

Minimum Standards for Wetland Delineations

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Chief, Utah/Nevada Regulatory Branch

Sacramento District Regulatory Program
Workshop

16 Mar 2016



Delineation Report Minimum Standards

<http://www.spk.usace.army.mil/Missions/Regulatory/Jurisdiction/WetlandDelineations.aspx>



MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS

U.S. ARMY CORPS OF ENGINEERS

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January 2016

The U.S. Army Corps of Engineers, through its Regulatory Program, regulates certain activities in waters of the United States. Waters of the U.S. are defined under 33 CFR Part 320. In order for the Corps to determine the amount and extent of waters of the United States at a site, aquatic resources must first be delineated in accordance with established regulatory standards, guidance, and protocol, such as the 1987 Corps of Engineers Wetlands Delineation Manual and appropriate regional supplements. Before making any permit decision, the Corps is responsible for conducting or verifying the delineation and determining which of the aquatic resources have the potential to fall under federal jurisdiction.

Due to limited staffing and resources, the Corps' Sacramento District recommends permit applicants employ the services of individuals experienced in delineating aquatic resources. Permit applicants are further encouraged early in the project planning stages to submit the delineation, along with a request for a preliminary or approved jurisdictional determination, and engage in a pre-application consultation with their local District office. Early consultation may help identify potential concerns and result in a quicker permit decision.

The District has established minimum standards for delineation reports to insure consistency and accuracy in the delineation of aquatic resources, which will minimize potential delays. The standards are based on years of experience conducting and verifying delineations, as well as the best practices of environmental consultants. Delineations submitted for verification must follow the standards, unless determined to not be practical on a case-by-case basis. Situations where adherence to the standards may not be practical include activities with small permanent or temporary impacts to aquatic resources (under 0.10 acre), applicants with limited financial resources, and emergencies. The District will notify the requestor for delineation submittals that do not contain sufficient information to accurately identify the limits of waters of the U.S.

Aquatic resources delineation reports submitted to the District must include the following:

- ☐ A cover letter requesting a jurisdictional determination. The letter must specify whether a preliminary or approved jurisdiction determination is requested.
- ☐ A signed statement from the property owner(s) allowing Corps personnel to enter the property and to collect samples during normal business hours. If the property is landlocked, the owner or proponent must obtain permission from the adjacent property owner(s) to provide access for Corps personnel.
- ☐ A statement that the delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and appropriate regional supplement(s). The regional supplement(s) used must be identified. For ordinary high water mark (OHWM) delineations, a statement identifying the use of the OHWM field guide must be included.

Page 2 of 4

- ☐ Directions to the survey area.
- ☐ Contact information for the applicant(s), property owner(s), and agent(s).
- ☐ A narrative describing all aquatic resources at the site and an explanation for the mapped boundaries, especially for resources containing complex transition zones. If the site contains resources that meet one or two wetland criteria or do not exhibit a clear OHWM, describe the rationale for not delineating these features. Examples include erosional features, upland swales, and other upland areas that appear "wet" on satellite or aerial imagery.
- ☐ The total acreage of the survey area.
- ☐ Date(s) field work was completed.
- ☐ A table listing all aquatic resources. The table will include the name of each aquatic resource, its Cowardin type, acreage, and location (latitude/longitude). For linear features, the table must show both acreage and linear feet.
- ☐ A description of existing field conditions. The field condition description may include current land use, flood/drought conditions, irrigation practices, modifications to the site, and any characteristics considered atypical.
- ☐ A discussion of the hydrology at the site, including all known surface or subsurface sources, drainage gradients, surface water connections to the nearest traditional navigable waterway or interstate water, and any potential influence for manmade water sources, such as irrigation. The discussion should also identify the nearest "blue-line" waterway or other feature found on the most recent USGS map.
- ☐ If remote sensing was used in the delineation, provide an explanation of how it was used and include the name, date and source of the tools used and copies of applicable maps/photographs.
- ☐ A discussion of plant communities and habitat types present at the site and a list of the scientific name, common name, and wetland indicator status of all plants.
- ☐ Soil descriptions, soil map(s), and a discussion of hydric soils or soils with hydric inclusions at the site.
- ☐ Any observed or documented interstate or foreign commerce associated with aquatic resources found on the site, specifically recreation or other use by interstate or foreign travelers, sale of fish or shellfish in interstate or foreign commerce, and use by industries operating in interstate or foreign commerce.

U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT, 1325 J ST., SACRAMENTO, CA 95814
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The Regulatory Mission

The Department of the Army's Regulatory Program is one of the oldest in the federal government. Initially, it served a simple purpose: to protect and maintain the navigable capacity of the nation's waters. Changing public needs, evolving policy, court decisions and new statutory mandates have changed several aspects of the program including its breadth, complexity and authority.

The U.S. Army Corps of Engineers, through the Regulatory Program, administers and enforces Section 10 of the Rivers and Harbors Act of 1899 (RHA) and Section 404 of the Clean Water Act (CWA). Under RHA Section 10, a permit is required for work or structures in, over or under navigable waters of the United States. Under CWA Section 404, a permit is required for the discharge of dredged or fill material into waters of the United States. Many waterbodies and wetlands in the nation are waters of the United States and are subject to the Corps' regulatory authority.

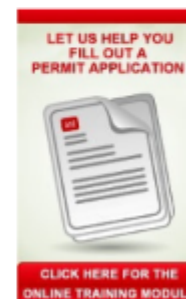
The Regulatory Program is committed to protecting the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands



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Our Commitment to Public Service

Public Service is a Public Trust. We, as Corps Regulators, Must Earn This Trust, and to Keep This Trust, We Must Conduct Ourselves in a Manner That Reflects the Following Principles:

http://www.spkusa.army.mil/Missions/Regulatory/Jurisdiction/WetlandDelineations.aspx

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Aquatic Resources Delineation

The Corps of Engineers receives thousands of requests each year to perform wetland delineations for potential applicants for permits under Section 404 of the Clean Water Act.

Due to limited staff and resources, response time can be several months or longer.

To expedite this process, the District encourages applicants to use consultants to conduct preliminary wetland delineations, especially for large and/or complex areas.

Preliminary delineations, which meet our **minimum standards** may then be submitted to the District for review and verification.

2013 National Wetland Plant List (NWPL)

ORM Upload Templates

Preliminary delineations, which meet our minimum standards may then be submitted to the District for review and verification.

The completion and submittal of the Aquatic Resources Excel spreadsheet is a required component to Sacramento District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports. This spreadsheet will assist the Corps' in efficient and accurate data entry of the aquatic resources into the Corps' database.

The Aquatic Resources Excel spreadsheet contains a validation tool to ensure accuracy of the data. To run the validation tool, first enter all data in the appropriate columns and tabs. Once you have completed entering the data and have saved the document in a .csv format, click the gold shield at



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Minimum Standards

- New as of January 2016
- Necessary due to limited staff and resources
- Designed to improve quality and consistency of delineations
- Who, what, when, where and why.



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What are the minimum standards?

- A cover letter requesting a jurisdictional determination
- A signed statement from property owners allowing Corps personnel to enter the property and collect samples



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What are the minimum standards?

- The delineation must be done in accordance with the 1987 Corps of Engineers Wetland Delineation Manual
- Appropriate supplement used



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What are the minimum standards?

- Directions to survey area
- Total acres of survey area
- Date field work was completed
- Contact information for the applicant(s), property owner(s), and agent(s)



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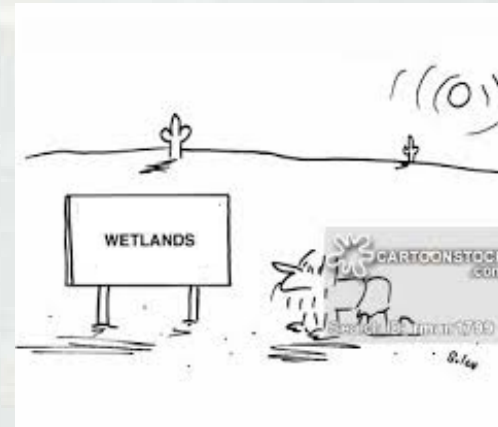
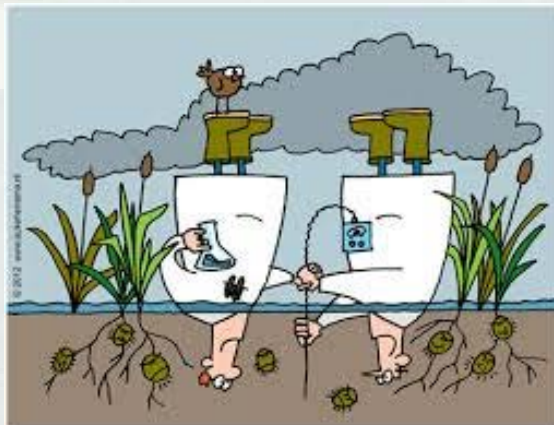
- Describe all aquatic resources on site and an explanation for the mapped boundaries
- A table listing all aquatic resources

Table 1. Aquatic Resources within the Survey Area

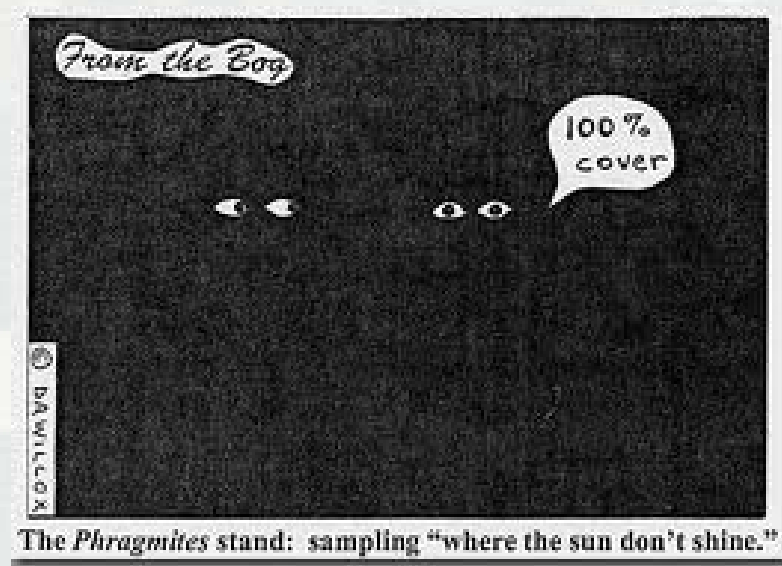
Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acre) Required for all resources	Aquatic Resource Size (linear feet) Required for only stream channels
	Cowardin	Location (lat/long)		
Total				



- A description of existing field conditions
- A discussion of the hydrology at the site
- A discussion of plant communities and habitat types present at the site
- Soil descriptions, soil map(s), and a discussion of hydric soils or soils with hydric inclusions at the site
- Completed data forms including all essential information to make a decision.

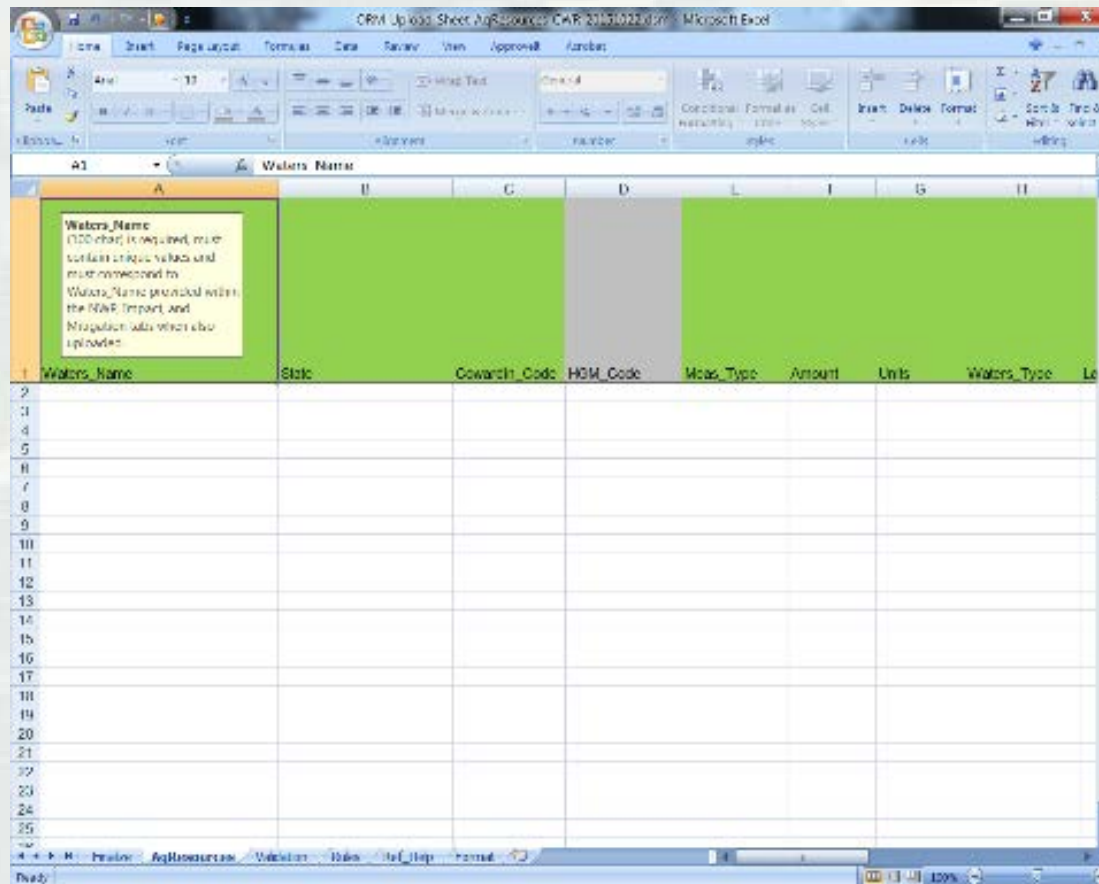


- If remote sensing was used in the delineation, provide an explanation of how it was used and include the name, date and source of the tools used and copies of applicable maps/photographs



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- A completed copy of the *Aquatic Resources Excel spreadsheet must be submitted. The current version of the spreadsheet can be found on Corps website*



- A site location map on a 7.5-minute USGS quadrangle. The map must provide the name of the USGS quadrangle, Section, Township, Range, the UTM or latitude and longitude
- A map of all delineated aquatic resources (“Aquatic Resources Delineation Map”) in accordance with the *Final Map and Drawing Standards for the South Pacific Division Regulatory Program (Mapping Standards)* and showing the following:
 - ▶ All aquatic resources delineated must be clearly shown on the map
 - ▶ At least one set of paired data points, documented in data forms, for each aquatic resource or complex. The paired data points must be located close to the delineated boundary
 - ▶ A reference block that identifies the site or project name, individual(s) who conducted the delineation, date of the map, and date(s) of any revisions



- A description of the methods used to survey the aquatic resource boundaries
- Digital data for the site, aquatic resource boundaries, and data point locations must be provided in a geographic information system (GIS) format, with ESRI Shape-files being the preferred format



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Questions?



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Map and Drawing Standards for the South Pacific Division Regulatory Program

Jason Gipson

Chief, Utah/Nevada Regulatory Branch

Sacramento District Regulatory Program
Workshop

16 Mar 2016





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- Aquatic Resources Delineation

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Western Mountains, Valleys and Coast

- Western Mountains, Valleys and Coast Supplement Version 2.0
- Western Mountain Data Form (pdf)
- Western Mountain Data Form fill-able (pdf)
- Western Mountain Data Form (doc)
- National Wetland Plant List (NWPL) for the Western Mountains, Valleys and Coast

Understanding Wetlands and Quick References

Recognizing Wetlands
EPA Wetlands site
USGS Wetlands Center
California Wetlands
Colorado Wetlands
Nevada Wetlands
Utah Wetlands
Minimum Standards for Acceptance
Wetland Consultants
1987 Wetland Delineation Manual
Contact District Staff
Field Data Sheet (template)
Western Arid Regional Jurisdictional Determinations Checklist
Flora and Field Guide References Supporting all Regional Supplements
FacWet PN for Wetland Delineations in Colorado
Final Map and Drawing Standards for the South Pacific Division Regulatory Program

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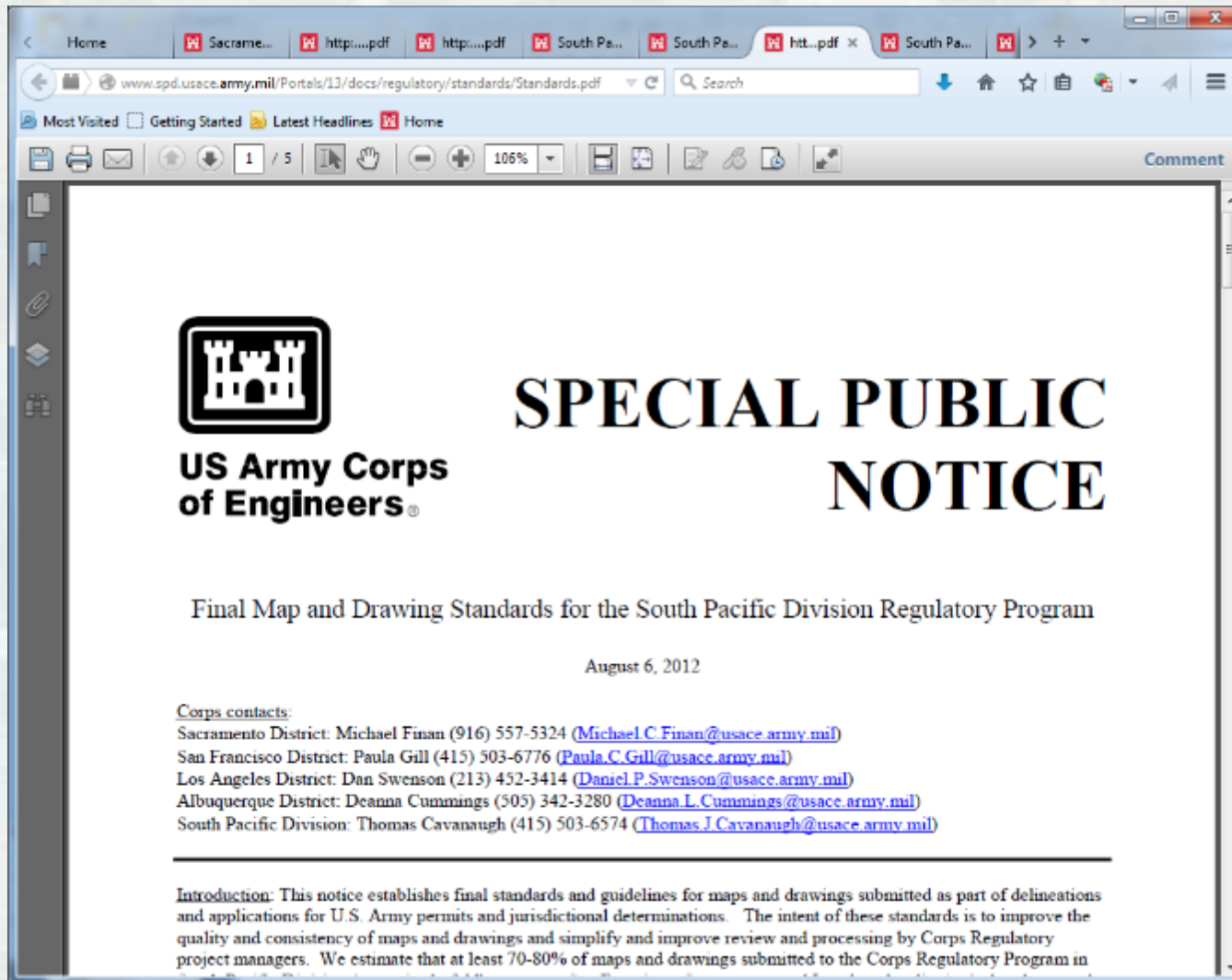
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August 06, 2012 Public Notice



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Applicability

- **Standards apply to all submittals to Regulatory Divisions within the Districts of the Corps' South Pacific Division**
 - ▶ Delineation maps
 - ▶ Proposed projects (impact maps)
 - ▶ Mitigation plan and long-term preservation maps
 - ▶ As-built plans (post-construction drawings)
 - ▶ Mitigation monitoring report maps



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Applicability

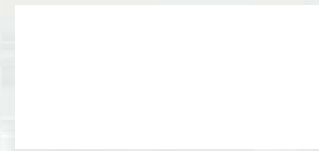
- **Standards can be modified or waived at Corps' discretion**
 - ▶ Small or temporary impacts
 - ▶ Applicant has limited financial resources
 - ▶ Emergencies
 - ▶ Restorations with limited funding
 - ▶ Reauthorizations or maintenance, repair, rehabilitation, where original authorization included adequate drawings

- **Compensatory Mitigation Plan drawings/maps**
 - ▶ Must adhere to the Standards even if Standards are waived for the overall project



Why are there standards for maps and drawings?

- Improve the quality and consistency
- Simplify the review process by project managers
- Good maps = clear story = faster review times and fewer requests for additional information



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Map and Drawing Standards Organization

- **General Standards section**

- ▶ The broadest of the map and drawing requirements
- ▶ Specifies format and required elements for ALL maps submitted

- **Additional sections focused on specific types of maps or plans**

- ▶ e.g., for proposed projects, delineations, impacts maps, mitigation maps, etc...
- ▶ Specify format and required elements for specific map types



General Standards

▪ Format of submittal

- ▶ Both paper and electronic versions are required
- ▶ PDF is the preferred electronic document format
- ▶ Electronic document requirement may be waived for applicants without software access
- ▶ Shapefiles
 - GIS files submitted should be in the preferred format is ESRI shapefile. Metadata needs to include at a minimum, datum(s) used, coordinate system, projection, and cartographer contact information
- ▶ Please submit electronic files on CD/DVD, or via links to a secure FTP site. No flash drives!!



General Standards

Submission of both a location (vicinity) map AND plan view map is a minimum requirement

■ Location Maps

- ▶ At least one must use a USGS 7.5-minute quadrangle sheet as its basemap
- ▶ Quadrangle name identified
- ▶ Project study boundary clearly outlined and annotated
- ▶ Should include recognizable landmarks
- ▶ Include adjacent local roadways
- ▶ North arrow



General Standards

Submission of both a location (vicinity) map AND plan view map is a minimum requirement

■ Plan View Maps

- ▶ At least two control points on opposite corners, with latitude and longitude clearly annotated
- ▶ Date prepared/revised
- ▶ Name and organization of the map preparer
- ▶ Bar scale and scale text
- ▶ North arrow



General Standards

Submission of both a location (vicinity) map AND plan view map is a minimum requirement

■ Plan View Maps

- ▶ Legend for all relevant features on the map – this means wetlands and other waters of the U.S., the project boundary, project construction footprint, impacts to waters of the U.S., etc.
 - Legend should include acres or square feet in parentheses for EVERY relevant feature or class of features!
- ▶ If elevations are shown, the vertical datum being used must be indicated on the map
- ▶ Locations of any cross-sectional views must be annotated clearly (e.g. A-A')



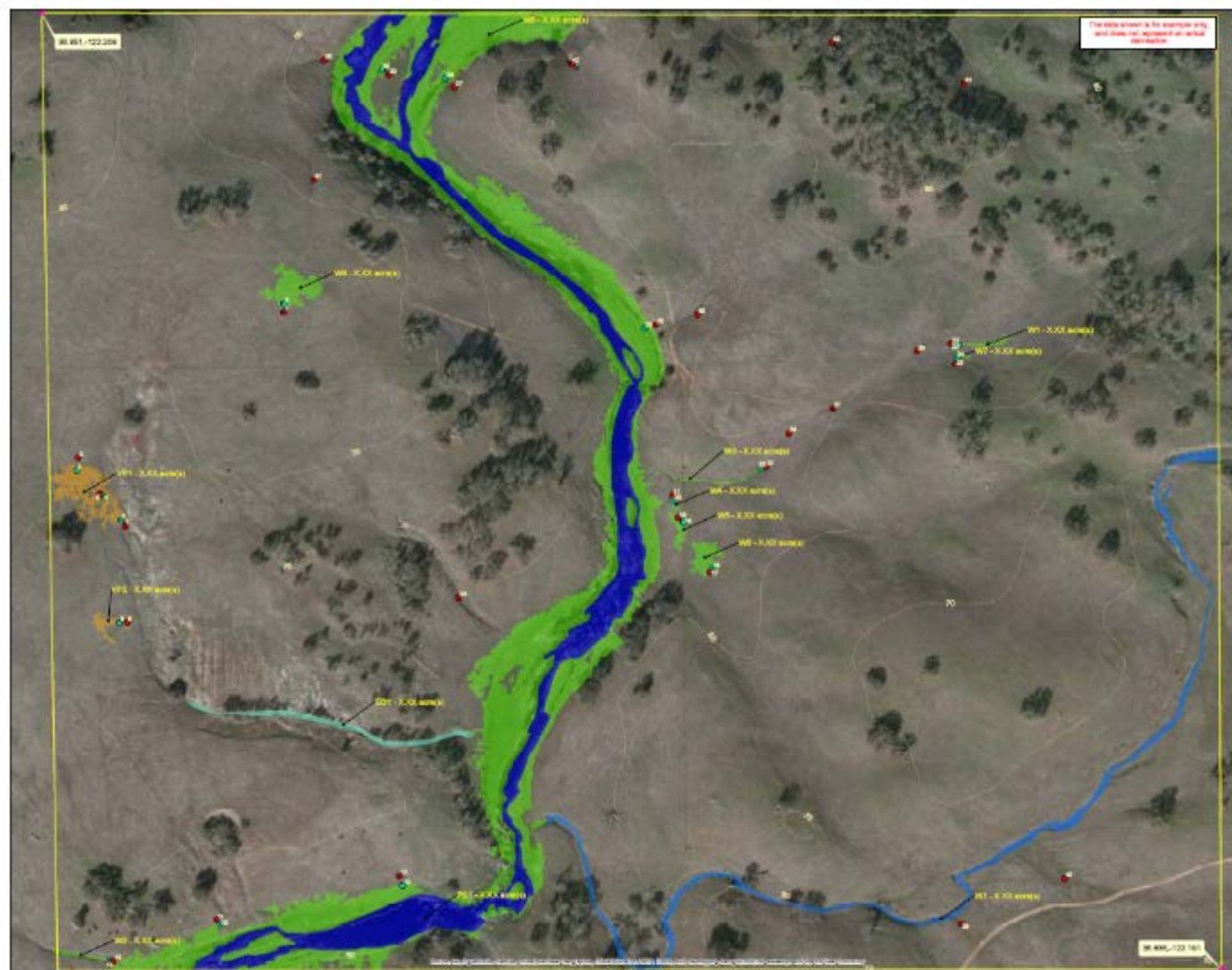
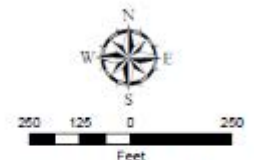


Figure X:
Delineation of Wetlands and
Other Waters of the U.S.
for the Hypothetical Project Site

Legend

- Map Reference Point
- Survey Area Boundary (X.XX Acres)
- Upland Sampling Point
- Wetland Sampling Point
- Topography (10-foot Contour Interval)
- Wetlands (X.XX acres)
- Vernal Pool (X.XX acres)
- Wetland (X.XX acres)
- Other Waters (X.XX acres)
- Ephemeral Drainage (X.XX acres)
- Intermittent Stream (X.XX acres)
- Perennial Stream (X.XX acres)



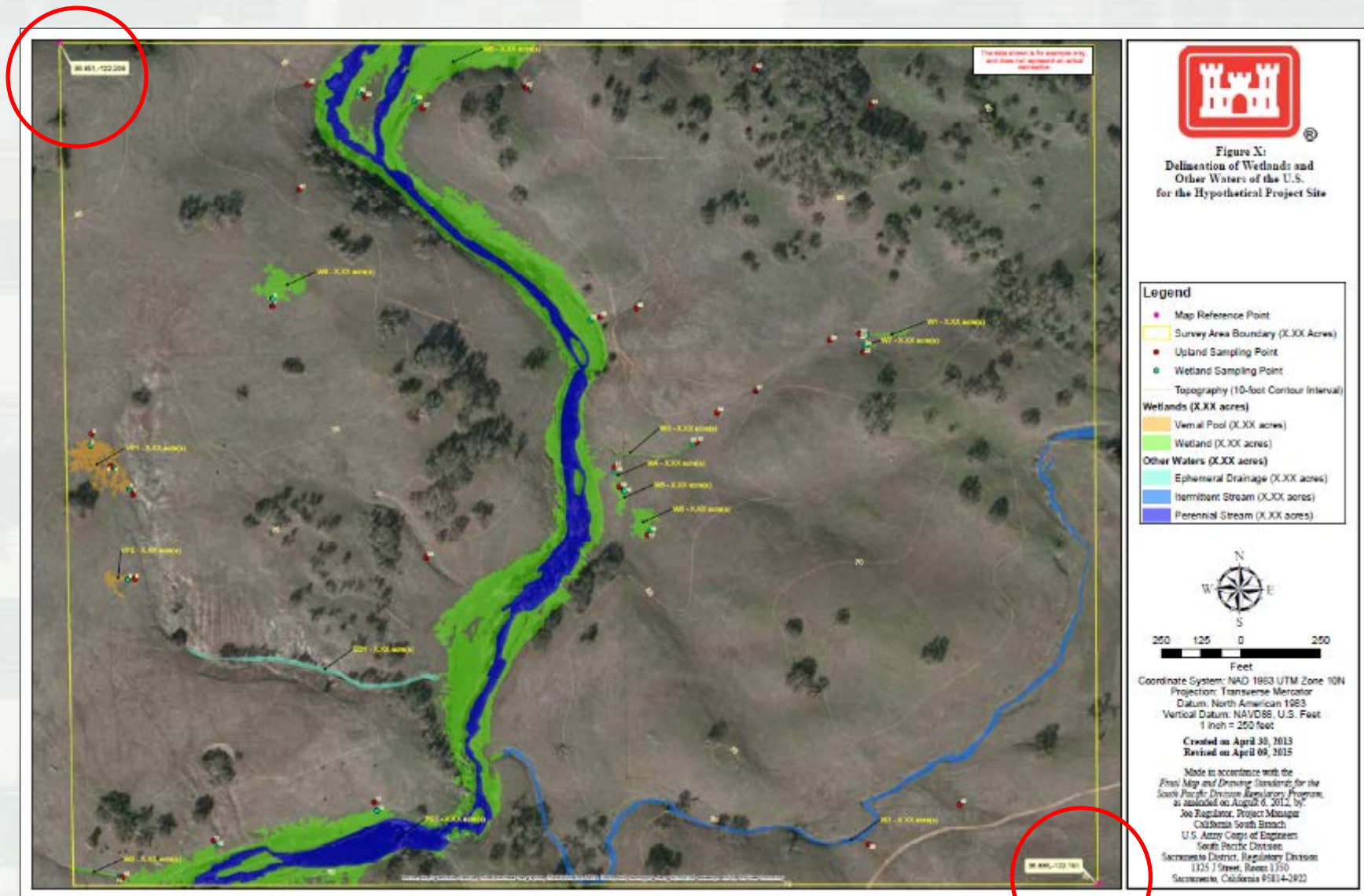
Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Vertical Datum: NAVD86, U.S. Feet
1 inch = 250 feet

Created on April 30, 2013
Revised on April 08, 2015

Made in accordance with the
Final Map and Drawing Standards for the
South Pacific Division Regulatory Program,
as amended on August 6, 2012, by:
Joe Regalado, Project Manager
California South Branch
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1150
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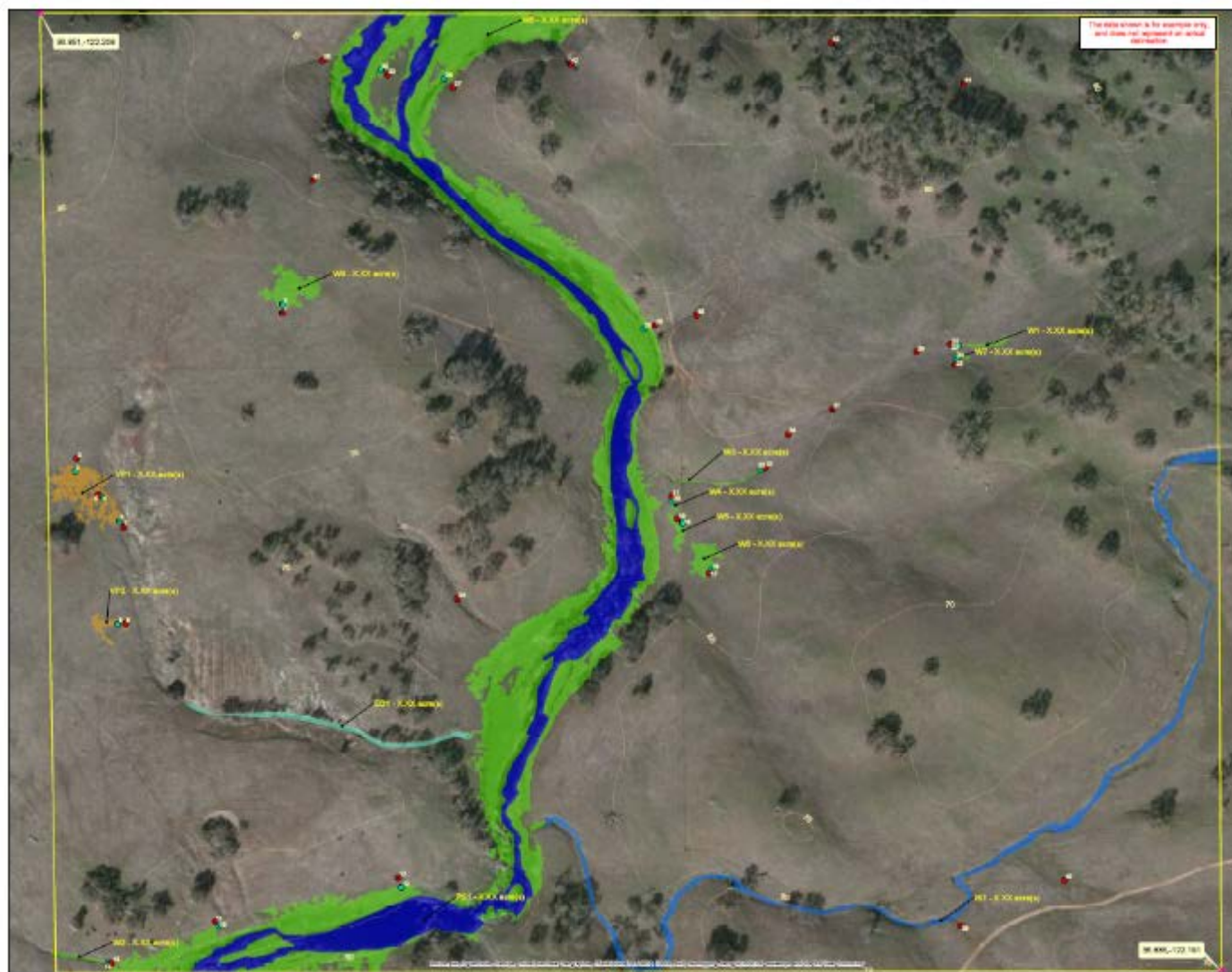


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250 125 0 250
Feet

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General Standards

- **Basemaps used in Plan View Maps**
 - ▶ Topography is required, and should be shown on at least one map
 - ▶ Aerial photography (if used)
 - Date stamped
 - Orthorectified
 - Source identified
 - Choose imagery with maximum visibility of aquatic resources (e.g. wet season)





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Specific Standards

■ Cross-Sectional Views

- ▶ Must have a bar scale and scale text, for both the horizontal and vertical dimensions
- ▶ Vertical datum must be indicated
- ▶ Cross-Sectional Views are required for:
 - Identifying the location of OHWM for stream on delineation maps
 - Proposed Projects / Construction Drawings
 - Mitigation Plans / Long Term Preservation Maps
 - As-Builts / Post-Construction Drawings



Specific Standards

- **Proposed Projects**

- ▶ All proposed impacts, structures, and limits of work within and adjacent to wetlands and potential waters of the U.S. must be shown
- ▶ Clearly annotate all impacts of work as either permanent or temporary



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Attachment 1. Proposed Wetland Impacts

Map Features

- Project BSA¹
- Culvert
- Bridge Location (Span)
- Temporary Impact Areas**
 - Proposed Work Area
 - Proposed Staging Area
 - Construction Creek Access
- Permanent Impact Areas**
 - Approach Roadway Work
 - Storm Drain
 - Bridge Footing
 - Bridge Wingwalls
 - Fill
 - Dredging Limits
 - Rock Slope Protection

- Wetlands**
 - Riparian Scrub Wetland
 - Other Waters**
 - Perennial Creek
 - Intermittent Drainage

	Permanent Impacts	Temporary Impacts
Riparian Scrub Wetland	0.182	0.011
Perennial Creek	0.042	0.002
Intermittent Drainage	0.057	0.000
Total	0.281	0.013

¹ Boundary Source: City of Sutter (Creek, with title based on additional project components)
Photo Source: Microsoft 2012 (2011 World Imagery layer accessed 2/24/2013)

USGS 7.5' Topographic Quadrangle: Amador City
1:24,000



2012-106



Map Date: 3/24/2013
Coordinate System: NAD 1983 StatePlane California II FIPS 4602 Feet



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2012-106

Scale in Feet
0 70



Map Date: 3/24/2013
Coordinate System: NAD 1983 StatePlane California II FIPS 4602 Feet



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USGS 7.5' Topographic Quadrangle, Anderson City
1:24,000



2012-106



Map Date: 3/24/2013
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1:24,000



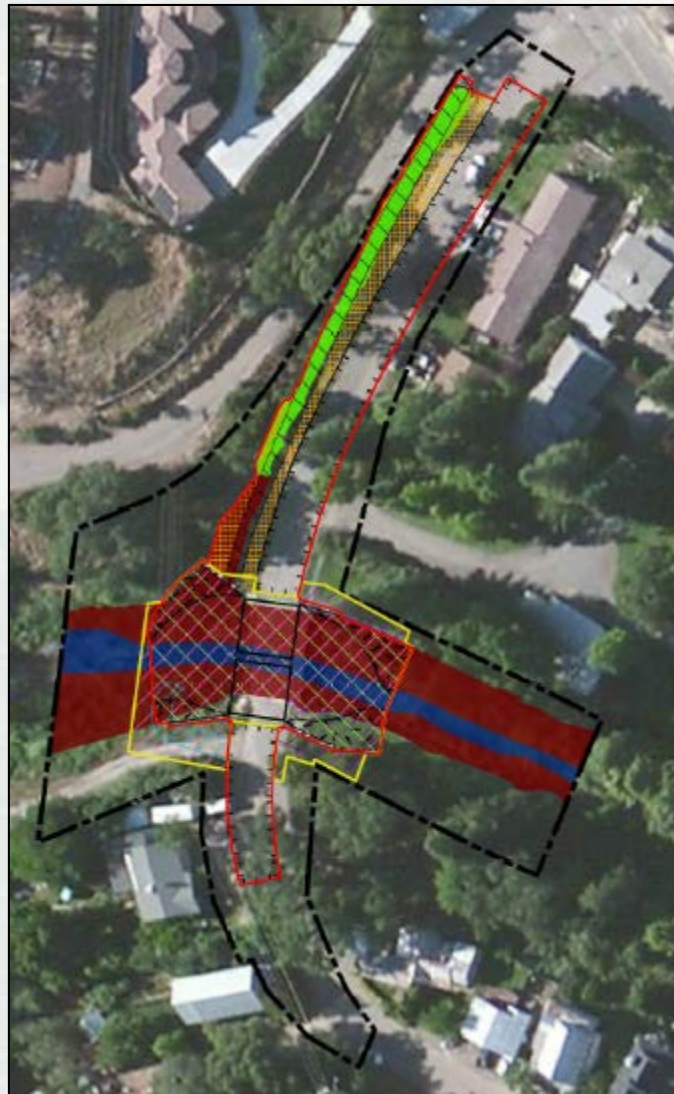
2012-106



Map Date: 3/24/2013
Coordinate System: NAD 1983 StatePlane California II FIPS 4602 Feet



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Map Features



Project BSA ¹



Culvert



Bridge Location (Span)

Temporary Impact Areas



Proposed Work Area



Proposed Staging Area



Construction Creek Access

Permanent Impact Areas



Approach Roadway Work



Storm Drain



Bridge Footing



Bridge Wingwalls



Fill



Dredging Limits



Rock Slope Protection

Wetlands

Riparian Scrub Wetland

Other Waters

Perennial Creek

Intermittent Drainage

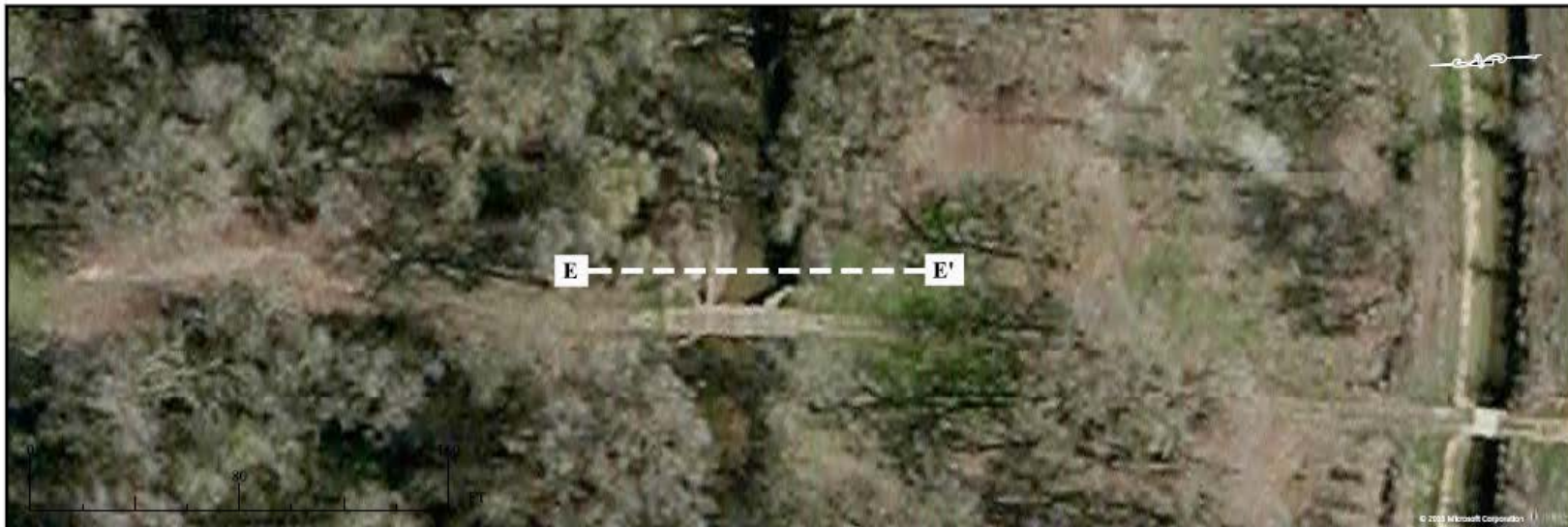
	Permanent Impacts	Temporary Impacts
Riparian Scrub Wetland	0.182	0.011
Perennial Creek	0.042	0.002
Intermittent Drainage	0.057	0.000
Total	0.281	0.013

¹ Boundary Source: City of Sutter Creek, with edits based on additional project components
Photo Source: Microsoft 2011 (ESRI World Imagery layer accessed 3/24/2015)

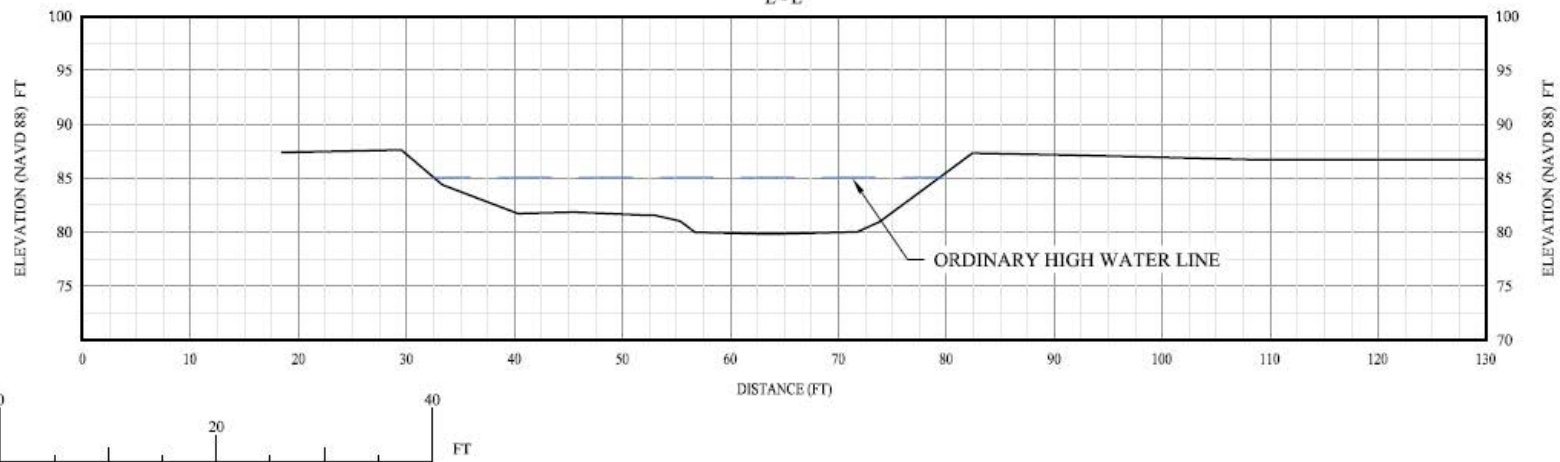
USGS 7.5' Topographic Quadrangle: Amador City
1:24,000



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CROSS SECTION
E - E'



NO.	DATE	REVISION

E - E' PLAN AND PROFILE

SCALE:	AS NOTED
JOB NO:	2760-5
BY:	JR
CHECK:	-
DATE:	02/19/2015
SHEET	8
SHEETS	10

R:\Flood Control\2760.00 FWA\2015-01 Fish Screen Topo\ACAD\2015-01 Fish Screen Topo (NAVD88).dwg 2/20/2015 11:05 AM



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Specific Standards

- **Post-Construction Drawings (As-Built)**

- ▶ Should be the same size and spatial alignment as the authorized grading plans
- ▶ Any deviations from fills and structures authorized as part of an approved pre-construction map must be indicated.



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Specific Standards

■ Delineation Maps

- ▶ Survey area boundary should be clearly symbolized, and should include all potential waters of the U.S.
- ▶ Location and extent of all areas meeting the three wetland criteria, and/or having an Ordinary High Water Mark, must be shown on the map, even if area is a potential “Preamble Water” (e.g., upland ditch)
- ▶ Each type of boundary (e.g., OHWM, wetland, high tide line) must be clearly symbolized and differentiated
- ▶ Each line or polygon representing a potential water of the U.S. must be labeled with a unique name



Specific Standards

■ Delineation Maps

- ▶ Show locations of all data points, labeled according to their corresponding data sheets
- ▶ A wetland boundary should be based on at least one set of paired data points; one data point within the proposed wetland boundary, and one immediately outside of it.
- ▶ Identify the Ordinary High Water Mark (OHWM)
 - Show representative widths between the OHWMs on opposing banks using a transect line labeled with the width in feet
 - An average width may be acceptable for uniform channel reaches



Specific Standards

■ Mitigation Plans and Long-Term Preservation Maps

- ▶ Mitigation boundaries must be clearly differentiated based on mitigation type
 - Establishment
 - Re-establishment
 - Rehabilitation
 - Enhancement
 - Preservation
- ▶ Current Map and Drawing Standards ask that boundaries be differentiated using different kinds of dotted and dashed lines.

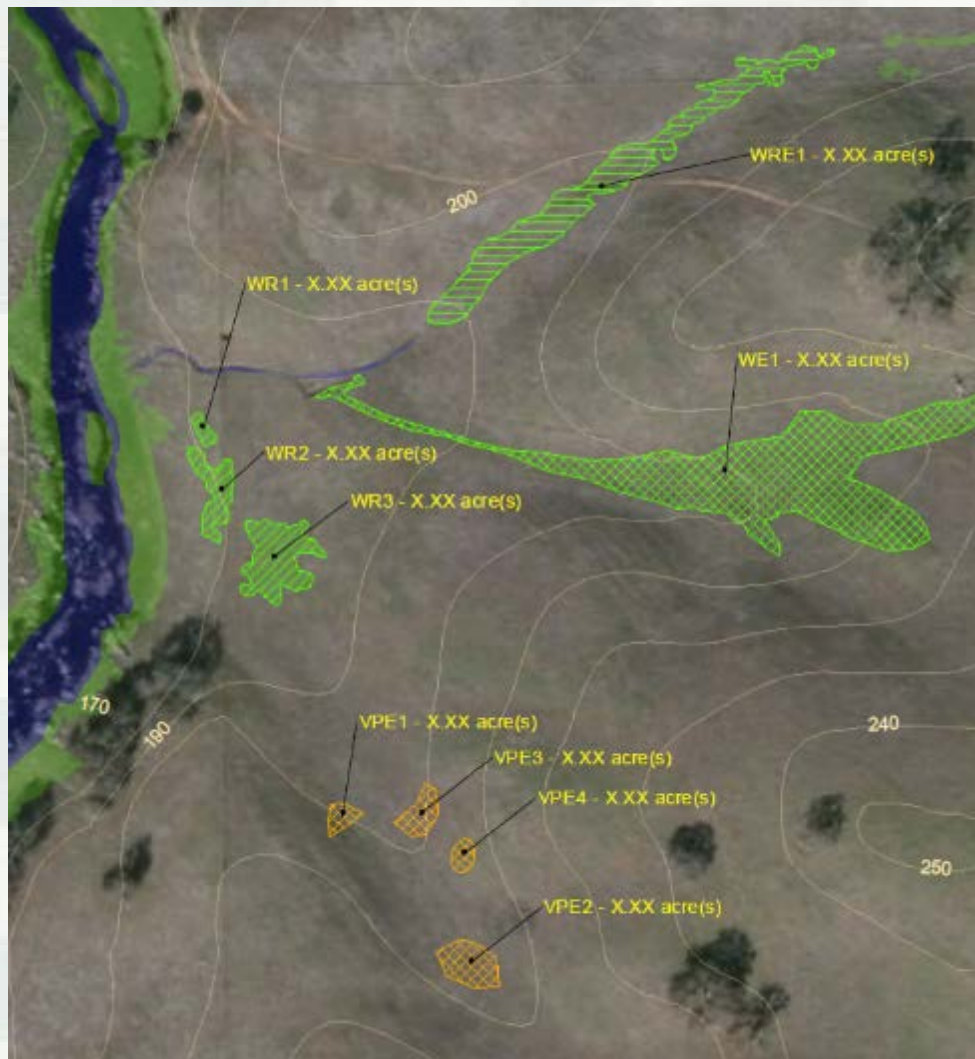


Specific Standards




■ Mitigation Plans and Long-Term Preservation Maps

- ▶ Updated Standards will require mitigation areas to be differentiated by using different hatched fill symbols, rather than by different border line types
- ▶ All mitigation sites and Long-Term Preservation boundaries must be clearly labeled with a unique name
- ▶ Locations of mitigation sites must be shown relative to other landscape features and habitat types (e.g., riparian corridor, wetland complex, etc.)








Legend

-  Project/Preserve Boundary (X.XX Acres)
-  Topography (10-foot Contour Interval)
-  Map Reference Point






Pre-project Delineation

Waters Type

-  Open Water (X.XX acres)
-  Vernal Pool (X.XX acres)
-  Wetland (X.XX acres)

Proposed Mitigation

Mitigation Type

-  Open Water Enhancement (X.XX Acres)
-  Vernal Pool Establishment (X.XX acres)
-  Wetland Establishment (X.XX acres)
-  Wetland Re-establishment (X.XX acres)
-  Wetland Rehabilitation (X.XX acres)



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Specific Standards

■ Mitigation Monitoring Report Maps

- ▶ Ground photographs included in reports must be accompanied by a map of photo points
- ▶ Each photo point must be annotated with a number and an arrow indicating the compass direction in which it was taken
- ▶ The photo itself should have a legend indicating photo number, the compass direction in which it was taken, the photo's geographic coordinates, and a brief explanation of the photo's relevance



Specific Standards

- **Mitigation Monitoring Report Maps**

- ▶ Each discrete mitigation site must be shown on the map
- ▶ Each site should be annotated or symbolized to indicate the mitigation type and the target habitat type
- ▶ Any sampling presented in the monitoring report should be shown on the map



Questions?



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