Public Notice

US Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922

Public Notice Number: 2007-1530-SG
Date: November 19, 2007
Comments Due: December 19, 2007
In reply, please refer to the Public Notice Number

SUBJECT: The U.S. Army Corps of Engineers, Sacramento District, (Corps) is evaluating a permit application to construct a deepwater intake, Intake No. 3, in Lake Mead, which would result in permanent and temporary impacts to approximately 65.90 acres of waters of the United States, including the permanent fill of 0.12 acre of ephemeral wash tributaries of Lake Mead and permanent fill of 25.90 acres below the ordinary high water mark of the lake. This notice is to inform interested parties of the proposed activity and to solicit comments. This notice may also be viewed at the Corps web site at http://www.spk.usace.army.mil/regulatory.html.

AUTHORITY: This application is being evaluated under Section 10 of the Rivers and Harbors Act of 1899 for structures or work in or affecting navigable waters of the United States and Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the United States.

APPLICANT: Southern Nevada Water Authority
P.O. Box 99956
Las Vegas, NV 89193-9956
Attn: Catherine Cherry, (702) 862-3716

LOCATION: The project site is located within the Lake Mead National Recreation Area in Clark County, Nevada. The project site is located in portions of Sections 2, 3, and 11 of Township 22 South, Range 64 East, in unplatted portions of Township 21 South, Range 64 East, and in Section 31 of Township 21 South, Range 65 East, in Clark County, Nevada, from 36°4.84'N Latitude, 114°47.34'W Longitude to 36°5.75'N Latitude, 114°46.22'W Longitude.

PROJECT DESCRIPTION: The Southern Nevada Water Authority proposes to construct a third deepwater intake, Intake No. 3, in Lake Mead, and associated project components as part of its water conveyance system for southern Nevada. The overall purpose of the project, collectively named the Intake No. 3 project, is to maintain water intake capacity and continued capacity to provide water to the municipal water suppliers of the Las Vegas Valley in Nevada. This is necessary due to severely declining water levels in Lake Mead that may affect the capability of the current intake configuration to provide water to the area. Potential loss of pumping capability of Intake No. 1 could occur should the lake levels continue to decline and fall below Intake Structure No. 1 at 1,050 feet mean sea level (msl). Intake No. 3 would be constructed deeper, and would operate at the same capacity (600 million gallons per day) as, Intake No. 1. Construction of the proposed Intake No. 3 project would include the components listed below, all of which have a portion extending below Lake Mead's ordinary high water mark (1,221.4 msl). Because mapping to the nearest tenth-foot is not readily available, the 1,222-foot contour is used as a conservative proxy for 1,221.4 msl. Approximately 65.78 acres are proposed for site preparation ("cutting") below the ordinary high water mark, of which, 25.9 acres will eventually be filled. Although the majority of work would occur below the ordinary high water mark of the lake, activities would not occur within 600 feet perpendicular from the existing shoreline of the lake. The

applicant proposes to fill approximately 0.12 acre of three ephemeral tributaries to Lake Mead to construct the east viewshed berm.

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Temporary Construction-Phase Facilities: The following project components are required to construct the Intake No. 3 physical plant. All of the features listed here are temporary, and the land will be rehabilitated to National Park Service (NPS) specifications after construction completion:

- The "Main Staging Area" is a combination of two contiguous areas, the "Shaft and Tunnel Staging and Laydown" Area B and the "Pumping Station Staging Area and Laydown" Area F (Figure 2), which would occupy approximately 31.9 acres of previously disturbed lacustrine silt below the ordinary high water mark. Clearing and grubbing for the main staging area will result in 25,765 cubic yards of cut below the ordinary high water mark. Fill not used in post-construction rehabilitation will be stored in one of several berms described in detail below.
- Marine Staging Area, identified as C – "Offshore Staging Area (Marine Staging Area)" (Figures 2 and 8), would be temporarily located on approximately 2.1 acres below the ordinary high water mark. Figure 8 also shows the "Marine Staging Area." Grading, excavation, and temporary ground improvement or support (i.e., sheet piles, retaining walls/tie backs, and erosion protection) will be required at the staging area and launch site to mobilize and operate offshore equipment. Temporary marine facilities, such as floating docks and piers, will also be required. The barge that will support the drill rig and dredge will tie up on the north site of the peninsula. This staging area will be entirely below the ordinary high water mark (Figure 8). Occupying a total area of 2.1 acres, clearing and grubbing will take 1,667 cubic yards of cut. The position of this staging area in relation to the shore will depend on lake elevation. Figures 2 and 8 show the lake elevation at 1,112 feet msl in October 2007; it continues to decline.
- Groundwater discharge pipeline corridor to the shore of north Saddle Cove (K – "Water Disposal Pipeline Corridor" on Figure 2). Minimal preparation will be needed for this corridor, which will occupy an estimated 4.0 acres of jurisdictional waters. This corridor will be located in a previously disturbed area. Because it will require minimal improvement, its installation is anticipated to involve neither cut nor fill. Therefore, this corridor is not included in the calculations of affected area.
- The U.S. Bureau of Reclamation (USBR) Staging Area (Electrical Substation Staging Area G on Figures 2 and 7), will occupy approximately 2.0 acres of land lying below the ordinary high water mark. This will be a separate temporary construction area for the USBR immediately southeast of the east end of Saddle Island causeway. It will occupy approximately 2.0 acres of previously disturbed lacustrine silt below the ordinary high water mark, and its preparation will result in a cut of 1,613 cubic yards.
- Conveyance Pipeline Work Area H (Figure 2) will affect approximately 4.0 acres of land below the ordinary high water mark south of the south limits of the fill of the South Causeway Disposal Area Berm (see below and Figure 6). Its preparation will involve approximately 3,185 cubic yards of cut below the ordinary high water mark south of the disposal berm that, after construction, will overlap its northern limit.

Summary of Estimated Area and Volume of Cut* From Temporary Facilities for Construction of the Intake No. 3 Project Within Jurisdictional Waters of the U.S.			
Description (Figures 2 through 8 show the facilities, identified by capital letters)	**Type of Material Affected**	**Affected Area (Acres)**	**Volume Cut (CY)**
Main Staging Area (Shaft and Tunnel Staging and Laydown Area B & Pumping Station Staging Area and Laydown area F)	Lacustrine silt	31.9	25,765
Marine or Offshore Staging Area C	Lacustrine silt underlain by Quaternary alluvium	2.1	1,667
Electrical Substation (USBR) Staging Area G	Lacustrine silt underlain by Quaternary alluvium	2.0	1,613
Conveyance Pipeline Work Area H	Lacustrine silt underlain by Quaternary alluvium	4.0	3,185
	Totals	**44.0**	**32,230**
* No fill is planned for temporary facilities ***Note:*** Values are expected to possess an inherent error of ± 0.1 acre			

Permanent Construction and Operations Phase Facilities Occupying Jurisdictional Waters: The following project components will be part of the physical plant of Intake No. 3:

As currently planned these facilities will require fill for their construction and primarily represent structures that would occupy jurisdictional waters by extending below or being constructed below the 1,221.4-foot msl contour, the elevation of the Hoover Dam spillway, which is the ordinary high water mark for Lake Mead. The inlet structure, discussed below, will also require some cut.

- Two access roads to the respective Main and Marine Staging Areas (I – "NPS Access Road (North Access)" on Figure 2). These roads begin above the ordinary high water mark and extend to lower elevation where they traverse jurisdictional waters. Improvement of these roads for construction access will require 6 inches of fill over the planned road bed below the ordinary high water mark. Construction of these roads will result in 1,751 cubic yards of fill from activities over 2.2 acres below the ordinary high water mark.
- Intake No. 3's new inlet structure will be situated approximately 1.8 miles east-northeast from the shoreline (Figures 3.7 and 3.8). It will be constructed at depth below the surface of Lake Mead by dredging the lake bottom for the riser, depositing side cast fill from the excavation to the west of the riser excavation, an area less than 0.25 acre (Figure 3.8). Figure 3.8 provides a cross section of the intake riser, and Figure 3.7 shows its position relative to the surface of the lake and the bathymetry of the lake floor. The area of cut from the construction of the structure is estimated to affect approximately 0.1 acre, with a cut of 500 cubic yards, and fill of approximately 1,800 cubic yards over 0.25 acre. Because the area around the inlet must remain clear for some distance, the fill will not be placed in the cut area (see Figure 3.8).
- Viewshed Berms for excavated material and visual impact mitigation to the east and west of Saddle Cove (D and L on Figure 2). The "West Viewshed Berm" and the "East Viewshed Berm" are for

excavated material disposal and will lie both above and below the ordinary high water mark. Figures 5, 6 and 7 show the areas of fill that will extend into jurisdictional waters. Portions of the East Viewshed Berm that will result in filling of ephemeral washes tributary to Lake Mead (see Figure 7 for plan view and typical wash fill cross section) have been included in the fill calculated for that berm. The ephemeral washes to be affected by the West Viewshed Berm all lie below the ordinary high water mark (Figure 6), and their affected area and volume of fill are therefore subsumed in the overall value for that facility's footprint below 1,221.4 msl (D in Figure 6). The West Viewshed Berm will result in 44,694 cubic yards of fill being placed over approximately 6.1 acres below the ordinary high water mark (Figures 5 and 6), while the East Viewshed Berm will have 27,436 cubic yards of fill over approximately 3.9 acres (Figures 5 and 7). An additional 945 cubic yards of fill will occupy the 0.12 acre of ephemeral washe acres affected by the East Viewshed Berm (Washes E-2, E-3, and E-4 in Figure 7).

- The North Causeway Disposal Area Berm and South Causeway Disposal Area Berm (M and N on Figure 5) will extend outward from the existing Saddle Island causeway and provide for additional materials disposal. The North Causeway Disposal Area Berm will contribute 136,972 cubic yards of fill over an area of approximately 6.6 acres below the ordinary high water mark, and the South Causeway Disposal Area Berm will contribute 135,701 cubic yards of fill over an area of approximately 6.7 acres below the ordinary high water mark (Figure 5).

Summary of Estimated Area and Volume of Cut and Fill From Permanent Components of the Intake No. 3 Project Within Jurisdictional Waters of the U.S.

Description (Figures 2 through 8 show the facilities, identified by capital letters)	Type of Material Affected/In Fill	Affected Area (Acres)	Volume Fill (CY)	Volume Cut (CY)
Main and Marine Staging Area Access Roads (I)	Lacustrine silt & Quaternary alluvium	2.2	1,751	0
Intake No. 3's new inlet structure	Lacustrine silt, Quaternary alluvium, Tertiary valley fill	0.4	1,800	500
West Viewshed Berm (D)	Tertiary Valley fill, Precambrian metamorphic rock	6.1	44,694	0
East Viewshed Berm (L)	Tertiary Valley fill, Precambrian metamorphic rock	3.9	27,436	0
Wash E-2	Tertiary Valley fill, Precambrian metamorphic rock	0.04	492	0
Wash E-3	Tertiary Valley fill, Precambrian metamorphic rock	0.03	253	0
Wash E-4	Tertiary Valley fill, Precambrian metamorphic rock	0.04	200	0
North Causeway Disposal Area Berm (M)	Tertiary Valley fill, Precambrian metamorphic rock	6.6	136,972	0
South Causeway Disposal Area Berms (N)	Tertiary Valley fill, Precambrian metamorphic rock	6.7	135,701	0
	Totals	**26.01**	**349,299**	**500**

Note: Values are expected to possess an inherent error of ± 1 at the last digit displayed

Permanent Construction and Operations Phase Facilities Not Affecting Jurisdictional Waters: These project components are proposed for construction entirely above Lake Mead's ordinary high water mark, although fill from their excavation will be added to berms that will extend partly below the ordinary high water as discussed above:

- The intake tunnel beneath the floor of Lake Mead and Saddle Island connecting the inlet with the Intake No. 3 Pumping Station (IPS-3) (Figures 1, 2, and 3; see Figures 3.1 - 3.7 for more detail). Excavation of a 24-foot tunnel will occur between 80 and 450 feet below the Lake Mead mudline. Dewatered fill from the tunnel excavation will be used to construct berms to the west of Saddle Island that will lie partially below 1,222-foot contour and, therefore, within jurisdictional waters (D and L in Figure 2). A large construction shaft identified as the "Tunnel Access Shaft" (A on Figure 2) for the intake tunnel will be excavated at the north end of the new IPS-3 (E on Figure 2). Excavation of the tunnel will have no direct effect on jurisdictional waters.
- Intake Pumping Station No. 3 on Saddle Island (E on Figure 2; see also Figures 3, 3.1, and 5) will be constructed by drill and blast and mechanical excavation. These activities will not occur within jurisdictional waters, but fill from the excavations will be added to the berms that will lie partly within jurisdictional waters.
- An interconnecting tunnel to Intake Pumping Station No. 2 (IPS-2), shown as "IPS-2 Connecting Tunnel" on Figure 2, will support the function of IPS-3. Construction of this interconnecting tunnel will take place above the limit of jurisdictional waters or will be subterranean using tunneling techniques. Fill from the excavations will be added to the berms that will lie partly within jurisdictional waters.
- A gate structure will be added to the Intake No. 2 inlet immediately east side of Saddle Island (Figure 1) to allow flexibility of operations by closing that inlet and, with the interconnecting tunnel, operating IPS-2 using the new Intake No. 3 tunnel and inlet. Construction of this gate structure is expected to result in a disturbance of less than 0.1 acre and will not require cut or fill.
- The conveyance pipeline to the Alfred Merritt Smith Water Treatment Facility (AMSWTF) will be an approximately 12-foot-diameter pipeline constructed using cut-and-cover techniques above the 1,222-foot contour or, when below that level and therefore within jurisdictional waters, beneath the footprint of the Saddle Island causeway south berm. The conveyance pipeline corridor south of the Saddle Island causeway is identified as the "Conveyance Pipeline to Existing AMSWTF" on Figure 2. Because the trench will be covered by the berm placed on the south flank of the causeway, no cut or fill values apply specifically to this component**.**

In Summary: The applicant proposes to discharge approximately 945 cubic yards of material in the ephemeral wash tributaries of Lake Mead and proposes to discharge approximately 348,354 cubic yards of material below the 1221.1 msl ordinary high water mark of Lake Mead (the 1,222 msl contour was used as a conservative proxy in these calculations). This material will be chiefly in the form of excavated material and will be deposited in viewshed berms to mitigate the visual impact of the new facility on users of the Lake Mead National Recreation Area, as well as berms flanking the current Saddle Island causeway (Figures 2 and 5). The applicant proposes to cut/grub approximately 32,230 cubic yards of material in construction staging areas for the purposes of establishing working and laydown space for construction and equipment to support construction of the IPS-3, its intake tunnel, the IPS-2 connecting tunnel, other IPS-3 infrastructure, as well as construction of the conveyance pipeline from the new Intake No. 3 pumping station to the AMSWTF. These staging areas will be located on previously disturbed lacustrine silt deposited by the last high stands of Lake Mead, the shoreline of which is now approximately one-half mile from the staging areas.

ADDITIONAL INFORMATION:

Environmental Setting. The project area is situated along Lake Mead in the Lake Mead National Recreational area. The project area is considered arid dessert receiving approximately 4.5 inches of annual rainfall. The project area is within low-elevation, arid Mojave Desert habitat characterized by creosote bush (*Larrea tridentata*) desert scrub. Non-native salt cedar (*Tamarix ramosissima*) typifies vegetation close to and below the elevation historic high water mark of Lake Mead, but salt cedar is experiencing widespread die-back due to declining lake level. Because the project area is situated within the boundaries of the Lake Mead National Recreation Area, the National Park Service (NPS) completed an Environmental Assessment of this project and issued a Finding of No Significant Impact pursuant to their review authority under the National Environmental Policy Act. The NPS consulted with the U.S. Fish and Wildlife Service (USFWS) regarding the Intake No. 3 project's potential impact to threatened and endangered species, and the USFWS has issued a Biological Opinion (File No. 1-5-07-F-445) pursuant to their review authority under Section 7 of the Endangered Species Act.

Alternatives. Several intake locations and associated pipeline and/or tunnel routes to the AMSWTF were considered for Intake No. 3, in addition to the no action alternative. These alternatives all possessed the same requisite project function, it would be a deep-water intake near or within the historic thalweg of the Colorado River:

- A subsurface intake in Black Canyon above Hoover Dam that included a tunnel and intake pumping station constructed underground in the solid rock of Promontory Point just upstream of Hoover Dam, with a pipeline transmission system to convey water from the underground pumping station to the AMSWTF.

- A subsurface intake in Boulder Canyon located upstream of Callville Bay with an intake pumping station and a cross-country transmission system to convey the water to the AMSWTF.

- A subsurface intake near Black Island in the Boulder Basin. This is the applicant's preferred alternative.

Construction practicability, safety, environmental impact, and cost were given substantial consideration in the NPS Environmental Assessment, especially concerning geologic conditions for underground construction for the intake, and the costs of long pipelines and access to the more remote potential intake sites. The limit of current construction technology for tunneling under substantial water pressure was also considered.

The intake site southeast of Black Island was determined through the NPS Environmental Assessment to be the preferred alternative. This alternative was preferable because of its access to acceptable water quality, lower comparative cost, and for having the least environmental impacts, and the greatest practicability, including the ability of its facilities to effectively share existing AMSWTF infrastructure.

Under the no action alternative of the environmental assessment, the United States Department of the Interior National Park Service would neither grant the right-of-way nor approve new water supply facility construction and operation. The Southern Nevada Water Authority would not construct and operate a new water supply intake to protect the southern Nevada water supply system from loss of system intake capacity resulting from declining Lake Mead water levels. The existing southern Nevada water system would continue to operate under its existing configuration (including the existing Intake No. 1 and Intake No. 2), risking loss of water capacity for adequate community water supply and

foregoing the increased system reliability and flexibility that would be possible with the additional intake.

Other alternatives may develop during the review process for this permit application. All reasonable project alternatives, in particular those which may be less damaging to the aquatic environment, will be considered.

Mitigation. The Corps requires that applicants consider and use all reasonable and practical measures to avoid and minimize impacts to aquatic resources. If the applicant is unable to avoid or minimize all impacts, the Corps may require compensatory mitigation. The applicant has not proposed compensatory mitigation for impacts to waters of the United States at this time.

Conservation measures were identified to avoid, minimize, reduce, rectify, or compensate for the identified effects of project implementation. Both preventative design and implementation measures, as well as compensatory measures, for the selected action were identified. These measures were identified based on the description of the selected action, the environmental resources present in the project area, and the expected effects of the implementation of the selected action. Conservation measures included minimizing the visual effects of construction activities and restoring areas around the construction site; minimizing emissions and dust from construction activities; minimizing the area disturbed by construction activities and fully implementing the special status species conservation measures identified in the project Biological Opinion (File No. 1-5-07-F-445); minimizing the potential for effects to water quality from construction activities and discharges; minimizing the potential of construction noise to affect park visitors; minimizing the effect of construction traffic on park roads and visitors; and maintaining access to park trails and facilities during construction. During the construction period, these activities will be approved by and coordinated on an on-going basis with the Lake Mead National Recreation Area which will provide oversight and quality control regarding the implementation of these measures.

OTHER GOVERNMENTAL AUTHORIZATIONS: Water quality certification or a waiver, as required under Section 401 of the Clean Water Act from the Nevada Department of Environmental Protection is required for this project. The applicant has indicated they have applied for certification. The applicant obtained a biological opinion (File No. 1-5-07-F-445) from the USDI Fish and Wildlife Service on February 1, 2007, as well as a Finding of No Significant Impact (FONSI) on April 4, 2007 with respect to the environmental assessment and Special Use Permit SEP LAME 2500 1371 on August 30, 2007 from the National Park Service. The applicant also obtained permission on May 30, 2007 from the Bureau of Reclamation to operate a new point of diversion of Colorado River water (BCOO-4445 WTR-4.00). The applicant will obtain a Letter of Approval to Construct from the Nevada Bureau of Safe Drinking Water and is amending its existing Tortoise Handling / Scientific Collection permit with the Nevada Department of Wildlife for this project.

The applicant or its contractors will obtain all other applicable permits and approvals for the project, including but not limited to the following: Nevada Bureau of Water Pollution Control Temporary Working in Waterways and Temporary Discharge permits, as well as a National Pollutant Discharge Elimination System (NPDES) Stormwater General Discharge permit with site- and project-specific Stormwater Pollution Prevention Plan (SWPPP). The applicant or its contractors will also file State of Nevada Occupational Safety and Health Enforcement Section Notification and obtain an Elevator Permit from the Nevada Department of Business and Industry, Division of Industrial Relations, as well as obtain approval from the Southern Nevada Health District. The applicant's contractors will also obtain a Nevada Division of Water Resources Well Driller's permit or waiver, as well as authorizations

through the Clark County Fire Department. The applicant's contractors will be required to obtain permits from the Clark County Department of Air Quality and Environmental Management Dust Control and Authority to Construct /Operate. In addition, the National Park Service will amend the applicant's existing right-of-way grant to include the area of permanent footprint of the proposed action upon project completion.

HISTORIC PROPERTIES: The Lake Mead National Recreation Area initiated consultation with the Nevada State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act. A cultural resource inventory report was completed following an intensive archaeological and historic inventory of the project area. The Nevada SHPO concurred on August 8, 2006 that no historic properties were found within the area of potential effects for the proposed project. No historic properties or properties eligible for listing in the National Register of Historic Places will be affected by project implementation. The proposed action is anticipated to result in a "negligible" level of effect on cultural resources.

ENDANGERED SPECIES: The proposed action may adversely affect the desert tortoise (*Gopherus agassizii*) (Mojave population), a species listed as threatened under the Endangered Species Act (ESA). The proposed action will not result in impacts to critical habitat that has been designated for the desert tortoise. Formal consultation with the US Fish and Wildlife Service has been completed pursuant to Section 7 of the ESA. A biological opinion (File No. 1-5-07-F-445) with an incidental take statement for the desert tortoise was issued on February 1, 2007.

The above determinations are based on information provided by the applicant and the Corps' preliminary review.

EVALUATION FACTORS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the described activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the described activity, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the described activity will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people. The activity's impact on the public interest will include application of the Section 404(b)(1) guidelines promulgated by the Administrator, Environmental Protection Agency (40 CFR Part 230).

The Corps is soliciting comments from the public, Federal, State, and local agencies and officials, Indian tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in the preparation of a Corps-provided Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

SUBMITTING COMMENTS: Written comments, referencing Public Notice 2007-1530-SG must be submitted to the office listed below on or before **December 19, 2007**.

Steve W. Roberts, Project Manager
US Army Corps of Engineers, Sacramento District
321 North Mall Drive, Suite L-101
St. George, UT 84790
Email: Steven.W.Roberts@usace.army.mil

The Corps is particularly interested in receiving comments related to the proposal's probable impacts on the affected aquatic environment and the secondary and cumulative effects. Anyone may request, in writing, that a public hearing be held to consider this application. Requests shall specifically state, with particularity, the reason(s) for holding a public hearing. If the Corps determines that the information received in response to this notice is inadequate for thorough evaluation, a public hearing may be warranted. If a public hearing is warranted, interested parties will be notified of the time, date, and location. Please note that all comment letters received are subject to release to the public through the Freedom of Information Act. If you have questions or need additional information please contact the applicant or the Corps' project manager Steve W. Roberts at 435-986-3979 or steven.w.roberts@usace.army.mil.

Attachments**:** 16 drawings