

Map and Drawing Standards for the South Pacific Division Regulatory Program

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Sacramento District Regulatory Program
Workshop

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SACRAMENTO DISTRICT



US Army Corps of Engineers

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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.



Quick Reference

Application Form (ENG 4345)

NWP Information

Delineation Minimum Standards

Request for Aquatic Resources
Delineation Verification or
Jurisdictional Determination

Aquatic Resources ORM Upload
Sheet

Map and Drawing Standards

Consolidated ORM Upload Sheet

Regulatory Guidance Letters

Federal Regulations

Video Library

Cultural Resources Guidelines

Endangered Species Guidance

Contact Your Local Office

Sacramento District HQ Office
1325 J Street, Room 1350
Sacramento, California 95814
Phone: (916) 557-5250
Fax: (916) 557-7803

Email: cespk-regulatory-info@usace.army.mil

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:

Professional - We will conduct ourselves in a professional manner in dealings with all our customers, including applicants, violators, agencies, interest groups and the general public.

Fair and Reasonable - We will be open-minded, impartial, and consistent in our interactions with all our customers to ensure all actions and decisions are free from bias and are not arbitrary or capricious. Customers will be treated equally and with tolerance.

Knowledgeable - We will remain knowledgeable of applicable laws, regulations, and scientific and technical advances which affect our program.

Honesty - We will be truthful, straightforward, and candid in all dealings with our customers.

Timeliness - We will strive to provide our customers with timely regulatory responses regardless of whether those responses are favorable or adverse.

Accountability - We will be decisive in all actions and accept responsibility for any of our decisions and resulting consequences. All decisions will be factual and properly documented.

Respect - We will treat our customers with dignity, courtesy, compassion, and sensitivity.



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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



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

- ▶ 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 the names of 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')



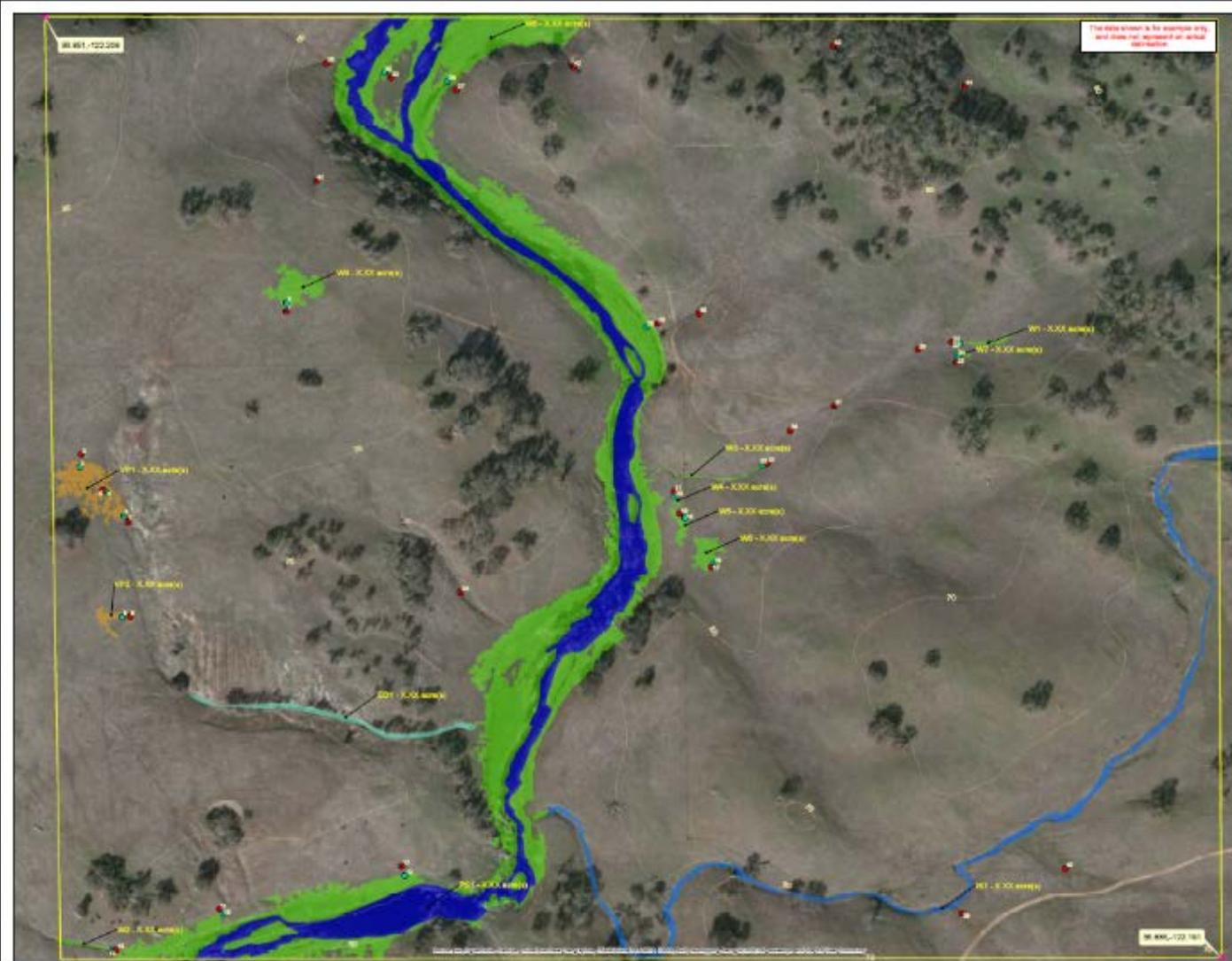
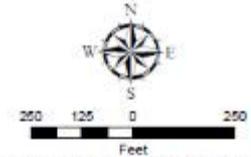


Figure X:
Delineation of Wetlands and
Other Waters of the U.S.
for the Hypothetical Project Site

- 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)



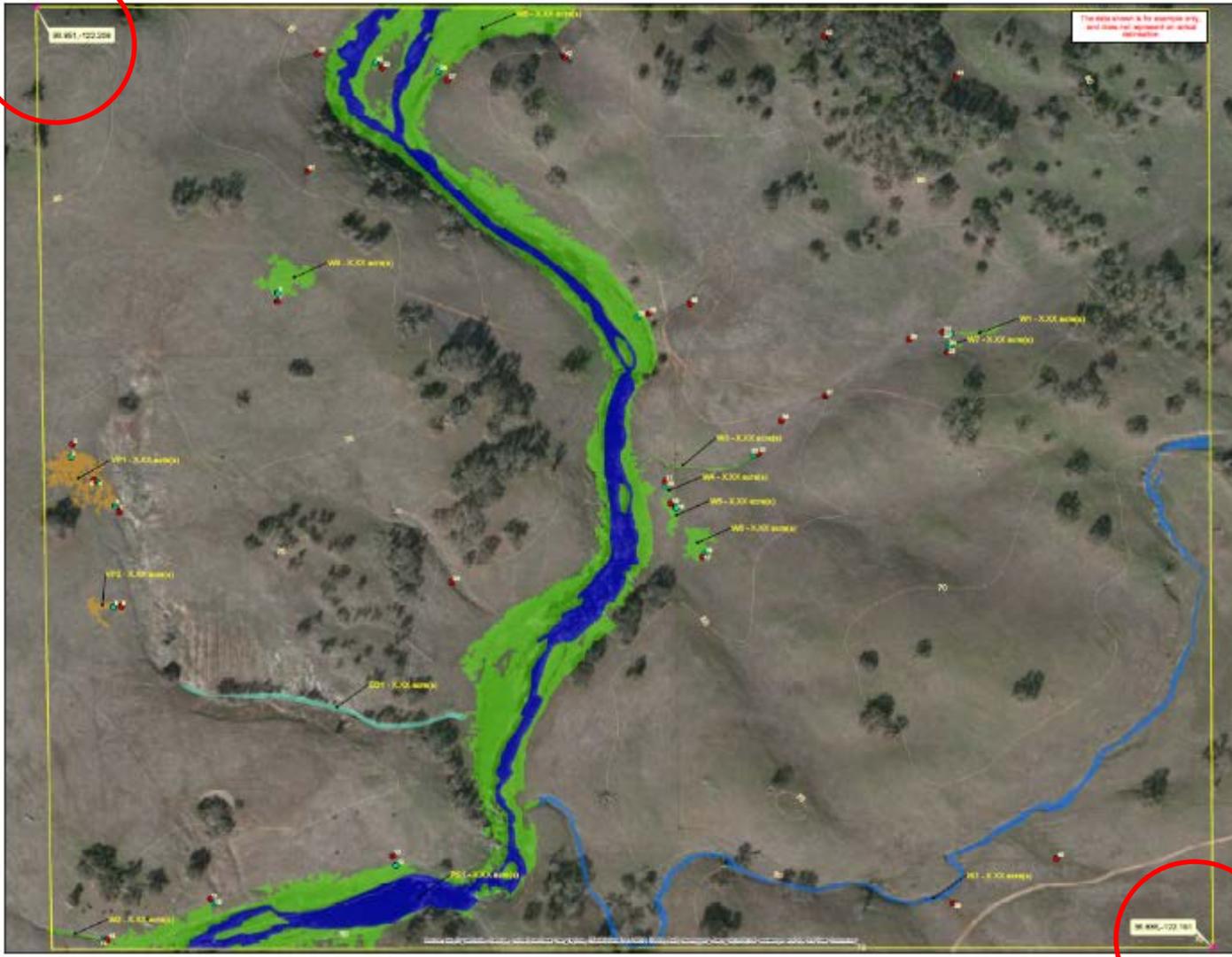
Coordinate System: NAD 1983 UTM Zone 10N
 Projection: Transverse Mercator
 Datum: North American 1983
 Vertical Datum: NAVD88, U.S. Feet
 1 inch = 250 feet

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 Regalador, Project Manager
 California South Branch
 U.S. Army Corps of Engineers
 South Pacific Division
 Sacramento District, Regulatory Division
 1325 J Street, Room 1150
 Sacramento, California 95814-1912



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The data shown is for illustrative only, and does not represent an actual distribution.



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

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 Sacramento, California 95814-3922



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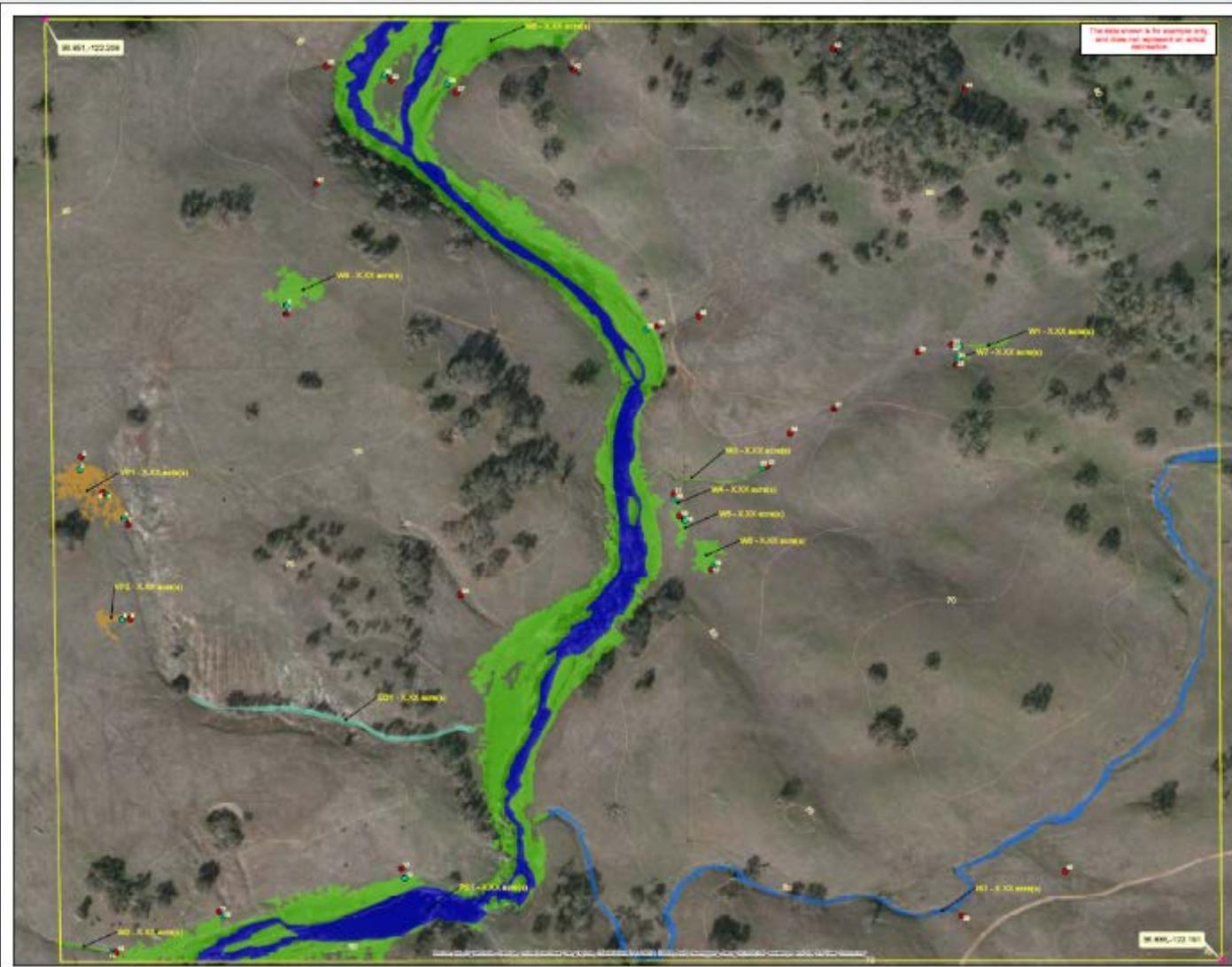


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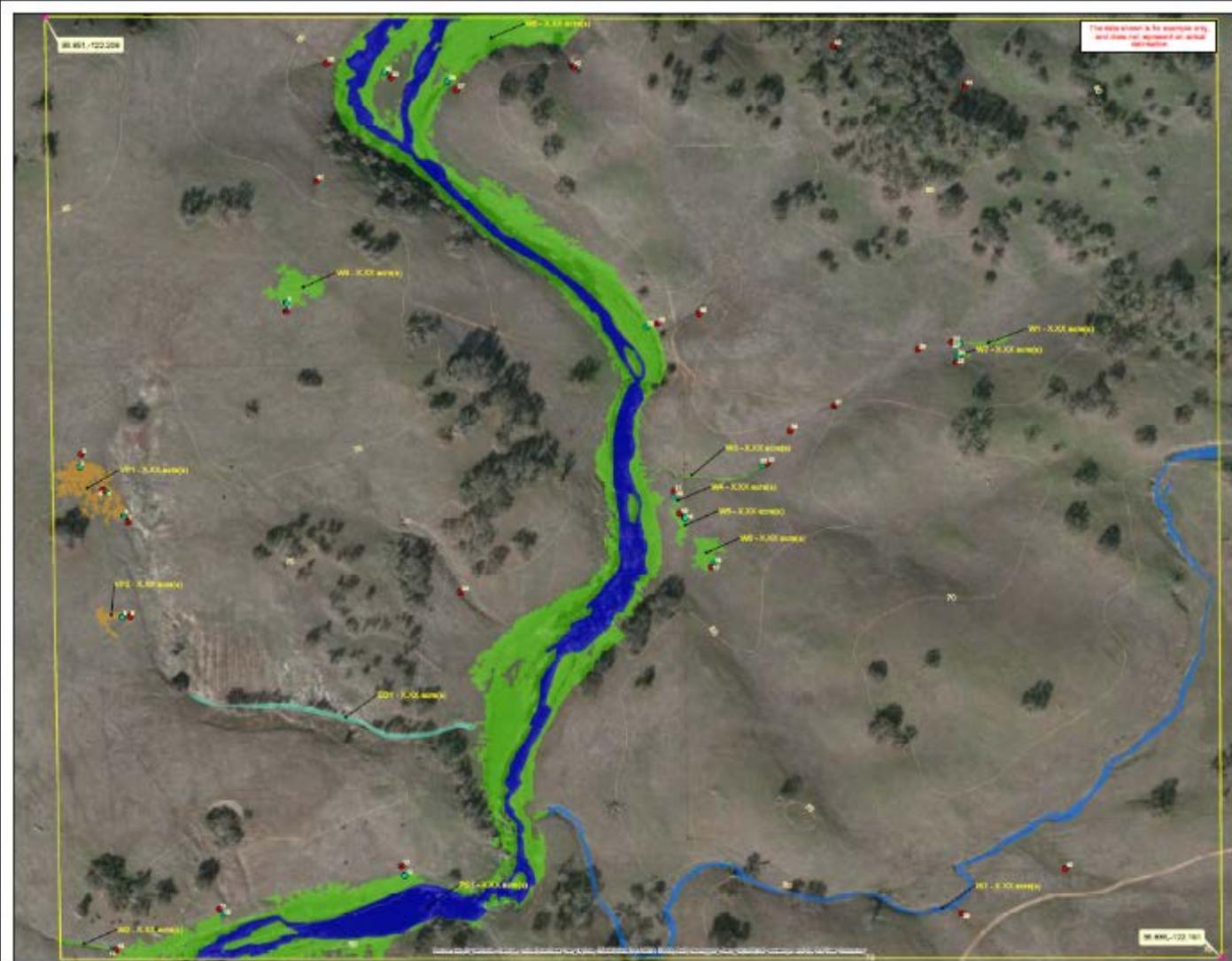


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General Standards

- **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 Yuba 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 4802 Feet



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Photo Source: Microsoft 2012 (2010 World Imagery) layer accessed 2/24/2013

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



2012-1061



Map Date: 3/24/2013
Coordinate System: NAD 1983 StatePlane California II FIPS 4802 Feet



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Total	0.281	0.013

¹ Boundary Source: City of Lufkin Creek, with site based on additional project components.
 Photo Source: Microsoft 2012 (2010 World Imagery) last accessed 2/24/2013.
 USGS 7.5 Minute Topographic Quadrangle: Anderson, TX



2012-1061



Map Date: 3/24/2013
 Coordinate System: NAD 1983 StatePlane California II FIPS 4802 Feet



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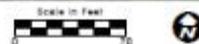
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Riparian Scrub Wetland	0.182	0.011
Perennial Creek	0.042	0.002
Intermittent Drainage	0.057	0.000
Total	0.281	0.013

¹ Boundary Source: City of Yuba Creek, with title based on additional project components.
Photo Source: Microsoft 2012 (2010 World Imagery) layer accessed 2/24/2013

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



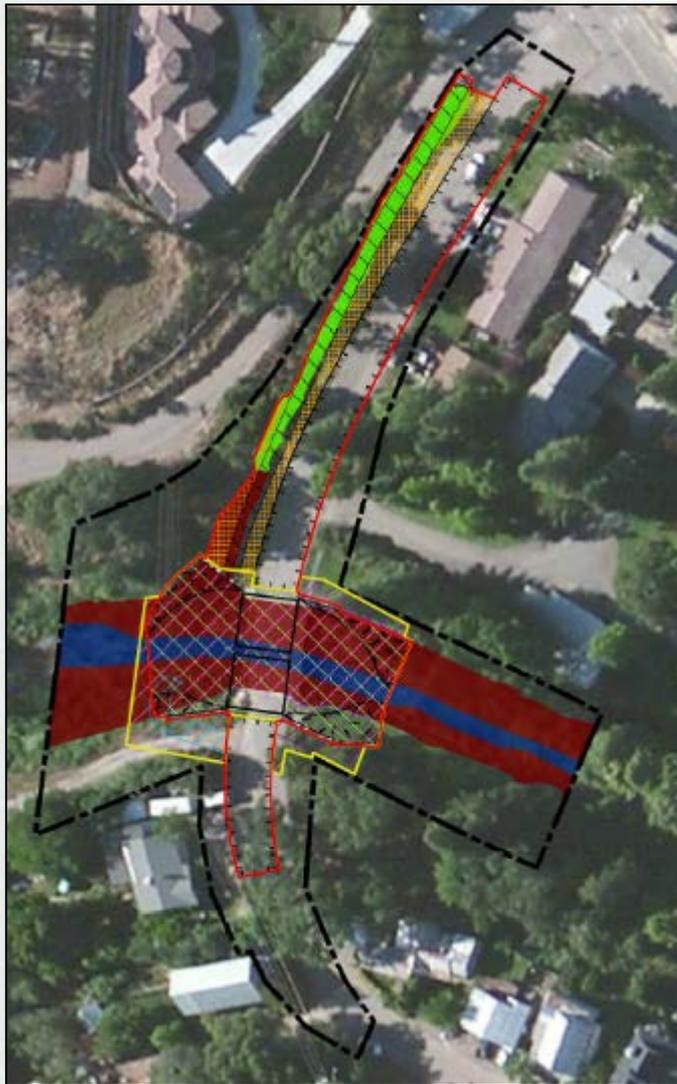
2012-1061



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
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Wetlands

Riparian Scrub Wetland

Other Waters

Perennial Creek

Intermittent Drainage

	Permanent Impacts	Temporary Impacts
--	-------------------	-------------------

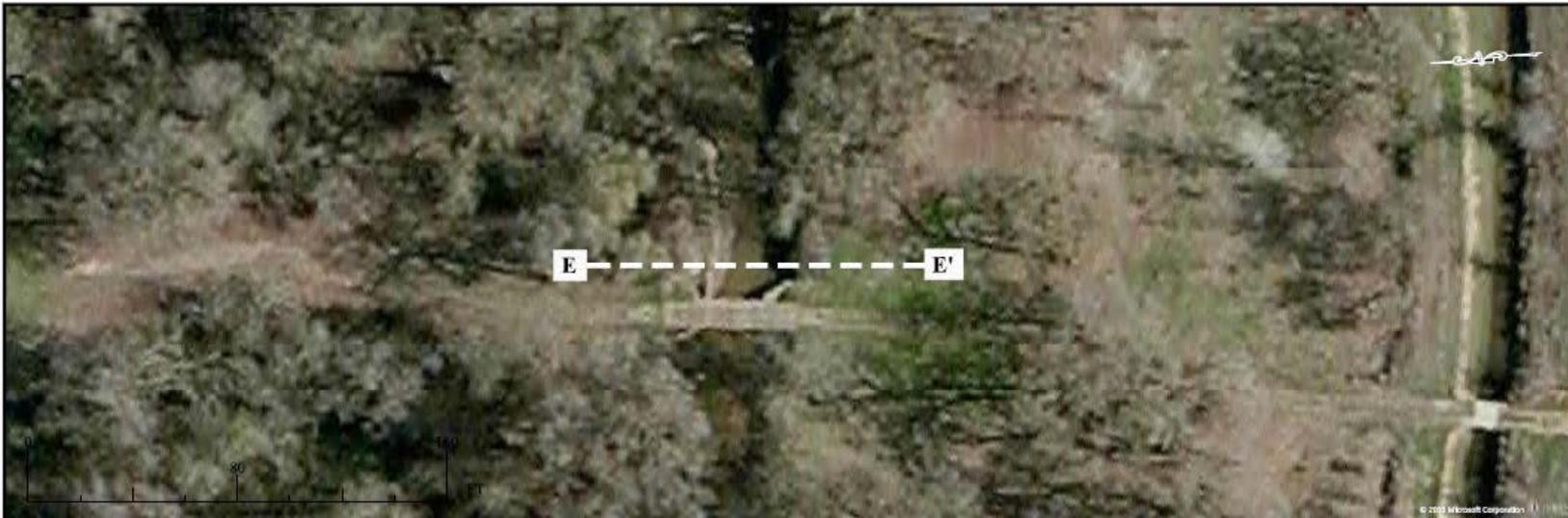
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Perennial Creek	0.042	0.002
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¹ Boundary Source: City of Sutter Creek, with edits based on additional project components
 Photo Source: Microsoft 2011 (ESRI World Imagery layer accessed 3/24/2015)

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

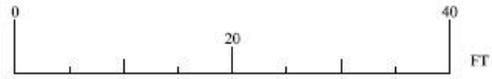
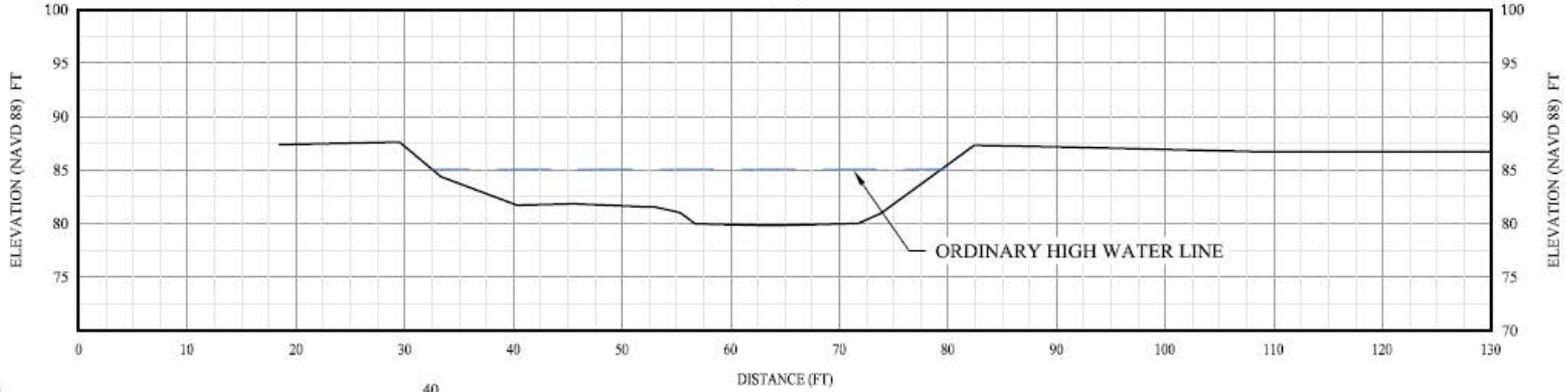


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NO.	DATE	REVISION

CROSS SECTION
E - E'



E - E' PLAN AND PROFILE

SCALE: AS NOTED
JOB NO: 2760-5
BY: JB
CHECK: -
DATE: 02/15/2015
SHEET 8 OF 10 SHEETS

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-Builts)**

- ▶ Should be the same size and spatial alignment as the authorized 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, type of 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 and include the acreage or linear feet



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



Specific Standards

- **Mitigation Plans and Long-Term Preservation Maps**
 - ▶ Standards 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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