE and construction can start. For the Sunridge Properties, the majority of the mitigation is being done at existing mitigation sites which formerly had completed the environmental review documentation.
CNPS-2	Text has been added (Mitigation Measures 3.2-1a, 1b and 1c and 3.2-2c) to expand upon the performance and success criteria for the compensatory mitigation plan (p. 3.2-18 through 24). The Sunridge Village J BO was added to Appendix D, and the missing pages have been added to the Douglas Road 98 permit in Appendix C.
CNPS-3	For compensatory mitigation, the USACE accepted preservation along with restoration or construction of aquatic resources to offset impacts to waters of the U.S. associated with each of the permitted projects. However, the USACE's preservation requirements do not always align with that required by the USFWS for threatened or endangered species. The USACE-required Douglas 103 preservation acreage identified by the commenter (5.89) does not include the 2.99 acres of waters located in the on-site preserve. The combined acreage (8.88 acres) is greater than the minimum identified by the USFWS. We note that the USFWS BO is a condition of the DA permit and, as such, must be met, even if it differs from what is stated in the DA permit. The USACE has no plans to reinitiate consultation on one or more of the BOs at this time.
CNPS-4	The USACE concluded that implementation of compensatory mitigation measures for each project would adequately and appropriately mitigate effects. This is supported by USFWS's issuance of biological opinions for each of the projects. Approval of compensatory mitigation is made on a case-by-case basis and ratios may vary depending on several factors. The USACE acknowledges that, although each project would have less than significant effects, there is a significant cumulative loss to vernal pools in the Mather Core. Mitigation Measure 3.2-1a has been expanded and clarified (p. 3.2-18 and 19).
CNPS-5	The comment does not address the text. The DEIS states: As stipulated in BOs prepared for the five projects permitted by the USACE, with the implementation of this mitigation, the USFWS determined the five projects were not likely to jeopardize the continued existence of the vernal pool fairy shrimp and the vernal pool tadpole shrimp (USFWS, 2004a,b; 2005; 2006a,b,c,d). The conclusions of these BOs were based on an analysis of the effects of the individual projects in the context of the status of the species and environmental baseline at the time of issuance.

California Native Plant Society Carol W. Witham, CNPS Vice President August 18, 2010 (continued) CNPS-6 The on-site preserves are large and contiguous, two factors considered in determining the appropriateness of preserve locations. Large, contiguous preserves are important for the movement of wildlife. CNPS-7 Table 4-3 was revised to distinguish between vernal pool preservation within and without the Mather Core Recovery Unit. CNPS-8 The USACE does not make the "jeopardy"/ "no jeopardy" determination. To comply with USEPA's 404(b)(1) guidelines, the USACE must evaluate mitigation in a sequential manner, looking at avoidance first, then minimization and, last, compensation. The USACE undertook these steps for each permit issued. The USFWS issued BOs for each of the projects, referring to its own Recovery Plan in issuing them. The BO is a condition of each DA permit.



California Office 1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5812 www.defenders.org

August 18, 2010

Via Electronic Mail

Michael Jewell, Chief, Regulatory Division U.S. Army Corps of Engineers Sacramento District 1325 J Street, Room 1480 Sacramento, CA, 95814-2922 michael.s.jewell@usace.army.mil

> Re: Sunridge Specific Plan DEIS Public Notice Number SPK-2009-00551

Dear Mr. Jewell:

On behalf of Defenders of Wildlife and our more than 200,000 members and supporters in California, I am writing to comment on the Sunridge Specific Plan Draft Environmental Impact Statement (DEIS). We incorporate by reference the comments submitted by the California Native Plant Society on August 18, 2010.

A review of the DEIS reveals that the document fails to disclose the full scope of the project and the entirety of its potential environmental impacts. It also appears to defer details of mitigation to a later date, and simply assumes that they will be adequate without stipulating measurable criteria that might assure the public that the measures will do the job and/or give them an opportunity to challenge the as-yet-to-be-created mitigation documents.

We join CNPS in their request for the U.S. Army Corps of Engineers (Corps) to revise the Sunridge Specific Plan DEIS (SPK-2009-00511) to provide a more complete project description, includes analysis of the environmental effects of the mitigation measures, and provide a more thorough explanation of discrepancies between the opinions of U.S. Fish and Wildlife Service (USFWS) personnel and the permit documents. Given the extent of request changes, we believe the revised DEIS must be recirculated for public comment.

We also join CNPS in their request for the Corps to include the preservation requirements indicated in the USFWS Biological Opinions and not just the minimum wetted acreage should the Corps chose to approve the Proposed Project Alternative and (re-)issue the permits. However, if the permits are re-issued as currently written, we believe the Corps must reinitiate consultation with the USFWS under Section 7 of the Endangered Species Act because the minimum wetted acres for preservation, regardless of geographic location, constitute changed circumstances.

National Headquarters

1130 17th Street, N.W. Washington, D.C. 20036-4604 tel 202.682.9400 | fax 202.682.1331 Thank you for the opportunity to comment on this DEIS.

Sincerely,

Kji Deef

Kim Delfino California Program Director

northstatebia.org



August 18, 2010

VIA ELECTRONIC MAIL

Michael S. Jewell U.S. Army Corps of Engineers Sacramento District 1325 J Street. Room 1480 Sacramento, CA 95814-2922 Michael.S.Jewell@usace.army.mil

Re: <u>Comments with Respect to Draft Environmental Impact Statement for the Sunridge</u> Specific Plan Area PN 2009 00511

Dear Mr. Jewell:

As you know, the North State Building Industry Association has been actively involved in the ongoing effort to develop and implement the South Sacramento Habitat Conservation Plan. A major component of that effort has been the long-term desire of the building industry to effect a plan that incorporates provisions that allow for streamlining of the permit process with respect to habitat conservation and Army Corps permitting.

In conjunction with this effort, we have been provided with a copy of a memorandum prepared by ECORP Consulting, Inc. that sets forth its comments after reviewing Chapter 4 and the cumulative effects analyzed in the Draft Environmental Impact Statement. A copy of ECORP's August 17, 2010 memorandum outlining its concerns is attached. Please include this letter and the accompanying memorandum as part of your Record of Public Comments with respect to the Draft Environmental Impact Statement for the Sunridge properties.

Very truly yours,

Dennis M Rogers Senior Vice President Governmental and Public Affairs



MEMORANDUM

DATE: 17 August 2010

FROM: Peter Balfour, ECORP Consulting, Inc.

RE: Draft Environmental Impact Statement – Sunridge Properties, Rancho Cordova, California. (SPK-2009-00511).

We have reviewed selected portions of the Draft Environmental Impact Statement (DEIS) for Sunridge Properties, Rancho Cordova, California (ID SPK-2009-00511). Our review was limited to pgs. 4-1 through 4-21 of *Chapter 4-Cumulative Effects and Other NEPA Analyses*. We provide the following observations.

This section of the DEIS addresses past actions that have affected vernal pool landscapes and associated special status species in the region. The section also discusses present habitat loss trends, primary goals of the U.S. Fish and Wildlife Service's (USFWS) Vernal Pool Recovery Plan (USFWS 2005), and both present and future actions that are relevant to the region's natural resources. Section 4.3.2.1 of the DEIS's Cumulative Effects Analysis addresses the magnitude and significance of cumulative effects to biological resources on pages 4-25 through 4-28. In reviewing the cumulative impacts section, it is apparent that there are both discrepancies with prior conclusions in sections of the DEIS (specifically regarding mitigation) and subsequent unsubstantiated conclusions regarding the efficacy of vernal pool creation and cumulative impacts.

Impact 3.2-1(*-An adverse effect on a population of threatened, endangered, or candidate species)*, pg. 4-27, discusses perceived inadequacies of vernal pool mitigation in a cumulative scenario. Impact 3.2-1 states that "*implementation of mitigation measures would reduce direct and indirect impacts on the threatened vernal pool fairy shrimp and the endangered vernal pool tadpole shrimp, the federally-listed species that occur within the project area" and that "<i>The impact was reduced to less than significant based on mitigation that replaced the existing vernal pool habitat with off-site constructed vernal pools.*" However, this section then cites "*concerns*" regarding habitat fragmentation and the efficacy of vernal pool creation/mitigation (i.e., questions regarding habitat replacement and long-term viability) which are briefly discussed in Section 4.2.3.3 (Off-site Constructed Vernal Pools). Based on these concerns, the DEIS concludes that significant losses would occur "*even with the implementation of the proposed mitigation.*"

Restoration and creation are both recognized as mitigation strategies in the Recovery Plan. We are aware that, with respect to mitigation, the USFWS Recovery Plan establishes an order of preference of preservation, then restoration, and lastly creation, as necessary. However, a fundamental point that is overlooked in Section 4.2.3.3 is the "*no net loss*" requirement under

BIA-1

Section 404 of the Clean Water Act. Vernal pool restoration and/or creation have typically been a required mitigation component to meet this requirement. In recent years, the USFWS has considered vernal pool restoration as the preferred compensatory strategy (vs. creation) since it increases the likelihood of proper site selection.

Section 4.2.3.3 (Off-site Constructed Vernal Pools) does not provide an adequate overview of vernal pool construction in the context of mitigation to support the conclusion that significant losses would occur "*even with the implementation of the proposed mitigation."* The section is also somewhat misleading since some of the supporting studies provided are not directly relevant to vernal pool restoration/creation. For example, Ambrose 1999 is cited as a supporting study, but it is not clear whether this investigation, which evaluated 40 mitigation sites nationwide, specifically evaluated vernal pool systems. Since a reference for this study is not provided in the DEIS, it could not be determined if the study evaluated vernal pools. However, the cited failures in this study were due to a lack of stream channel overbank flooding. This statement and a reference to "*lower perennial riverine habitat*" suggest that other wetland systems were included in the study. Section 4.2.3.3 also cites a recent study of Central Valley vernal pools conducted by the Placer Land Trust. This study focused on a series of small preserves and an evaluation of edge effects and land management challenges, but did not investigate the efficacy of vernal pool creation.

Section 4.2.3.3 presents findings of a study by DeWeese 1998 which evaluated several vernal pool mitigation sites and documented mixed successes at the time of the study. As stated in the DEIS, "the *study found that constructed wetlands often did not follow the USFWS Vernal Pool Mitigation and Monitoring Guidelines (USFWS 1994) with respect to site selection, construction techniques, reference pools, hydrology staff gauges, vegetation, wildlife, listed invertebrate measurements, water quality, site maintenance inspections, and performance standards."* Several of the wetland areas evaluated in the study were constructed prior to development of these Guidelines. It should be noted that, since the time of DeWeese's study, both the USFWS and U.S. Army Corps of Engineers have required increased attention to compliance standards with respect to both vernal pool restoration methods (including detailed site analyses) and long term management. Mitigation banks and project specific mitigation proposals require review by the Interagency Review Team (IRT) and through focused Section 7 Consultations. This may explain the cited observation by Noss et al. (2002) that "*most apparently successful projects are less than 10 years old."*

Section 4.2.3.3 correctly points out that past studies of created pools have indicated mixed results which contribute to controversies on this subject. For example, Ferren and Hubbard 1996 reported successful enhancement, restoration, and re-creation of inoculated vernal pools at Del Sol Reserve. The document cites "*Numerous studies by different individuals or groups using different approaches have demonstrated that enhanced, restored, re-created, and created-inoculated vernal pools are self-sustaining and provide a broad array of ecosystem functions similar to those of naturally occurring vernal pools. These functions include, for example, the establishment of wetland hydrology, habitat for native plants and animals, habitat for sensitive species, food chain support, and the roles of vernal pools in grassland ecosystems." Similarly, ECORP Consulting, Inc. has monitored several constructed and restored vernal pool wetland mitigation sites in both Placer and Sacramento Counties over the last two decades and has documented the persistence of vernal pool vegetation and presence of listed*

BIA-2

BIA-1

vernal pool branchiopods at some sites after more than 15 years of monitoring (Egan 2008, Egan 2009).

. 57

REFERENCES

- De Weese, June M. 1998. Vernal Pool Construction Monitoring Methods and Habitat Replacement Evaluation. Ecology, Conservation, and Management of Vernal Pool Ecosystems-Proceedings from a 1996 Conference. California Native Plant Society, pp 217-223. Sacramento, California.
- Egan, S. 2008, "Vernal Pool Restoration and Creation: Yesterday, Today, and Tomorrow", *California Wetlands Supe rConference Conference*, CLE International, Sacramento, California
- Egan, S. 2009, "Vernal Pool Restoration: Yesterday, Today, and Tomorrow", *California Native Plant Society 2009 Conservation Conference: Strategies and Solutions*, Sacramento, California
- Ferren Wayne R.Jr. and David M. Hubbard. *Review of Ten Years of Vernal Pool Restoration and Creation in Santa Barbara.*, pages 206-216 in: C.W.W itham, E.T. Bauder, D. Belk, W.R. Ferren Jt, and R. Ornduff (Editors). Ecology. Conservation, and Management of Vernal Pool Ecosystems Proceedings from a 1996 Conference. California Native Plant Society, Sacramento, CA. 1998
- Noss, R., R. Amundson, M. Barbour, R. Bugg, B. Cypher, R. Grosberg, T. Hanes, R. Hansen, B. Pavlik, K. Rice, P. Trenham, B. Shaffer and B. Weir. 2002. Report of Science Advisors for the Eastern Merced County Natural Community Conservation Plan Habitat Conservation Plan. Part I: General Review of Approach, Methods, and Planning Principles, and Responses to Initial Questions. 104 pages As referenced in U.S. Fish and Wildlife Service, Region 1. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon

BIA-1	This section concerns USFWS's vernal pool recovery plan. Text has been revised to reflect that
	the USACE has accepted mitigation associated with BOs issued for the projects (p. 4-10 and 11).
BIA-2	The USACE acknowledges that the studies referenced may not be specific to vernal pool restoration and creation. However, they do provide some context as to the past and current status of mitigation site success which has relevance. Text has been revised to provide additional contex (p. 4-12).
BIA-2	A description of the successful restoration of vernal pools at the Del Sol Open Space and Vernal Pool Reserve in Santa Barbara, as reported by Wayne Ferren (Ferren 2006) has been added to the discussion of vernal pool restoration (p. 4-12).

CoxCastle Nicholson

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Andrew B. Sabey 415.262.5103 asabey@coxcastle.com

File No. 56585

August 18, 2010

VIA E-MAIL AND OVERNIGHT DELIVERY

Michael Jewell U.S. Army Corps of Engineers Sacramento District 1325 J Street, Room 1480 Sacramento, California 95814

Re: Comments on Sunridge Properties Draft Environmental Impact Statement (ID SPK-2009-00511)

Dear Mr. Jewell:

On behalf of Cresleigh Homes ("Cresleigh"), thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Sunridge Properties (ID SPK-2009-00511) ("Draft EIS"). Cresleigh Homes is the project proponent for the Sunridge Village J project ("Lot J") located within the Sunridge Specific Plan Area in Rancho Cordova, California. As noted in the Draft EIS, Lot J and eight other projects in the Plan Area are the subject of pending litigation in the U.S. District Court for the Northern District of California *(California Native Plant Society, et al. v. U.S. Environmental Protection Agency, et al.*).

Cresleigh supports the U.S. Army Corps of Engineers' (the "Corps") adoption of the Proposed Project Alternative, which is the implementation of the projects as specified in the Section 404 permits for the permitted projects, and the reinstatement of those permits with the permit requirements as currently stipulated. We believe the Draft EIS further confirms the Corps' prior decisions to issue permits for the Sunridge Specific Plan Area projects.

The Draft EIS also raises some questions and concerns for Lot J. More specifically, these questions relate to references to the need to "supplement" the existing Environmental Assessments for the projects, the relationship between the alternatives in the Draft EIS and the Corps' ultimate permit decisions, identification and allocation of any project obligations related to the possible mitigation of cumulative effects, and the accuracy of the current site conditions on Lot J. We discuss each of these items in more detail below.

1. References to "Supplementing" the Existing Environmental Assessments Based on the Draft EIS Are Vague and Raise a Number of Questions.

The Draft EIS is described as a "programmatic" document that will be used to "supplement" the project-specific Environmental Assessment/Findings of No Significant Impacts CCN

("EA/FONSI") for each of the projects evaluated in the Draft EIS. For example, the Executive Summary states that "[i]nformation presented in this document will be used to supplement project specific Environmental Assessments previously prepared for five permits." (p. ES-1.) Elsewhere the Draft EIS states: "As a programmatic document, this EIS is intended to validate the existing EAs for DA permits as tiered documents. The EAs will need to be supplemented to reflect this EIS." (p. 1-8.)

While we agree that the EA/FONSIs should each reflect the comprehensive evaluation presented in the EIS, we question whether anything more than an express tiering from the EIS is required. The EIS has essentially validated the analysis in the EA/FONSIs, particularly with respect to the mitigation required. Thus, with the issuance of the final EIS and record of decision, we believe the permits can and should be reissued on the express acknowledgement that the EA/FONSIs are revised to tier from and adopt the analysis of the EIS.

We question whether any additional environmental review beyond this comprehensive EIS is necessary under the District Court's July 10, 2007 preliminary injunction order, the National Environmental Policy Act ("NEPA"), or the Corps' regulations for implementing NEPA and the Clean Water Act. Assuming this additional analysis is warranted, the Draft EIS does not explain the Corps' expected process for supplementing the project's EA/FONSIs. For example, the Draft EIS is silent as to the form and scope of that supplementation (e.g., a separate stand-alone attachment to each EA/FONSI, a wholly revised "Supplemental EA/FONSI", etc.), the timing associated with that additional work, or whether the project proponents will have the opportunity to participate in the preparation of this supplemental material. The issuance of the final EIS and Record of Decision should be the culmination of the environmental review process and if the Corps intends to deviate from that process, the Corps should elaborate on this process, establish time frames for the completion of the process, and describe the extent to which the project proponents will have the opportunity to review and comment on drafts of this material.

2. The Draft EIS Does Not Clarify How the Alternatives Align with the Corps' Ultimate Permit Decisions.

The Draft EIS sets forth three alternatives addressed in detail in the Draft EIS: (1) a No Action (No DA Permit) Alternative; (2) the Proposed Project Alternatives; and (3) the Reduced Footprint Alternative. (pp. 2-12 to 2-21.) The Draft EIS also indicates that for the five permitted projects, which include Lot J, the Corps may decide based on the Draft EIS to (1) reinstate one or more of the permits with the permit requirements as currently stipulated; (2) modify the terms or conditions of one or more of the permits; or (3) initiate revocation procedures for one or more of the permits. (See, e.g., p. ES-2.)

The Draft EIS does not clarify how these alternatives align with the Corps' ultimate permit decisions. Presumably, if the Corps adopts the Proposed Project Alternative, then it will reinstate the permits as currently stipulated. If the Corps decides to adopt the No Action Alternative, then it will initiate procedures to revoke all of the permits. The Draft EIS does not explain, however, which alternative the Corps would use to support a decision to reinstate some but not all of the permits, or to modify the terms or conditions of the permit to reflect an overall project

CCN-1

footprint that is different from the Proposed Project Alternative but not identical to the Reduced Footprint Alternative. In such a situation, the Corps would not have a corresponding project alternative to rely upon for its decision to modify the terms or conditions of the permit. The Draft EIS does not contemplate such a scenario.

3. Project Obligations for Mitigation Related to Cumulative Effects Are Unclear.

The Draft EIS evaluates the cumulative effects of the proposed action combined with the impacts of other past, present, and reasonably foreseeable future projects producing related impacts. (pp. 4-1 to 4-43.) With respect to biological resources and the placement of fill material into waters of the United States, the Draft EIS concludes that even with implementation of proposed mitigation, the cumulative impacts from the proposed action and past, present, and reasonably foreseeable future projects would have a substantial adverse effect on these resources. (pp. 4-27 to 4-28.) In addition to these cumulative effects related to biological resources, the Draft EIS concludes that the proposed action would result in a number of other significant and unavoidable cumulative effects to water supplies, air quality, traffic, noise, aesthetics, and greenhouse gas emissions. The Draft EIS provides no mitigation for these impacts, stating that "neither planned nor potential mitigation cannot [sic] avoid or substantially reduce these specific effects." (p. 4-44.)

Because the Corps has concluded that the identified cumulative effects cannot feasibly be mitigated, the Corps should not require additional mitigation for the projects related to these cumulative effects – including cumulative effects to biological resources and waters of the United States. With respect to Cresleigh in particular, no additional mitigation should be imposed upon the Lot J project because Cresleigh has fully complied with the mitigation requirements of its Section 404 permit and the Section 7 Biological Opinion issued by the U.S. Fish and Wildlife Service to the Corps on December 22, 2004. Moreover, the imposition of mitigation obligations above and beyond those specified in Cresleigh's Section 404 permit would require modification of the terms and conditions of the permit in accordance with the Corps' regulations. (33 C.F.R. § 325.7(b).) If despite these facts, the Corps nonetheless considers imposing additional mitigation obligations on Cresleigh, we would expect the Corps to adhere to these regulations by first consulting with Cresleigh and acknowledging the fact that, while only six projects are evaluated in the Draft EIS, a total of nine projects comprise the Sunridge Specific Plan Area. Furthermore, if the Corps were to reach back and modify the Sunridge Properties' permits to impose any additional mitigation obligations, those obligations should be allocated on a pro rata basis that includes all nine of the projects within the Sunridge Specific Plan Area, and not just the six projects evaluated in the Draft EIS. As such, this pro rata calculation should be based on each of the nine project's overall impact to waters of the United States.¹

CCN-3

¹ We note that although this comment focuses on mitigation related to the Draft EIS's discussion of cumulative effects, Cresleigh also has concerns regarding the imposition of additional mitigation related to project specific, rather than cumulative, impacts. In connection with those concerns, we are currently reviewing the other state and federal environmental review documents prepared for the Sunridge Specific Plan Area and the Project site in particular to

4. The Project Description of Sunridge Village J Is Still Not Accurate or Complete.

We note that the Corps included in Appendix E of the Draft EIS our August 28, 2009 letter commenting on the Notice of Intent. Although the Corps made an effort to revise its description of Lot J in response to that letter, the description is still not accurate, particularly in terms of the work that has already taken place on the Lot J site. For example, the Draft EIS only obliquely refers to Cresleigh's work on the Lot J site prior to the District Court's issuance of its preliminary injunction order. The Draft EIS states, "Prior to the suspension of the DA permits, some of the site's vernal pools were disturbed in anticipation of development." (p. 2-19.) Later, though, the Draft EIS describes the biological setting for the Lot J site as including wet swales and vernal pools on the site (p. 3.2-2) and indicates that "no grading is apparent" on the site. (p. 3.2-4.) Similarly, the Draft EIS states that the federally-threatened vernal pool fairy shrimp and the federally-endangered vernal pool tadpole shrimp are assumed to occur on the site because they occur in the vicinity of Lot J and "habitat on site is suitable for the species." (p. 3.2-6.)

This is inaccurate. As described in the Declaration of Deana Ellis in Opposition to Motion to Stay, filed on October 29, 2008 in the *California Native Plant Society* litigation, the vernal pools and other jurisdictional features on the project site were disked and filled. Inoculum from these features was removed. In addition, a substantial amount of infrastructure was installed at the site prior to the injunction. In coordination with the Sunridge Sub-owners group,² Cresleigh "installed a large diameter sewer line running underground at approximately 15 feet of depth from east to west across the full length of the project site." The attached drawings depict the placement of this infrastructure. As a result of this work, the hard pan soil layer in this area was penetrated and any overlying wetland features no longer exist. Notably, as stated in the 2008 declaration, the "sewer line is closely aligned with locations on site that used to contain vernal pools and other jurisdictional features on the project site."

In light of this work on Lot J, the Draft EIS is incorrect when it refers to the status of Lot J on Table 4-3 ("Development Projects in the Mather Core Area") as "Permit Issued, Not Constructed." (p. 4-13.) Although the Lot J site is not fully "constructed," in the sense that no homes have yet been constructed, a significant amount of construction has taken place on Lot J. Other projects listed on Table 4-3 as "Permit Issued, Not Constructed" truly have not had any construction on their sites. The construction status of these projects is significantly different from the construction status of the Lot J project. Therefore, we request that the Corps change the status of the Lot J project on Table 4-3 from "Permit Issued, Not Constructed" to "Permit Issued, Partially Constructed" to better reflect the fact that at least some construction has taken place on the Lot J site and, most importantly, the functions and values of the jurisdictional features have largely been removed.

evaluate whether the mitigation set forth in those documents is consistent with the mitigation set forth in the Draft EIS.

² The Sub-owners group is comprised of three Sunridge property owners responsible for carrying the burden of constructing the major utility infrastructure for the Sunrise Douglas area. (See Ellis Declaration at p. 1.)

Because of the work completed on Lot J, we question the accuracy of the photographs identified as Viewpoint 7 and Viewpoint 9 in the Draft EIS. (pp. 3.13-5 to 3.13-6.) Although the captions for these photographs ambiguously refer to views "within" or "toward" the Lot J site, they seem to suggest that vernal pools are currently located on the site. The photograph for Viewpoint 7, though, does not appear to show the existence of any vernal pools, and the photograph for Viewpoint 9 does not make clear whether the vernal pool shown is actually located on Lot J.

We also note that the Draft EIS inconsistently refers to the status of a stock pond in its description of Lot J. In the first paragraph of this discussion, the Draft EIS indicates that a stock pond "was no longer apparent on the visual survey constructed on March 24, 2010," but then states in the third paragraph that "the stock pond supports a mix of vernal pool and seasonal wetland vegetation." (p. 3.2-2.) As a result of construction on the site prior to the injunction, this stock pond was removed and thus the first paragraph accurately describes the stock pond as no longer existing on site. This should be clarified in the Final EIS.

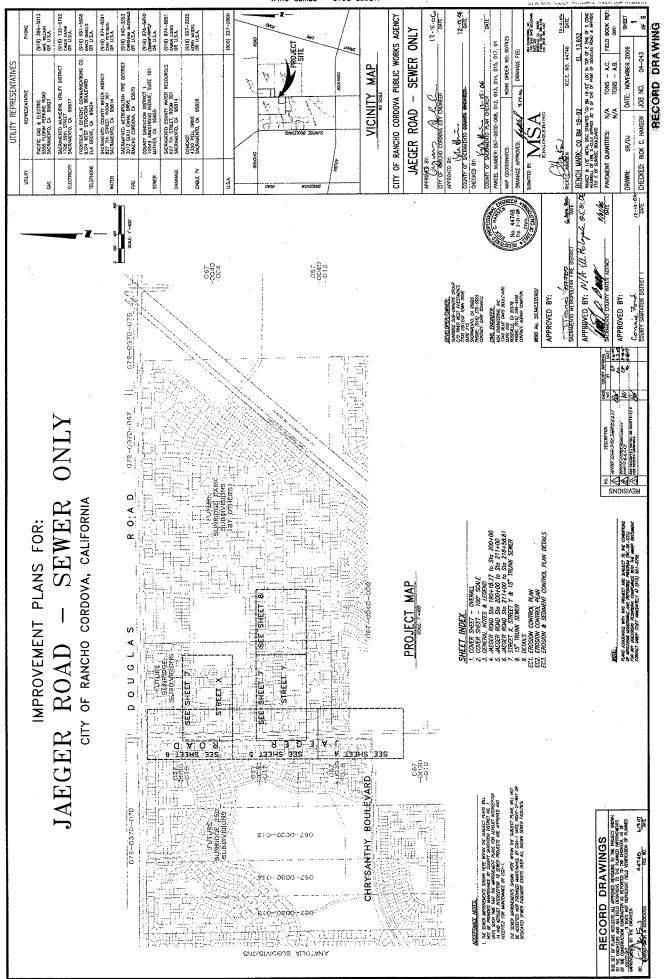
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Thank you for the opportunity to provide these comments on the Draft EIS for the Sunridge Properties. We look forward to working with the Corps to complete this process and to proceed with the Sunridge Village J project. Please feel free to contact me should you have questions regarding any of the above.

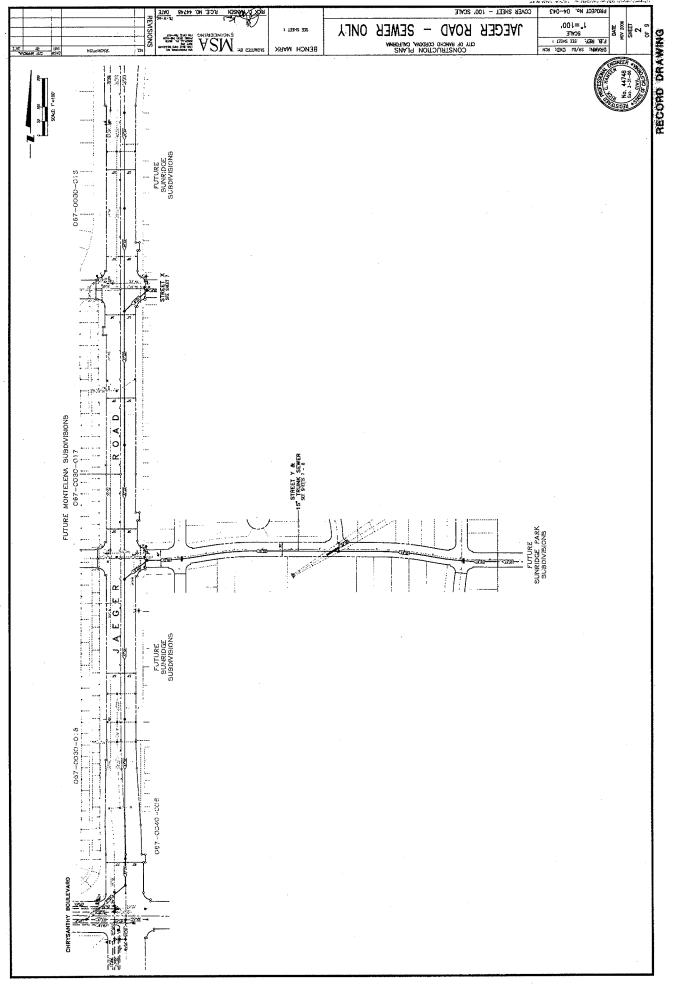
Sincerely Andrew B. Sabev

Enclosure

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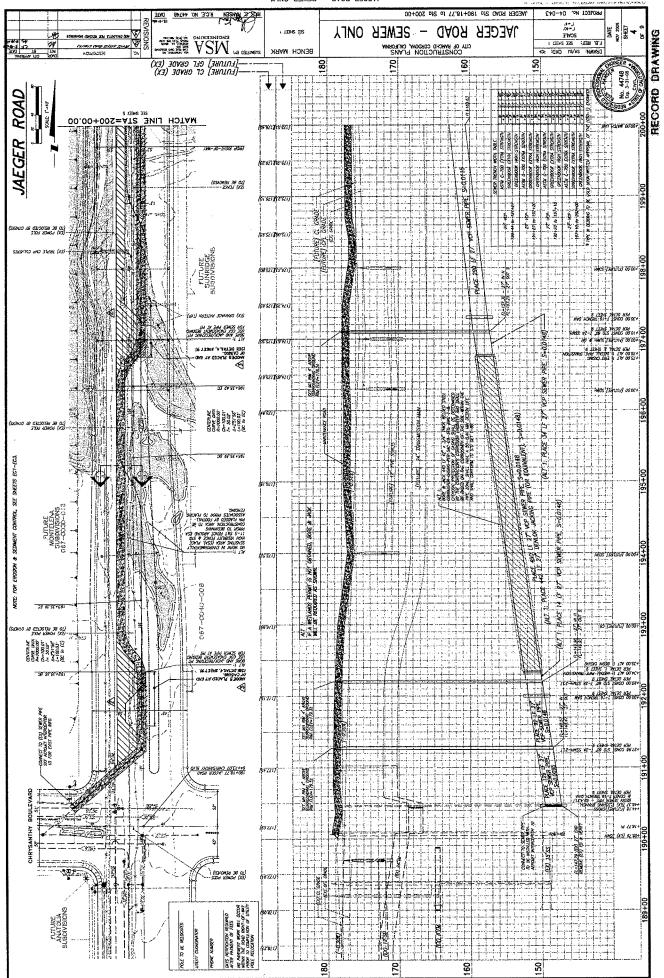


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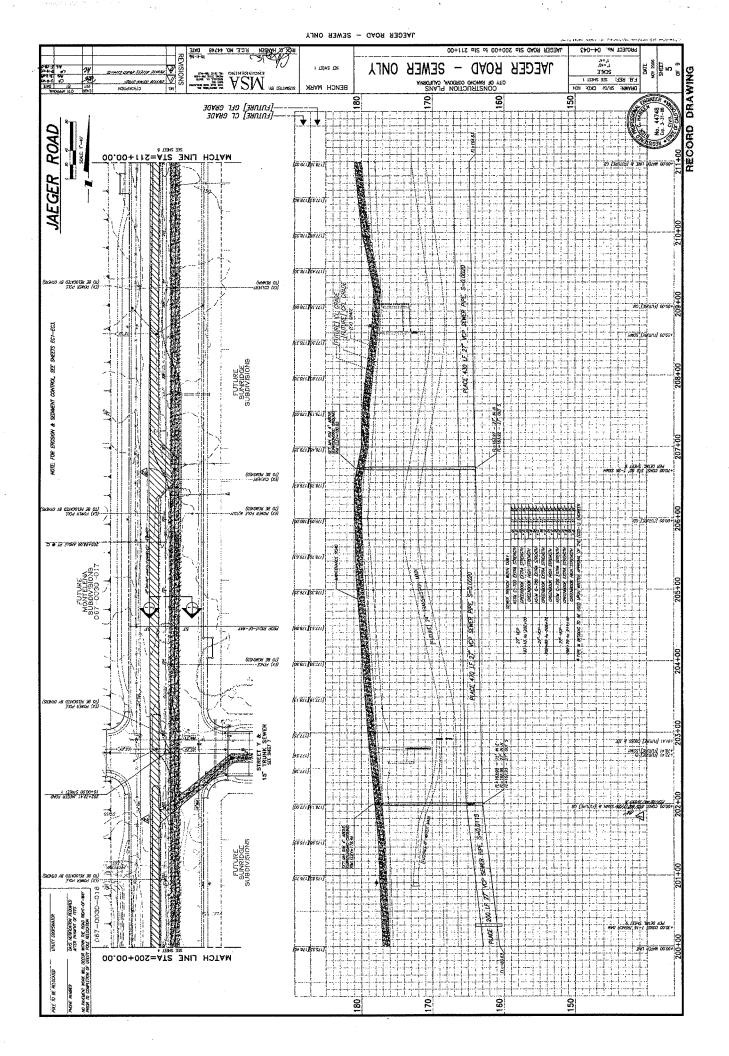
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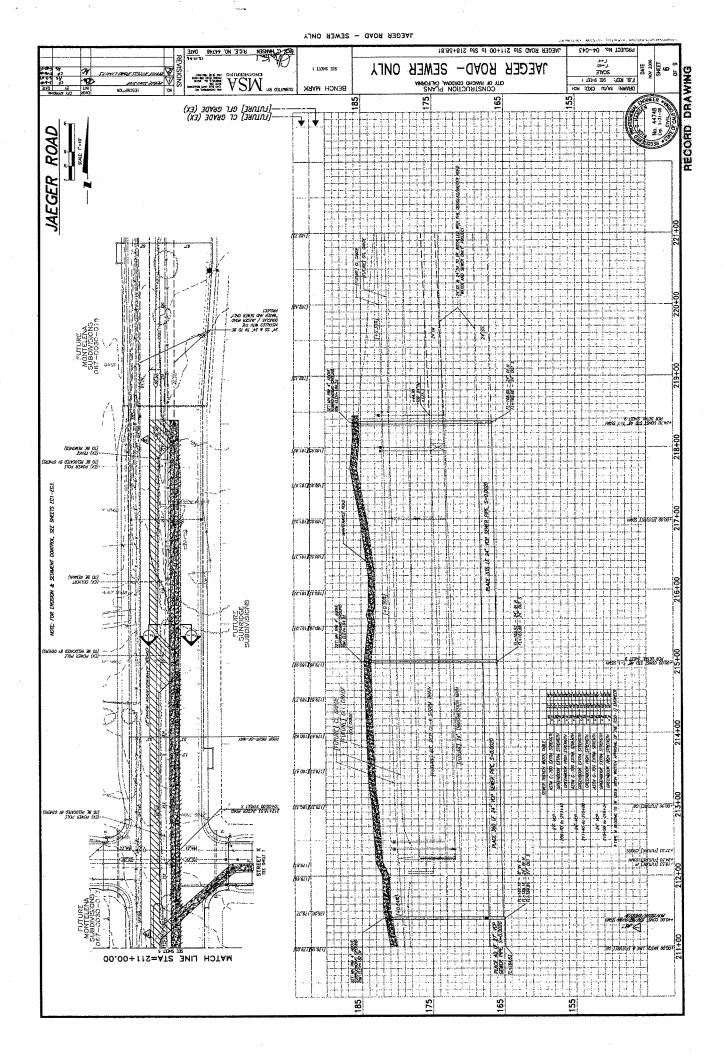
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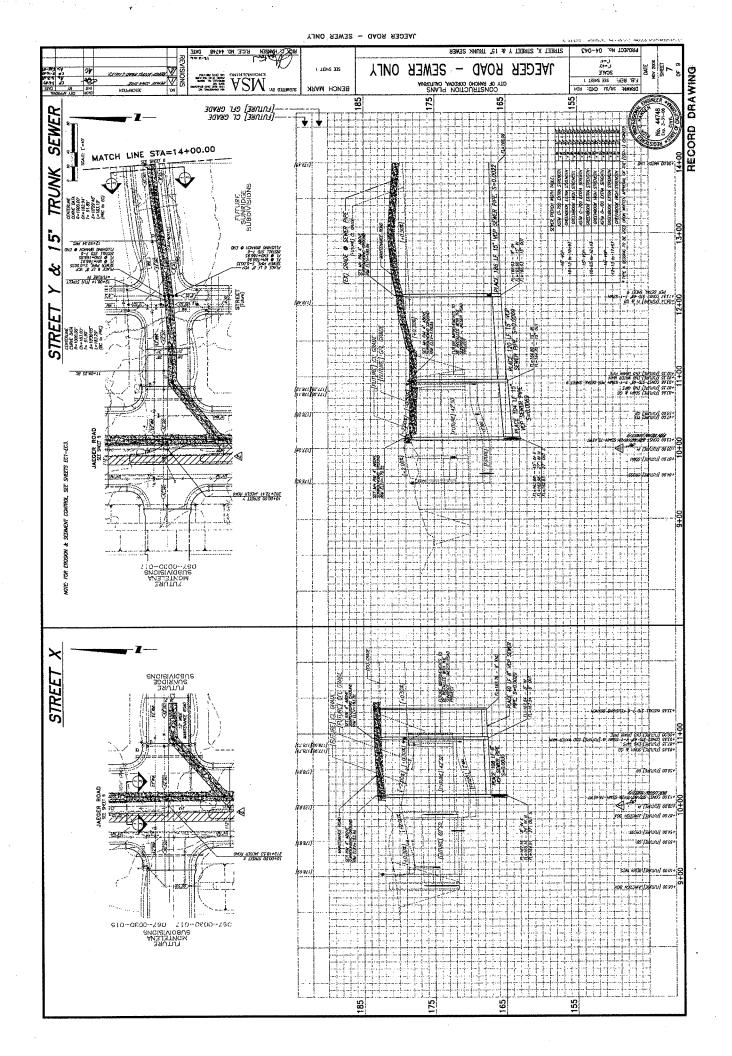
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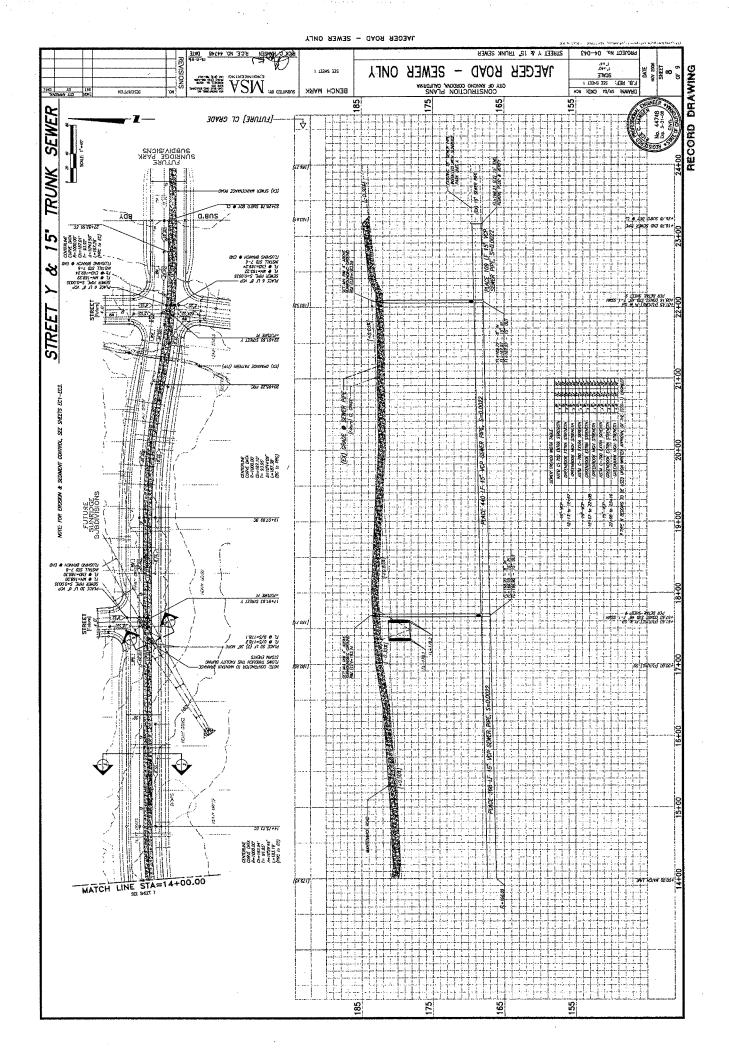


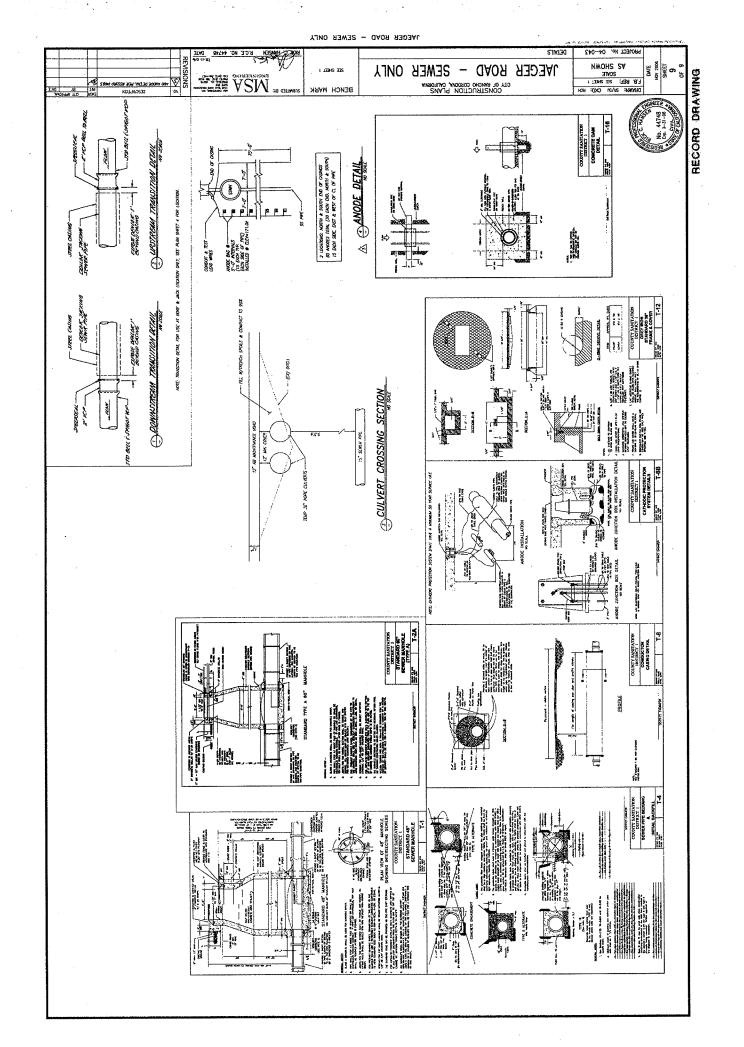
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Cox, Castle & Nicholson, LLP Andrew B. Sabey August 18, 2010		
CCN-1	The USACE will supplement the five existing EAs to reflect the EIS and tier from it. The USACE does not expect additional environmental review will be necessary. Due to the litigation, the final steps in the NEPA process, including timing and agency decisions, are not certain at this time.	
CCN-2	Although there is substantial alignment, the decision the USACE intends to make based on the EIS is not linked directly to a specific alternative. The Executive Summary, ES.2 Alternatives Addressed in this EIS, addresses the possible USACE decisions.	
CCN-3	The comments address possible decisions the USACE will make based on the EIS and outcome of the litigation. As such, no changes are necessary to the EIS. The obligation of the project proponents with regard to mitigating for cumulative impacts has been clarified (p. 4-49).	
CCN-4	References in the EIS to the project have been revised to reflect the comments and current status of the project site. Text revised to address comment (p. 3.2-1 and 2); Table 4-4 revised to address comment; photo captions for Viewpoints 7 and 9 (now Photo 3.2-3 and Photo 3.2-2) revised to address comment (p. 3.2-4 and p. 3.2-5).	

TAYLOR & WILEY A PROFESSIONAL CORPORATION

JOHN M. TAYLOR JAMES B. WILEY JESSE J. YANG KATE A. WHEATLEY MATTHEW S. KEASLING JAMES E. MIZELL, III

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Via Electronic Mail

August 18, 2010

Michael Jewell U.S. Army Corps of Engineers, Sacramento District 1325 J Street, Room 1480 Sacramento, CA 95814 <u>Michael.S.Jewell@usace.army.mil</u>

Re: Comments on Sunridge Properties EIS (SPK-2009-00511)

Dear Mr. Jewell:

Taylor & Wiley represents Teichert Aggregates with respect to various land use matters, including its Grantline processing facility. We have reviewed the referenced EIS for Sunridge Properties and offer the following comments:

<u>Table 4-3</u>: The wetland acreages specified in this table for the "Teichert Grantine Plant" site are not correct. Teichert has not prepared a formal wetland delineation for this property. However, the following wetland acreages for Teichert's Grantline property are taken from mapping completed by the County of Sacramento as part of the South Sacramento Habitat Conservation Plan (SSHCP):

Total vernal pool = \pm 17.5 acres

Total "other waters" = \pm 39.64 acres (\pm 10.03 acres seasonal wetland, \pm 26.45 acres seasonal impoundment, \pm 2.3 acres swale, and \pm 0.86 acres stream/creek.)

T&W-T

Michael Jewell August 18, 2010 Page 2

Teichert has no plans to develop this property at this time. As such, all references to any proposed wetland impacts or preserves should be removed. In addition, the notation in the final column that development of this project is "reasonably foreseeable" is incorrect and should be removed.

Thank you for the opportunity to comment on this document. Please feel free to call me if you have any questions.

Very truly yours,

Kate A Wheatley

cc: Michael Smith John Lane Barry Baba T&W-T

The Teichert Grantline Plant project has been removed from Table 4-4 (previously numbered Table 4-3), recognizing it is not a reasonably foreseeable action at this time.

TAYLOR & WILEY

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<u>Via Electronic Mail</u>

August 18, 2010

Michael Jewell U.S. Army Corps of Engineers, Sacramento District 1325 J Street, Room 1480 Sacramento, CA 95814 <u>Michael.S.Jewell@usace.army.mil</u>

Re: Comments on Sunridge Properties EIS (SPK-2009-00511)

Dear Mr. Jewell:

Taylor & Wiley represents Tsakopoulos Investments with respect to its proposed Excelsior Estates development. We have reviewed the referenced EIS for Sunridge Properties and offer the following comments:

Section 3.2.4.3 Impact Analysis: The Corps and FWS must ensure that any approved wetland creation or preservation for the Sunridge Properties complies with federal law and fully compensates for the impacts of those projects. Future development projects within the Mather Core Area should not be required to mitigate at higher ratios in order to correct deficiencies in the mitigation approved by the agencies for these projects.

<u>Table 4-3</u>: The acreages specified in this table for the Excelsior Estates project are not correct. It is unclear whether this table includes only vernal pools and other waters which are considered "waters of the United States" (WOUS) or if it also includes vernal pools and other waters which are <u>not</u> considered WOUS and which, therefore, are not jurisdictional under the Clean Water Act.

T&W-E1

T&W-E2

Michael Jewell August 18, 2010 Page 2

Assuming that the table includes <u>only WOUS</u>, the following are the correct acreages for the Excelsior Estates project, taken from Tsakopoulos Investment's Clean Water Act Section 404 application (submitted May 19, 2010):

Total vernal pools = 21.99 acres

Total "other waters" = 17.82 acres

Direct impacts to vernal pools = 12.78 acres

Direct impacts to "other waters" = 15.99 acres

Indirect impacts = 0

Vernal pools preserved onsite = 9.21 acres

Other waters preserved onsite = 1.83 acres

Vernal pools preserved offsite = 22.01 acres

Vernal pools restored offsite (out of core) = 12.78 acres at agencyapproved bank or 16.61 acres at approved off-site location

Other waters created offsite (out of core) = 15.99 acres at agency-approved bank or 20.79 acres at approved off-site location

If the table includes <u>both WOUS and non-jurisdictional waters</u>, the correct acreages are as follows:

Total vernal pools = 27.79 acres Total "other waters" = 25.63 acres Direct impacts to vernal pools = 18.58 acres Direct impacts to "other waters" = 23.80 acres T&W-E2

Michael Jewell August 18, 2010 Page 3

Indirect impacts = 0

Vernal pools preserved onsite = 9.21 acres

Other waters preserved onsite = 1.83 acres

Vernal pools preserved offsite = 22.01 acres

Vernal pools restored offsite (out of core) = 18.58 acres at agencyapproved bank or 24.15 acres at approved off-site location

Other waters created offsite (out of core) = 23.80 acres at agency-approved bank or 30.94 acres at approved off-site location

Section 3.5 Land Use: The EIS does not mention the County of Sacramento's General Plan Update which is currently underway. The Update discusses future urbanization within the unincorporated area of the County, including portions of the Mather Core Area. The Corps should consider this information in its EIS.

T&W-E3

Thank you for the opportunity to comment on this document. Please feel free to call me if you have any questions.

Very truly yours, Kate A Wheatley

cc: Angelo G. Tsakopoulos Kenneth Whitney, Foothill Assoc.

T&W-E2

Taylor & Wiley (for Kate A. Wheatley August 18, 2010	Excelsior Estates)
T&W-E-1	The determination regarding appropriate compensation for the loss of waters of the US will be made when the USACE completes its ROD and updated EA/FONSIs for each project. Compensatory mitigation requirements for projects in the future will be determined based on the specific set of circumstances at that time.
T&W-E-2	Table 4-4 was revised to address comment.
Т&W-Е-3	A brief description of the General Plan Update and new Figure 4-5 were added (p. 4-15).



Somach Simmons & Dunn

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Via Electronic Mail Only

August 18, 2010

Michael S. Jewell Chief, Central California/Nevada Section Regulatory Branch United States Army Corps of Engineers 1325 J Street, Suite 1480 Sacramento, CA 95814-2922

Re: Sunridge Properties Draft Environmental Impact Statement; SPK2009-00511

Dear Mr. Jewell:

Thank you for allowing us the opportunity to submit comments addressing the Sunridge Properties Draft Environmental Impact Statement dated July 20, 2010. We offer the following comments, which relate to the scope of the cumulative impacts analysis:

1. The Geographic Area Included in the Cumulative Impacts Is Unclear

It is not clear from the DEIS what geographic scope was used to conduct the cumulative effects analysis. It appears that the cumulative impacts analysis extends beyond the Mather Core Recovery area to include vernal pools in "Sacramento County" and "the Central Valley," but the DEIS does not state what portions of these areas were included in the cumulative impacts analysis. While the DEIS includes a map depicting the Southeast Sacramento Vernal Pool Region and the Mather Core Recovery unit, it is not clear whether this represents the area included in the cumulative impacts analysis. The confusion is compounded by the references in the cumulative impacts analysis to areas that are well outside the boundaries of the Central Valley, such as the Central Coast region.

Absent a clear definition of the area being included in the analysis, it is impossible to evaluate the DEIS' conclusions regarding cumulative impacts. For example, the conclusion that appears in Section 4.3.2, Table 4-6 – the "historic local, regional and statewide loss of vernal pool habitat has result[ed] in an adverse impact to vernal pool habitat and species" – cannot be evaluated if the local and regional areas are not defined. Since the DEIS lacks this specificity, its conclusions about cumulative impacts are not supported.

SSD-1

Michael S. Jewell Chief, Central California/Nevada Section Regulatory Branch United States Army Corps of Engineers Re: Sunridge Properties Draft Environmental Impact Statement; SPK2009-00511 August 18, 2010 Page 2

2. <u>The Cumulative Impacts Analysis Should Include the South Sacramento Habitat</u> Conservation Plan as Reasonably Foreseeable Project

The South Sacramento Habitat Conservation Plan proposes a regional approach to addressing issues related to urban development, habitat conservation and agricultural protection. A revised draft of the SSHCP was released to the public on August 13, 2010. The SSHCP is nearing completion, and it is a reasonably foreseeable future project. As such, it should be considered in the cumulative impacts analysis.

Should you have any questions about the issues raised in this letter, please do not hesitate to contact me. Thank you again for the opportunity to submit comments on this EIS. We look forward to your response.

Very truly yours,

Jennifer T. Buckman Attorney

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Somach Simmons & Dunn Jennifer T. Buckman, Attorney August 18, 2010		
SSD-1	Language was added to clarify the geographic scope for the cumulative effects analysis for biological resources (p. 4-2).	
SSD-2	Although the SSHCP will identify a number of reasonably foreseeable actions, the proposed SSHCP is not itself a reasonably foreseeable action. It is a planning document intended to result in a take permit from the USFWS. Many of the actions that may fall under the SSHCP are already identified as reasonably foreseeable actions listed in Table 4-4 in the EIS. The proposed SSHCP is discussed in Biological Resources Section 3.2.3.3 (p. 3.2-14 and 15) and a discussion has been added to Section 4.2.5.1 (p. 4-15).	





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August 18, 2010

BY E-MAIL AND U.S. MAIL

Michael S. Jewell Chief, Central California/Nevada Section Regulatory Branch United States Army Corps of Engineers 1325 J Street, Suite 1480 Sacramento, CA 95814-2922 michael.s.jewell@usace.army.mil

Re: <u>Sunridge Properties Draft Environmental Impact Statement</u> SPK 2009-00511

Dear Mr. Jewell:

We submit this comment addressing the Sunridge Properties Draft Environmental Impact Statement (dated July 20, 2010) ("DEIS") on behalf of Sunridge-Anatolia, LLC (Anatolia IV), ARI 208, LLC (Grantline 208) and Arista Del Sol, L.P. (Arista del Sol) projects. The Army Corps of Engineers ("Corps") has issued Section 404 permits to Anatolia IV and to Grantline 208; it has not yet acted on the Arista del Sol application.

Very truly yours,

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for SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

w02-west:fru\402875821.1 Enclosures

cc: Thad Johnson Mark Enes Ron Bertolina

<u>SUNRIDGE-ANATOLIA, LLC</u> <u>ARMY CORPS OF ENGINEERS PERMIT SPK-1994-00210 (ANATOLIA IV)</u>

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<u>ARI 208, LLC</u>

ARMY CORPS OF ENGINEERS PERMIT SPK-1994-00-365 (GRANTLINE 208)

ARISTA DEL SOL, L.P. ARMY CORPS OF ENGINEERS PERMIT APPLICATION SPK-2004-00458 (ARISTA DEL SOL)

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT SUNRIDGE PROPERTIES RANCHO CORDOVA, CALIFORNIA SPK-2009-00511 (JULY 2010)

Prepared with Assistance of:

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> > August 18, 2010

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Attachment 1 – Page by Page Comments

Sunridge-Anatolia, LLC, Army Corps Of Engineers Permit SPK-1994-00210 ("Anatolia IV"), Ari 208, LLC, Army Corps Of Engineers Permit SPK-1994-00-365 ("Grantline 208") and Arista Del Sol, L.P., Army Corps Of Engineers Permit Application SPK-2004-00458 ("Arista Del Sol") submit this comment addressing the Sunridge Properties Draft Environmental Impact Statement SPK-2009-00511 (dated July 20, 2010) ("DEIS"). The Army Corps of Engineers ("Corps") has issued Section 404 permits to Anatolia IV and to Grantline 208; it has not yet acted on the Arista Del Sol application.

I. Background: CNPS v. EPA

In 2006, the California Native Plant Society ("CNPS"), the Defenders of Wildlife, and the Butte Environmental Council ("Plaintiffs") filed an action in federal District Court, *California Native Plant Society v. United States Environmental Protection Agency*, Civil No. 06-3604 PGH (JCS) (N.D. Cal.), challenging, among other things, the Corps issuance of DA permits for the nine projects in the Sunridge Specific Plan Area based on alleged violations of the Clean Water Act, the Endangered Species ("ESA") and the National Environmental Policy ("NEPA"). The Court issued a Preliminary Injunction based on its finding that Plaintiffs had raised a serious question about whether the Corps had taken a hard look at cumulative impacts under NEPA. In response to Court's order, the Corps suspended the Anatolia IV and Grantline 208 permits (and three other permits) and agreed to provide notice to the Plaintiffs before it issued a Section 404 permit to Arista Del Sol.

We believed that the Corps had taken a hard look at this issue and urged the Corps to supplement the record. Instead, the Corps volunteered to prepare an Environmental Impact Statement ("EIS"). The Corps requested and the Court granted a stay of the litigation to allow

the Corps to prepare this EIS. In addition to addressing the three projects described above, the DEIS also covers the Sunridge Village J, Douglas 98 and Douglas 103 projects. (As does the DEIS, we refer to these collectively as the "Sunridge Properties".)

Our position in that litigation is that the Corps acted properly in issuing Section 404 permits for the Anatolia IV and Grantline 208 projects, that the Corps' actions complied with NEPA, and that the Biological Opinions issued by the U.S. Fish and Wildlife Service ("Service") for those Corps actions are valid. We believe that the Corps action on Arista Del Sol has been unreasonably delayed, that the Corps can comply with NEPA by issuing an environmental analysis, that the Service's Biological Opinion for Arista Del Sol project is valid and that the Corps should issue a Section 404 permit for Arista Del Sol. We reserve all rights with respect to the litigation. Our comments on the DEIS follow. Detailed page by page comments are in Attachment 1.

II. General Comments

A. Programmatic EIS Versus Project Level EIS.

The DEIS states it is intended to be a programmatic EIS, a form of environmental review typically performed for broad agency action, such as the development of programs or setting of national policy. We are unclear what programmatic action the Corps is proposing.

The DEIS properly acknowledges that the Corps issued permits for five projects between 2005 and 2007 for the Sunridge Properties and that a permit decision is pending for the sixth. The DEIS includes project-level information on each of the projects. It shows the location of each project, fully describes the resources, purpose, planned development, impacts, minimization measures and mitigation for loss of waters of the United States and for species protected under

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the ESA. The administrative record contains extensive information previously reviewed by the Corps and the Service including regional assessments, project specific biological assessments, mitigation plans, Section 404(b)(1) alternatives analysis and information previously complied under the California Environmental Quality Act.

There were years of coordination and study of the Sunridge Properties. Each of the projects follow the Corps, Service and Environmental Protection Agency's ("EPA") recommendations that the projects mitigate for impacts at a minimum ratio of 1 to 1 creation and 2:1 preservation at Corps and Service approved locations and to minimize impacts to avoided wetlands and endangered species habitat as set out in a Conceptual Strategy issued by the three agencies. The administrative record for each of the issued permits contains a Service issued no-jeopardy biological opinion and a Corps' record of decision ("ROD") concluding that the issuance of the permit would have no significant effect on the environment and making determinations under the Section 404(b)(1) Guidelines. The Arista Del Sol application has similar information except that a ROD has not been issued. In other words, the individual actions under consideration are well defined.

There are many statements in the DEIS that the proposed action is to develop the six properties. Section 1.6, says that the intended use of the EIS is either to reissue (lift the suspension of) one or more of the five DA permits, or to modify the conditions of one or more of the five DA permits issued or to initiate revocation procedures for one or more of the DA permits, not allowing for discharge of fill material into waters of the U.S., and to make a DA permit decision for the Arista Del Sol project, either granting or denying that application.

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These actions are project specific. As a project-level EIS, we would have anticipated that the Corps would issue a series of records of decision ("ROD") after the completion of the Final EIS, each of which would address the projects individually. There would be no need for any further NEPA analysis or preparation of any subsequent environmental documents for those RODs as the EIS would provide the necessary NEPA coverage for them.

The final EIS should be a project level EIS, should clarify that no further NEPA analysis will be necessary for the projects and should undertake any further analysis that may be needed. As an aside, we could better understand that the Corps action would be programmatic if the focus of the EIS was a proposal to formally adopt the Conceptual Strategy or an alternative to the Conceptual Strategy as a binding program. However, the DEIS expressly states that it does not cover the Conceptual Strategy, that the Conceptual Strategy is not a "federal action", that it has been and remains a nonbinding general guidance document and that the issuance of the Conceptual Strategy was not subject to NEPA. As we have stated during the litigation, we agree with this characterization of the Conceptual Strategy.

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B. **Project Specific Comments.**

Regardless of whether the Corps treats the FEIS as a programmatic EIS or a project-level EIS, we offer the following project specific comments.

1. <u>Anatolia IV</u>. As stated in the DEIS, the Anatolia IV project involves filling approximately 1.4 acres of waters of the United States to construct approximately 134 homes. As compensation for the loss of the waters, the Anatolia IV project has purchased 1.4 acres of vernal pool creation credits at the Laguna Terrace Mitigation Bank, purchased 2.7 acres of preservation credits from the Anatolia Preserve and 2.7 acres of preservation credits at Gill

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Ranch. All of the jurisdictional features were disturbed and at least partially filled before the Court issued the Preliminary Injunction. The biological resources on the Anatolia project are isolated from other waters of the United States and surrounded by houses and other developments to the south and the fully graded sites to the west and north. The eastern boundary of the Anatolia project is an improved road. Thus, the habit on the Anatolia IV site has minimal, if any, future value as endangered species habitat.

The vernal pool creation credits at the Laguna Terrace Mitigation Bank replaced the acreage and functions of the waters of the United States on the site. The purchase of 5.4 acres of preservation credits provides preservation at an approximately 3.9 to 1 ratio. The preservation provides substantial benefits as these areas are set aside in perpetuity for conservation purposes and managed for the protection of waters of the United States and endangered species. In contrast to the baseline conditions for the lands protected by these preservation credits, the threats to the site from off-road vehicles, changes in hydrology and other uses are effectively eliminated and appropriate grazing regimes will ensure that the lands will maintain or increase their current functional values. The Anatolia IV project mitigation more than offsets the loss of waters of the United States and endangered species habitat.

The Sunridge DEIS only considers two alternatives for Anatolia IV: a no action alternative which revokes the permit and leaves the site in a degraded condition and the proposed project alternative that reinstates the permit. The Corps' prior determination that the no fill alternative is not a practicable alternative under the Section 404(b)(1) Guidelines is fully supported by the administrative record. Since the mitigation for the Anatolia IV permit is in

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place and since it more than offsets impacts waters of the United States and endangered species, the final EIS should identify reinstating the Anatolia IV permit as the Corps preferred action.

2. **Grantline 208**. As stated in the DEIS, the Grantline 208 project will fill approximately 5.7 acres of waters of the United States to construct approximately 855 houses and other infrastructure. We note that the DEIS states that the permit applicant proposes to preserve 68.1 acres of wetlands within its property. This is incorrect. The Grant Line 208 project would have a 68-acre wetland reserve with on site preservation of 4.65 acres of vernal pool habitat within the 68-acre preserve. Grantline 208 will mitigate for the impacts by preserving 4.65 acres of vernal pools onsite and purchasing 6 acres of creation credits and 13.80 preservation credits at Bryte Ranch. The onsite preservation will have long term value as it is part of a large preserve formed with the Sunridge projects.

The vernal pool creation credits replace the acreage and functions for the loss of waters of the United States on the site. The preservation is at an approximately 3.3 to 1 ratio. The preservation provides substantial benefits as these areas are set aside in perpetuity for conservation purposes and managed for the protection of waters of the United States and endangered species. In contrast to the baseline conditions for the lands included in these preservation credits, the threats to the site from off-road vehicles, changes in hydrology and other uses are effectively eliminated and appropriate grazing regimes will ensure that the lands will maintain or increase their current functional values.

The Grantline 208 project mitigation more than offsets the loss of waters of the United States and endangered species habitat on site. The Sunridge DEIS only considers three alternatives for Grantline 208: a no action alternative which revokes the permit, a reduced SM-3

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footprint alternative and the proposed project alternative which would effectively reinstates the permit. As previously determined by the Corps and fully supported by the administrative record, the no fill alternative and an alternative similar to the Reduced Footprint Alternative are not practicable alternatives under the Section 404(b)(1) Guidelines. Since the mitigation for Grantline 208 more than offsets impacts waters of the United States and endangered species, the final EIS should identify reinstating the Grantline 208 permit as the Corps preferred action.

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3. Arista Del Sol. As stated in the DEIS, the Arista Del Sol project is located on a 215-acre site south of Douglas Road and adjacent to the west side of Grant Line Road. The amount of proposed fill is 13.9 acres of waters of the U.S., of which only 10.52 acres is classified as vernal pool habitat, to construct 906 houses, roadways, and other infrastructure. Historically, the site was used for many years for farming and grazing operations. The jurisdictional features onsite have been affected by these operations. The proposed project will establish a 42 acre onsite preserve with 3.43 acres of vernal pools that will connect to the large Sunridge vernal pool Preserve. The onsite preservation will have long term value as it is part of a large preserve formed with the other Sunridge Properties. According to the Biological Opinion issued for the project, approximately 12 acres of vernal pool habitat would be created and 22.5 acres of vernal pool habitat preservation would occur off-site at a Service approved mitigation bank. The location for the mitigation has not been finally determined, but must be approved by the Corps and Service. In addition, the project would provide additional 1:1 mitigation for the approximately 3.38 acres of waters of the United States that do not provide vernal pool habitat.

The planned mitigation will offset any loss of in acreage and functions from the loss of waters of the United States on the site. The preservation will provide substantial benefits as

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these areas are set aside in perpetuity for conservation purposes and managed for the protection of endangered species. In contrast to the baseline conditions for the lands included in these preservation credits, the threats to the site from off-road vehicles, changes in hydrology and other uses are effectively eliminated and appropriate grazing regimes will ensure that the lands will maintain or increase their current functional values. The Arista Del Sol project mitigation will more than offset the loss of waters of the United States and endangered species habitat on site.

The Sunridge DEIS only considers three alternatives for Arista Del Sol: a no action alternative not to issue a permit, a reduced footprint and the proposed project alternatives which would result in the issuance of a permit. The administrative record contains a Section 404(b)(1) Alternatives Analysis which evaluated a no fill alternative and an alternative similar to the Reduced Footprint Alternative and found that neither was a practicable alternative under the Section 404(b)(1) Guidelines. Since the mitigation proposed for Arista Del Sol more than offsets impacts waters of the United States and endangered species, the final EIS should identify issuing the Arista Del Sol permit as the Corps preferred action.

C. Project Purpose and the Sunridge Specific Plan.

The extensive study and planning that the County and City of Rancho Cordova engaged in to produce the Sunridge Specific Plan should be further discussed and taken into consideration in defining the project purpose under NEPA and the overall project purpose under the 404(b)(1) Guidelines. Information on the Sunridge Specific Plan can be found at <u>www.cityofranchocordova.org/index.aspx?page=129</u>. The layout of the approved tentative maps for the Sunridge Specific Plan are shown at Sunridge_Specific_ Plan_Map[1].pdf. The California Supreme Court has noted that "[u]nder the police powers granted by the [California] SM-5

Constitution, counties and cities have plenary authority to govern, subject only to the limitation that they exercise this power within their territorial limits and subordinate to state law." (*Candid Enters., Inc. v. Grossmont Union High Sch. Dist.*, 39 Cal. 3d 878, 885 (1985).) State law further establishes a comprehensive framework which, among other things, establishes local planning agencies, commissions and departments (Cal. Gov. Code § 65100 et seq.); sets standards for preparing general plans and specific plans (Cal. Gov. Code § 65300 et seq.); sets standards for zoning (Cal. Gov. Code § 65800 et seq.); governs development of subdivisions (Cal. Gov. Code § 66410 et seq.); and establishes rules for development agreements (Cal. Gov. Code § 65864 et seq.). In addition, each local jurisdiction separately adopts planning and zoning laws and policies. Each city and county regulates every aspect of the scale, intensity, timing and scope of development, including all direct, indirect and cumulative impacts. All development must be done in a manner that is consistent with these requirements and the provisions in a general plan.

Other applicable laws include, among others, the Porter Cologne Act (Cal. Water Code § 13000 et seq.), which regulates water rights and water quality; and California Fish and Game Code sections, which regulate activities that alter lakes, rivers and streams or that affect threatened and endangered plants and wildlife. Every detail of a proposed development and its environmental consequences is examined under these and other laws, including CEQA (Cal. Pub. Resources Code § 21000 et seq.). CEQA provides comprehensive review of environmental impacts. CEQA requires a lead agency to consider significant environmental impacts, alternatives to the proposed project, and feasible mitigation measures. (Cal. Pub. Resources Code §§ 21001, 21002, 21002.1, 21081.) Mitigation measures must be accompanied by a monitoring program that ensures their implementation. (Cal. Pub. Resources Code § 21081.6.).

Given the extent of local government authority, it is reasonable for the Corps to take into account the years of planning and study that produced the Specific Plan when defining the project purpose. (*Friends of the Earth v. Hintz*, 800 F.2d at 833; *Louisiana Wildlife Federation v. York*, 761 F.2d at 1048.).

Taking the Specific Plan into account is consistent with the Corps' regulations, which state that state and local governments have primary responsibility for land use decisions and that the Corps normally accepts those decisions. (33 C.F.R. § 320.4, (j)(2). Neither the Non-Action Alternative nor the Reduced Footprint Alternative meets the objectives of the Specific Plan.

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D. Consideration of Alternatives.

1. Offsite Alternatives.

The Corps relied on, among other things, information previously in the Administrative Record, to conclude that there were no offsite alternatives that needed to be considered in detail in the DEIS. The Corps also reviewed additional information on potential offsite alternatives. The DEIS documents the Corps' independent review of this issue. We agree with the DEIS conclusion that there are no offsite alternatives that need to be considered. We note that the Corps ROD for Anatolia IV and Grantline 208 also concluded that there were no available offsite alternatives for either project. The Arista Del Sol 404(b)(1) Alternatives Analysis reached the same conclusion.

2. **Onsite Alternatives.**

The DEIS carries forward for consideration a No-Action Alternative which it describes as revoking the issued permits and denying the Arista Del Sol application, a Reduced footprint Alternative, which adds additional avoidance adjacent to Grantline Road for Douglas 98,

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Grantline 208 and Arista Del Sol, and the Proposed Project alternative, which the DEIS describes as reinstating the issued permits and issuing the Arista Del Sol permit. We do not necessarily disagree with the Corps selection of onsite alternatives, but we do have concern about the criteria the Corps used to evaluate these alternatives and the factual accuracy of the description the No-Action and Reduced Fill Alternatives.

The DEIS states on page 2-2, that "The range of alternatives carried forward for detailed analysis in the EIS are those that meet the need and overall project purpose, and are considered reasonable under NEPA and practicable under the USEPA [Section 404(b)(1)] Guidelines." The DEIS provides no analysis to support the conclusions that the No-Action and Reduced Footprint Alternatives meet the overall project purpose or are practicable under the Section 404(b)(1) Guidelines. Further, this determination is pre-decisional.

A determination of practicability is not needed to allow an alternative to be considered	
under NEPA. The Final EIS should delete the discussion of Section 404(b)(1) practicability as a	SM-7
criteria for selection of onsite alternatives and should revise the discussion of whether these	
alternatives would meet the project purpose after consideration of our comments.	

The DEIS states that as compared to the Proposed Project Alternative, the No Action Alternative development area would be reduced by 19% for Anatolia IV, 45% for Grantline 208, and 50% for Arista Del Sol. Even assuming these number are correct, (and, as described below, we believe the DEIS overstates the amount of land available for development), these reductions are not consistent with the overall project purpose for these projects which is to comply with the Sunridge Specific Plan. As compared to the Proposed Project Alternative, the Reduced Footprint Alternative reduces the development area by 35% for Grantline 208, and 41% for Arista Del Sol.

Reductions of this scale are not consistent with the project purpose. The DEIS is silent about whether these alternatives are practicable from a cost perspective. From information already in the administrative record, we anticipate that these projects would be substantially more expensive to develop due to the need for bridges, less efficient land plans and reduced area over which to spread infrastructure costs.

In the ROD for both Anatolia IV and Grantline 208, the Corps concluded that alternatives similar to the No Action Alternative and the Reduced Footprint Alternatives were not practicable based on both inconsistency with project purpose and excessive cost. The Arista Del Sol Alternatives Analysis concluded that a no fill alternative (using a fifty foot buffer) and a reduced fill alternative was not practicable for these reasons. The final EIS should retain the No Action and Reduced Footprint Alternatives but should delete the description of them as practicable.

Further, the final EIS should revise the amount of developable acreage associated with these alternatives as they appear to overstate significantly the amount land available for development. The Corps needs to provide additional site plan detail to substantiate its assertions of developable acreage. Further analysis will likely show that the 25 foot buffer from areas of Corps jurisdiction is not sufficient to allow movement of construction equipment and still provide for development acreage shown on these alternatives, that the 47,000 square foot standard as an area that can be developed is too small and the inability to use land efficiently will further reduce developable acreage. Areas affected by roads need to be shown and bridge locations noted. For example, see Figure 2-7 which uses black slashes to indicate roads in the eastern preserve areas instead of showing a road footprint as Figure 2-7 does for the road in

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Douglas 103. The Corps should use Figure 1-2 as a template for the onsite alternatives to ensure that plans for each alternative are at an equal level of detail.

The record contains the Regional Alternatives Information document, an analysis of various onsite alternatives configured for the group of Sunridge Properties under consideration and three other projects. The Corps requested preparation of this document during the administrative process discussed in its RODs. The DEIS does not address these alternatives and it does not explain why they have not received further consideration. The Final EIS should address the Regional Alternatives Information document as part of the onsite alternatives discussion.

E. Biological Impacts.

We are concerned about the quality and consistency of the analysis of impacts to waters of the United States and to federally listed endangered species. The Service has issued nojeopardy biological opinions for each of these projects. For Anatolia IV and Grantline 208 (and the other Sunridge property permits), the Corps previously determined that the permitted fill will not have significant effects on endangered or threatened species as mitigated. The Corps also concluded that the mitigation will more than replace any lost wetlands functions and values. The Final EIS should be consistent with the prior findings as they are consistent with the factual information in the record.

1. Section 3.2.1.

As summarized Table ES-1, the DEIS finds, in Section 3.2.1, that the Proposed Project and Reduced Footprint Alternative will have a less than significant effect with mitigation and will not adversely affect a population or cause loss of important habitat of endangered threatened

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or candidate species. We agree with this conclusion. However, the DEIS discussion in section 3.2.1 needs to be revised. First, each project should be assessed individually. Second, the Mitigation Measure 3.2.1a should be clearer about what the measure requires: each project has a minimum of 1:1 creation and 2:1 preservation at either an approved mitigation bank or permittee sponsored mitigation with provisions for Corps and Service review and approval of plans, success criteria, bonding for construction, a conservation easement, a long-term management plan and funding for long-term management and management measures to minimize adverse effects to preserved areas both onsite and offsite including storm water management. These are key requirements that provide the assurance the mitigation will achieve the desired result.

Third, the DEIS concludes that the Proposed Project will result in a net overall loss of waters of the United States while the Reduced Footprint Alternative will not. The data in the DEIS shows that the Proposed Project will result in an increase in waters of the United States of nearly 5 acres (from 29.9 to 34.2). By contrast, the Reduced Fill Alternative will only result in a 0.1 acre increase in waters of the United States (from 20.3 to 20.4). The conclusion for the Proposed Project Alternative should be changed in the Final EIS to state there will be no net overall loss of waters of the United States for the Proposed Project. For completeness Section 3.2.1 should also reflect the acres of waters of the United States preserved onsite and should explain the benefits of the onsite preserve in maintaining the distribution of the listed species in this part of their range. It should note that under the No Action Alternative, the areas covered by the permit are subject to potential degradation from ORV use, discing, improper grazing or lack of grazing, trash accumulation and other incompatible uses.

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2. Section 3.2.2.

Section 3.2.2 of the DEIS addresses similar impacts to those addressed in Section 3.2.1. In contrast to that Section 3.2.1, which makes a finding of less than significant with mitigation, Section 3.2.2 defers analysis of this issue stating a more focused site analysis is needed. The Corps has the specific information it needs to make this analysis. It did so in Section 3.2.1 and in the ROD's for Anatolia IV and Grantline 208, the Corps previously found that the mitigation reduced impacts to less than significant. The Final EIS should make a finding of less than significant after mitigation for Section 3.2.2 based in the avoidance, minimization and mitigation for Anatolia IV, Grantline 208, Arista Del Sol (and the other Sunridge projects).

3. Cumulative Impacts.

The DEIS analysis of cumulative impacts does not fully, clearly or consistently address the cumulative impacts to biological resources. The Final EIS should be revised to conclude that the Proposed Action Alternative will not cause significant cumulative effects.

a. Scope of Cumulative Analysis. The DEIS states that the scope of analysis for cumulative impacts to biological resources is the Mather Core Recovery area, as well as vernal pool regions in Sacramento County <u>and</u> the Central Valley. The DEIS does not contain a figure or map showing this overall area and the area under consideration is not clear. There is a map for the Southeast Sacramento Vernal Pool Region and the Mather Core Recovery unit, but the full cumulative impact area is not otherwise demarcated or described. Even assuming that this area being studied was clearly identified, the analysis does not consistently use this area for its impact analysis. The cumulative impacts discussion analyzes areas that are clearly outside its boundary (like the Central Coast). The DEIS provides fairly detailed information on impacts in SM-14

the Rancho Cordova area/ Mather Core, see Table 4-3, but not for other areas being studied. It does not include any discussion of the restoration activities in the Cosumnes Core Area even though the Corps has approved this area as mitigation for the Sunridge Properties and mitigation banks in the Cosumnes Core Area have a service area that includes the Sunridge Properties.

EPA, which reviews EISs for adequacy, has published a guidance document¹ that explains that the an appropriate spatial scope for cumulative impact analysis should considering how the resources are being affected. The guidance provides that, "This determination involves two basic steps: (1) identifying a geographic area that includes resources potentially affected by the proposed project and (2) extending that area, when necessary, to include the same and other resources affected by the combined impacts of the project and other actions."

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The proposed project is the issuance of six individual permits. The scope for cumulative impact analysis needs to include these permits plus those other areas that affect common resources. The cumulative impact area should include the Sunridge Douglas Community Plan area as this would include projects that all affect common resources. The upper parts of the subwatersheds that include the community plan area should be included. The projects in Table 4-3 appear to be located in these areas. A clear figure is needed to show that area.

The cumulative impacts analysis should include the areas that are benefitting by being the sites where mitigation is being performed. This would allow a comparison of gains and losses so as to understand net cumulative effects. The South Sacramento Habitat Conservation Plan ("SSHCP") should also be considered in the cumulative impact analysis as it is reasonably

¹ http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf

foreseeable it will be completed. The SSHCP is a regional approach to addressing issues related to urban development, habitat conservation and agricultural protection. The SSHCP will consolidate environmental efforts to protect and enhance wetlands (primarily vernal pools) and upland habitats to provide ecologically viable conservation areas. Extensive data is available for this area. This approach is more focused than the approach in the DEIS which covers vast areas not affected by the individual permit actions.

Section 4.3.2, Table 4-6 concludes that the "historic local, regional and statewide loss of vernal pool habitat has result[ed] in an adverse impact to vernal pool habitat and species." The area addressed in this conclusion is not consistent with the scope of the cumulative impact analysis as it includes statewide impacts beyond the stated cumulative analysis area. The Final EIS should revisit this conclusion after revising the scope of the cumulative impact analysis.

The DEIS discusses a number of actions that are contributing to continuing loss of vernal pool resources since the 1970's. The primary source of this loss is activities that are not effectively regulated such as a land conversion for farming. The DEIS relies heavily on Holland (2009) for its conclusions on recent losses. Holland estimates that approximately 1,030,000 acres of vernal pool habitat were documented in the study area during initial mapping efforts based on aerial photographs from 1976 to 1995. Of these 1,030,000 acres, Holland estimates that about 893,000 acres of habitat have not been "disturbed". Holland defines "disturbed" as including modified topography, hydrology, adjacent land use and other modifications. It is not clear from the Holland report what percentage of the disturbed areas continue to function as vernal pool habitat and the extent to which functions have been reduced versus eliminated.

SM-15

The Final EIS should review this issue to ensure that the degree of disturbance is taken in consideration.

At face value, Holland shows a reduction of about 137,000 acres, or 214 square miles. He attributes eighty-one percent (110,000 acres) of the total habitat affected between the initial mapping period and 2005 to agricultural land conversions. Whether these are permanent losses or only temporary losses is not clear. We note that many extant vernal pools today can be found on lands that had previously been farmed or irrigated. Only 12,000 acres vernal pool grassland were lost in Sacramento County during this period of which less than 4,000 acres were lost due to urban development.

The FEIS should acknowledge that the Holland identifies only <u>losses</u> in habitat. Holland does not provide any information on vernal pool restoration or conservation. If a project eliminates a vernal pool grass land on one parcel and immediately restores it on an adjacent parcel, the restored parcel is not accounted for in Holland's calculations. Consequently, Holland understates the amount of extent of extant habitat and the extent to which there has been a net loss of habitat during the reporting period.

In order to assess cumulative losses, the Final EIS needs to account for gains in vernal pool resources that have taken place during this period. The Resources Agency's draft report, State of the State's Wetlands (October 2009) (the "Draft Report")² provides reliable information that the state's 1993 State Wetland Conservation Policy has resulted in dramatic gains in wetland acquisition, restoration and enhancement from voluntary efforts. The effects of these efforts

SM-17

² http://www.resources.ca.gov/ocean/docs/Public_Review_Draft_SOSW_Report.pdf

dwarf the effects of the federal and state regulatory programs by orders of magnitude. Data included in the Draft Report show that joint ventures restored more than 400,000 acres of the state's wetlands between 1998 and 2008, while accounting for the acquisition or enhancement of hundreds of thousands of additional acres. These public/private partnerships have been supported by state bond measures and the State Wetland Conservation Policy." The Final DEIS should identify the extent to which these activities have benefitted vernal pool species and factor those gains into its assessment of recent vernal pool cumulative impacts.

The Final EIS should compare the vernal pool habitat that Holland identifies as disturbed due to urban development with the information on projects impacts and mitigation identified in Chapter 4 of the DEIS. Our review of the projects in Table 4-3 shows that the past, present and reasonably foreseeable projects will result in at least a 35 acre <u>increase</u> in vernal pool acreage (assuming that Cordova Hills will mitigate in a similar manner to other projects with at least 1:1 creation and 2:1 preservation) and 2.4:1 times as much land dedicated to perpetual conservation and management as have been or will be impacted. These mitigation obligations are legally enforceable. They are or will be supported by no-jeopardy biological opinion. The mitigation ensures that projects the Corps has permitted have not resulted and will not result in a loss or waters of the United States and or significant adverse effects to listed species.

Further, to ensure that the cumulative impact analysis takes into account is comprehensive, the Final EIS should identify all approved and pending mitigation banks in the area covered by its cumulative impact analysis. It would be helpful for the Final EIS to provide additional graphics and maps to illustrate these areas.

The Final EIS analysis in Chapter 4 on the biological impacts should be consistent with the discussion in Chapter 3. Currently, the same project impacts are described in one way in Chapter 3 and another in Chapter 4. Table 4.3.2 says its relies on the analysis in Sections 3.2.1, 3.2.2, 3.2.3 and 3.2.4 to conclude that "Implementation of the project would have cumulatively considerable contribution" to historic losses. However, as shown in Table ES-1 and as discussed in Chapter 3, the Proposed Project impacts analyzed in Section 3.2.1 are less than significant with mitigation, the Proposed Project impacts analyzed in Section 3.2.3 are less than significant and the Proposed Project impacts analyzed in Section 3.2.4 are less than significant with mitigation. We have previously commented on the erroneous conclusion for Section 3.2.2 which should be revised in the Final EIS to be less than significant with mitigation. The Final EIS must use these findings in the cumulative impacts analysis. The Final EIS should conclude that there will be no cumulatively significant effect because avoidance, mitigation and minimization measures the Corps and Service have required will offset any adverse impacts from development. This would be consistent with the Corps' prior determination in the Sunridge Properties RODs.

We also ask that the Final EIS revisit and better calibrate its description of the various studies that take the position that some mitigation efforts have not been successful. These studies cover a wide variety of mitigation efforts over a broad geographic area using many different evaluation standards. These studies are helpful in identifying what actions need to be taken to ensure that mitigation accomplishes its intended goals in any particular instance. As explained in our detailed comments on Chapter 3 and 4, the studies support the view that vernal pool creation and restoration can be successful if done at the right site and in the right way and

SM-17

that well-managed preservation lands have much greater value than unmanaged lands. However, the Draft EIS does not evaluate the extent to which the Corps permit actions have effectively responded to the issues presented. The principles identified in the Conceptual Strategy and adopted by Sunridge Properties as part of their proposed projects, address the concerns on site selection, success criteria, establishment of large blocks of contiguous preserved habitat to minimize edge effects, avoidance of indirect impacts to avoided areas by land buffer, management of hydrology, a long term management plan and funding for that management. Overall, we believe that there a no considerable cumulative impacts attributed to the Proposed Project Alternative and the Final EIS should reflect that conclusion.

F. Vernal Pool Recovery Plan.

The DEIS contains numerous, repetitive recitals of information from the Recovery Plan. We recommend that the Final EIS consolidate the discussion of the Recovery Plan in a single section. The Final EIS should provide an accurate summary of the Recovery Plan that says the Recovery Plan is not a regulatory document, that the recommendations in the Recovery Plan are preliminary due to the lack of information on many issues, that there are alternative ways to achieve the goals of the recovery plan apart from meeting the targets suggested for various core areas, that the Recovery Plan can be adjusted and revised and that creation and restoration are accepted conservation measures. Further, the Final EIS should be revised to state that neither the Corps nor the private parties it regulates under the Section 404 program, has an obligation to affirmatively achieve the Service's recovery goals which the Service has estimated would cost approximately two billion dollars. SM-18

The Final EIS should also state that that conforming to the core area goals in the Recovery Plan could cause inefficient patterns of development, push jobs and housing further away from existing urban areas, increase the carbon footprint of development and contribute to climate change. The Service's adoption of the Recovery Plan was not subject to NEPA, it did not consider alternatives ways to achieve recovery, lacks technical support for its core area goals and did not consider the environmental effects of implementing the Recovery Plan.

G. Mitigation Measures Related to Non Biological Resource Impacts.

The DEIS discussion on Non-Biological Resource Impacts appears to rely heavily on prior documentation prepared under CEQA and identifies various mitigation measures for matters that are already covered by City Rancho Cordova, Sacramento County or other state and local agencies. The Final EIS should confirm that the Corps does not intend to incorporate these measures into the Corps permit and that Corps will not seek to enforce measures related impacts such as traffic, building codes etc.

III. Conclusion

Thank you for the opportunity to comment. After publication of the Final EIS, the Corps should proceed to lift the suspensions for the Anatolia and Grantline 208 permits and issue a Section 404 permit to Arista Del Sol.

W02-WEST:FRU\402857835.5

SM-19

Attachment 1

ADDITIONAL COMMENTS ON THE SUNRIDGE PROPERTIES ENVIRONMENTAL IMPACT STATEMENT Submitted on Behalf of Anatolia IV, Grantline 208 and Arista del Sol August 18, 2010

PAGE	CHAPTER/SECTION & COMMENT	
Executive	e Summary	
ES-2	Explain how 2,511 single-family homes was estimated to be the correct total for the Reduced Footprint Alternative and how the compensatory mitigation of 34 acres of creation and 53 acres of preservation for the proposed project and 20.4 acres of creation and 40.8 acres of preservation for the reduced footprint alternative were determined.	SM-2
ES-4 to ES-9	Table ES-1: Comparative Analysis of the Alternatives	
E3-9	Alternative 2/Proposed Project Alternative and Alternative 3/Reduced Footprint Alternative show the same levels of significance for all categories. However, Alternative 3/Reduced Footprint Alternative is identified as the preferred alternative even though it provides less development and does not meet project purpose. The Proposed Project should be the preferred alternative and there is no valid basis to revoke the issued permits.	SM-22
	"Potentially Significant" is not an appropriate category for analysis of the alternatives. All the impacts are potentially significant prior to review. After review of the effects, there should be a conclusion as to whether there are No Impacts, Less-than-Significant impacts, Less-than-Significant-with-Mitigation impacts, or Significant and Unavoidable impacts.	SM-23
	Items 3.14-3 and 3.15-3 both show potentially significant impacts of the former two prehistoric sites are Native American burials and potential damages to structure from construction. Both should be changed to Less-than-Significant-with-Mitigation for Alternative 2/PPA and Alternative 3/RFA.	SM-24
ES-4	Table ES-1: Comparative Analysis of the Alternatives	
	Not all categories correspond to the conclusions in the text. For example, the conclusion in the Biological Resource section differs from that in this Table on p. ES-10. The conclusions should be consistent throughout the text.	SM-25
ES-9	Table ES-1: Comparative Analysis of the Alternatives	
	Why is transit service evaluated separately in Utilities and Public Services rather than in Traffic and Transportation? Are Traffic and Transportation impacts Significant and Unavoidable if transit is taken into account?	SM-26
ES-9	Table ES-1: Comparative Analysis of the Alternatives	SM-27
	Climate Change is missing from the list of Environmental Consequences.	
ES-10	Biological Resources	
	Fourth paragraph, 5 th line, change from "significant impacts to threaten vernal pool fairy shrimp and endangered vernal pool tadpole shrimp would occur under the proposed alternative" to "less than significant impacts to the threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp would occur under the proposed alternative with mitigation."	SM-28

	Paragraph 5 states that 742 acres (including the preserve acreage) will be developed, whereas on page ES-2 the total for the developed acreage is 585.5 acres (without the preserve) and page 2-13 presents the total of 589 acres (without the preserve). The document must be consistent on the acreage totals, and preserve acreage should not be included in calculations of developed areas.	SM-29
	Paragraph 5 states that 23.03 acres of vernal pools would be filled. (This is also the total cited on page 3.2-15 at par. 5.) However, at page 3.2-13, it is stated that 19.9 acres of vernal pools would be filled, and in Table 2.3 the total impact to vernal pools is shown as 17.53 acres. What is the correct total? Confirm and use consistently.	SM-30
	The EIS should not assume that all off-site mitigation would occur at Gill Ranch. Similar statements are made throughout the EIS, and the same statements are made about Bryte Ranch. Therefore mitigating at these specific mitigation banks might be phrased as an option for mitigating impacts, but must not be a requirement.	SM-31
ES-11	Paragraph 1: Change: "as with the proposed project alternative, significant impacts to the threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp would occur under the reduced project alternative" to "as with the proposed project, with mitigation, less than significant impacts to threatened vernal pool fairy shrimp and endangered vernal pool tadpole shrimp would occur under the reduced footprint alternative."	SM-32
	Paragraph 1: Determine basis for numbers used for compensatory mitigation and to delete the sentences which read: "depending on the outcome of mitigation, specifically whether the replacement of habitat is of equal value, the impacts to threatened, endangered or candidate species are potentially significant. The value of replacement habitat also determines the potential for loss of habitat value."	SM-33
	Paragraph 5: Take out the following sentences: "Water supply for the projects, which may be a combination of surface water sources and groundwater, is uncertain and under litigation. There is potential for significant adverse effects to water supply under all three alternatives." This is not an accurate characterization of the water supply situation.	SM-34
ES-13	Paragraph 2: Consult with the City of Rancho Cordova to determine whether it agrees with the conclusions about whether the proposed alternatives would comply with general plan and specific plan goals. Verify statement that: "The Reduced Footprint Alternative would most likely partially meet the development plans for the City of Rancho Cordova while the No Action Alternative would comply with the plan goals the least." Please clarify what is meant by "would most likely partially meet." Either the alternative meets the plan or it does not.	SM-35
ES-14	Throughout the EIS, it is unclear what project area and project vicinity mean. Please define these terms.	SM-36
ES-17	Revise the statement that says "approximately 76% of the vernal pool compensatory mitigation has or would occur outside the Mather core area, a permanent loss of vernal pool function in services would occur in the Mather core area and affecting the habitat preservation goals outlined in the USFWS Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon." to read, "the amount of vernal pool compensatory mitigation that has or would occur outside the Mather core area cannot be determined at this time, but increasing function and services in the Cosumnes Core area will offset , losses in the Mather core area.	SM-37
	Surface Water Quality	
	Change "the Sunridge Properties, in combination with proposed and ongoing projects within the major core area, would have a cumulatively considerable contribution to decreased water quality within Morrison and Laguna Creeks." to the statement that "Sunridge Properties, in combination with the proposed and ongoing projects within the major core area, would have a less than significant effect with	SM-38

	mitigation to water quality within Morrison and Laguna Creeks."	SM-38
ES-18	Section ES.4 Cumulative Effects/Cultural Resources	
	Change paragraph to: "impacts to very cultural artifacts or Native American remains would be less than significant with mitigation." There is no evidence to suggest that impacts have "the potential for cumulatively considerable damage."	SM-39
ES-19	Table ES-2: Compliance with Applicable Laws, Policies, Plans and Permit Requirements	
	Change Method of Compliance with the Endangered Species Act to "Consultation with USFWS"	
	Remove the Vernal Pool Recovery Plan and South Sacramento Habitat Conservation Plan from the list. The Vernal Pool Recovery Plan is not a regulatory document, and compliance is not necessary. The South Sacramento Habitat Conservation Plan has not been adopted and is not a regulatory requirement; therefore compliance is not necessary.	SM-40
ES-20	Table ES-2: Compliance with Applicable Laws, Policies, Plans and Permit Requirements	
	Change the method of compliance for California Endangered Species Act from "Unknown" to "Addressed in the EIS" or "No protected species identified."	SM-41
1 Introc	luction and Statement of Purpose and Need	
1-4	Section 1.2 Background	
	Paragraph 3: Add a new sentence at the end which reads: "A Recovery Plan is not a regulatory document. Neither the Corps nor an applicant for a section 404 is required to comply with or implement the Recovery Plan."	SM-42
1-5	Section 1.3 Conceptual Strategy	
	The text states that "The Conceptual Strategy is not part of the Proposed Action being evaluated in this EIS." However, the text should make it clear that the Sunridge projects incorporated the mitigation and minimization measures into their proposed projects to minimize and avoid potentially significant effects to waters of the United States and endangered species.	SM-43
	The text should state the preservation and creation/restoration ratios provided for under the principles and strategies of the Conceptual Strategy.	SM-44
1-7	1.4.3 Grantline 208	
	Change: "the USFWS instructed to preserve 11.55 acres of vernal pool habitat at either the Town Center Property or Anatolia Conservation Bank, and to create 6.0 acres of vernal pool crustacean habitat." to "the Biological Opinion states that 4.85 acres of vernal pool habitat and 0.26 acres of riverine seasonal wetland will be preserved in the 68-acre preserve. It requires off-site preservation as well: either (1) 6.9 acres of vernal pool habitat must be preserved at either the Town Center Property or the Anatolia Conservation Bank, or (2) 13.8 acres at Bryte Ranch. Another 6.0 acres of vernal pool crustacean habitat must be restored or created."	SM-45
1-8	Section 1.5 National Environmental Policy Act and Environmental Impact Statement Process	
	The text states that 42 acres of "wetlands" will be preserved on site. In contrast, at page 2-20, the total	SM-46

	given is 44 acres. The acreage total should be consistent. In addition, these acreages are preserve acres not wetland acres.	SM-46
	The description of the process is not clear. The EIS says it is a programmatic rather than a project level document but it is not clear what the programmatic action to be taken is. The Final EIS should clarify that this is a project level EIS and no further NEPA review is required.	SM-47
1-9	Section 1.6 Intended Use of This Document	
	The first paragraph which states "to reissue one or more of the five DA permits" should be changed to "reinstate one or more of the five DA permits."	SM-48
1-11	Section 1.9 Significant Issues	
	Delete the sentence that begins: "Although mitigation is now required for the loss of wetlands" and substitute it with the following: "The proposed action provides for mitigation for the loss of wetlands and vernal pools consisting of a combination of creation or restoration of vernal pools and wetlands and preservation of existing wetlands. The mitigation plans associated with the project are reviewed by the Army Corps of Engineers to assure the likelihood of success for the project. With the implementation of the mitigation and proposed action, the effects on vernal pool and wetlands species will be less than significant."	SM-49
2 Propo	sed Action and Alternatives	
2-2	Section 2.2 USEPA Section 404(b)(1) Guidelines	
	Where is the evidence that the alternatives are practicable under the USEPA Guidelines. We disagree with the statement that: "The range of alternatives carried forward for details in the EIS are practicable under the USEPA Guidelines." Neither the No Action Alternative nor the Reduced Footprint Alternative meets any potential standards for practicability, and no information is presented in the EIS to support that statement. Further it is not clear whether the practicability analysis described here refers to the six projects as a whole or to each of the individual permit applications which the Corps has previously stated have independent utility. See our general comments in the cover letter.	
	For example for Arista del Sol, the applicant's alternatives analysis discusses the cost and practical infeasibility of the no-project alternative and also analyzes an alternative that would have swapped the preserve on the west side for one on the east side. That alternative would have decreased unit count by less than 15% and increased fixed costs per net developable acre by \$52,000 (30%) plus per acre. The Reduced Footprint Alternative is a much more severe alternative that will decrease unit count by over 40% (probably more because of the inefficient lotting pattern caused by the meandering boundary proposed for the eastern preserve, the unusable acreage shown between the east preserve and Grantline, and other setback requirements), development costs will be much greater because of the constraints, possible new bridging requirements, and having to spread fixed costs over 40+% fewer units. The project goals will not be achieved and the project will in all likelihood be rendered infeasible.	SM-50
	Section 2.3 Development and Screening of Alternatives	1
	Paragraph 1: (1) Change the proposed action to develop six properties in the Sunridge Specific Plan Area (Sunridge Properties), (2) the proposed action is to decide whether to reinstate five permits that the Army Corps of Engineers previously issued and to issue the permit for the Arista del Sol project.	SM-51
2-12	Section 2.4.2.1 No Action Alternative	
	Paragraph 2: Note that Arista del Sol also has an existing Biological Opinion from the Fish and Wildlife	SM-52

	Service.	SM-52
2-13	Section 2.4.2.1 No Action Alternative	
	Change the sentence "BO's issued for five of the six projects allowed for filling up multiple acres of vernal pools" to "the BO's issued for all six of the projects allow the filling of multiple acres of vernal pools."	SM-53
	The EIS states that "under the No Action Alternative of approximately 2,060 homes over 303 acres are estimated to be developed." The EIS does not contain any supporting information for this statement.	SM-54
	Section 2.4.2.2 Propose Project Alternative	
	The proposed project alternative here differs from that previously described in that the only 15.9 acres of vernal pool habitat is compensatory mitigation and 25.6 acres of offsite preservation are listed. Elsewhere (at ES-2, Table 2.2 and 3.2-14) the EIS states that the proposed alternative would create 34 acres of vernal pool habitat and 52 acres would be preserved at an offsite location. Onsite preserve areas should also be included.	SM-55
2-16	Table 2-3 Wetlands and Waters of the U.S. Impacts of the Proposed Project Alternative	
	Note for Arista del Sol, the acres of total impacts is different from the vernal pool impacts which consist of a total of 10.52 acres of waters of the United States impacted, 5.37 acres of vernal pools, 0.36 acres of depressional season wetlands, 0 of riverine seasonal wetlands, 0.2 for ephemeral drainage and 4.77 for a pond.	SM-56
2-19 to 2-20	All project descriptions should be reviewed for accuracy and consistency with acreages throughout the DEIS.	SM-57
3 Affecte	d Environment, Environmental Consequences, and Mitigation	1
General	Section 3.2 Biological Resources	
	Wetland acreage is listed for Anatolia IV but not for other projects. This should be consistent throughout the section.	SM-58

	Section 3.2.1. Area of Analysis	
	The area of analysis is described as the Specific Plan Area and adjacent vernal pool and upland areas, with Figure 1-1 cited as encompassing this area. This figure is inappropriately scaled, since it covers an area from Rocklin in the north to Galt in the south, the Sacramento River in the west to Cameron Park in the east. While the properties considered are included, the "adjacent vernal pool and upland areas" should be identified.	SM-59
	Section 3.2.2.1 Vegetation	
	Revise the statement that: "These plants require fine-textured clay soils, [sic] that become wet during the winter, but remain very dry during the summer and fall seasons" to note that many of the non-native grasses that occur in Central Valley grasslands do not require dry conditions. Indeed, they thrive as lawn grasses under continual summer irrigation (e.g. Italian ryegrass).	SM-60
	Revise the statement that: "As increased spring temperatures increase evaporation from pools, concentric rings of varying vegetation remain. Soils specific to this habitat prevent water from rapidly permeating through the water table such that water primarily escapes the pool through evaporation, allowing specialized plants to survive in the rings of tiered levels of available water" to note that the "concentric rings" represent a phenological phase of a typical vernal pool flowering cycle. These rings reflect progressive maturation of flowering plant species in response to pool dry down. For single observations of vernal pools, the differential flowering in pools may appear ring-like. In fact the floristic ring pattern can be highly variable. The statement quoted above implies some structural (i.e. "tiered levels of available water") factor when, in fact, the appearance is dependent on rainfall abundance, period or frequency of observation, microtopography, etc.	SM-61
3.2-5	Section 3.2.2.3 Threatened and Endangered Species and Critical Habitat	
	This section is mistitled. This section includes a discussion of special-status species, including	
	threatened and endangered species and critical habitat.	SM-62
		SM-62
	threatened and endangered species and critical habitat. Table 3.2-1 Special-Status Species with Potential to Occur within the Project Site	SM-62
3.2.6	threatened and endangered species and critical habitat.	

3.2.7	Delete the sentence beginning: "The presence of other special-status species noted in Table 3.2-1" It isn't relevant whether the species were evaluated in specific documents. The Biological Assessments that appear to form the basis of this EIS section were prepared specifically for use in ESA Section 7 consultations and were not intended to be an analysis of special-status species in general. Such species were fully analyzed in the Sunrise Douglas Community Plan/Sunridge Specific Plan. Consult this and other sources to provide the relevant facts for analysis.	SM-65
3.2.8	Section 3.2.2.4 Vernal Pools	
	Revise the statement in Paragraph 3: that "the Mather Core Area contains approximately 74% of all the vernal pool tadpole shrimp occurrences in the southeastern Sacramento Valley" should be revised to state that it "contains approximately 74% of the <u>known</u> occurrences". There has been no systematic sampling of this species to allow estimates of populations, densities, etc. The Sunrise-Douglas area has been the subject of numerous sampling efforts for vernal pool invertebrates, more so than any other portion of the range of the species. Futher, it is not clear whether these numbers include vernal pool tadpole shrimp located at Clay Station and other mitigation areas.	SM-66
	Revise the discussion of hydrological connectivity which on the basis of two personal communications, says that: "High rainfall leads to surface flooding, which connects old terrace vernal pools into large, shallow, slow-flowing, temporary lakes." to state that the high rainfall, sufficient to cause some vernal pools to spill into downstream pools would not result in "shallow, slow-flowing, temporary lakes." to say that this has not been documented as a significant dispersal mechanism, that high flows can also result in transport to ecologial sinks such as Mather Lake, Blodgett Reservoir, various mine pits, and that this mechanism would operate in the Sunridge Preserve area and in mitigations sites like Gill Ranch.	SM-67
	Revise the discussion that "Vernal pools in the area exist in a "sub-watershed" matrix, roughly delineated by Highway 50 to the north and the Cosumnes River to the south." to note that from the Sacramento/El Dorado County Boundary on the east to Mather Field on west (paralleling Douglas Road) this "sub-watershed" matrix is further divided by the following major roads, highways, and infrastructure: Scott Road, Grantline Road, Sunrise Boulevard, Folsom South Canal, Eagles Nest Road, Excelsior Road, and Mather Field. This "sub-watershed" matrix is already subdivided by roads, canals, etc. And it effectively terminates at the perennial aquatic habitats mentioned above (i.e. Mather Lake, Anatolia detention basins, Blodgett Reservior).	SM-68
	Revise that statement that "This hydrologic connectivity during high flows would facilitate metapopulation recolonization of vernal pools that were subject to localized extirpation during drought years." to state that extirpation, in this context, should refer to local populations, not vernal pools (i.e., vernal pool habitat does not become extirpated during drought, but populations of species might). Second, the theory of flow-mediated dispersal of vernal pool invertebrates as a major dispersal factor raises the question of how invertebrates recolonize upstream habitat? We are unaware of any data that shows that populations of vernal pool plants and animals in upgradient pools are less persistent than down gradient pools. The distribution of vernal pool habitat in the eastern Central Valley ranges along a more-or-less north to south axis, while the drainage patterns in this area trend largely east to west. If hydrologic dispersal of vernal pool invertebrates was driving the pattern of distribution, one would expect to see east-to-west distribution of populations and a strong north-to-south differentiation of genetic variability. In fact, exactly the opposite is the case for vernal pool tadpole shrimp.	SM-69
	King's (1996) allozyme analysis of vernal pool tadpole shrimp investigated 9 populations in the eastern	

3.2-12	sentence that states: "The SSHCP will allow participants to engage in the "incidental take" of 40 listed plant and wildlife species" to "The SSHCP will allow the County and cities to extend incidental take coverage to third parties."	SM-73
	The discussion of the South Sacramento Habitat Conservation Plan should note the plan is not in effect and has no regulatory requirements associated with it. It is a reasonably forseeable future activity and should be considered in the cumulative imapcts discussion. Most of the covered species in the SSHCP are not listed species and therefore the HCP does not permit incidental take of those species. No incidental take permit is needed for non-listed species. Change the	SM-72
3.2-11	Section 3.2.3.3 Regional and Local Plans, Policies, Regulations, and Laws/ South Sacramento Habitat Conservation Plan	
	USFWS Recovery Plan The discussion on 3.2-10 of the Recovery Plan should also be revised, as described above and in our cover letter.	SM-71
	This Executive Order has no relevance to the subjects of this EIS. Section 1(b) of this order states: "This Order does not apply to the issuance by Federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-Federal property."	SM-70
3.2-10	data. Section 3.2.3 Regulatory Framework/ Executive Order 11990 - Protection of Wetlands	
	The Final EIS should reflect that the distribution of vernal pool tadpole shrimp populations in the eastern Central Valley suggests that "high flows" are not an important factor in the distribution of this species. Rather, tadpole shrimp eggs carried on migratory birds along the pacific flyway better fit the available	
	closely related to the Borden Population (located 20 miles south of Grantline and south of the Cosumnes River) than it is to the Mather Population, located just six miles to the southwest. Further, the Grantline Population is even more closely related to the Hickman Population, which is located about 75 miles southeast of the Grantline Population.	SM-69
	Central Valley. Two populations, the Grantline Population and the Mather Population, are about six miles apart. The Grantline population is located northeast of the Mather Population. The Grantline Population is located in the upper watershed of Morrison Creek, while the Mather population is located downstream in the same watershed. If the "high flow" model of distribution holds, then we would expect the Mather and Grantline populations to be similar. In fact, the Grantline Population is more	

3.2-14	The statement that preservation credits "would" be purchased at Bryte Ranch should be changed to could be purchased. Same comment as for ES-10 comment on Gill.	SM-75
	Paragraph 2: Douglas Road 98 would lose 11% of developable acreage in the Reduced Impact Alternative, not Douglas Road 103. Douglas Road 103 is unchanged in this alternative.	SM-76
	Bottom of page, no basis is provided for the assertion that under the Proposed Project Alternative there would be an "overall net loss of waters of the U.S." but that that would not be the case for the Reduced Footprint Alternative. In accordance with prior Corps ROD, change both to less than significant with mitigation.	SM-77
	The statement under mitigation measure 3.2-1a is incorrect in stating that, with proposed mitigation, there would be an overall net loss of waters of the United States under the proposed project alternative but there would be no overall net loss of waters under the reduced project alternative. In fact the proposed project alternative would impact 29.9 acres of waters of the United States and would create 34.2 acres of vernal pool habitat offsite and preserve 52 acres offsite.	SM-78
	Section 3.2.4.3 Impact Analysis/Impact 3.2-1 An adverse effect on a population of threatened,	
	endangered, or candidate species./Reduced Footprint Alternative	
	"the Reduced Footprint Alternative reduces impacts to wetlands by approximately one-third of the Proposed Project Alternative. Therefore, impacts to vernal pools would be expected to be reduced by one-third." Note that the description of the Reduced Footprint Alternative should be revised to account for impacts associated with the roads to be built through the avoided area and the planned expansion of Grantline Road.	SM-79
	Mitigation Measure 3.2-1a Compensatory Vernal Pool Habitat Creation and Preservation	SM-80
	This measure should be modified to allow flexibility of mitigation site/method.	

Impact 3.2-2 A net loss in the habitat value of sensitive biological habitat./ Proposed Project 3.2-15 Alternative and Reduced Footprint Alternative The analysis of impact for the Proposed Project Alternative states that "...long-term indirect effects could SM-81 include introduction of invasive plants, feral cats and other non-native predators to sensitive species, and introduction of hazardous and non-hazardous waste and materials." The analysis should consider the minimization measures required in the permits to minimize and eliminate these potential adverse impacts. This issue is also applicable to the the Reduced Footprint Alternative. Impact 3.2-2 A net loss in the habitat value of sensitive biological habitat The DEIS states: "Biodiversity used to result from the periodic flooding of the Central Valley as water would flow between vernal pools and vernal pool complexes. The widespread alteration and confinement of flood flows in the Central Valley has drastically decreased these occurrences, resulting in avian species becoming the primary dispersal agents." SM-82 The DEIS has offered no citation of scientific literature to support a "Central Valley flooding" model for dispersal of vernal pool organisms that would affect the Sunridge Properties or that this was the primary dispersal mechanism generally. Such a mechanism would result in the wholesale relocation of vernal pool organisms into inhospitable aquatic habitats downstream. The DEIS does cite Bauder (1987) who described the peril faced by vernal pool crustaceans when they arrive in such habitats. The Final EIS should be revised to address this and to account for dispersal by grazing animals and migratory birds. The DEIS states: "Loss of vernal pool habitat from implementation of the project in combination with projected losses from past, present and reasonably foreseeable future projects constitute a cumulatively substantial reduction in vernal pool habitat in the region. Along with direct impacts, indirect impacts of SM-83 the project would also result from fragmentation of the habitat, degradation of water quality, hydrologic alterations, and reduction of habitat functions of on-site downstream and wetlands in the project vicinity." Revise to account for the proposed on-site preservation, management, and connectivity incorporated in the proposed project. As mentioned previously, the "indirect" impacts anticipated by the DEIS are resolved with preserve management, project design elements, etc. resulting in an effective long-term proection of the onsite preserve areas. The Proposed ActionAlternative will not result in a net loss of vernal pool habitat.

3.2-16	Paragraph 1: It's unclear as to the where the "More analysis" sentence is going.	SM-84
	Change the text from stating that off-site mitigation "would" occur at Gill Ranch to "could" occur at Gill or other Corps and Service approved locations.	SM-85
	Mitigation Measure 3.2-2a Implement a Compensatory Mitigation Plan for Impacts to Waters of the U.S., including wetlands	
	Delete the statement that "More analysis might be needed to determine if direct and indirect impacts to these species would be reduced to less than significant with the proposed Mitigation Measure 3.2-2. Therefore, direct and indirect impacts to threatened, endangered, or candidate species under the Proposed Project Alternative and the Reduced Footprint Alternative would still be potentially significant with the proposed Mitigation Measure 3.2-2." Substitute an analysis of the effects in accordance with the Corps prior determination of no significant effect and the Service's no-jeopardy Biological Opinions.	SM-86
	The Anatolia project's onsite preserve contains one of the oldest sets of constructed vernal pools (built circa 1989) in the region. These pools support populations of vernal pool tadpole shrimp, Bogg's Lake hedge-hyssop, have continued to demonstrate vernal pool hydrology, and support native vernal pool plant species.	
	Numerous vernal pool construction sites, some of them decades old, continue to support populations of listed and/or special-status species (e.g Egan, 2009). Further, the Corps' Engineer Research and Development Center (ERDC) has provided occasional review and oversight of compensatory vernal pool mitigation plans and results of mitigation over the years.	SM-87
	This analyis should be specific to the mitigation for each project. For Anatolia IV, for example, the creation is in an existing mitigation bank and the Corps and Service have approved use of the bank for mitigation.	

3.3-6	Safe Drinking Water Act : What is the relevance of this act? How is it used in this EIS to analyze the environmental conditions pursuant to NEPA?	SM-8
3.3-10	3.3.3.3 Regional and Local Laws, Regulations, Policies, and Plans/Rancho Cordova General Plan: What document or study does this text update? Please identify it here.	SM-8
3.9-23	The assertion that these projects are under-parked is not correct. The dwelling total used for these projects is 3,258, with a population factor of 2.6 per dwelling unit, that totals 8470.8 people. A parkland obligation of 5 acres per 1,000 people would result in an obligation of 42.5 acres of the parkland. Per their NOD, the four Sunridge East projects alone provide 57 acres of neighborhood parks plus the 11.2 acres Table 2-2 shows for Anatolia IV and Sunridge Village J. That totals more than 66 acres of neighborhood parks, 20 acres more than what is required.	SM-9
4 Cum	lative Effects and Other NEPA Analyses	
4-5	Section 4.2 - Past, Present, and Reasonably Foreseeable Actions	1
	The large losses of vernal pool habitat documented by Holland and others were largely losses of "young terrace" pools (i.e., those in San Joaquin soils, etc.). These are agriculturally productive soils when leveled, and they were leveled on a grand scale in Sacramento County. The old terrace soils (e.g., Redding and Corning, etc.) are generally not suitable for agricultural production (they were dry-land farmed for wheat, etc. back in the day) so most of the vernal pool landscape on these old-terrace soils remains intact.	SM-9
4-10	Section 4.2.3.3 Off-Site Constructed Vernal Pool	
1	Accurate scientific analysis is an essential component for the implementation of NEPA. 40 C.F.R. § 1500.1(b). Therefore, the analysis in this DEIS should be an analytical in its approach to interpreting science and evaluating the proposed federal action. We provide these comments on the scientific research discussed in the DEIS and the Final EIS should be revised accordingly.	SM-9
	In her 1998 study, de Weese summarized her previous 1994 paper by stating that "the performance standards for vernal pools were insufficient to assure successful habitat replacement. However, we had not gathered enough information to substantiate our concerns." This differs from the DEIS conclusion that such wetlands "did not fully replace the habitat values lost." De Weese concluded that the methodology used to monitor constructed wetlands was not satisfactory, not that the results of wetland construction were unsatisfactory.	
	This is further elaborated by de Weese (1998). In a review of 25 vernal pool mitigation sites, she found that a rather high number of pools met hydrologic performance standards (96%), almost 70% met florisitic performance standards, and where they were monitored, 75% of the vernal pool construction projects reported listed vernal pool invertebrates in constructed vernal pools. The main conclusion of her paper was a call to standardize monitoring and performance standards for constructed vernal pools. In fact, de Weese commented that: "The art and science of constructing vernal pools have greatly improved over the past eight years."	
	The relevance of Ambrose's 1999 paper (for which there is no citation in the References section) focusing on perennial riverine systems, which concluded that wetland creation is "experimental," is not clear. From the vernal pool perspective, federal regulation of vernal pool fills only began in 1987, so in the intervening 20 plus years the need to meet the no-net loss policy resulted in methods for constructing vernal pool habitat being developed and refined. There seems to be no argument that wetlands can be	

constructed that support native vernal pool plant species, fairy shrimp, tadpole shrimp, spadefoot toads, California tiger salamanders, etc. The question is, will these populations persist? The answer to date is, yes (e.g. Egan, 2009).

The Ambrose 2007 paper presents a comprehensive review of wetland mitigation projects in California, including some vernal pool projects. Ambrose's opinion, quoted in the DEIS that certain functions may not be replaced was: "...at least partly due to regulatory agencies approving mitigation projects with conditions or criteria that are too heavily focused on the vegetation component of wetland function..." His methodology also heavily weighted the surrounding conditions of the mitigation area. He downgraded mitigation if it was near development. The lower scores reflect, in part, not a failure of the mitigation to perform as intended, but the agency requirment that the mitigation be on site and often in small reserves a situation not found for the Proposed Action Alternative.

There are several important considerations regarding vernal pools related to this statement.

- Ambrose was summarizing a study that included only a few vernal pool sites. Indeed, most of the sites evaluated by Ambrose (82%) were low-gradient riverine systems depressional systems. Only about 5% were vernal pool sites.
- Vernal pools are defined by floristic characteristics, and only secondarily by hydrology or invertebrate communities. An emphasis on vegetation in vernal pool mitigation is entirely appropriate.
- In terms of wetland functions, the prime functions of vernal pools are the support of characteristic plant and animal communities. Other wetland functions (e.g. storm water storage and flow attenuation, nutrient and sediment retention, etc.) are relatively minor, compared to other wetland types.

The DEIS further summarizes Ambrose by stating that "...the ecological conditions at the sites had not replaced the wetland functions lost to development." Ambrose, however, did not conclude this. Ambrose carefully stated:

"...it seems likely that many mitigation projects did not replace the functions lost when wetlands were impacted...but this study cannot provide a definitive conclusion on this issue. To understand the net loss (or gain) in wetland function resulting from mitigation, functional assessments would be needed at the impact site before and after the impact occurred to determine the loss of functions, and at the mitigation site before and after the mitigation project was completed to determine the gain in functions. Linking gains to losses is difficult in a retrospective study such as this, and we have not attempted to do so. However, the low CRAM scores [which take into consideration the landscape context as noted above] for most mitigation projects indicates that many of these projects are not functioning well as wetlands, and in the context of the likely condition of the original wetlands before they were impacted, it seems probable that a net loss of wetland function did occur for the wetlands included in this study."

It is worth noting that the Ambrose (2007) study found the following regarding the California Rapid Assessment Method (CRAM) analysis performed for the 204 sites they investigated:

"For hydrology, vernal pool and high gradient riverine mitigation sites scored remarkably well, with medians of 90% and 88% respectively (Table 8-3). In fact, all vernal pool sites were assigned optimal scores for hydrology."

	"Vernal pool sites sites scoring optim		ucture scores, with 86% of these	SM			
	-	strine and vernal pool sites s lian scores greater than 85%.	cored well for this attribute [buffer and landscape				
	And finally:						
	"The scores for ve median score (75%		ied the least and had the highest overall				
	sized vernal pool p animal use, and sin the preserve. And the mitigation prin Section 404 permi	breserves had certain problem milar activities" These are the size and location of the p macy of on-site avoidance. T ts (and the anticipated condit	e study by Placer Land Trust (2009) that found that small- ns "trespass, vandalism, trash dumping, domestic management problems related to the size and location of preserves were directly related to permit conditions and the terms and conditions of the Sunrdidge Properties tions for Arista del Sol) address these potential adverse affects described do not occur.				
	Vernal Pool Recov considered an exp	very Plan. That statement cit erimental science because the	made by Showers (2005) that is cited in the Service's red the Recovery Plan is: "Vernal pool creation is e extent to which entire vernal pool plant and invertebrate till unknown (M. Showers, CDFG, in litt, 2005)."				
	However, the Reco	However, the Recovery Plan also states:					
	"Still, preliminary results indicate that some vernal pool creation and restoration efforts have resulted in pools occupied by vernal pool fairy shrimp and vernal pool tadpole shrimp (De Weese 1998), and restoration and creation of habitat may be more useful as recovery tools for some species than others." As stated elsewhere in our comments, the Corps has very specific mitigation plans for the Sunridge Properties and the Serivce has concluded that the mitigation will assure that the action will not jeopardize the continued existence of any listed species and the Corps has concluded the mitigation will ensure that the issuance of the permits will not cause significant adverse environental effects.						
4-13	Table 4-3 The acreages for Grantline 208 are incorrect. They should be as follows:						
	The acreages for C	Frantime 208 are incorrect.	They should be as follows.				
	Total VP	Total OW	Impacts Direct OW	- SN			
	10.07	0.04	0.48	-			
8 Refei	rences			-			
<u></u>	For multiple citati etc.) in the text. T appropriate citatio	ons of the same author in the his notation is not used in Se	e same year, use a year-plus-letter notation (2004a, 2004b, ection 8 - References, making it very difficult to locate the	SN			

The U.S. Fish and Wildlife Service's 2007 5-Year Review should be given a full citation in the References section, as should the Vernal Pool Recovery Plan.

Sheppard Mullin Robert J. Uram August 18, 2010	
SM-1	The EIS is a programmatic document which analyzes the collective effects of a set of projects. The Council on Environmental Quality (CEQ) recognizes programmatic EISs combined with subsequent tiering for specific projects as an option for agencies to use when the nature of the proposal lends itself to such an approach (1983 CEQ Guidance Regarding NEPA Regulations). The inclusion of project details, including copies of the DA permits and EA/FONSIs, are provided because they are available and assist the reviewer in assessing the overall impacts for the large development proposal in the Sunridge Specific Plan Area.
SM-2	The USACE does not have a "preferred alternative" for the action analyzed in this EIS and therefore has not identified a "preferred action" in the EIS.
SM-3	Information regarding vernal pool acreage preserved on-site has been added to Table 2-2.
SM-4	See Response SM-2.
SM-5	A DA permit decision for the Arista del Sol project will be made a later time. Also, see Response SM-2.
SM-6	The USACE does not question local land use decisions about the type of land use. In this EIS, the USACE has evaluated a reasonable range of alternatives that are consistent with the land use type and meet the purpose of the project. The USACE is required to analyze the no action alternative pursuant to CEQ regulations at 40 CFR 1502.14(d).
SM-7	The USACE concurs and the discussion of practicability under USEPA's 404(b)(1) Guidelines has been revised (p. 2-2 and 3).
SM-8	See Response SM-7.
SM-9	The USACE disagrees. Project proponents could in theory conduct land clearing/cut and fill activities in uplands up to the boundary of waters of the U.S. without having to obtain a DA permit from the USACE. The USACE used 25 feet as a reasonable setback from waters of the U.S. to ensure no activities would result in the discharge of fill material. Some text has been revised in Section 4.2.2.1, No Action Alternative, to clarify the derivation of the number of homes that were assumed would be constructed for purposes of the impact analysis (p. 2-13).
SM-10	The USACE considered the Regional Alternative Information (RAI) document provided by developers in each of the EAs. The RAI was found to have limited value, but a brief summary of the document has been added to the EIS (p. 2-13).
SM-11	The Sunridge Properties are assessed collectively in this EIS.
SM-12	Text has been added to Mitigation Measure 3.2-1a which expands upon the performance and success criteria for the compensatory mitigation plan (p. 3.2-18 and 19).
SM-13	The impact analysis was corrected to state that there would be no net loss of waters under the Proposed Project Alternative because of the preservation and creation of vernal pool habitat under the Compensatory Mitigation Plan (p. 3.2-18).

Sheppard Mullin Robert J. Uram August 18, 2010 (continued)

August 10, 2010 (cont	
SM-14	The impact analysis was corrected to state that there would be no loss of habitat value of sensitive biological habitat under the Proposed Project Alternative because of the preservation and creation of vernal pool habitat under the Compensatory Mitigation Plan (p. 3.2-24).
SM-15	The geographic scope of the cumulative analysis has been clarified in the text (p. 4-2), in Table 4-2, and with a new figure (Figure 4-1). The proposed SSHCP is discussed in Biological Resources Section 3.2.3.3 (p. 3.2-14 and 15) and a discussion has been added to Section 4.2.5.1 (p. 4-14).
SM-16	The text has been clarified to note that vernal pool restoration occurs under the USACE's "no net loss" policy (p. 4-10).
SM-17	The California Natural Resouces Agency 2009 State of the State's Wetlands report is now summarized in Chapter 4 (p. 4-13).
	Information on approved and pending conservation/preservation and mitigation banks in the region has been added to the EIS (p. 4-10 and 11; Table 4-3; Figure 4-1).
	Chapter 3.2 Biological Resources impact analyses have been corrected, revised and clarified, as necessary. The impact conclusions are not inconsistent with the cumulative impact analysis; the latter requires an expanded context for impact conclusions (see p. 4-1 of the EIS for discussion on the direction for cumulative impact analyses from the Council on Environmental Quality).
SM-18	Additional context and trends with regard to vernal pool restoration studies has been provided (p. 4-13).
SM-19	Discussion of the USFWS Vernal Pool Recovery Plan was consolidated in Chapter 3.2 Biological Resources (p. 3.2-11 through 14). Other comments regarding the Recovery Plan are noted.
SM-20	The USACE can only include conditions in its DA permits which it can enforce. Mitigation measures, many of which are required by others, are laid out in the EIS to aid in the USACE analysis of effects and to show how effects would be mitigated.
SM-21	See Response SM-9.
SM-22	See Response SM-2.
SM-23	USACE concurs and the text has been revised to address comment (Table ES-1; p.3.2-17 through 3.2-26; p. 3.8-21 and 22; p. 3.11-6; p. 3.14-8; and p. 3.15-12 and 13).
SM-24	Upon reanalysis, USACE concurs and text has been revised to address comment (Table ES-1 and p. 3.14-8).
SM-25	The impact conclusions have been corrected to be consistent between Table ES-1 and the corresponding text (multiple pages).

August 18, 2010 (continued)	
SM-26	The Transportation Analysis for the Sunrise Douglas Specific Plan and Community Plan (Fehr & Peers Associates, 1999) included transit trips in their analysis. It was assumed that 7 percent of all person trips would use transit; this percentage takes into account the on-site transit shuttle planned by the project.
SM-27	Climate change has been added to Table ES-1.
SM-28	The text has been clarified to reflect that "Without compensatory mitigation, significant impacts to the threatened vernal pool fairy shrimp and the dangered vernal pool tadpole shrimp would occur under the Proposed Project Alternative." (p. ES-10).
SM-29	On page ES-2 the developed acreage is stated as 588.5, not 585.5, so the difference from 589 acres is in rounding, and there is no discrepancy.
SM-30	Vernal pool numbers have been corrected.
SM-31	Text revised to address the comment regarding location of off-site mitigation (p. 3.2-18).
SM-32	Text revised to indicate that impacts to threatened and endangered vernal pool species would be less than significant with mitigation.
SM-33	Text revised to address the comment (p. ES-11).
SM-34	The Executive Summary has been revised to better reflect the status of water supply to the project alternatives (p. ES-11).
SM-35	Text revised to better reflect the concordance of the alternatives with City of Rancho Cordova development plans (p. ES-13).
SM-36	Project area has been replaced with "project site" or "project vicinity" or "Sunridge Specific Plan area" (multiple pages).
SM-37	The USACE has revised the text to simply state the success of recent monitoring reports (p. ES-17).
SM-38	The impact of the Sunridge Properties to water quality within Morrison and Laguna Creeks would be less than significant with mitigation. The impact of the Sunridge Properties, in combination with the proposed and ongoing projects within the major core area, would be to cumulatively contribute to decreased water quality within Morrison and Laguna Creeks. A minor revision was made (p. ES-17).
SM-39	The USACE concurs upon reanalysis and text has been revised to address comment (p. ES-18; p. 3.14-8; and multiple pages in Chapter 4).
SM-40	The USACE concurs and text has been revised to address comment (Table ES-2).
SM-41	The USACE concurs and text has been revised to address comment (Table ES-2).

August 18, 20 SM-42	The USACE concurs and text has been revised to address comment (p. 1-4).
SM-43	The USACE concurs and text has been revised to address comment (p. 1-6).
SM-44	The USACE concurs and text has been revised to address comment (p. 1-6).
SM-45	The USACE concurs and text has been revised to address comment (p. 1-7).
SM-46	On both p. 1-7 (Section 1.4.5) and page 2-20, 44 acres of wetlands are referred to. Text revised to address comment to clarify preserve vs. wetland acres (p. 1-8).
SM-47	The EIS will remain a programmatic. The EIS is intended to analyze the broad effects of several development actions. The Environmental Assessments for each of the project will include the project-specific analyses and will be supplemented as necessary upon completion of this EIS.
SM-48	The USACE concurs and text has been revised to address comment (p. 1-9).
SM-49	The USACE concurs and text has been revised to address comment (p. 1-11).
SM-50	The USACE concurs and text has been revised to address comment (p. 2-2 and 2-3).
SM-51	The description of the Proposed Action is accurate as is.
SM-52	Text revised to clarify that Arista del Sol has a Biological Opinion from the USFWS (p. 2-12).
SM-53	Text revised to clarify that Arista del Sol has a Biological Opinion from the USFWS (p. 2-13).
SM-54	See Response SM-9.
SM-55	Vernal pool acreages have been corrected (p. 2-13).
SM-56	USACE concurs with some of the corrected acreages for Arista del Sol (Table 2-3).
SM-57	Project description acreages have been reviewed and corrected as necessary (throughout EIS).
SM-58	Text has been revised for consistency of wetland acreages (p. 3.2-1 through 3.2-3).
SM-59	A figure for biological resources was added to the report (Figure 3.2-1).
SM-60	Text revised to better reflect soil conditions in the Central Valley (p. 3.2-1).
SM-61	Text revised to better reflect vernal pool flowering cycle in the Central Valley (p. 3.2-1).
SM-62	The USACE concurs and section has been retitled to address comment (p. 3.2-5).
SM-65	Text was deleted in accordance with comment. The Sunrise Douglas Community Plan/Sunridge Specific Plan provides a list of special status species. These were added and text added to describ impacts and mitigation measures (Table 3.2-1; p. 3.2-8 through 3.2-11).

Sheppard Mullin Robert J. Uram August 18, 2010 (continued)	
SM-66	The USACE concurs with this characterization and the text has been revised (p. 3.2-8).
SM-67	The USACE concurs with this characterization and the text has been revised (p. 3.2-11).
SM-68	The USACE concurs with this characterization and the text has been revised (p. 3.2-8).
SM-69	The USACE concurs with this characterization and the text has been revised (p. 3.2-9).
SM-70	The USACE concurs and this Executive Order has been removed (p. 3.2-14).
SM-71	Discussion of the USFWS Vernal Pool Recovery Plan was consolidated (p. 3.2-11 through 14).
SM-72	Text revised to address comment (p. 3.2-15). Regarding the SSHCP as a reasonably foreseeable project, see Response SSD-2.
SM-73	The USACE concurs and the text has been revised to address comment (p. 3.2-15).
SM-74	The USACE concurs and the text has been revised to address comment (p. 3.2-15).
SM-75	The USACE concurs and the text has been revised to address comment (p. 3.2-18).
SM-76	The USACE concurs and the text has been revised to address comment (p. 3.2-17).
SM-77	The impact analysis was corrected to state that there would be no overall net loss of waters under the Proposed Project Alternative because of the preservation and creation of vernal pool habitat under the Compensatory Mitigation Plan (p. 3.2-16 through 25).
SM-78	See Response SM-77.
SM-79	Grantline Road and other roads were considered in the analysis.
SM-80	Mitigation flexibility was added to the text (p. 3.2-18).
SM-81	Mitigation Measure 3.2-2c has been added to address comment (p. 3.2-22 through 24).
SM-82	The USACE disagrees. The Central Valley flooding model is well cited in the text (p. 4-32), and the dispersal of vernal pool organisms by migratory birds is also clearly stated under Impact 3.2-3 (p. 3.2-24).
SM-83	The USACE disagrees that preserve management, project design elements, etc., under the cumulative condition, will result in no net loss of vernal pool habitat.

Sheppard Mullin Robert J. Uram August 18, 2010 (continued)		
SM-84	See Response SM-14.	
SM-85	Mitigation flexibility has been added (p. 3.2-22).	
SM-86	See Response SM-14.	
SM-87	The Sunridge Properties are now combined as one project, and the mitigation cannot be separated by project. The project specific analysis is in the Environmental Assessments which will be supplemented and updated after the EIS is complete.	
SM-88	The Safe Drinking Water Act discussion has been removed (p. 3.3-6).	
SM-89	The date of the Rancho Cordova General Plan has been added (p. 3.3-10).	
SM-90	Text revised to reflect context address comment (p. 3.9-22 and 23).	
SM-91	Comment noted.	
SM-92	Additional context and trends with regard to vernal pool restoration studies has been provided (p. 4-13).	
SM-93	Table 4-3 has been revised to correct Grantline 208 acreages.	
SM-94	Text revised to correct reference citations (throughout document).	
SM-95	The USFWS references are complete as provided.	

RE: Subject: Sunridge Properties Draft EIS: Comment Period Extended Until August 18, 2010 (PN SPK-2009-00511. Response to Final EIR -

Dear Ms. Imamura,

Upon reviewing the document, my colleagues and associates have the following concerns:

Published in the federal register was the ACE advertisement to permit an arboretum? Deep within the same ad, the tree museum idea grows enough wings to permit thousands of residential housing units. The document's conclusion is that the project garners no significant environmental impact and suggests a negative declaration. Are you permitting an Arboretum, navigable waterways, major and minor traffic arteries, or residential housing permits?

The COE as a Federal Agency is not authorized to expend taxpayer dollars to benefit private entities such as the developers of Rio Del Oro, and Sunridge which are the subject of this EIS/R. Is the intent to approve 28 acres classified as Waters of the US or is this approval for the entire project to move forward? Is only 28 acres included in the project description?

Is Rio Del Oro, Sunridge plan residential developments legally tied to local and developer funding? Is this ACE review advertising an Arboretum that includes 500 housing units a vehicle to avoid public scrutiny? Is not Rancho Cordova the proper entity to perform the environmental review because of the enormous acreage size in question compared to the small acreage size involved in the ACE domain jurisdiction over bridges and US waters? Is there a navigable river for commuters in Sunridge, Rio Del Oro?

United States economic recessions and depressions are cyclical and predictable, but not acknowledged in this NEPA / FEIR or within the SACOG and other local data upon which conclusions are drawn. What are funding options for the project in a depression or double dip recession? Does this document consider infrastructure funding from Federal stimulus or TARP resources? Notwithstanding that after eighteen months, two thirds of the Feb. 2009, 240 billion dollar Federal stimulus funds have not been spent. But a shortage of identified local money/grants may provide extraordinary funding control to the federal government and disregard opposition from local residents, within or outside of the boundary of Rancho Cordova.

Unique in the world, The United States is not a nation based on men but on laws. Is this ambiguous document intended to deceive opponents or circumvent existing law in favor of Rancho Cordova's agenda to expand their boundaries?

This document creates a moving target regarding jurisdictional control of the wetlands.

Rio Del Oro/Sunridge plan includes vast wetlands, and few acres of US waterways under ACE watchfulness. Where will the arboretum be located, near a river or a dam? Upon build-out, what entity will control the 28 acres under ACE jurisdiction, as well as the 500 plus acres of wetlands, a homeowner assn., a community assn., a local planning council, the county, the state, the federal government?

This is a lawyer's document, silent on the formation of Common Interest Development a quasi government with taxing authority that violates numerous fundamental individual constitutional rights and responsibilities of American home owners. As a federal agency, the ACE should expressly prohibit rather that maintain silence on the formation of CID. Where is the discussion /evaluation of the Lawful requirements to establishment of [CID] Common Interest Development?

This study fails to include mention or evaluation the significant roadway artery with an active JPA, The Capital South East Connector that will provide connectivity for the six neighborhoods evaluated for permitting in this study. This study does not adequately address the impact of the proposed Hazel Avenue South Extension, nor does it adequately address the

diminished need for a proposed Rancho Cordova Parkway Interchange, euphemistically referred herein as Sunrise reliever. Hazel Ave south extension impact is mentioned but expressly eliminated; on the other hand the sunrise reliever aka Rancho Cordova Parkway Interchange and connectors are included and their need exaggerated.

This study should but does not address the aspect of the RCPI, aka, Sunrise Reliever; the federal government prohibits CAL-TRANS construction sans roadway connections that currently are not possible from not owning land.

Page two

W-7

The documents ignore significant existing shuttered infrastructure, the Citrus Road under crossing of US Highway 50, and one unlawfully shuttered public roadway attached to it, the 2300 and 2400 blocks of Citrus Road, as well as a misidentified a private roadway, Club House Drive, labeled Zinfandel Drive. It is negligent to not evaluate the potential offered by this existing piece of public infrastructure; the under crossing is just one mile from the site of the proposed Rancho Cordova Parkway Interchange, RCPI, aka Sunrise Reliever. Citrus Road should be addressed within the context of overall connectivity especially from its potential to alleviate severe traffic impacts and air quality impacts on Sunrise Blvd.

The impact and evaluation of the RCPI, aka, Sunrise Reliever is severely distorted from improperly eliminating mention and impact of a significant infrastructure left over from an abandoned heavy rail under crossing as well as an attached public roadway unlawfully shut and barricaded, and a private roadway labeled and interpreted as a public roadway. It was easy for me to do a records request on these infrastructures; therefore a reasonable inference is that public officials desire to continue the unlawful closures/usages since they are not addressed in this document.

In an email to me, Caltrans District Three Director recently granted a waiver on the Citrus Road under crossing for the local government to pursue and evaluate and even to improve and open to vehicle traffic.

Unreasonable conclusions from data cited within this report suggest that a worker should not drive to a job in rancho from nearby communities within the SACOG area or even from nearby Sac County, and large jobs numbers create absolute need for added large numbers of housing units. If Rancho Cordova provides numbers of jobs that exceed equivalent housing units, it

does not reasonably suggest that urban sprawl is the solution. Commuting is acceptable; | W-8 California is the West!

Dual court decisions in summer of 2007 reduced the numbers of permitted houses in this W-9 Sunridge/Del Oro study area; are these numbers evaluated and decisions implemented?

Respectfully,

Kathleen Willoughby

Page three

Individual Kathleen Willoughby

August 18, 2010	,
W-1	The Sunridge Properties residential development project is unrelated to the nearby 1349-acre Arboretum-Waegell Specific Plan project, which is a residential and commercial urban development project located to the south of the project site. No arboretum is planned for that site, although it will include 450 acres of stream corridor, reservoir, and vernal pool reserves.
W-2	The USACE does not provide federal funding for private projects. The purpose of the document is to review the potential environmental impacts of the USACE's action as a federal agency. In this case, the action the USACE is considering is whether to issue permits to place fill material into waters of the United States.
W-3	The City of Rancho Cordova is the local agency that is responsible for approving the project. The City has reviewed the projects, including preparing EIRs under CEQA. The USACE connection to the projects is in regulating waters of the U.S., including wetlands, not just navigable waters. The USACE is not involved in funding for this private development project.
W-4	The City of Rancho Cordova is the local agency that is responsible for approving the project. The City identifies its urban development boundary in the City's General Plan. The General Plan updating process is the most judicious time to provide the City with feedback regarding the City's expansion plans.
W-5	The wetland mitigation banks protected as a result of the Sunridge Properties USACE permits will be held and managed by conservation-oriented third parties.
W-6	A common interest development is a project composed of individually owned units that share usage and financial responsibility for common areas. These common areas can include streets, parks, and recreational facilities. CIDs are managed and maintained by an association, which all homeowners belong to by law. The USACE is not involved in common interest developments, nor is one planned for these properties.
W-7	The Capital Southeast Connector has been added to the list of reasonably foreseeable projects (see Table 4-4).
	The Rancho Cordova Parkway Interchange project, which involves constructing a new Highway 50 interchange between Sunrise and Hazel Avenues, is undergoing environmental review. Construction is planned for 2014-2016. Comments on the need for that project, and the potential of Citrus Road to alleviate Sunrise Avenue traffic in lieu of the proposed interchange, can be provided to the City in response to the draft environmental impact report (DEIR) prepared for that project. The DEIR is expected to be available for public review in late 2010 (Pers. Comm., Mr. Mark Thomas, City of Rancho Cordova Department of Public Works, September 2010).
	The Hazel Avenue South Extension, which would extend Hazel Avenue from Folsom Boulevard to White Rock Road, has been identified by the City of Rancho Cordova as a 2030 Roadway Improvement Project; it is not yet a reasonably foreseeable project, because it is in the conceptual planning stages (Pers. Comm., Mr. Steve White, County of Sacramento Department of Public Works, September 2010). The land is privately owned, and the road will be built in conjunction with the private development of the Easton Planning Area. As a conceptual project, the Hazel Avenue South Extension is not included in the transportation impact analysis for the Sunridge Properties DEIS.

Individual Kathleen Willoughby August 18, 2010 (continued)

W-8	A reasonable objective of city and county planning agencies is the development of housing and jobs in close proximity to enable residents to live near where they work, for the reduced commute time benefit to the resident, as well as the reduced traffic and pollution impacts to the community. Residents of this proposed residential development, as well as residents throughout the Sacramento region, can select among many neighborhoods so that they may choose the length of their commute to their place of employment.
W-9	Two lawsuits have been filed by CNPS with regard to development in the Sunridge/Rio del Oro area. Neither of these lawsuits has resulted in decisions that specifically limit the number of houses in any planned development (Pers. Comm., Mr. Bill Campbell, City of Rancho Cordova Planning Department, September 2010).

