SECTION 00 73 14APA

APPENDIX A: PROJECT PERMITS & DOCUMENTS

GEOTECHNICAL INVESTIGATION BY GEO SOLUTIONS OCTOBER 19, 2016. PROJECT NO. SL09385-1.

WATER CONTROL PLAN (ESA, 2017)

SLO COUNTY MINOR USE PERMIT/COASTAL DEVELOPMENT PERMIT DRC2018-00138

GeoSolutions, INC.

1021 West Tama Lane, Suite 105, Santa Maria, CA 93454
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SBinfo@geosolutions.net

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info@geosolutions.net

October 19, 2016
Project No. SL09385-1

ESA Environmental Hydrology
Attn: Andy Collison
550 Kearny Street, Suite 800
San Francisco, California 94108

SUBJECT: **Test Pits, Soil Analysis, and Summary Report**
Chorro Creek Ecological Reserve
San Luis Obispo County, California

Dear Mr. Collison,

1.0 INTRODUCTION

In accordance with your request, GeoSolutions, Inc. is pleased to submit this Summary Report for the field investigation conducted at the Chorro Creek Ecological Reserve on September 28, 2016. The purpose of the field investigation was to determine sediment and possible bedrock conditions along a dry stream channel. This summary is not an engineering geologic evaluation or soils engineering evaluation.

2.0 SITE DESCRIPTION

The site is located west of State Highway 1 and southeast from the junction of Canet Road and Highway 1 in the County of San Luis Obispo, California. The area investigated was along a section of creek approximately 800 feet long that is within a dry creek channel. Figure X depicts the location of test Pits 1, 2, 3, 4, 5, and 6.

The site is located in the vicinity of the San Luis Range of the Coast Range Geomorphic Province of California. The Coast Ranges lie between the Pacific Ocean and the Sacramento-San Joaquin Valley and trend northwesterly along the California Coast for approximately 600 miles between Santa Maria and the Oregon border. Rolling to steep terrain characterizes the Santa Lucia Mountain Range and Irish Hills in the vicinity of the Site.

Geologic conditions in the vicinity of the site consist of Franciscan Complex units overlain by alluvial deposits (Qal). Hall et al. (1979) describe the Franciscan Complex (KJfmv) as metavolcanic rocks (greenstone), primarily metamorphosed basalt and diabase. Commonly associated with red chert. Locally dark red and extensively sheared. Considered to be tectonic blocks on or within or below Franciscan mélange and probably equivalent to upper part of Jurassic ophiolite. The thickness is unknown but is likely several thousand feet. The Franciscan Complex is assumed to underlie the alluvial deposits although no Franciscan Complex units were encountered during the subsurface investigation.

Alluvial deposits generally encountered in the subsurface investigation consisted of black to brown clay that

was stiff with lenses of pebbles and sand. Pebbles were generally rounded and composed of Franciscan Complex material with some Monterey Formation shale. The subsurface soils were generally cohesive and clayey. It appears that there are stiff, cohesive clay layers within the areas investigated and that this type of material may be generally ubiquitous throughout the area. Trench walls generally remained vertical attesting to the stiff consistency of alluvial sediments.

Water was encountered at a depth of 3.5 feet in trench 2, five feet in Trench 5 and no water was encountered in Trench 1, Trench 3, Trench 4, and Trench 6.

3.0 METHODS OF INVESTIGATION

The following methods were utilized for the investigation.

a. Trenches 1, 2, 5 and 6 were located within the thalweg of the secondary floodplain channel which was dry. Trenches 3 and 4 were located on the floodplain between the primary mainstream channel and secondary floodplain channel.

b. Trenches were excavated utilizing a four-wheel drive backhoe with an 18-inch wide bucket.

c. Trenches were approximately 4-6 feet long and depth varied and was dictated by Dr. Andy Collison during the investigation. Trench logs are contained at the end of this report.

d. Ring samples for direct shear testing were collected at locations directed by Dr. Collison. Locations of direct shear sampling is depicted on trench logs. Direct shear testing was conducted on three soil samples and laboratory results are contained at the end of the report.

e. Pocket pen testing (pounds per square foot) was conducted at various locations within trenches and is depicted on trench logs. This data gives an approximate quantitative value for shear strength of in-situ soil.

f. One sieve sample was collected from Trench 3 at a depth of 8 feet as directed by Dr. Collison. Lab result is at the end of the report. The result showed a very dark gray silty clay (CL).

g. Pits were backfilled with native excavated material.

Should you have questions regarding content of this report, please contact the undersigned at (805) 543-8539.

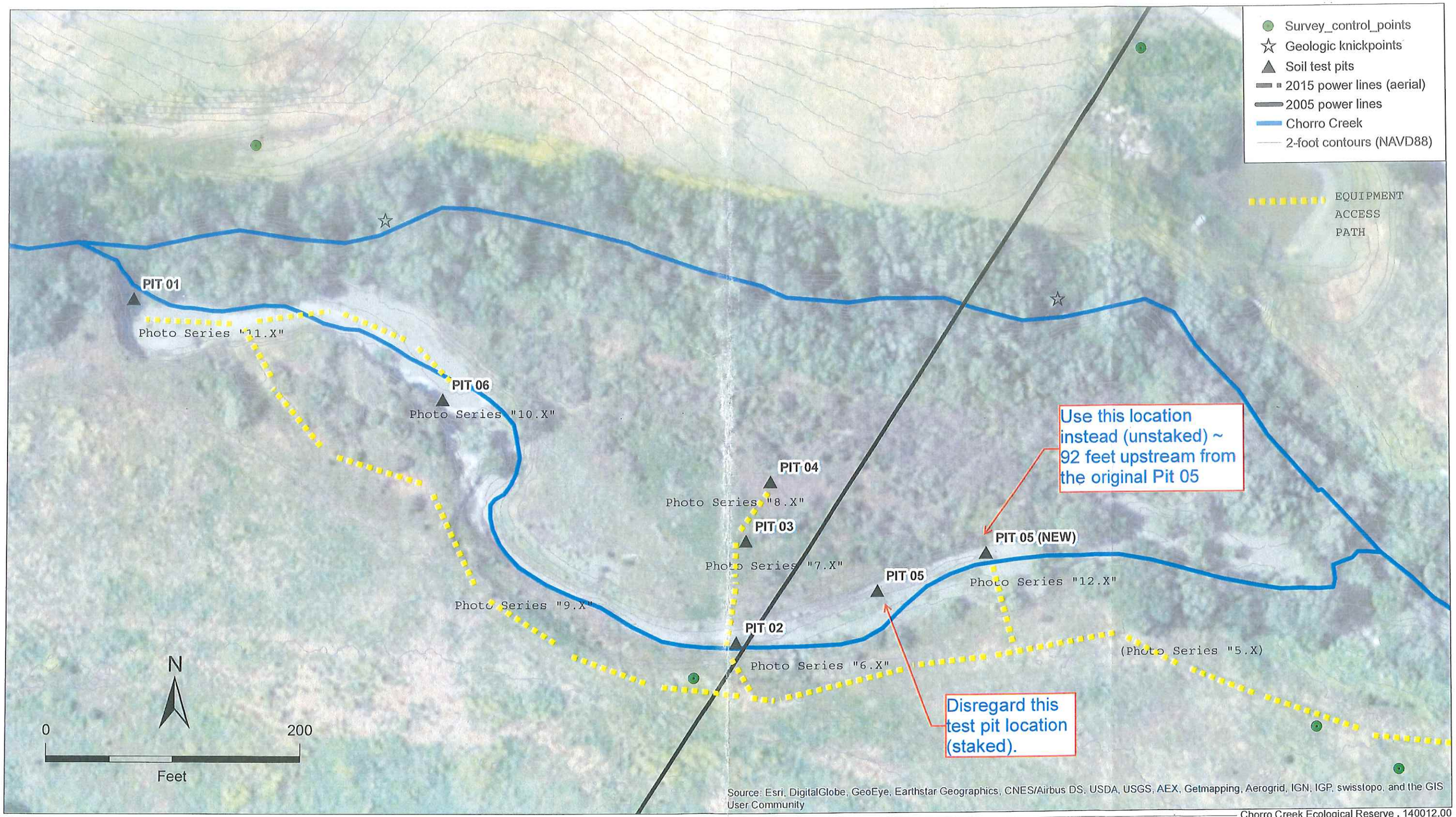
Sincerely,
GeoSolutions, Inc.

John Kammer, C.E.G. #2118
Principal Engineering Geologist

PROFESSIONAL GEOLOGIST
JOHN KAMMER
NO. 2118
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

REFERENCE

Hall, C.A., Ernst, W.G., Prior, S.W., and Wiese, J.W., 1979, *Geologic map of San Luis Obispo-San Simeon Region*, California: U.S. Geological Survey, Miscellaneous Investigation Series, Map I-1097, Sheet 3 of 3, Scale 1:48,000.



SOURCE: ESRI 2015, PG&E 2013 and 2011, PWA 2005

NOTES: NAD83, California State Plane V Feet, NAVD88

Chorro Creek Ecological Reserve . 140012.00

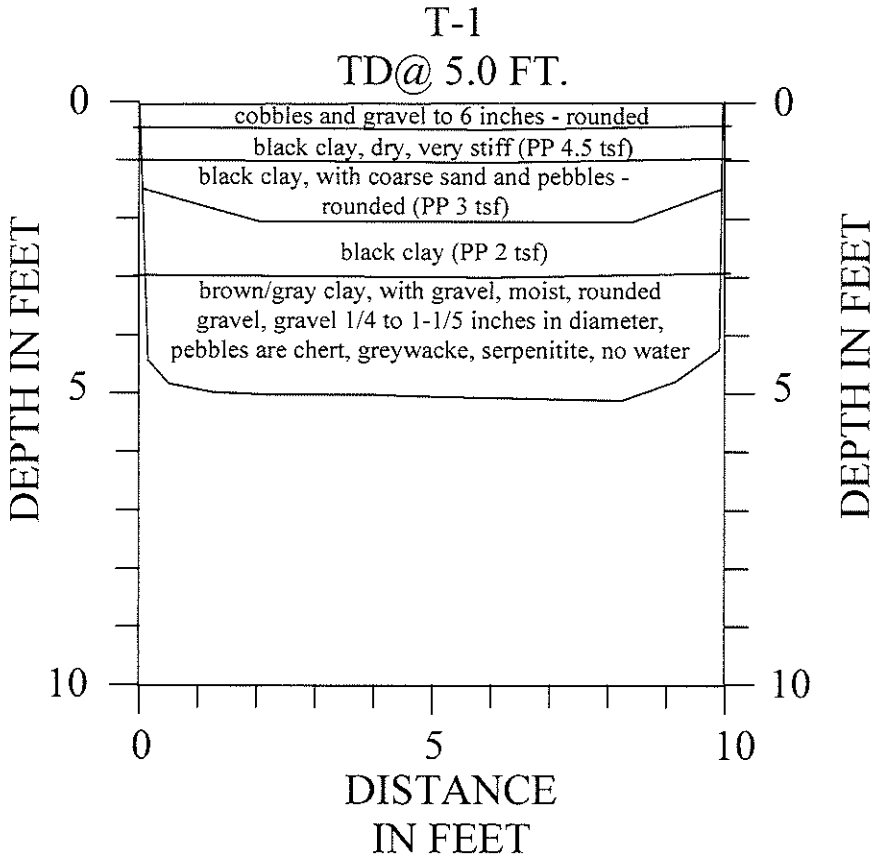
Figure X

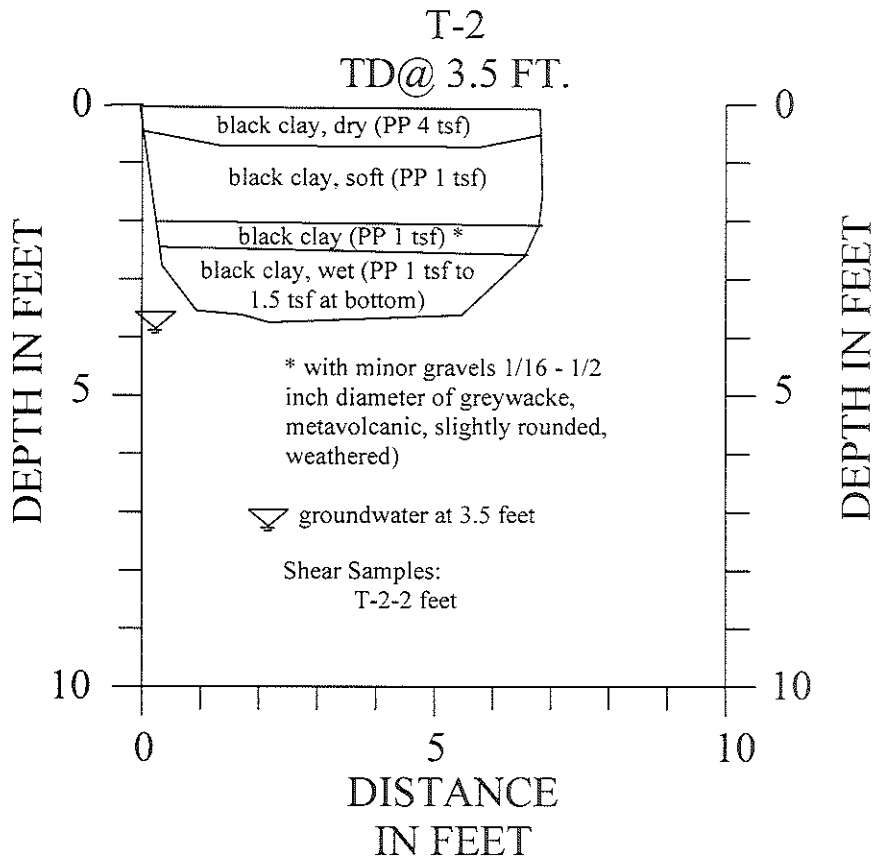
Floodplain Soil Test Pits and Site Access Route

APPENDIX A

Trench Logs

Laboratory Soil Analysis Results





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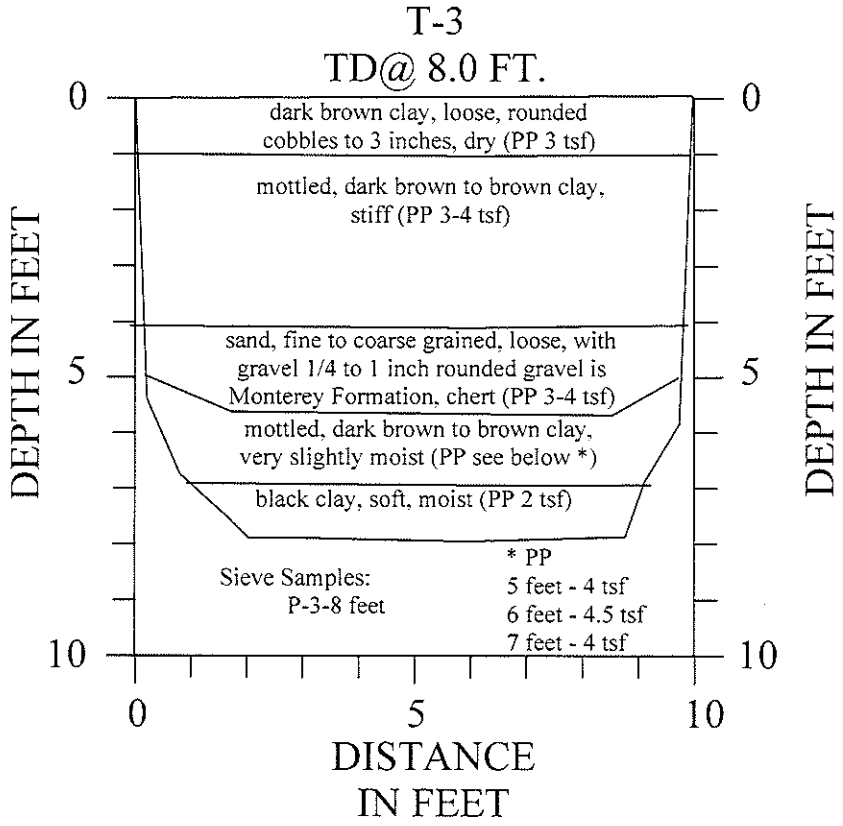
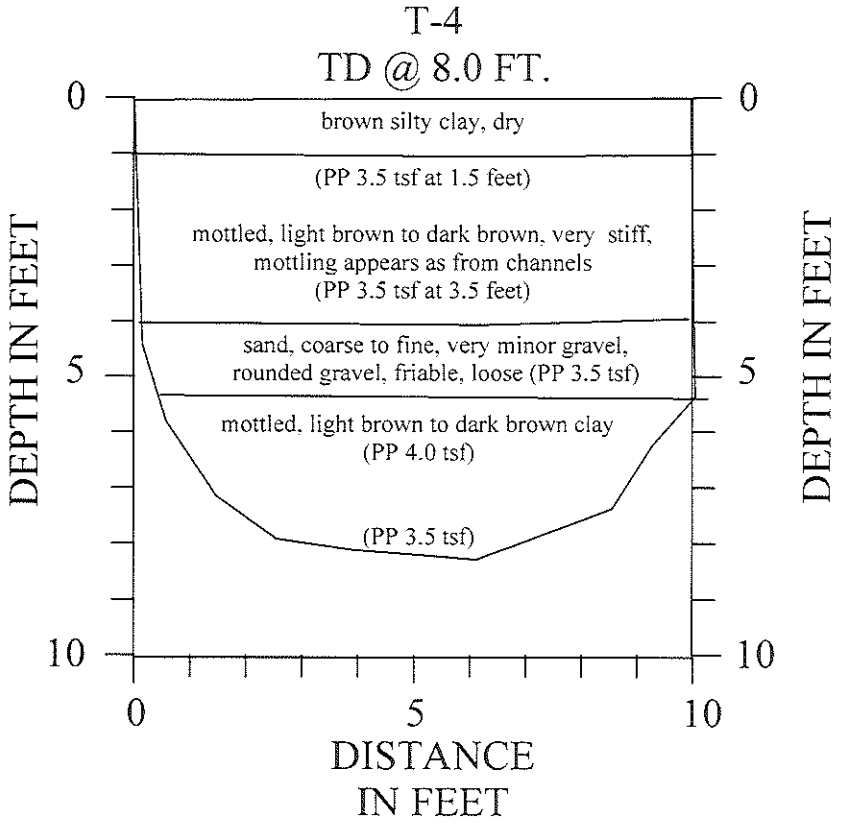
TRENCHING LOGS

MORRO BAY CREEK PROJECT, MORRO BAY AREA
SAN LUIS OBISPO COUNTY, CALIFORNIA

LOGS
1

PROJECT
SL09385-1





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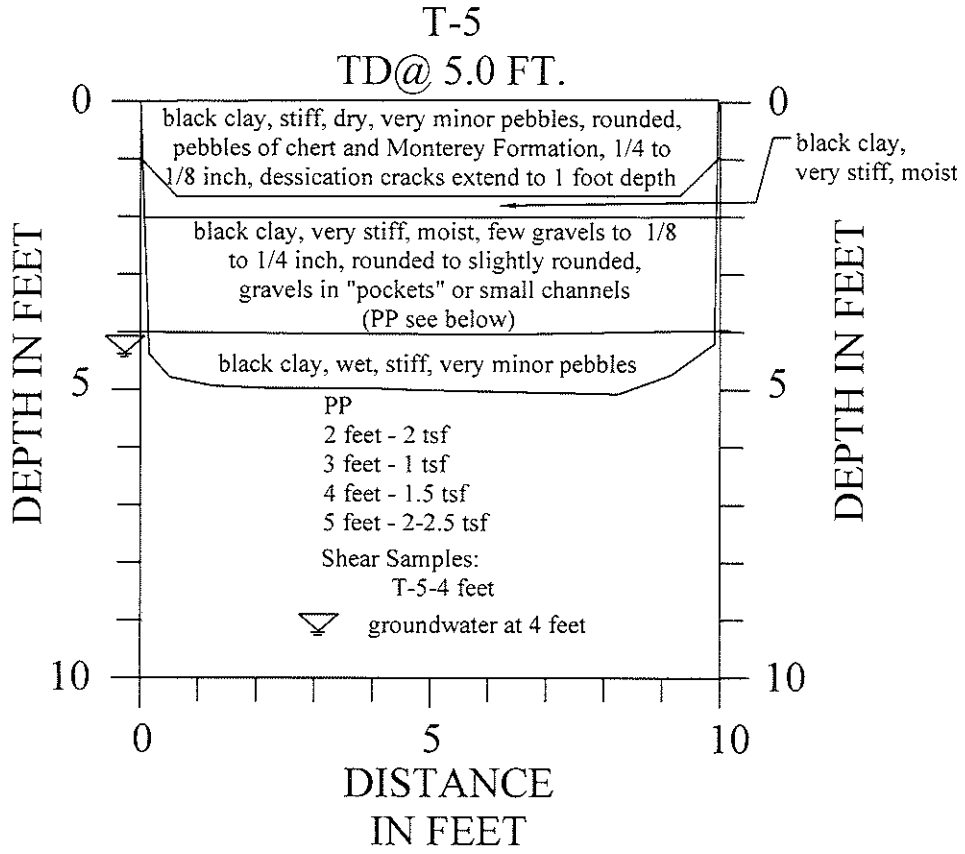
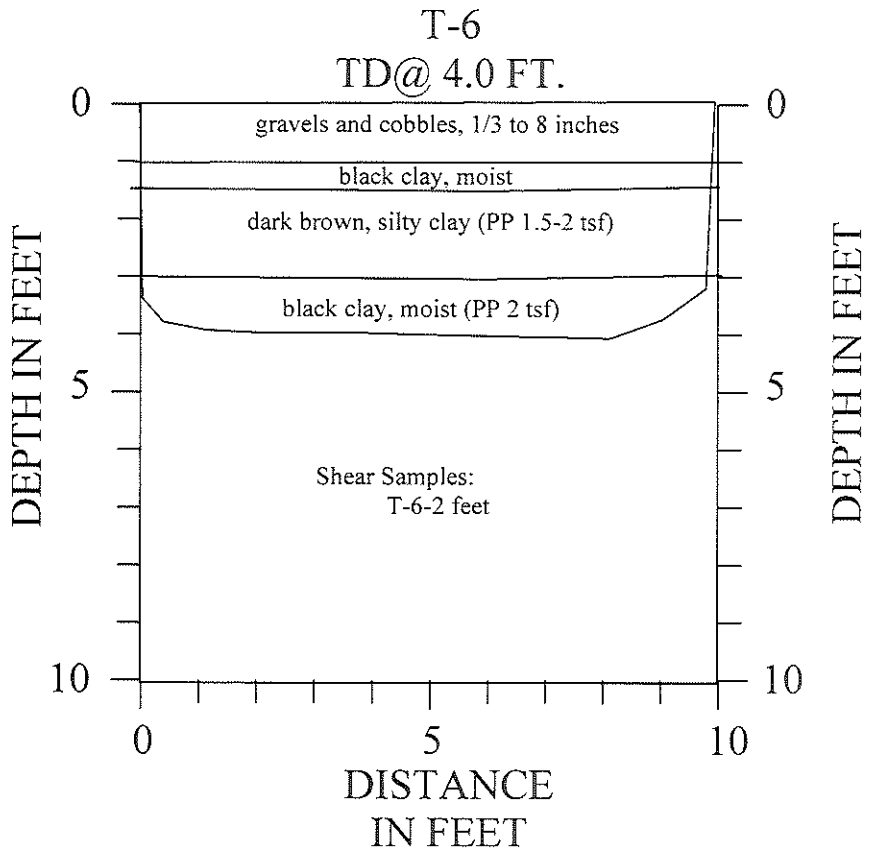
TRENCHING LOGS

MORRO BAY CREEK PROJECT, MORRO BAY AREA
SAN LUIS OBISPO COUNTY, CALIFORNIA





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TRENCHING LOGS

MORRO BAY CREEK PROJECT, MORRO BAY AREA
SAN LUIS OBISPO COUNTY, CALIFORNIA

GeoSolutions, Inc.	SIEVE ANALYSIS REPORT ASTM D422-63R07	(805) 543-8539

Project:	Morro Bay Creek		Date Tested:	October 5, 2016
Client:			Project #:	SL09385-1
Sample #:	P-3 @ 8'	Depth: 8.0 Feet	Lab #:	16676
Location:	Pit 3		Sample Date:	################
Material:	Very Dark Gray Silty CLAY		Sampled By:	JK

Soil Classification
ASTM D2487-06, D2488-06

Soil Description:	**Very Dark Gray Silty CLAY**
Specification:	**CL**

Sieve Analysis

U.S. Standard Sieve	Percent Passing TOTAL	Project Specifications	Remarks
3"			
2"			
1 1/2"			
1"			
3/4"			
3/8"			
No. 4	100		
No. 8	100		
No. 16	100		
No. 30	99		
No. 50	99		
No. 100	99		
No. 200	98.8		

Comments:

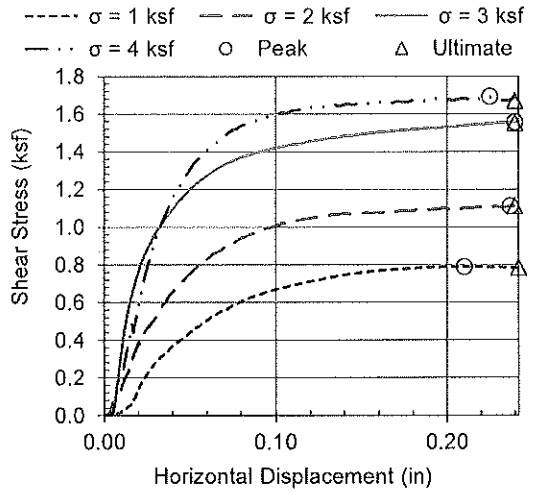
Report By: Aaron Eichman

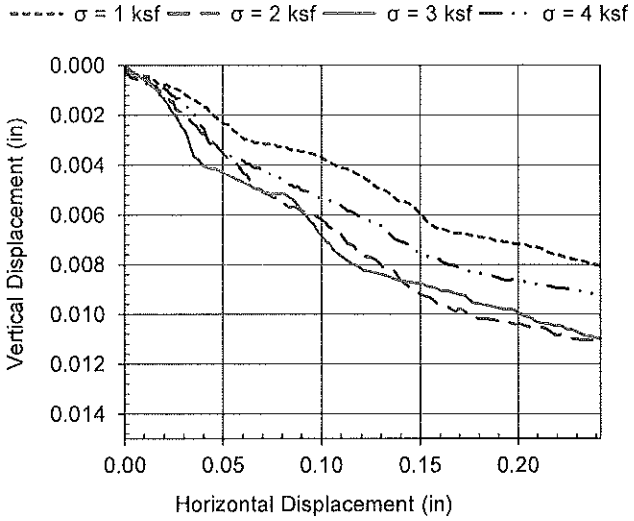
GeoSolutions, Inc. | **DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)** | **(805) 543-8539**

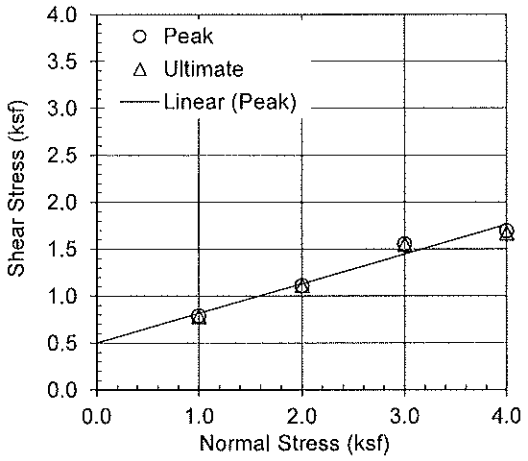
Project:	Morro Bay Creek			Project No.:	SL09385-1
Client:				Date Tested:	10/13/2016
Sample No.:	P-2 @ 2'	Depth:	2.0 Feet	Lab No.:	16676
Location:	Pit 2			Checked By:	AE

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Very Dark Grayish Brown Sandy CLAY	nm	nm	nm	nm	2.4	in-situ (rings)

* Gs = assumed; nm = not measured







Angle of Internal Friction, ϕ_{peak} (degrees):	**17.5**
Cohesion, C_{peak} (psf)	**501**

Initial Conditions	Specimen No. 1	2	3	4
Dry Density	81.5	84.3	80.2	81.2
Water Content (%)	27.4	27.4	27.4	27.4
Diameter (in)	2.42	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3	4
Normal Stress (ksf)	1.00	2.00	3.00	4.00
Peak Shear Stress (ksf)	0.79	1.11	1.56	1.69
Horiz. Displacenent at Peak Shear (in)	0.21	0.24	0.24	0.23
Ultimate Shear Stress (ksf)	0.78	1.11	1.55	1.67
Horiz. Displ. at Ult. Shear (in)	0.24	0.24	0.24	0.24
Rate of Deformation (in/min)	0.024	0.024	0.024	0.024

Remarks:

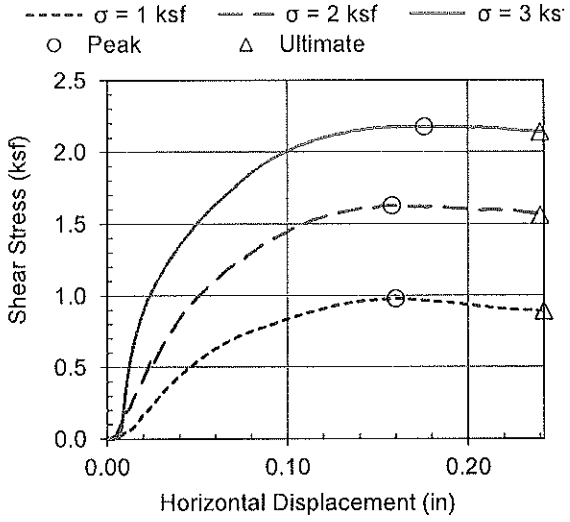
Samples were not saturated prior to shearing

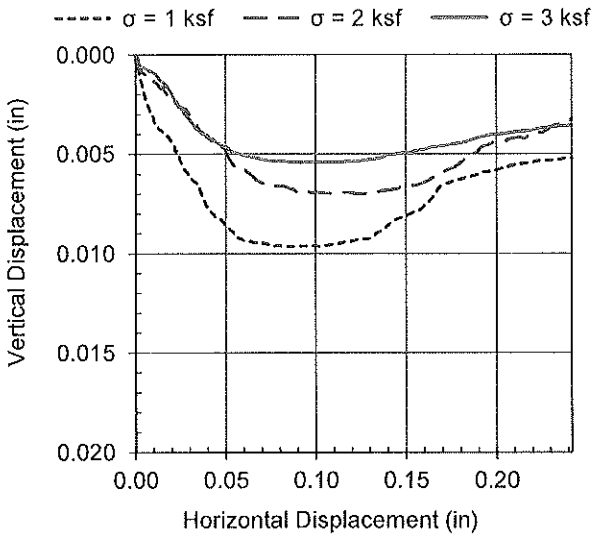
GeoSolutions, Inc. | **DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)** | **(805) 543-8539**

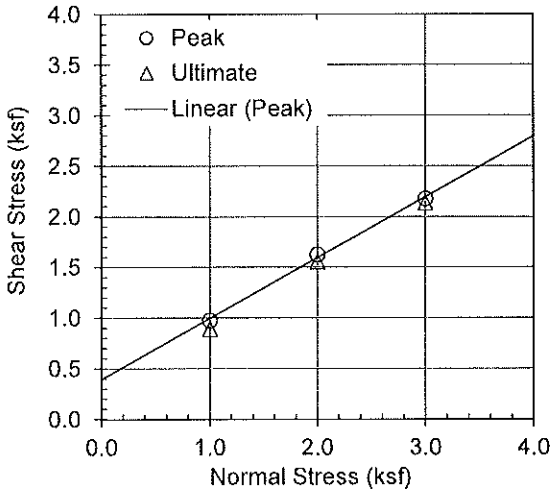
Project:	Morro Bay Creek			Project No.:	SL09385-1
Client:				Date Tested:	10/14/2016
Sample No.:	P-5 @ 4'	Depth:	4.0 Feet	Lab No.:	16676
Location:	Pit 5			Checked By:	AE

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Dark Gray Clayey SAND with Silt and Gravel	nm	nm	nm	nm	2.4	in-situ (rings)

* Gs = assumed; nm = not measured







Angle of Internal Friction, ϕ_{peak} (degrees):	**31.0**
Cohesion, C_{peak} (psf)	**395**

Initial Conditions	Specimen No. 1	2	3
Dry Density	96.1	96.9	102.9
Water Content (%)	16.9	16.9	16.9
Diameter (in)	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00

Test Data	Specimen No. I	2	3
Normal Stress (ksf)	1.00	2.00	3.00
Peak Shear Stress (ksf)	0.98	1.63	2.18
Horiz. Displacement at Peak Shear (in)	0.16	0.16	0.18
Ultimate Shear Stress (ksf)	0.89	1.56	2.14
Horiz. Displ. at Ult. Shear (in)	0.24	0.24	0.24
Rate of Deformation (in/min)	0.024	0.024	0.024

Remarks:

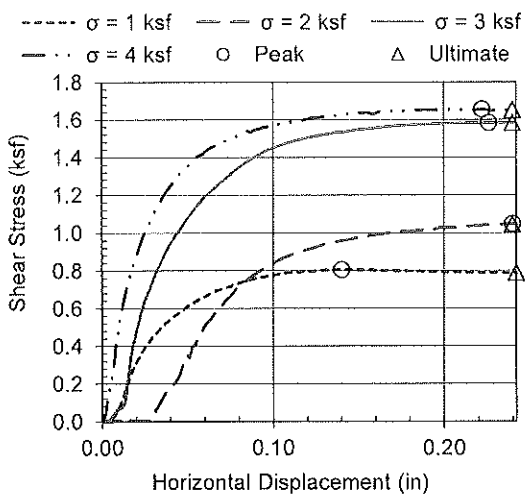
Samples were not saturated prior to shearing

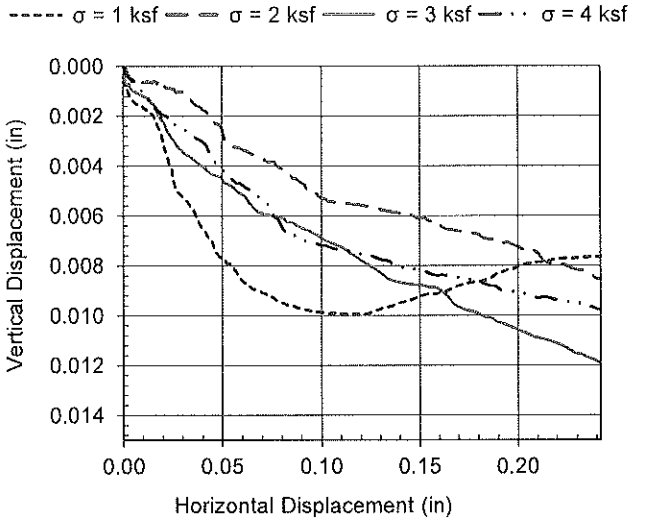
GeoSolutions, Inc. | **DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)** | **(805) 543-8539**

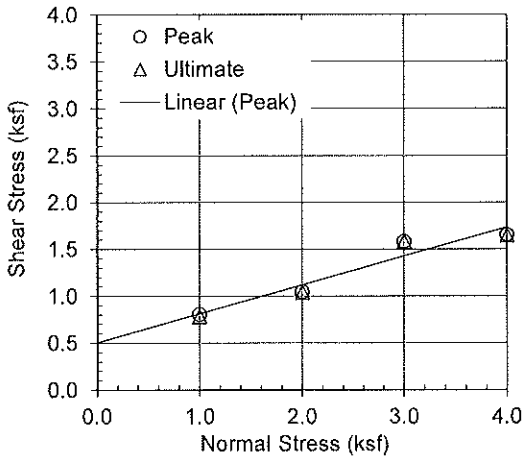
Project:	Morro Bay Creek			Project No.:	SL09385-1
Client:				Date Tested:	10/18/2016
Sample No.:	P-6 @ 2'	Depth:	1.5 to 2.0 Feet	Lab No.:	16676
Location:	Pit 6			Checked By:	AE

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Very Dark Grayish Brown Sandy CLAY	nm	nm	nm	nm	2.4	in-situ (rings)

* Gs = assumed; nm = not measured







Angle of Internal Friction, ϕ_{peak} (degrees):	**17.1**
Cohesion, C_{peak} (psf)	**504**

Initial Conditions	Specimen No. 1	2	3	4
Dry Density	78.5	83.0	86.0	85.6
Water Content (%)	17.8	17.8	17.8	17.8
Diameter (in)	2.42	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3	4
Normal Stress (ksf)	1.00	2.00	3.00	4.00
Peak Shear Stress (ksf)	0.81	1.05	1.58	1.66
Horiz. Displacenent at Peak Shear (in)	0.14	0.24	0.23	0.22
Ultimate Shear Stress (ksf)	0.79	1.05	1.58	1.65
Horiz. Displ. at Ult. Shear (in)	0.24	0.24	0.24	0.24
Rate of Deformation (in/min)	0.024	0.024	0.025	0.024

Remarks:

Samples were not saturated prior to shearing

CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

Water Control Plan

Prepared for
Morro Bay National Estuary Program

March 2017

ESA

CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

Water Control Plan

Prepared for
Morro Bay National Estuary Program

March 2017

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Chorro Creek Ecological Reserve Floodplain Restoration –Water Control Plan

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CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

Water Control Plan

Introduction

The Chorro Creek Ecological Reserve Floodplain Restoration project site is located within the Chorro Creek Ecological Reserve (CCER), a 580-acre open space preserve bisected by Highway 1 in San Luis Obispo, County. The CCER is owned and managed by California Department of Fish and Wildlife (CDFW). The project reach spans 0.5 miles of Chorro Creek, approximately four miles upstream from the creek outlet at Morro Bay.

The proposed design is focused on formalizing the connection of two channel avulsions, where the main stem has jumped its bank and cut new secondary channels, with the main stem. The design preserves the planform of the well-defined lower secondary channel, which appears to have a relatively natural meander pattern, while creating a new sinuous alignment for the upper secondary channel, which is currently a straight alignment following a dirt road. Additionally, the floodplain will be excavated and the upper avulsion levee breach expanded to inundate the floodplain at more frequent flow events and provide a better connection to groundwater. The revegetation plan has been designed to support establishment of native plants within the riparian zone.

In addition to the side channel and floodplain enhancements, the existing at-grade vehicle crossing will be improved to allow equipment access to the site, as well as support ongoing PG&E access to the power line and habitat maintenance activities by CDFW. The banks at the existing crossing are over-steepened due to ongoing main channel incision and bank erosion, and the design involves grading out the banks to a drive-able slope.

Water Control Plan

There are two areas of work in or directly bordering the main stem, shown in **Figure 1**: (1) construction access across Chorro Creek and (2) grading activities at the upstream connection of the Channel B to the main stem.

Construction Access

The construction access across Chorro Creek will require formalizing and improving the approaches to an existing at-grade crossing and installing a temporary flow bypass system for

construction vehicles to be able to cross the creek on an elevated roadway above the channel. The crossing is located at an existing riffle where flow depth is at a minimum. It is anticipated that the contractor will use one of the following methods to cross the channel without adversely impacting the channel bed or existing habitat. Contractually the contractor is required to propose their own means and methods, which will be reviewed and approved by the Engineer.

The contractor may lay crane mats across the channel, maintaining clearance above the water level. The crane mats would be expected to provide a travel way at least 15 feet wide and be covered with a nonwoven filter fabric (Caltrans Class A) to reduce the risk of sediment falling off vehicles and into the channel. In addition, a silt fence or similar barrier would be expected to be erected at the edge of the crane mats to prevent falling soil or debris from entering the channel.

A second option would be for the contractor to install several culverts on the channel bed and construct a temporary road, made of imported gravel, on top of the culverts. The ground below culverts and gravel would be expected to be protected with a nonwoven geotextile fabric (Caltrans Type A) to facilitate removal of all imported material at the end of the project. The minimum road width would be expected to be 15 ft. A silt fence or similar barrier would be expected to be erected at the edge of the gravel to prevent falling soil or debris from entering the channel. If this option or similar is selected by the contractor, then temporary flow control and dewatering will be required for the installation of a flow bypass system. It is expected that five (5) 12-inch culverts will be sufficient to pass summertime baseflow under the temporary road crossing.

After construction is complete the elevated crossing will be removed including any creek bed protection. The crossing will continue to be used by maintenance crews and PG&E staff to access infrastructure.

Channel B

Channel B will begin to convey flow at Q2 (approximately 663 cfs). The improved connection to the main stem will lower the existing berm to be approximately four (4) feet above the invert of the main stem. Since work will not be occurring directly in the wetted portion of the creek, a silt fence or similar enclosure will be employed to isolate the work from the flow in the channel to limit the release of turbid water from the site.

Instream Flows

The flow in Chorro Creek is typical of a creek in a Mediterranean climate: peaks related to storm systems occur from November through March, and base flow steadily decreases from March through October. The graph below in **Figure 2** shows discharge records for 2014 with typical summer flow conditions for Upper Chorro Creek. Discharge approaches 1 cfs in mid-June and continues at that rate until the first storms in the fall. Construction and vehicle access to the site will be complete by October 15. **Table 2** below summarizes data related to the channel crossing. It is the contractor's responsibility to verify the flow rate and depth and propose a viable water control plan to control the actual conditions at the time of construction.

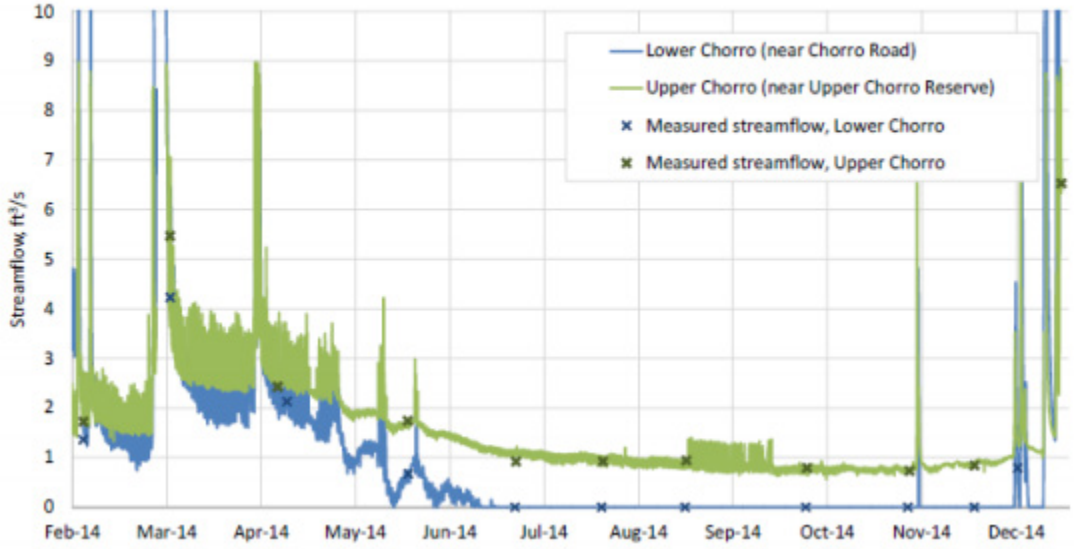


Figure 2 Flow in Chorro Creek in 2014 is representative of annual summer baseflows. The project site is located near the Upper Chorro Creek gaging station (Source: MBNEP 2015 Data Summary Report, p. 4-118).

Table 1 Data for construction access crossing location.

Origin of Water	Surface Flow in Chorro Creek
River Flow Rate (daily max.)	1 cfs (450 gpm)
Elevation Change (upstream to downstream)	~ 0.5 ft
Channel Slope	~ 2.4%
Channel Width	~ 15 ft
Flow Depth	~ 0.5 ft
System Install Date	June 1
System Removal Date	October 15, same year

Water Diversion

A dewatering and flow bypass system is needed to complete the work, and a Water Control Plan is required by the Technical Specifications in the construction documents. The Biological Opinions issued by the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) include guidelines for flow diversion design. Additionally, California Department of Fish and Wildlife's (CDFW) Streambed Alteration Agreement imposes limits on the duration and location of diversion activities.

If the contractor elects to place materials in the channel to facilitate construction access, then the channel would be temporarily dewatered and flow diverted during the fill placement operation. The secondary channel connections described above would not require dewatering of the channel but the placement of enclosures would divert flow around the active grading areas. These

enclosures would be kept close to the bank and have a minimal impact on the natural flow in the creek.

The dewatering location would be located at approximate river station 55+20 and return flow will be delivered at approximately station 54+70 as shown on **Figure 3**. The channel will be completely dewatered during the installation of the temporary creek crossing, which is anticipated to last up to five (5) days.

The dewatering and flow bypass system will collect all of the river flow from a pool upstream of the crossing location and deliver it to the creek just downstream of the crossing. The anticipated length of channel dewatering is approximately 50 linear feet but may vary depending on the actual site conditions.

The Contractor will ensure that all materials and equipment will be available for the water diversion system prior to the commencement of work. If for some reason the system is not operating properly, construction activities will be stopped until the system deficiencies are rectified. Installation and removal of the diversion system will be coordinated with the project's biological monitor and the Owner's Representative.

The primary water bypass and dewatering system will include the following components:

- Pump Intake
- Pumping Equipment
- Coffer Dam(s)
- Bypass Piping/Pipeline
- Point of Discharge

Please refer to Attachment A for a schematic representation of the proposed water diversion components and layout.

Pump Intake

The submersible pump has a built-in coarse screen at the inlet chamber. In addition, a smaller mesh screen will be placed around the intake zone to exclude small invertebrates. The screen mesh openings will be approximately 3/32 inch (2.38 mm) and will consist of woven wire screen (or a perforated plate screen) with a minimum of 27% open area. The mesh screen will be affixed to metal t-posts and 12-gauge wire or other appropriate support.

At the upstream cofferdam location, the pump intake fish screen will be installed as one of the first steps. Close coordination with the project's biological monitor will be maintained at all times. The intake screen will be selected and installed in accordance with the National Marine Fisheries Service (NMFS) Fish Screening Criteria for Anadromous Salmonids (http://swr.nmfs.noaa.gov/hcd/fishscrn.pdf) and the Addendum for Juvenile Fish Screen Criteria for Pump Intakes (http://swr.nmfs.noaa.gov/hcd/pumpcrit.pdf).

Upstream of the intake zone, a blocknet screen will be placed across the channel and keyed into the bed and banks prior to installation of the coffer dam. A biologist will be on site during the dewatering activity to monitor the installation, provide guidance on avoiding fish stranding, and to rescue and relocate fish located in the work area.

The pump will then be used to draw down the flow of the creek via the bypass pipe. Once the flow is drawn down to a sufficient level the upper cofferdam will be installed followed by the downstream cofferdam, if need depending on backwater conditions.

Pump Equipment

Electric submersible pump(s) will be placed in an area upstream of the cofferdam location. This pump will operate continuously for the duration of the work within a given area to ensure a continuous flow of the river at the rate of the existing flow at the time the pump is installed. The pump will likely be powered by a diesel-powered electric generator set (e.g., a genset).

Coffer Dam

Depending on the conditions encountered, the Contractor may use various coffer dam materials. The default coffer dam will consist of sand bags wrapped with 10-mil polysheeting. This proposed coffer dam construction has proven effective on many other projects. The coffer dam will be installed at the upstream limit of each diversion zone. A secondary cofferdam will be installed downstream limit of the diversion zone if needed to prevent back flow into the work area. The cofferdams will be approximately 2 to 4 feet wide (at base) by 2 to 3 feet high and run from bank to bank on the existing channel. Depending on flow conditions present at the time of dewatering, two coffer dams may be required (i.e., upstream and downstream).

To prevent turbidity during the cofferdam installation a very detailed work sequence will be applied as discussed below.

Prior to the installation of the cofferdam all the necessary bypass piping will be assembled and placed along the edge of the river bank outside of the grading limits and along the low flow channel to the downstream cofferdam (if needed) or diversion limit location.

Cofferdam Installation

Cofferdam installation will follow these steps:

1. Mobilization of the pump, mini excavator, materials, and personnel along the river bank (low flow channel edge)
2. Coordinate with fisheries biologist
3. Stage materials including pipe along bank, filled sandbags at up and downstream locations
4. Prepare sump and install pump and connect to pipe
5. Haze aquatic species from cofferdam location
6. Install fish exclusion screening

7. Begin pumping into bypass
8. Install sandbags incrementally from one side of the channel toward the other so that the diversion increases 50% to 100% diverted.
9. Install the last sections of sand bags in the active channel after at least four hours passes.
10. Use plastic sheet to seal the cofferdams if needed.

Cofferdams will be at least 2 feet high and run from bank to bank on the existing channel.

Piping

The water will be pumped from the upstream of the cofferdam to the discharge point through a solid 6-8" bypass pipe. This bypass pipe will be secured at mid bank or higher of the low flow channel (outside of grading footprint and in-stream structures) using metal t-posts or wood stakes. When work on the channel bank takes place the bypass pipe will temporarily be relocated.

The pipe will carry channel water directly from the electric pump to a dissipation device placed at the downstream limit of the dewatered channel segment. The piping will be primarily located on the side of the river where there is least impact.

Point of Discharge

An energy dissipation device will be constructed at the discharge point of the bypass piping. The basin will consist of a combination of gravel bags, filter fabric (non-woven geotextile) and silt fence or wattles. The fabric will be laid across the bypass pipe opening to a 5-foot width and extended 5 feet downstream. The dissipation device will reduce the velocity of the clean water exiting from the bypass pipe. A sediment barrier consisting of filter fabric attached to wire fencing will be installed just downstream of this basin to reduce turbidity, if necessary. Silt curtains can be deployed to assist with turbidity control but only if the water depth is 4 feet or deeper.

Normal Operation

Normal operation is expected to handle the expected flows in the river, up to a maximum flow of 1 cfs (448 gpm). It is possible that perched water will be encountered or base flow exceeds the estimate provided. The pump size may need to be adjusted during the bypass operations if flow rates increase. The contingency bypass system components include the following:

Additional Well Points and/or Sumps: If groundwater is encountered in construction areas which cannot be accommodated by the system, additional well points or sumps (with small pumps) will be installed as needed. This additional water may be directed to the dissipation device at the downstream end or in the case of smaller volumes, discharged along the river bank in areas of existing vegetation or where dust control is needed. Materials will be available at the job site to tie these intake points into the dewatering system.

Increased Pump Size: A backup pump will be available on standby at all times and to be delivered to the site to replace the primary pump in the event the primary pump does not function

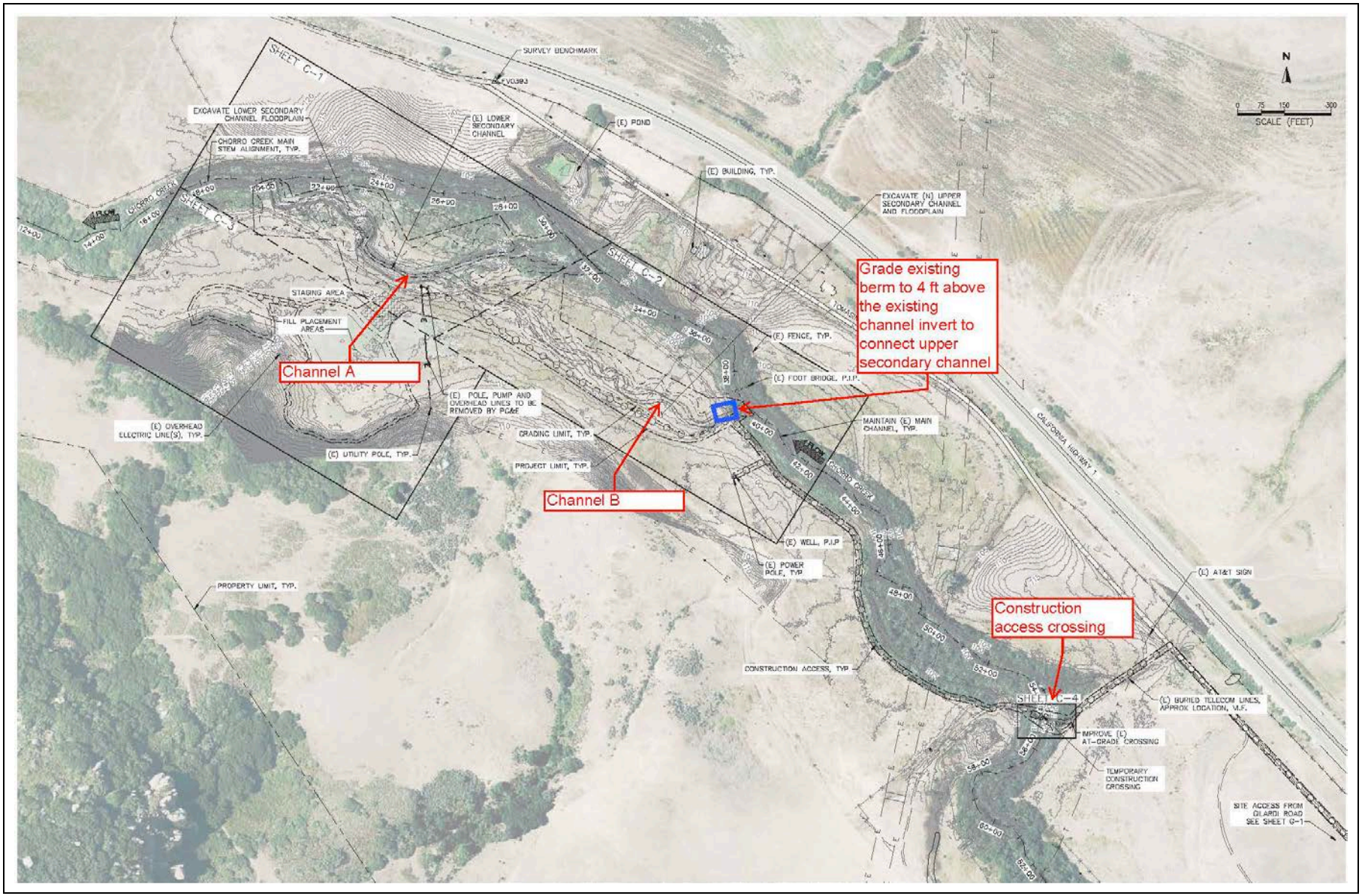
properly. If either the primary pump or the secondary pump cannot accommodate the dewatering requirements, larger pumps will be operated.

The diesel generator will require refueling periodically during the system operation. A crew member will be responsible for checking the tank each day (including weekends) and add fuel as needed. Fueling will be performed in accordance with the SWPPP and Spill Prevention and Response Plan (separate submittals). The generator will be underlain with plastic sheeting and a sandbag berm (or Spillguard BMP) to serve as containment in the event of a spill.

The generator set will be typically located well above the main channel and protected from excavation equipment. At the beginning of each work day, the generator and pump will be checked for disruption or damaged and corrected as necessary.

Emergency Operations

The project permits will likely require that all work be completed within the river channel by October 15th. In the event of a predicted storm that may overwhelm the bypass system, the Contractor will be available to shut down operations and remove the upper cofferdam(s) or a portion of the dam(s) to create a weir.



SOURCE: ESA 2017

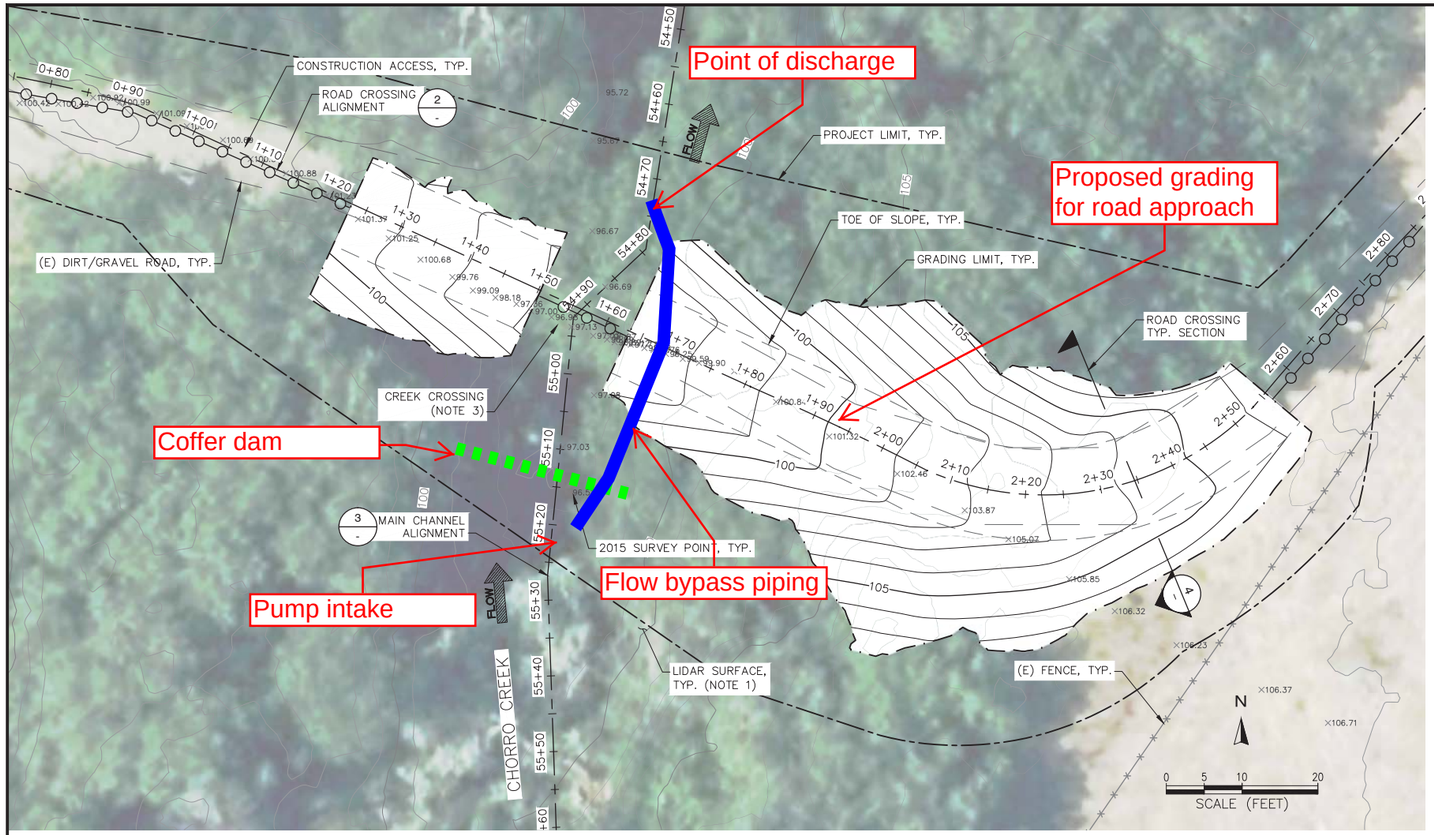
Chorro Creek Ecological Reserve. D140012

Figure 1

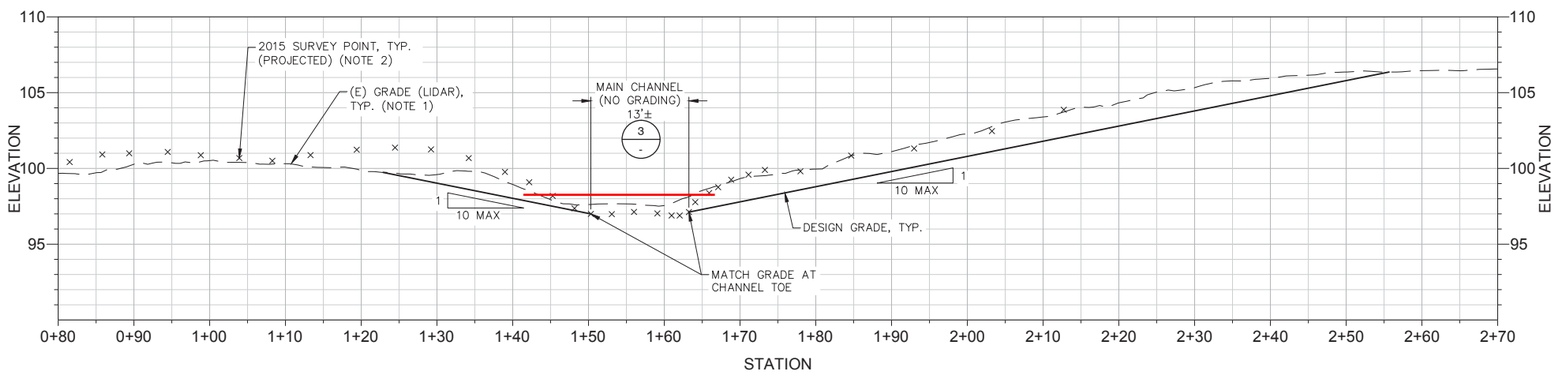
Project Overview

ATTACHMENT A

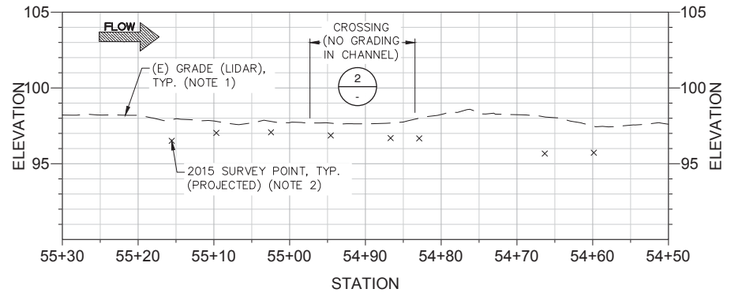
Water Control Diagram



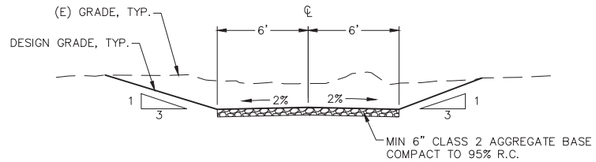
1 / G-03 ACCESS ROAD CROSSING GRADING PLAN
PLAN VIEW
SCALE: 1"=10'



2 / - ACESS ROAD CROSSING
PROFILE VIEW
SCALE: HORIZ. 1"=10' VERT. 1"=5'



3 / - MAIN CHANNEL THALWEG
PROFILE VIEW
SCALE: HORIZ. 1"=10' VERT. 1"=5'



4 / - ACCESS ROAD
TYPICAL SECTION
SCALE: 1"=5'

SHEET NOTES

1. EXISTING GRADE SURFACE IS BASED ON LIDAR (PG&E 2011–2013) AND REFLECTS THE WATER SURFACE ELEVATION WITHIN THE MAIN CHANNEL. REFER TO 2015 SURVEY SPOT ELEVATIONS FOR DATA WITHIN THE MAIN CHANNEL.
2. TOPOGRAPHIC POINTS SHOWN WERE GROUND SURVEYED BY ESA IN JULY 2015.
3. CONSTRUCTION ACCESS ROAD CROSSES THE CREEK CHANNEL. CONTRACTOR SHALL ANTICIPATE BASEFLOW (APPROXIMATE FLOW AND WATER DEPTH: 3 CFS, 0.5 FT DEPTH) CONDITIONS AND PROVIDE DRY CROSSING FOR VEHICLES AND EQUIPMENT THROUGHOUT CONSTRUCTION PERIOD. DRY CROSSING MUST BE REMOVED PRIOR TO OCTOBER 1. WET CROSSING MAYONLY BE USED DURING MAINTENANCE PERIOD.

VERIFY SCALE
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

PREPARED BY:
ESA
550 Kearny Street
Suite 900
San Francisco, CA 94108
415.262.2300 phone

SHEET TITLE
GRADING PLAN AND PROFILE - ROAD CROSSING

PROJECT
CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

PREPARED FOR:
MORRO BAY NATIONAL ESTUARY PROGRAM
601 EMBARCADERO #11
MORRO BAY, CA

MORRO BAY NATIONAL ESTUARY PROGRAM

APPROVED	
DESIGNED	ESA
DRAWN	M.LANDICHO
INCHARGE	S. STOLLER C71728
SCALE	AS NOTED
DATE	02/01/2016
SHEET	C-4

8 OF 17

K:\projects\...2014\01400120 - Chorro Creek Ecological Reserve\09 CAD\Dwgs\C-04 GRADING PLAN - ROAD.dwg 2-01-17 06:17:33 PM pdq

COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING & BUILDING
Trevor Keith *Director of Planning & Building*

February 26, 2019

MORRO BAY NATIONAL ESTUARY PROGRAM
ATTN: CAROLYN GERAGHTY
601 EMBARCADERO STE 11
MORRO BAY, CA 93442

SUBJECT: Notice of Final County Action, Minor Use Permit / Coastal Development Permit DRC2018-00138

Dear Sir/Madam,

LOCATED WITHIN COASTAL ZONE: YES

On **February 15, 2019**, the above-referenced application was approved by the **Planning Department Hearing Officer** based on the approved Findings, and subject to the approved Conditions, which are both enclosed for your records.

This action is appealable to the California Coastal Commission, pursuant to regulations contained in Coastal Act Section 30603 and the County Coastal Zone Land Use Ordinance 23.01.043. These regulations contain specific time limits to appeal, criteria, and procedures that must be followed to appeal this action. The appeal must be made directly to the California Coastal Commission. For further information on their appeal procedures, contact the Commission's Santa Cruz Office at (831) 427-4863.

County Coastal Zone Land Use Ordinance (CZLUO) Section 23.01.043 and applicable sections of the Coastal Act provide ten (10) working days for an appellant to appeal the County's Final Action. An appellant may include any of the following: an applicant, an aggrieved person as defined in CZLUO 23.01.043 and any two California Coastal Commissioners. This means the Applicant cannot commence development and the County cannot take any further administrative actions for the proposed development, including but not limited to, the request or issuance of a building permit, until the Coastal Commission Appeal period has expired without an appeal being filed and the County's notice of final action that it submitted to the Coastal Commission has been accepted by Commission staff as compliant with Title 14 CCR section 13571.

If you disagree with this action, pursuant to (County Real Property Ordinance Section 21.04.020 / County Land Use Ordinance Section 22.70.050 / County Coastal Zone Land Use Ordinance (CZLUO) Section 23.01.042), and in the manner described therein, you have the right to appeal this decision, or a portion of this decision, to the Board of Supervisors within 14 calendar days after the date of the action.

The appeal must be submitted to the Director of the Department of Planning and Building on the proper Department appeal form, as provided on the County website. The appeal form must be submitted with an original signature; a facsimile will not be accepted.

If the appeal is consistent with the standards set forth in CZLUO Section 23.01.043d, there is no fee to file an appeal. If the appeal is not consistent with CZLUO Section 23.01.043.d, a fee, set by the current fee schedule, will be required and must be submitted with the appeal form at time of filing. If the County requires that an appellant submit a fee to file an appeal, the action is directly appealable to the California Coastal Commission pursuant to the CZLUO Section 23.01.043, and in the manner contained therein, precluding the need to exhaust local administrative appeals.

Additionally, CZLUO Section 23.01.043 and applicable sections of the Coastal Act provide the California Coastal Commission 10 working days following the expiration of the County appeal period to appeal the County's Final Action. This means the Applicant cannot commence development and the County cannot take any further administrative actions for the proposed development, including but not limited to, the request or issuance of a building permit, until the County appeal period and the Coastal Commission Appeal period have expired without an appeal being filed, and the County's notice of final action that it submitted to the Coastal Commission has been accepted by Commission staff as compliant with Title 14 CCR Section 13571.

Please note that exhaustion of local appeals at the County level is almost always required prior to appealing the matter to the California Coastal Commission. Three exceptions apply to this requirement as provided in CZLUO Section 23.01.043b.(1)-(3).

If you have any questions regarding your project, please contact **Kathryn Nall** at 1-805-781-5600.

Nicole Retana

Nicole Retana, Secretary
County of San Luis Obispo
Department of Planning & Building

CC: CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
ATTN: BOB STAFFORD
1234 E. SHAW AVE.
FRESNO, CA 93710

EXHIBIT A – FINDINGS
MORRO BAY NATIONAL ESTUARY PROGRAM (DRC2018-00138)

Environmental Determination

A. The County, as a Responsible Agency, has reviewed the Mitigated Negative Declaration previously prepared by California Department of Fish and Wildlife February 28, 2018 and finds that this determination is appropriate (pursuant to Public Resources Code Section 21000 et seq., and CA Code of Regulations Section 15000 et seq.).

Minor Use Permit

B. The proposed project or use is consistent with the San Luis Obispo County General Plan and Local Coastal Plan because the use is an allowed use and as conditioned is consistent with all of the General Plan and Local Coastal Plan policies.

C. As conditioned, the proposed project or use satisfies all applicable provisions of Title 23 of the County Code.

D. The establishment and subsequent operation or conduct of the use will not, because of the circumstances and conditions applied in the particular case, be detrimental to the health, safety or welfare of the general public or persons residing or working in the neighborhood of the use, or be detrimental or injurious to property or improvements in the vicinity of the use because the proposed restoration project does not generate activity that presents a potential threat to the surrounding property and buildings. This project is subject to Ordinance and Building Code requirements designed to address health, safety and welfare concerns.

E. The proposed project or use will not be inconsistent with the character of the immediate neighborhood or contrary to its orderly development because the proposed restoration project is similar to, and will not conflict with, the surrounding lands and uses.

F. The proposed project or use will not generate a volume of traffic beyond the safe capacity of all roads providing access to the project, either existing or to be improved with the project because the project is located on Tomasini Road, a local road constructed to a level able to handle any additional traffic associated with the project.

Coastal Access

G. The proposed use is in conformity with the public access and recreation policies of Chapter 3 of the California Coastal Act, because the project is not adjacent to the coast and the project will not inhibit access to the coastal waters and recreation areas.

Sensitive Resource Area

H. The development will not create significant adverse effects on the natural features of the site or vicinity that were the basis for the Sensitive Resource Area designation and will preserve and protect such features through the site design, because the project will improve and restore stream habitat, to provide a long-term benefit to both anadromous salmonids and other fish and wildlife.

I. Natural features and topography have been considered in the design and siting of all proposed physical improvements based on historical flood patterns and stream flow.

J. The proposed clearing of topsoil, trees, is the minimum necessary to grade, re-slope, and restore the floodplain, allowing for more riparian vegetation and a wider, healthier floodplain.

K. The soil and subsoil conditions are suitable for the proposed project to restore and enhance floodplain connectivity and riparian vegetation on Chorro creek for steelhead and other wildlife/aquatic species, while reducing sediment loading to the Morro bay estuary. The project's site preparation, and drainage improvements have been designed to prevent soil erosion and sedimentation. Grading and seeding of the floodplain will decrease the speed of water flow and prevent soil erosion and sedimentation of streams through undue surface runoff.

Streams and Riparian Vegetation

L. The proposed project is to restore the existing floodplain, which is an allowable use (wildlife management) and will be located within and along the creek, no alternative locations and routes are feasible because the creek's modified hydrological system is degrading the ecological function of the riparian vegetation. The proposed project will reroute and restore the natural hydrological system to establish a healthier floodplain and ecological function.

M. Adverse environmental effects have been mitigated to the maximum extent feasible.

EXHIBIT B - CONDITIONS OF APPROVAL
MORRO BAY NATIONAL ESTUARY PROGRAM (DRC2018-00138)

Approved Development

1. This approval authorizes the restoration of the Chorro Creek Ecological Reserve Floodplain. The project will include the disturbance of approximately three acres on a 328-acre parcel by:

    a. Expanding a levee breach to route flow to secondary channels;

    b. Grading a lower floodplain adjacent to the two secondary channels;

    c. Planting and seeding riparian vegetation throughout the floodplain;

    d. Re-sloping the creek road crossing to maintain improved access across the creek; and

    e. 141 trees to be removed.

Conditions required to be completed Prior to issuance of the Notice to Proceed,

Site Development

2. **Prior to issuance of the Notice to Proceed,** plans submitted shall show all development consistent with the approved site plan, floor plan, architectural elevations and landscape plan.

Drainage & Flood Hazard

3. **Prior to issuance of the Notice to Proceed,** the applicant shall submit complete drainage and flood control plans prepared by a licensed civil engineer for review and approval in accordance with Section 23.05.042 (Drainage) and Section 23.07.060 (Flood Hazard) of the Land Use Ordinance.

4. **Prior to issuance of the Notice to Proceed,** the applicant shall show the 100-year flood hazard boundary on the project plans and submit evidence to the Department of Public Works that all new improvements comply with County flood hazard construction standards, Section 23.07.066.

5. **Prior to issuance of the Notice to Proceed,** the applicant shall submit complete erosion and sedimentation control plan for review and approval in accordance with 23.05.036.

6. **Prior to issuance of the Notice to Proceed,** the applicant shall demonstrate that the project construction plans are in conformance with their Stormwater Control Plan.

7. **Prior to issuance of the Notice to Proceed,** the applicant shall provide evidence satisfactory to the Department of Planning and Building that the Army Corps of Engineers and the California Department of Fish and Game environmental permits have either been secured or that the regulatory agency has determined that their permit is not required.

8. **Prior to issuance of the Notice to Proceed,** the applicant must provide evidence to Public Works of the Federal Emergency Management Agency's (FEMA) approval for a Conditional Letter of Map Change (CLOMC) addressing the proposed changes to Chorro Creek, or that a CLOMC is not necessary.

9. **Prior to issuance of the Notice to Proceed,** the applicant must provide evidence to Public Works of the Federal Emergency Management Agency's (FEMA) approval of the project's Letter of Map Revision (LOMR) that officially revised the Flood Insurance Rate Map (FIRM), Flood Boundary and Floodway Map (FBFM), or the Flood Insurance Study (FIS) report, or that a LOMR is not necessary.

Stormwater Pollution Prevention Plan (SWPPP)

10. **Prior to issuance of the Notice to Proceed,** if the project disturbs more than 1.0 acre or is part of a common plan of development, the applicant must enroll for coverage under California's Construction General Permit. Sites that disturb less than 1.0 acre must implement all required elements within the site's erosion and sediment control plan as required by San Luis Obispo County Codes.

Fees

11. **Prior to issuance of the Notice to Proceed,** the applicant shall enter into an agreement and post a deposit with the county for the cost of checking the improvement plans and the cost of inspection of any such improvements by the County or its designated representative. The applicant shall also provide the county with an Engineer of Work Agreement retaining a Registered Civil Engineer to furnish construction phase services, Record Drawings and to certify the final product to the Department of Public Works.
12. **Prior to issuance of the Notice to Proceed, (vegetation removal, and/or ground disturbance),** the applicant shall provide proof from the U.S. Fish and Wildlife Service (USFWS) to the County (or correspondence that this requirement is not needed) the project is consistent with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884) as amended (Act), by providing a letter from the U.S. Fish and Wildlife Service. An incidental take permit may be required.

<u>Conditions to be completed during project construction</u>

13. Timing. To avoid impacts to aquatic habitat the activities carried out in the restoration program typically occur during the summer dry season where flows are low or streams are dry. Project activities in potential red-legged frog habitat shall be restricted to the period between July 1 and October 15 **(BR-1).**

Biological

14. Projects shall not disturb or dewater more than 500 feet of contiguous stream reach. **(BR-2).**

15. Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors,

and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. Vehicles will be moved out of the normal high water area of the stream prior to refueling and lubricating. The grantee shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. **(BR-3).**

16. The access and work area limits shall be identified with brightly colored flagging or fencing. Flagging and fencing shall be maintained in good repair for the duration of project activities. All areas beyond the identified work area limits shall not be disturbed. **(BR-4).**

17. Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality **(BR-5).**

18. Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric **(BR-6).**

19. Any work within the stream channel shall be performed in isolation from the flowing stream and erosion protection measures shall be in place before work begins **(BR-7).**

    a) Prior to dewatering, the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic invertebrates shall be determined.

    b) If there is any flow when work will be done, the grantee shall construct coffer dams upstream and downstream of the excavation site and divert all flow from upstream of the upstream dam to downstream of the downstream dam.

    c) No heavy equipment shall operate in the live stream, except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.

    d) Coffer dams may be constructed with clean river run gravel or sand bags and may be sealed with sheet plastic. Upon project completion, sand bags and any sheet plastic shall be removed from the stream. Clean river run gravel may be left in the stream channel, provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.

    e) Dewatering shall be coordinated with a qualified fisheries biologist to perform fish and wildlife relocation activities.

    f) The length of the dewatered stream channel and the duration of the dewatering shall be kept to a minimum and shall be expected to be less than 300 contiguous feet or 500 total feet per site.

    g) When bypassing stream flow around work area, stream flow below the construction site shall be maintained similar to the unimpeded flow at all times.

h) The work area shall be periodically pumped dry of seepage. Pumps shall be placed in flat areas, away from the stream channel. Pumps shall be secured by tying off to a tree or staked in place to prevent movement by vibration. Pump intakes shall be covered with 0.125 inch mesh to prevent entrainment of fish or amphibians that failed to be removed. Pump intakes shall be periodically checked for impingement of fish or amphibians and shall be relocated according to the approved measured outlined for each species bellow.

i) If necessary, flow shall be diverted around the work site, either by pump or by gravity flow, the suction end of the intake pipe shall be fitted with fish screens meeting CDFW and NOAA criteria to prevent entrainment or impingement of small fish. Any turbid water pumped from the work site itself to maintain it in a dewatered state shall be disposed of in an upland location where it will not drain directly into any stream channel.

j) Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed net or screen. Mesh shall be no greater than 1/8-inch diameter. The bottom edge of the net or screen shall be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening shall be placed in areas of low water velocity to minimize fish impingement. Screens shall be regularly checked and cleaned of debris to permit free flow of water.

20. Any equipment entering the active stream (for example, in the process of installing a coffer dam) shall be preceded by an individual on foot to displace wildlife and prevent them from being crushed **(BR-8).**

21. If any non-special status wildlife are encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed, and shall be flushed, hazed, or herded in a safe direction away from the project site. "Special status wildlife" is defined as any species that meets the definition of "endangered, rare, or threatened species" in section 15380, article 20 in Title 14 of the California Code of Regulations, also known as the "CEQA Guidelines" **(BR-9).**

22. Any red tree vole nests encountered at a work site shall be flagged and avoided during construction **(BR-10).**

23. For any work sites containing western pond turtles, salamander, foothill yellow-legged frogs, or tailed frogs, the grantee shall provide to the CDFW grant manager for review and approval, a list of the exclusion measures that will be used at their work site to prevent take or injury to any individual pond turtles, salamanders, or frogs that could occur on the site. The grantee shall ensure that the approved exclusion measures are in place prior to construction. Any turtles or frogs found within the exclusion zone shall be moved to a safe location upstream or downstream of the work site, prior to construction **(BR-11).**

24. All habitat improvements shall be done in accordance with techniques in the California Salmonid Stream Habitat Restoration Manual. The most current version of the manual is available at: http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp. **(BR-12).**

25. The grantee shall have dependable radio or phone communication on-site to be able to report any accidents or fire that might occur **(BR-13).**

26. Installation of bridges, culverts, or other structures shall be done so that water flow is not impaired and upstream and downstream passage of fish is assured at all times. Bottoms of temporary culverts shall be placed at or below stream channel grade **(BR-14).**

27. Temporary fill shall be removed in its entirety prior to close of work-window **(BR-15).**

28. If any special status plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed: **(BR-16).**

    a. Fencing to prevent accidental disturbance of rare plants during construction,

    b. On-site monitoring by a qualified biologist during construction to assure that rare plants are not disturbed, or

    c. Redesign of proposed work to avoid disturbance of rare plants

29. Activities proposed will not remove or degrade California red-legged frog (Rana Draytonii) habitat; however, precautions shall be required at these sites to avoid the potential for take of CRLF while using heavy equipment. The potential for impacts to CRLF will be mitigated by complying with all of the mandatory terms and conditions associated with incidental take authorized by the USFWS, Biological Opinion CDFW shall implement the following measures to minimize adverse effects to the CRLF and its habitat: **(BR-17)**

    a. At least 15 days prior to the onset of project activities, CDFW shall submit the names(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until CDFW has received written approval from the USFWS that the biologist(s) is qualified to conduct the work.

    b. USFWS-approved biologist(s) who handle red-legged frogs shall ensure that their activities do not transmit diseases. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (http://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf) shall be followed at all times.

    c. A CDFW monitoring plan shall be developed to determine the level of incidental take of the red-legged frog associated with the Restoration Program funded activities in the area. The monitoring plan must include a standardized mechanism to report any observations of dead or injured red-legged frog to the appropriate USACE and USFWS offices.

    d. A USFWS-approved biologist shall survey the project site at least two weeks before the onset of activities. If red-legged frogs are found in the project area and these individuals are likely to be killed or injured by work activities, the USFWS-approved biologist will allow sufficient time to move them from the site before work activities resume. Only USFWS-approved biologists will participate in activities with the capture, handling, and monitoring of red-legged frogs.

e. Before any project-related activities, the approved biologist must identify appropriate areas to receive red-legged frog adults and tadpoles from the project areas. These areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species (i.e. bullfrogs, crayfish) to the best of the approved biologist's knowledge.

f. Prior to the onset of project activities, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the red-legged frog and its habitat, the importance of the red-legged frog and its habitat, the general measures that are being implemented to conserve the red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

g. A USFWS-approved biologist shall be present at the work site until such time as removal of red-legged frogs, instruction of workers, and habitat disturbance has been completed. The USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USACE and USFWS during review of the proposed action. If work is stopped, the USACE and the USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.

h. If red-legged frogs are found and these individuals are likely to be killed or injured by work activities, the USFWS-approved biologists must be allowed sufficient time to move them from the site before work activities resume. The USFWS-approved biologist must relocate the red-legged frogs the shortest distance possible to one of the predetermined areas. The USFWS-approved biologist must maintain detailed records of any individuals that are moved (e.g., size, coloration, any distinguishing features, photographs (digital preferred) to assist in determining whether translocated animals are returning to the point of capture. Only red-legged frogs that are at risk of injury or death by project activities may be moved.

i. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.125 inch to prevent red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain down stream flows during construction activities and eliminate the possibility of ponded water. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the lease disturbance to the substrate.

j. Ponded areas shall be monitored for red-legged frogs that may become entrapped. Any entrapped red-legged frog shall be relocated to a pre-determined receiving area by a USFWS-approved biologist.

k. A USFWS-approved biologist will permanently remove from the project area, any individuals of exotic species, such as bullfrogs (Rana Catesbiana), centrarchid fishes, and non-native crayfish to the maximum extent possible. The biologist will have the responsibility to ensure that their activities are in compliance with the Fish and Game Code.

l. The CDFW or USACE shall report any observation of the incidental take of red-legged frogs associated with the implementation of the Restoration Program projects in accordance with RGP78. The USFWS and the USACE must review the circumstances surrounding the incident to determine whether any patterns of repeated authorized or unauthorized activities are occurring that may indicate that additional protective measures are required. If, after completion of the review, the USACE and the USFWS agree that additional protective measures are required and can be implemented within the existing scope of the action, the USACE must require the CDFW to implement the agreed-upon measures within a reasonable time frame; if the corrective actions cannot be implemented with the scope of the existing action, the USACE and USFWS will determine whether re-initiation of consultation is appropriate.

m. Despite term and condition i of this section (above), the USACE must immediately re-initiate formal consultation with the USFWS, pursuant to 7(a) (2) of the Endangered Species Act, if red-legged frogs are taken within the action area at or in excess of the incidental take anticipated in the Incidental Take Statement section of the U.S, Fish and Wildlife biological opinion (file no. 2008-F-0441), whether by project or by year.

n. If these mitigation measures cannot be implemented or the project activities proposed at a specific work site cannot be modified to prevent or avoid potential impacts to CRLF or its habitat, then project activity at that work site shall be discontinued.

30. Planting of seedlings shall begin after December 1, or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings, but in no case after April 1st (BR-18).

31. Any disturbed banks shall be fully restored upon completion of construction. Revegetation shall be done using native species. Planting techniques can include seed casting, hydroseeding, or live planting methods using the techniques in Part XI of the California Salmonid Stream Habitat Restoration Manual (BR-19).

32. Disturbed and compacted areas shall be re-vegetated with native plant species. The species shall be comprised of a diverse community structure that mimics the native riparian corridor. Planting ratio shall be 2:1 (two plants to every one removed) **(BR-20).**

33. Unless otherwise specified, the standard for success is 80 percent survival of plantings or 80 percent ground cover for broadcast planting of seed after a period of 3 years **(BR-21).**

34. To ensure that the spread or introduction of invasive exotic plants shall be avoided to the maximum extent possible, equipment shall be cleaned of all dirt, mud, and plant material prior to entering a work site. When possible, invasive exotic plants at the work site shall be removed. Areas disturbed by project activities will be restored and planted with native plants **(BR-22).**

35. Mulching and seeding shall be done on all exposed soil which may deliver sediment to a stream. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks

parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment **(BR-23).**

36. If erosion control mats are used in re-vegetation, they shall be made of material that decomposes. Erosion control mats made of nylon plastic, or other non-decomposing material shall not be used **(BR-24).**

37. CDFW shall retain as many trees and brush as feasible, emphasizing shade producing and bank stabilizing trees and brush to minimize impacts to the riparian corridor **(BR-25).**

38. If riparian vegetation is to be removed with chainsaws, the grantee shall use saws that operate with vegetable-based bar oil when possible **(BR-26).**

39. Disturbed and decompacted areas shall be re-vegetated with native species specific to the project location that comprise a diverse community of woody and herbaceous species **(BR-27).**

40. All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the California Department of Fish & Wildlife Aquatic Invasive Species Decontamination Protocol **(BR-28).**

41. Final structure design and placement will be determined by field consultation between the Grantee and the Grantor Project Managers. All habitat improvements will follow techniques described in the California Salmonid Stream Habitat Restoration Manual **(BR-29).**

42. The Grantee shall notify the Grantor Project Manager a minimum of five working days before the project site is de-watered and the stream flow diverted. The notification will provide a reasonable time for Grantor personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids: **(BR-30)**

    a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.

    b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the California Salmonid Stream Habitat Restoration Manual.

    c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant

Manager and pursuant to conditions in the USACE Regional General Permit and NMFS Biological Opinion.

d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 200

e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW Grant Manager on a form provided by CDFW.

Cultural Resources

43. For all ground disturbing construction activities, the applicant shall retain a County-approved archaeologist to monitor these activities. The applicant shall install any necessary protective field measures, as directed by the archaeologist, and shall keep them in good working order during construction. Upon discovery, the applicant shall take immediate remedial actions should corrective measures be needed. If any significant archaeological resources or human remains are found during monitoring, work shall stop within the immediate vicinity (precise area to be determined by the archaeologist in the field) of the resource until such time as the resource can be evaluated by an archaeologist and any other appropriate individuals **(CR-1).**

44. Pursuant to RGP78 and in accordance to 36 C.F.R. Section 800.13, in the event of any discovery during construction of human remains, archeological deposits, or any other type of historic property, the CDFW shall notify the USACE archeological staff (Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861) within 24 hours. Construction work shall be suspended immediately and shall not resume until USACE re-authorizes project construction **(CR-2).**

45. If it becomes impossible to implement the project at a work site without disturbing cultural or paleontological resources, then activity at that work site shall be discontinued **(CR-3).**

Geology and Soils

46. CDFW will implement the following measures to minimize harm to listed salmonids resulting from culvert replacement activities and other instream construction work: **(GS-1).**

    a. All stream crossing replacement or modification designs, involving fish passage, shall be reviewed and approved by NOAA (or CDFW) engineers prior to onset of work.

    b. If the stream in the project location was not passable to, or was not utilized ball life stages of, all covered salmonids prior to the existence of the road crossing, the project shall pass the life stages and covered salmonid species that historically did pass there. Retrofit culverts shall meet the fish passage criteria for the passage needs of the listed species and life stages historically passing through the site prior to the existence of the road crossing.

47. CDFW shall implement the following measures to minimize harm to riparian wildlife resulting from road decommissioning activities: **(GS-2).**

    a. Woody debris will be concentrated on finished slopes of decommissioned roads adjacent to stream crossings to reduce surface erosion; contribute to amounts of organic debris in

the soil; encourage fungi; provide immediate cover for small terrestrial species; and to speed recovery of native forest vegetation.

b. Work sites shall be winterized at the end of each day to minimize the eroding of unfinished excavations when significant rains are forecasted. Winterization procedures shall be supervised by a professional trained in erosion control techniques and involve taking necessary measures to minimize erosion on unfinished work surfaces. Winterization includes the following: smoothing unfinished surfaces to allow water to freely drain across them without concentration or ponding; compacting unfinished surfaces where concentrate runoff may flow with an excavator bucket or similar tool, to minimize surface erosion and the formation of rills; and installation of culverts, silt fences, and other erosion control devices where necessary to convey concentrated water across unfinished surfaces, and trap exposed sediment before it leaves the work site.

48. Effective erosion control measures shall be in-place at all times during construction. Construction within the 5-year flood plain shall not begin until all temporary erosion controls (i.e., straw bales or silt fences that are effectively keyed-in) are in place down slope or down stream of project activities within the riparian area. Erosion control measures shall be maintained throughout the construction period. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided **(GS-3).**

49. An adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) shall be maintained onsite to facilitate a quick response to unanticipated storm events or emergencies **(GS-4).**

50. Use erosion controls that protect and stabilize stockpiles and exposed soils to prevent movement of materials. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils **(GS-5).**

51. When needed, instream grade control structures shall be utilized to control channel scour, sediment routing, and headwall cutting **(GS-6).**

52. Temporary stockpiling of excavated material shall be minimized. However, excavated material shall be stockpiled in areas where it cannot enter the stream channel. Available sites at or near the project location shall be determined prior to the start of construction. If feasible, topsoil shall be conserved for reuse at project location or use in other areas **(GS-7).**

53. Each year, all instream projects shall be separated both upstream and downstream from other proposed instream projects by at least 1500 linear feet in fish bearing stream reaches. In non-fish bearing reaches, the distance separating sediment- producing projects will be 500 feet **(GS-8).**

54. Upon project completion, all exposed soil present in and around the project site shall be stabilized within 7 days. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not

less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment **(GS-9).**

55. Soil compaction shall be minimized by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed and less compaction of disturbed areas **(GS-10).**

56. Disturbed soils shall be de-compacted at project completion as heavy equipment exits the construction area **(GS-11).**

57. At the completion of the project, soil compaction that is not an integral element of the design of a crossing should be de-compacted **(GS-12).**

Hazards and Hazardous Materials

58. Heavy equipment that will be used in these activities will be in good condition and will be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started **(HAZ-1).**

59. When operating vehicles in wetted portions of the stream channel, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, the responsible party shall, at a minimum, do the following: **(HAZ-2).**

    a. Check and maintain on a daily basis any vehicles to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat;

    b. Take precautions to minimize the number of passes through the stream and to avoid increasing the turbidity of the water to a level that is deleterious to aquatic life; and

    c. Allow the work area to "rest" to allow the water to clear after each individual pass of the vehicle that causes a plume of turbidity above background levels, resuming work only after the stream has reached the original background turbidity levels.

60. All equipment operators shall be trained in the procedures to be taken should an accident occur. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a Spill Prevention/Response plan to help avoid spills and allow a prompt and effective response should an accidental spill occur. All workers shall be informed of the importance of preventing spills. Operators shall have spill clean-up supplies on site and be knowledgeable in their proper deployment. **(HAZ-3)**

61. All activities performed in or near a stream will have absorbent materials designed for spill containment and cleanup at the activity site for use in case of an accidental spill. In an event of a spill, work shall cease immediately. Clean-up of all spills shall begin immediately. The responsible party shall notify the State Office of Emergency Services at 1-800-852-7550 and

the CDFW immediately after any spill occurs and shall consult with the CDFW regarding clean-up procedures. (HAZ-4)

62. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet from any riparian habitat or water body and place fuel absorbent mats under pump while fueling. The USACE and the CDFW will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the CDFW will ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. (HAZ-5)

63. Location of staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's highwater channel and associated riparian area. The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action. To avoid contamination of habitat during restoration activities, trash will be contained, removed, and disposed of throughout the project. (HAZ-6)

64. Stationary equipment such as motors, pumps, generators, compressors, and welders, located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. (HAZ-7)

65. No debris, soil, silt, sand, bark, slash, spoils, sawdust, rubbish, cement, concrete or washings thereof, asphalt, paint, or other coating material; oil or petroleum products; or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into, or placed where it maybe washed by rainfall or runoff into, waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area and disposed of in a lawful manner. (HAZ-8)

66. All internal combustion engines shall be fitted with spark arrestors. (HAZ-9)

67. The grantee shall have an appropriate fire extinguisher(s) and firefighting tools (shovel and axe at a minimum) present at all times when there is a risk of fire. (HAZ-10)

68. Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire. (HAZ-11)

69. The grantee shall follow any additional rules the landowner has for fire prevention. (HAZ-12)

70. No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. Any and all equipment will be removed from the streambed and flood plain areas at the end of each workday. **(HAZ-13)**

71. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas. **(HAZ-14)**

Hydrology and Water Quality

72. Instream work shall be conducted during the period of lowest flow. **(WC-1)**

73. Before work is allowed to proceed at a site, CDFW shall inspect the site to assure that turbidity control measures are in place. **(WC-2)**

74. The waste water from construction area shall be discharged to an upland location where it will not drain sediment-laden water back to stream channel. **(WC-3)**

75. To control erosion during and after project implementation, CDFW shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board.

76. Sediment-laden water caused by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area. Silt fences or other detention methods shall be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.

77. If CDFW determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW approved sediment control devices are installed and/or abatement procedures are implemented.

78. If the CDFW determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW approved sediment control devices are installed and/or abatement procedures are implemented.

79. Prior to use, all equipment shall be cleaned to remove external oil, grease, dirt, or mud. Wash sites shall be located in upland locations so that dirty wash water does not flow into the stream channel or adjacent wetlands.

Transportation/Traffic

80. During excavation for culvert replacement, the grantee shall provide a route for traffic around or through the construction site. **(TR-1)**

Conditions to be completed prior to occupancy or final building inspection /establishment of the use

81. Landscaping in accordance with the approved landscaping plan shall be installed or bonded for before final building inspection. If bonded for, landscaping shall be installed within 60 days after final building inspection. All landscaping shall be maintained in a viable condition in perpetuity.

82. **Prior to occupancy or final inspection**, which ever occurs first, the applicant shall obtain final inspection and approval from County Fire /CalFire of all required fire/life safety measures.

83. **Prior to occupancy of any structure associated with this approval**, the applicant shall contact the Department of Planning and Building to have the site inspected for compliance with the conditions of this approval.

On-going conditions of approval (valid for the life of the project)

84. **On-going condition of approval (valid for the life of the project)**, and in accordance with County Code Section 13.08, no activities associated with this permit shall be allowed to occur within the public right-of-way including, but not limited to, project signage; tree planting; fences; etc. without a valid encroachment permit issued by the Department of Public Works.

85. This land use permit is valid for a period of 24 months from its effective date unless time extensions are granted pursuant to Land Use Ordinance Section 23.02.050 or the land use permit is considered vested. This land use permit is considered to be vested once a construction permit has been issued and substantial site work has been completed. Substantial site work is defined by Land Use Ordinance Section 23.02.042 as site work progressed beyond grading and completion of structural foundations; and construction is occurring above grade.

86. All conditions of this approval shall be strictly adhered to, within the time frames specified, and in an on-going manner for the life of the project. Failure to comply with these conditions of approval may result in an immediate enforcement action by the Department of Planning and Building. If it is determined that violation(s) of these conditions of approval have occurred, or are occurring, this approval may be revoked pursuant to Section 23.10.160 of the Land Use Ordinance.