FOR CONTRACT NO.: 03-406604

INFORMATION HANDOUT

FOUNDATION REPORTS

Amended Foundation Recommendations for Riego Road OC, dated May 1, 2010

Foundation Recommendation for Riego Road OC, dated September 29, 2009

Foundation Report for Riego Road OC, Bridge Structure Number 18-0050, dated July 1, 2009

PERMITS

U.S. Army Corps of Engineers Permit

California Regional Water Quality Control Board Certification

MISCELLANEOUS REPORTS

Underground Classification (C015-101-11T thru C020-101-11T)

Installation of Battery Backup System

ROUTE: 03-SAC, SUT-99-36,6/36.9, 0.0/1.6

Memorandum

Flex your power!
Be energy efficient!

To: MR. GARY BLAKESLEY
Design Branch Chief
Office of Bridge Design Branch - North
Design Branch 5

Date: May 1, 2010

File: 03-SUT-99-PM 1.0
Bridge No. 18-0050
03-406601
Riego Road OC

Attn: MR. HENRY FANG

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Amended Foundation Recommendations

Introduction

Per your request dated April 13, 2010, we have prepared the following Amended Foundation Recommendations (FR) Report for the above referenced bridge. The scope of work for the FR consisted of site reconnaissance, subsurface investigations, and research of existing reports and previous investigations close to the proposed bridge site.

This proposed bridge over crosses Route 99 at PM 1.0 in Sutter County. The structure type proposed is a two span PC/PS SG girder bridge. The proposed deep foundation type for the bent and abutment is Caltrans Class 140 Alternative "X" driven precast concrete piles.

This FR is based on the information provided on the General Plan dated March 26, 2010, the Foundation Plan dated April 13, 2010, and the loads and cut off elevations included in the August 19, 2009 foundation loads memorandum.

Geology

The proposed Riego Road O.C. site is located in the Great Valley Geomorphic Province. This geomorphic province is bounded by the Sierra Nevada Mountains to the east, the Coast Ranges to the west, the Transverse Ranges to the south, and the Klamath Mountains to the north. The project site is underlain by thousands of feet of alluvial and basin deposits which consist of silt, sand and gravel.

Detailed geology information at the site is provided in a previous report titled "Riego Road Overcrossing Preliminary Foundation Report", Dokken Engineering, dated October 2007.

Seismicity

The subject structure is located about 27 miles north east of the Coast Ranges-Sierran Block (CSB) Fault (Fault mechanism: reverse including thrust) as shown on the Caltrans California Seismic Hazard Map 1996. The CSB fault has been assigned a maximum credible earthquake moment magnitude of M_w=7.0; and the Peak Bedrock Acceleration, based on the Geomatrix 97 attenuation equation is 0.2g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

Liquefaction analysis based on the results of the recent log of test borings indicates the potential for soil liquefaction of saturated loose to medium dense granular materials during a seismic event associated with the CSB fault is low to minimal

Based on the boring logs a final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum curve corresponding to soil profile Type D is recommended for design (see attached figure).

Subsurface Conditions

The site was explored with 3 mud rotary test borings (BH01-08 to BH03-08) and 3 Cone Penetration Tests (CPT) in August of 2008. The depths of the boreholes range from 145 feet to 150 feet deep. The subsurface materials encountered at the boreholes and CPT locations are mostly medium dense to dense silt and fine sand, and medium stiff to very stiff clay.

Ground Water

The ground water level was measured in August 2008, to be about 3.5 feet below ground surface.

Detailed ground water information at the site is provided in a previous report titled "Riego Road Overcrossing Preliminary Foundation Report", Dokken Engineering, dated October 2007.

Corrosivity

The Department considers a site to be corrosive to foundation elements if one or more of the following conditions exist for the representative soil samples taken at the site: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

According to the Corrosion Test Summary Report, dated January 14, 2009, this site is not corrosive to foundation elements. Since resistivity is greater than 1000 ohm-cm and pH is greater than 5.5 then chloride and sulfate contents were not tested. Table 1 presents the results from the corrosion laboratory tests.

Table 1

Sample Location	Material Type	Sample Depth (feet)	Minimum Resistivity (ohm-cm)	pH
BH01-08	Soil	0-5	1218	7.67
BH01-08	Soil	10-15	7549	8.06
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BH03-08	Soil	5-10	1948	8.17
BH03-08	Soil	15-20	1796	8.33

Design and Analysis

The geotechnical capacity analysis of the driven concrete piles was calculated using Federal Highway Administration's Driven 1.2 software. The program follows the Nordlund (1963, 1979), Thurman (1964), Meyerhof (1976), Cheney and Chassie (1982), Tomlinson (1980, 1985), and Hannigan (1997).

For the cohesionless materials (sand layers) the angles of internal friction, ϕ^{o}, undrained shear strength S_u and unit weights, γ, are correlated from N'_{60} which is the SPT value N_{field} corrected for effective vertical overburden pressure based on Peck, 1974 and Caltrans Drill Rig Hammer Evaluation Report, December 2005. It is assumed that cohesion is zero for the sand layers.

Recommendations

The following pile information was provided by Caltrans Structure Design Branch 5, dated April 13, 2010.

Table 2. General Foundation Information

General Foundation Information								
Support No.	Design Method	Pile Type	FG Elev (ft)	Cut-off Elev (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load (in)	Number of Piles per Support
					B	L		
Abut 1	WSD	Class 140	35.508	29.758	8	159.89	1	60
Bent 2	LRFD	Class 140	20.404	13.821	15	15	1	125
Abut 3	WSD	Class 140	35.468	29.718	8	159.89	1	60

Table 3. Foundation Design Loads

Foundation Design Loads											
Support No.	Service-I Limit State (kips)			Strength Limit State (Controlling Group) (kips)				Extreme Event Limit State (controlling Group) (kips) Strength Limit State (Controlling Group) (kips)			
	Total Load		Permanent Load	Compression		Tension		Compression		Tension	
	Per Support	Max. Per Pile	Per Support	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile
Abut 1	4911	140	2931	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bent 2	13317	N/A	9053	18843	167	0	0	17442	164	0	0
Abut 3	4529	140	2612	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tip elevations for the driven piles are presented in Table 4 and 5. Piles at the abutments should be driven after most of the settlement caused by the new fill has occurred to minimize additional loading from settlement. The estimated settlement is in the magnitude of 4 inches. The estimated time for 90 percent settlement to occur is 14 days.

Table 4. Foundation Recommendations for Abutments

Abutment Foundations Design Recommendations									
Support	Pile	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per Support		LRFD Service-I Limit State Total Load (kips) per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut 1	Class 140 Alt "X"	29.8	4911	2931	140	280	-37 (a)	-37	280
Abut 3	Class 140 Alt "X"	29.7	4529	2612	140	280	-37 (a)	-37	280

Notes:
1. Design tip elevations are controlled by: (a) Compression.
2. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance.

Table 5. Foundation Recommendations for Bent

Bent Foundations Design Recommendations											
Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load (kips) per Support	Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (ϕ = 0.7)	Tension (ϕ = 0.7)	Comp. (ϕ = 1)	Tension (ϕ = 1)			
Bent 2	Class 140 Alt "X"	13.8	13317	1	167	0	164	0	-40 (a-I) -29 (a-II)	-40	240

Notes:
1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event).
2. The specified tip elevation shall not be raised above the design tip elevations for lateral.
3. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance.
4. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 6. Pile Data Table

Pile Data Table						
Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 140 X	280	0	-37 (a)	-37	280
Bent 2	Class 140 X	240	0	-40 (a-l)	-40	240
Abut 3	Class 140 X	280	0	-37 (a)	-37	280

Notes:
1. Design tip elevations controlled by: (a) Compression.

Notes to Designer

1. The Design Engineer shall indicate on the plans, in the pile data table, the design pile tip elevations required to meet lateral load demands.

Construction Considerations

1. Pile acceptance shall be based upon Section 49-1.08 of Caltrans Standard Specifications, dated May 2006.

Project Information

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the information Handout will be provided in Acrobat (pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

A. Log of Test Borings for Riego Road OC Bridge, Structure Number 18-0050.

Data and Information included in the Information Handout provided to the bidders

and contractors are

A. Foundation Report for Riego Road OC Bridge, Structure Number 18-0050, dated July 1, 2009.

Data and Information available for inspection at the District Office:

A. None

If you have any questions regarding this report, please contact Luke Leong at (916) 227-1081, or Reza Mahallati at (916) 227-1033, or Douglas Brittsan at (916) 227-1079.

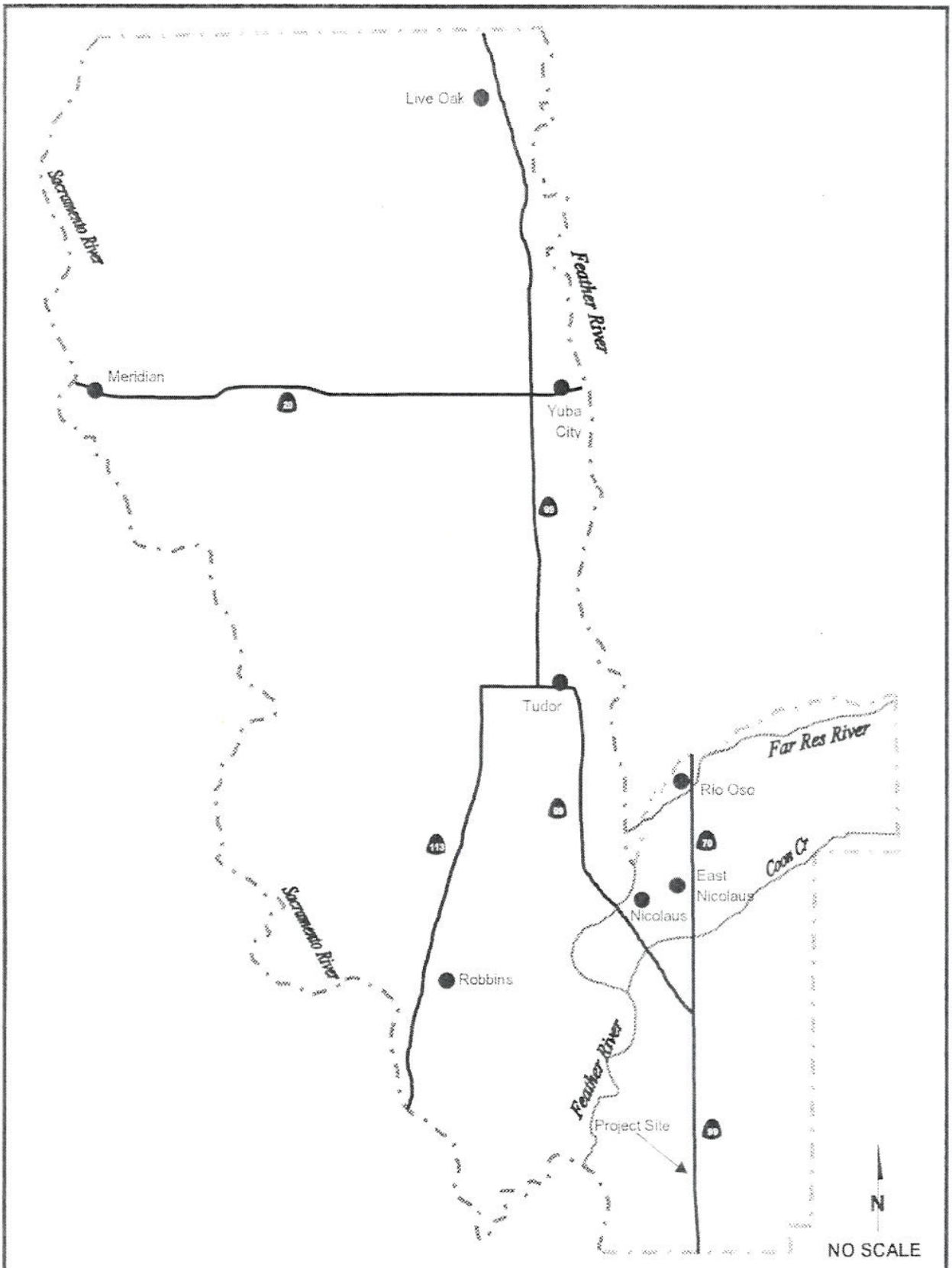
Luke Leong, P. E
Transportation Engineer (Civil)
Geotechnical Design – North

Reza Mahallati, P.E.
Senior Transportation Engineer (Civil)
Geotechnical Design – North

Attachments:

Vicinity Map
General Plan
Foundation Plan
Acceleration Response Spectrum

c: DougBrittsan
GS File Room – gs_file_room@dot.ca.gov
~~Clark Peri – D03 Project Manager~~
GS Corporate – Mark_Willian@dot.ca.gov
Rebecca Harnagel – DES Office Engineer, Office of PS&E
Structure Construction R.E. Pending – RE_Pending_File@dot.ca.gov
JoePeterson – D03 Materials Engineer
Winder Bajwa – D03 Project Manager



CALTRANS Engineering Services Office of Geotechnical Services Geotechnical Design Branch - North	EA: 03-SUT-99-PM 1.0 Date: 05/01/10	VICINITY MAP
	03-SUT-99-PM 1.0 Foundation Report	PLATE NO. 1

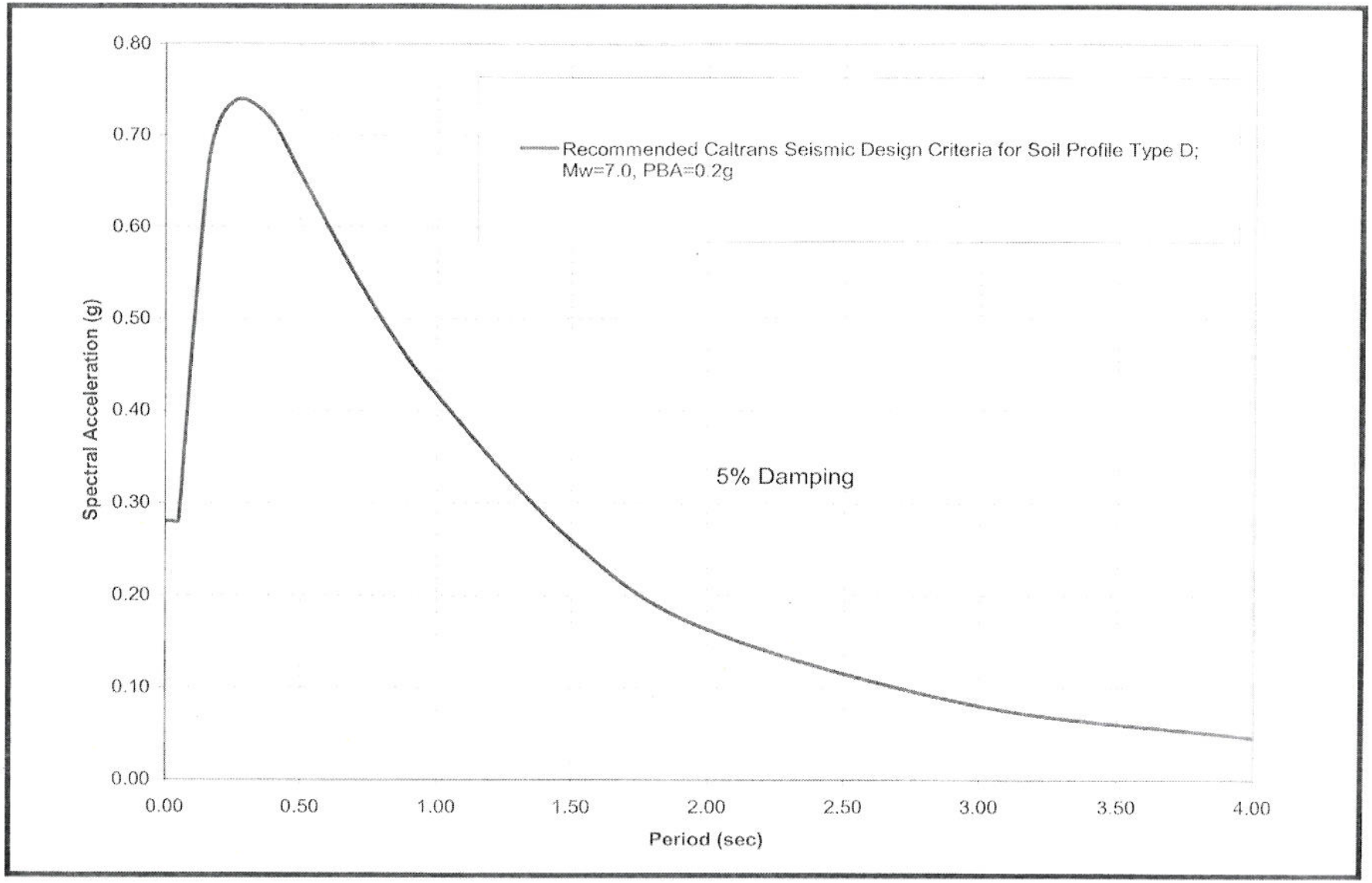
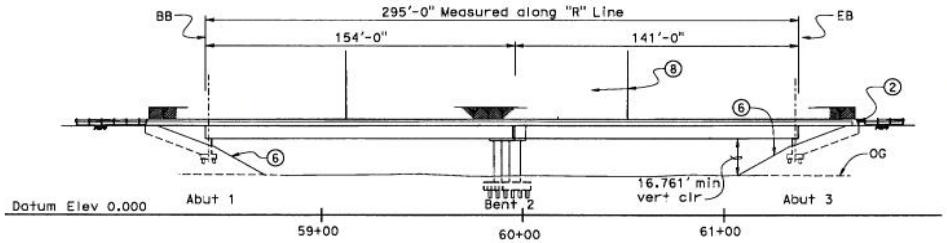
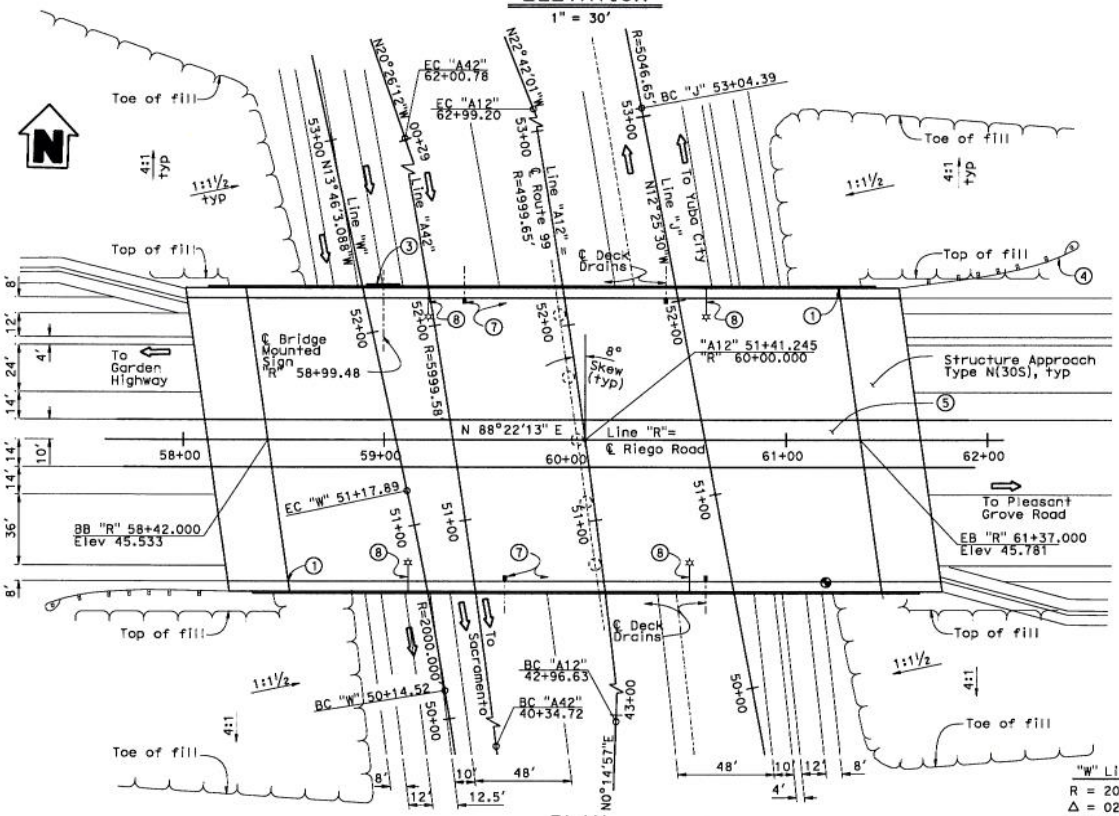


Figure 1. Acceleration Response Spectrum Recommended for Design



ELEVATION
1" = 30'



PLAN
1" = 30'

Lighting Standard Locations

"R" Sta 59+12
"R" Sta 59+20
"R" Sta 60+52
"R" Sta 60+60

Notes:

1. Paint "Bridge No. 18-0050"
2. Paint "Riego Road Overcrossing"
3. Bridge Mounted Sign, see "Road Plans"
4. Metal Beam Guard Rail, see "Road Plans"
5. Raised Median, see "Road Plans"
6. Slope Paving
7. Deck Drain Type D-1, see "Girder Layout" sheet
8. Lighting Standard, see "Road Plans"

Point of min vert clearance

Curve Data

"W" Line	"A42" Line	"A12" Line	"J" Line
R = 2000'	R = 5999.50'	R = 4999.65'	R = 5046.65'
Δ = 02°57'40"	Δ = 20°41'09"	Δ = 22°56'58"	Δ = 03°24'22"
T = 51.694'	T = 1094.951'	T = 1014.89'	T = 150.04'
L = 103.366'	L = 7166.064'	L = 2002.58'	L = 300.00'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Sac, Sut	99			

REGISTERED CIVIL ENGINEER — DATE

Henry Fong
No. 58541
EXP. 06/2011
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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	BY	CHECKED
DESIGN	H. Fong	M. Guadamuz
DETAILS	A. Chen	M. Guadamuz
QUANTITIES	C. Burgarin	S. Heredia

LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY" PERMIT DESIGN VEHICLE

	BY	CHECKED
LAYOUT	H. Fong	N. Guadamuz
SPECIFICATIONS	X	PLANS AND SPECS COMPARED X

X
DESIGN ENGINEER

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 5

CU 03
EA 406601

BRIDGE NO. 18-0050
POST MILE 1.0

RIEGO ROAD OVERCROSSING
GENERAL PLAN 1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES								
07-24-06	07-24-08	08-06-09	12-16-09	2-25-10	3-17-10	3-24-10	4-30-10	

SHEET 1 OF 24

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)

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03	Sac, Sut	99			

REGISTERED CIVIL ENGINEER DATE

Henry Fong
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Exp. 06/2011
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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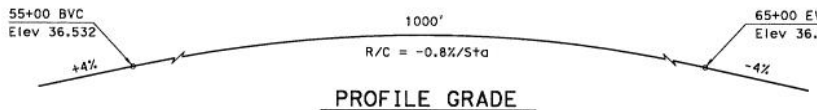

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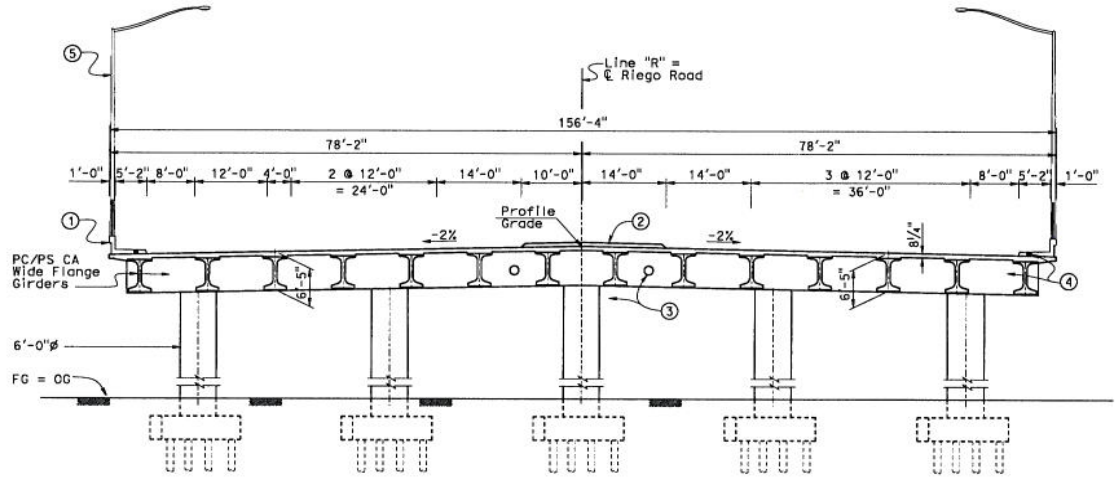
No Scale



TYPICAL SECTION

1" = 10'

Notes:

1. Concrete Barrier Type 26 with Chain Link Railing Type 6
2. Raised Median, see "Road Plans"
3. 2 - 1'-6"ø Future Utility Opening
4. 2 - 3"ø Electrical Conducts
5. Lighting Standard, see "Road Plan"

DESIGN	BY H. Fong	CHECKED M. Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 18-0050 POST MILE 1.0	RIEGO ROAD OVERCROSSING GENERAL PLAN 2	
DETAILS	BY A. Chen	CHECKED M. Guadamuz					
QUANTITIES	BY C. Burgarin	CHECKED S. Heredia					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		CU 03 EA 406601		DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES 2-9-10 4-14-10 9-30-13	SHEET 2 OF 24

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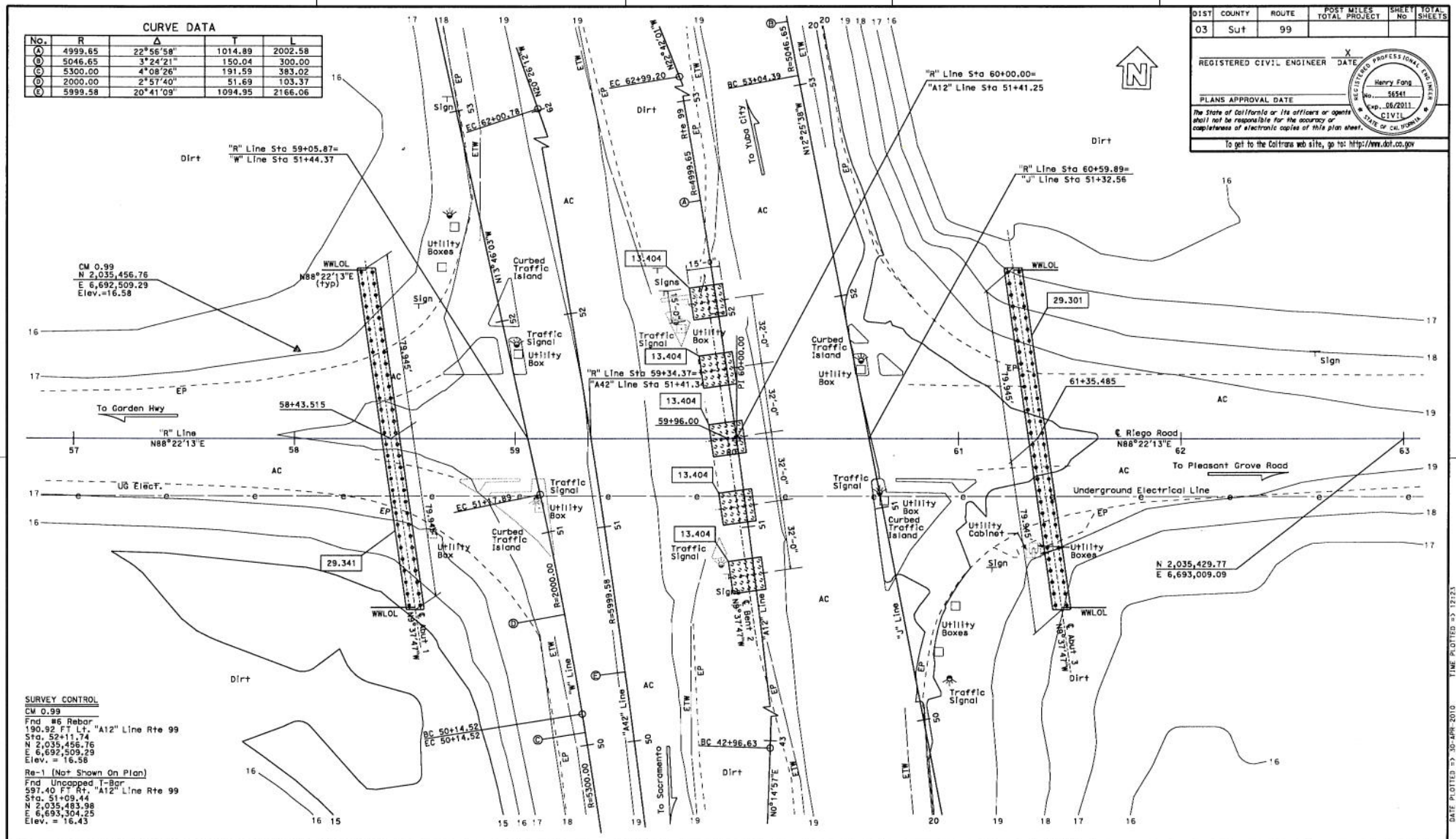
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A 4999.65 22°56'58" 1014.89 2002.58
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C 5300.00 4°08'26" 191.59 383.02
D 2000.00 2°57'40" 51.69 103.37
E 5999.58 20°41'09" 1094.95 2166.06
DIST COUNTY ROUTE POST MILES TOTAL PROJECT SHEET No TOTAL SHEETS
03 Sut 99
REGISTERED CIVIL ENGINEER DATE
Henry Fong No. 56541 Exp. 06/2011 CIVIL STATE OF CALIFORNIA
PLANS APPROVAL DATE
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"R" Line Sta 59+05.87= "W" Line Sta 51+44.37
"R" Line Sta 60+00.00= "A12" Line Sta 51+41.25
"R" Line Sta 60+59.89= "J" Line Sta 51+32.56
"R" Line Sta 59+34.37= "A42" Line Sta 51+41.34
CM 0.99
N 2,035,456.76
E 6,692,509.29
Elev.=16.58
WWLOL
N88°22'13"E (typ)
To Garden Hwy
"R" Line N88°22'13"E
To Yuba City
To Sacramento
To Pleasant Grove Road
℄ Riego Road N88°22'13"E
Underground Electrical Line
UG Elect.
Curbed Traffic Island
Traffic Signal
Utility Box
Utility Boxes
Utility Cabinet
Signs
Sign
Dirt
AC
EP
ETW
"W" Line
"A42" Line
"J" Line
58+43.515
61+35.485
29.341
29.301
19.945'
13.404
15'-0"
32'-0"
R=2000.00
R=5999.58
R=5300.00
R=4999.65
R=5046.65
BC 50+14.52
EC 50+14.52
EC 51+47.89
BC 53+04.39
EC 62+00.78
EC 62+99.20
BC 42+96.63
59+96.00
N 2,035,429.77
E 6,693,009.09
SURVEY CONTROL
CM 0.99
Fnd #6 Rebar
190.92 FT Lt. "A12" Line Rte 99
Sta. 52+11.74
N 2,035,456.76
E 6,692,509.29
Elev. = 16.58
Re-1 (Not Shown On Plan)
Fnd Uncapped T-Bar
597.40 FT Rt. "A12" Line Rte 99
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N 2,035,483.98
E 6,693,304.25
Elev. = 16.43
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ALIGNMENT TIES Dist. Traverse Sheet
PHOTOGRAMMETRY AS OF: x
SURVEYED BY District
DRAFTED BY T.Zolnikova 09/2008
CHECKED BY T.Mason 09/2008
CHECKED BY S.Sou 09/2008
DESIGN BY H. Fong CHECKED M. Guodamuz
DETAILS BY A. Chen CHECKED M. Guodamuz
QUANTITIES BY C. Burgarin CHECKED S. Heredia
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 05
BRIDGE NO. 18-0050
POST MILE 1.0
RIEGO ROAD OC
FOUNDATION PLAN
CU 03
EA 406601
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/28/05)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES
SHEET 5 OF 24
FILE => 03-406601-e-fpl.dgn
DATE PLOTTED => 30-APR-2010 TIME PLOTTED => 12:23
USERNAME => achen

Memorandum

Flex your power!
Be energy efficient!

To: MR. GARY BLAKESLEY
Design Branch Chief
Office of Bridge Design Branch - North
Design Branch 5

Date: September 29, 2009

File: 03-SUT-99-PM 1.0
Bridge No. 18-0050
03-406601
Riego Road OC

Attn: MR. HENRY FANG

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Recommendations

Introduction

Per your request dated May 4, 2009 and the foundation loads memorandum dated August 19, 2009, we have prepared the following Foundation Recommendations (FR) for the above referenced bridge. The scope of work consisted of site reconnaissance, subsurface investigations, and research of existing reports and previous investigations close to the proposed bridge site.

This proposed bridge over crosses Route 99 at PM 1.0 in Sutter County. The structure type proposed is a two span PC/PS SG girder bridge. The proposed deep foundation type for the bent and abutment is Caltrans Class 140 Alternative "X" driven precast concrete piles.

This FR is based on the information provided on the General Plan dated December 2, 2008, the Foundation Plan dated October 3, 2008, and the loads and cut off elevations included in the August 19, 2009 foundation loads memorandum.

Geology

The proposed Riego Road O.C. site is located in the Great Valley Geomorphic Province. This geomorphic province is bounded by the Sierra Nevada Mountains to the east, the Coast Ranges to the west, the Transverse Ranges to the south, and the Klamath

Mountains to the north. The project site is underlain by thousands of feet of alluvial and basin deposits which consist of silt, sand and gravel.

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The geotechnical capacity analysis of the driven concrete piles was calculated using Federal Highway Administration's Driven 1.2 software. The program follows the Nordlund (1963, 1979), Thurman (1964), Meyerhof (1976), Cheney and Chassie (1982), Tomlinson (1980, 1985), and Hannigan (1997).

For the cohesionless materials (sand layers) the angles of internal friction, ϕ°, undrained shear strength S_u and unit weights, γ, are correlated from N'_{60} which is the SPT value N_{field} corrected for effective vertical overburden pressure based on Peck, 1974 and

Caltrans Drill Rig Hammer Evaluation Report, December 2005. It is assumed that cohesion is zero for the sand layers.

Recommendations

The following are the pile information provided by Caltrans Structure Design Branch 5, dated August 19, 2009.

Table 2. General Foundation Information

General Foundation Information								
Support No.	Design Method	Pile Type	FG Elev (ft)	Cut-off Elev (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load (in)	Number of Piles per Support
					B	L		
Abut 1	WSD	Class 140	33.446	27.696	8	84.83	1	32
Bent 2	LRFD	Class 140	18.900	12.317	12	15	1	60
Abut 3	WSD	Class 140	34.041	28.707	8	84.83	1	30

Table 3. Foundation Design Loads

Foundation Design Loads											
Support No.	Service-I Limit State (kips)			Strength Limit State (Controlling Group) (kips)				Extreme Event Limit State (controlling Group) (kips) Strength Limit State (Controlling Group) (kips)			
	Total Load		Permanent Load	Compression		Tension		Compression		Tension	
	Per Support	Max. Per Pile	Per Support	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile
Abut 1	2365	140	1615	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bent 2	7263	N/A	5796	10277	184	0	0	9513	181	0	0
Abut 3	2115	134	1392	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tip elevations for the driven piles are presented in Table 4 and 5. Piles at the abutments should be driven after most of the settlement caused by the new fill has occurred to minimize additional loading from settlement. The estimated settlement is in the magnitude of 4 inches. The estimated time for 90 percent settlement to occur is 14 days.

Table 4. Foundation Recommendations for Abutments

Abutment Foundations Design Recommendations									
Support	Pile	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per Support		LRFD Service-I Limit State Total Load (kips) per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut 1	Class 140 Alt "X"	27.7	2365	1615	140	280	-37 (a)	-37	280
Abut 3	Class 140 Alt "X"	28.7	2115	1392	134	270	-33 (a)	-33	270

Notes:
1. Design tip elevations are controlled by: (a) Compression.
2. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance.

Table 5. Foundation Recommendations for Bent

Bent Foundations Design Recommendations											
Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load (kips) per Support	Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (ϕ = 0.7)	Tension (ϕ = 0.7)	Comp. (ϕ = 1)	Tension (ϕ = 1)			
Bent 2	Class 140 Alt "X"	12.3	7263	1	184	0	181	0	-43 (a-I) -31 (a-II)	-43	270

Notes:
1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event).
2. The specified tip elevation shall not be raised above the design tip elevations for lateral.
3. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance.
4. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 6. Pile Data Table

Pile Data Table						
Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 140 X	280	0	-37 (a)	-37	280
Bent 2	Class 140 X	270	0	-43 (a)	-43	270
Abut 3	Class 140 X	280	0	-33 (a)	-33	270

Notes:
1. Design tip elevations controlled by: (a) Compression.

Notes to Designer

1. The Design Engineer shall indicate on the plans, in the pile data table, the design pile tip elevations required to meet lateral load demands.

Construction Considerations

1. Pile acceptance shall be based upon Section 49-1.08 of Caltrans Standard Specifications, dated May 2006.

Project Information

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the information Handout will be provided in Acrobat (pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

A. Log of Test Borings for Riego Road OC Bridge, Structure Number 18-0050.

Data and Information included in the Information Handout provided to the bidders

and contractors are

A. Foundation Report for Riego Road OC Bridge, Structure Number 18-0050, dated July 1, 2009.

Data and Information available for inspection at the District Office:

A. None

Data and information available for inspection at the Transportation Laboratory:

A. *Core samples obtained during 2008 foundation investigations.*

If you have any questions regarding this report, please contact Luke Leong at (916) 227-1081, or Reza Mahallati at (916) 227-1033, or Douglas Brittsan at (916) 227-1079.

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Transportation Engineer (Civil)
Geotechnical Design – North

Reza Mahallati, P.E.
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R.E. Pending File
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JoePeterson – D03 (DME) (E-copy)
GDN File
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Reigo Road OC
Br. No. 18-0050
03-406601

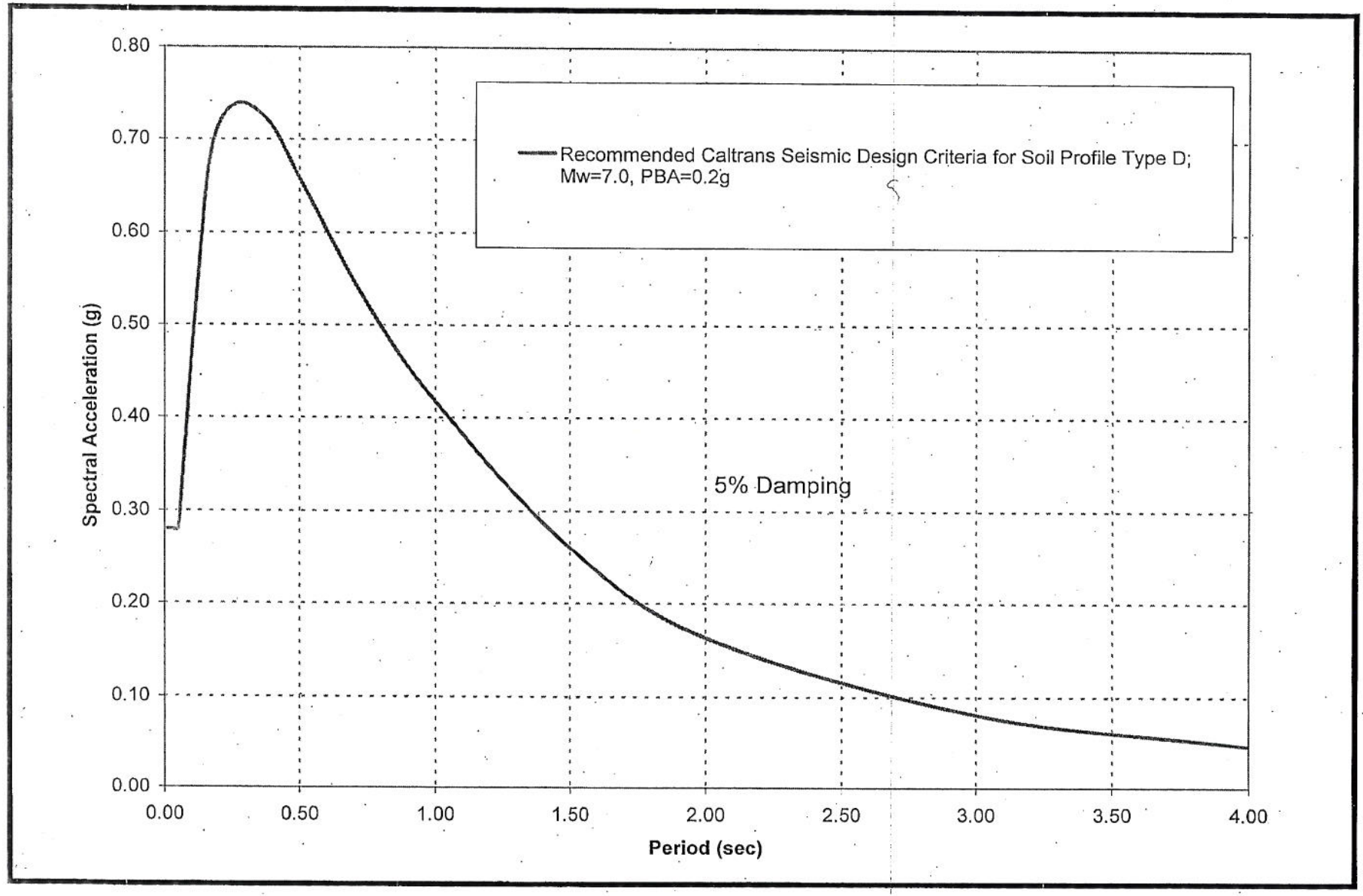

Figure 1. Acceleration Response Spectrum Recommended for Design

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: MR. GARY BLAKESLEY
Design Branch Chief
Office of Bridge Design Branch - North
Design Branch 5

Date: July 1, 2009

File: 03-SUT-99-PM 1.0
Bridge No. 18-0050
03-406601
Riego Road OC

Attention: Mr. Henry Fang

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Draft Foundation Recommendations

Introduction

Per your request dated May 4th, 2009, we have prepared the following Foundation Recommendations (FR) for the above referenced bridge. The scope of work consisted of site reconnaissance, subsurface investigations, and research of existing reports and previous investigations close to the proposed bridge site.

This proposed bridge over crosses Route 99 at PM 1.0 in Sutter County. The structure type proposed is a two span PC/PS SG girder bridge. The proposed deep foundation type for the bent and abutment is Caltrans Class 140 Alternative X driven precast concrete piles.

This FR is based on the information provided on the General Plan dated December 2nd, 2008, the Foundation Plan dated October 3rd, 2008, and the estimated maximum factored compression loads and cut off elevations included in the May 4th, 2009, FR Request.

Geology

The proposed Riego Road O.C. site is located in the Great Valley Geomorphic Province. This geomorphic province is bounded by the Sierra Nevada Mountains to the east, the Coast Ranges to the west, the Transverse Ranges to the south, and the Klamath Mountains to the north. The project site is underlain by thousands of feet of alluvial and basin deposits which consist of silt, sand and gravel.

Detailed geology information at the site is provided in a previous report titled "Riego Road Overcrossing Preliminary Foundation Report", Dokken Engineering, dated October 2007.

Seismicity

The subject structure is located about 27 miles north east of the Coast Ranges-Sierran Block (CSB) Fault (Fault mechanism: reverse including thrust) as shown on the Caltrans California Seismic Hazard Map 1996. The CSB fault has been assigned a maximum credible earthquake moment magnitude of M_w=7.0; and the Peak Bedrock Acceleration, based on the Geomatrix 97 attenuation equation is 0.2g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

Liquefaction analysis based on the results of the recent log of test borings indicates the potential for soil liquefaction of saturated loose to medium dense granular materials during a seismic event associated with the CSB fault is low to minimal

Based on the boring logs a final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum curve corresponding to soil profile Type D is recommended for design (see attached figure).

Subsurface Conditions

The site was explored with 3 mud rotary test borings (BH01-08 to BH03-08) and 3 Cone Penetration Tests (CPT) in August of 2008. The depths of the boreholes range from 145 feet to 150 feet deep. The subsurface materials encountered at the boreholes and CPTs location are mostly medium dense to dense silt and fine sand, and medium stiff to very stiff clay.

Ground Water

The ground water level was measured in August 2008, to be about 3.5 feet below ground surface.

Detailed ground water information at the site is provided in a previous report titled "Riego Road Overcrossing Preliminary Foundation Report", Dokken Engineering, dated October 2007.

Corrosivity

The Department considers a site to be corrosive to foundation elements if one or more of the following conditions exist for the representative soil samples taken at the site: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

According to the Corrosion Test Summary Report, dated January 14, 2009, this site is not corrosive to foundation elements. Since resistivity is greater than 1000 ohm-cm and pH is greater than 5.5 then chloride and sulfate contents were not tested. Table 1 presents the results from the corrosion laboratory tests.

Table 1

Sample Location	Material Type	Sample Depth (feet)	Minimum Resistivity (ohm-cm)	pH
BH01-08	Soil	0-5	1218	7.67
BH01-08	Soil	10-15	7549	8.06
BH02-08	Soil	0-5	2591	8.06
BH02-08	Soil	25-30	2536	8.16
BH03-08	Soil	5-10	1948	8.17
BH03-08	Soil	15-20	1796	8.33

Design and Analysis

The geotechnical capacity analysis of the driven concrete piles was calculated using Federal Highway Administration's Driven 1.2 software. The program follows the Nordlund (1963, 1979), Thurman (1964), Meyerhof (1976), Cheney and Chassie (1982), Tomlinson (1980, 1985), and Hannigan (1997).

For the cohesionless materials (sand layers) the angles of internal friction, ϕ^o, undrained shear strength S_u and unit weights, γ, are correlated from N'_{60} which is the SPT value N_{field} corrected for effective vertical overburden pressure based on Peck, 1974 and Caltrans Drill Rig Hammer Evaluation Report, December 2005. It is assumed that cohesion is zero for the sand layers.

Recommendations

Specified tip elevations for the driven piles are presented in Table 2. Piles at the abutments should be driven after most of the settlement caused by the new fill has occurred to minimize additional loading from settlement. The estimated settlement is in the magnitude of 4 inches. The estimated time for 90 percent settlement to occur is 14 days.

Table 2. Foundation Recommendations for Abutments

Pile Support	Pile	Cut-off Elevation (ft)	Nominal resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nonimal Driving Resistance Required (kips)
Abut 1	Class 140 X	29.6		-9 (a) ? (d)	-9 (a) ? (d)	
Abut 3	Class 140 X	29.8		-9 (a) ? (d)	-9 (a) ? (d)	

Notes:
1. Design tip elevations are controlled by: (a) "estimate of maximum factored compression loads" given by Structure Design (SD), and (d) Lateral. The loads are 121 and 114 kips for Abut 1 and 2, respectively.
2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral, and tolerable settlement
3. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance.
4. Design tip elevation for Lateral Load is typically provided by SD.

Table 3. Foundation Recommendations for Bent

Bent Foundations Design Recommendations											
Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load (kips) per Support	Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (ϕ = 0.7)	Tension (ϕ = 0.7)	Comp. (ϕ = 1)	Tension (ϕ = 1)			
Bent 2	Class 140 X	12.3	?	?	?	?	?	?	-26 (a) ? (a-I) ? (b-I) ? (a-II) ? (b_II) ? (d)	-26 (a) ? (a-I) ? (b-I) ? (a-II) ? (b_II) ? (d)	

Notes:
1. Design tip elevations are controlled by: (a) "estimate of maximum factored compression loads" of 148 kips given by Structure Design (SD), (a-I) Compression (Strength Limit), (b-I) Tension (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), and (d) Lateral Load.
2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral, and tolerable settlement
3. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance.
4. Design tip elevation for Lateral Load is typically provided by SD.

Notes to Designer

1. The Design Engineer shall indicate on the plans, in the pile data table, the design pile tip elevations required to meet lateral load demands.

Construction Considerations

1. Driven piles through abutment fill shall be in accordance with Section 49.106 of Caltrans Standard Specifications, dated May 2006.

2. Jetting or vibratory hammers shall not be used to obtain the specified pile penetration.

3. Verification of pile capacity during driving shall be determined in accordance with Section 49.108 of Caltrans Standard Specifications, dated May 2006.

Project Information

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the information Handout will be provided in Acrobat (pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

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A. Foundation Report for Riego Road OC Bridge, Structure Number 18-0050, dated July 1, 2009.

Data and Information available for inspection at the District Office:

A. None

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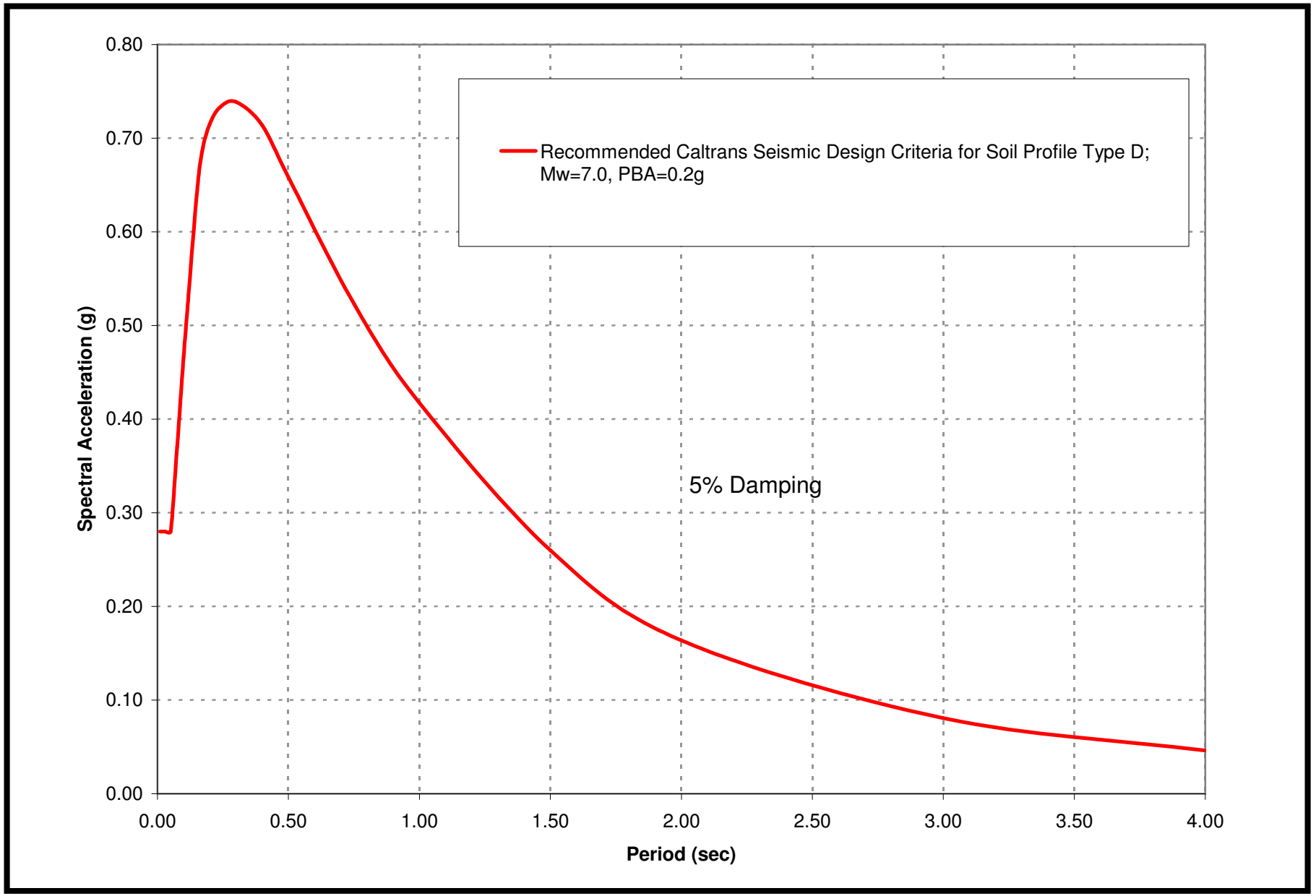


Figure 1. Acceleration Response Spectrum Recommended for Design

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

November 21, 2011

Regulatory Division (SPK-2010-01257)

State of California
Department of Transportation
Attn: Ms. Susan D. Bauer
P.O. Box 911
Marysville, California 95901-0911

Dear Ms. Bauer:

We are responding to your August 3, 2011 request for a Department of the Army permit for the State Route 99 (SR99) Riego Road Interchange project (Project). This approximately 113-acre project involves activities, including discharges of dredged or fill material, in waters of the United States to construct an interchange with new on-ramps and off-ramps. The project is located near Natomas East Main Drainage, Section 9, Township 10 North, Range 4 East, Mount Diablo Meridian and Basin, Latitude 38.7495894733557°, Longitude -121.540877172662°, Sutter County, California.

Based on the information you provided, we verify that the proposed activities within the Project area, resulting in the permanent loss of approximately 33.1 acres of farmed wetlands, 5.9 acres of seasonal wetlands, and 1.7 acres of other waters and temporary impacts to approximately 0.113 acres of seasonal wetlands and 0.014 acre of other waters is authorized by Nationwide Permit Number 23 (NWP), Approved Categorical Exclusions. However, until Section 401 Water Quality Certification for the activity has been issued or waived, our authorization is denied without prejudice. Once you have provided us evidence of water quality certification, the activity is authorized and the work may proceed subject to the conditions of certification and the NWP.

Furthermore, we understand the State of California, Department of Transportation (Caltrans) is the National Environmental Policy Act (NEPA) lead federal agency for this project, and as such, will ensure the authorized work complies with the National Environmental Policy Act, the Endangered Species Act, the National Historical Preservation Act and any other applicable federal laws. Your work must comply with the general terms and conditions listed on the enclosed NWP information sheets and the following special conditions:

Special Conditions

1. To mitigate for the loss of 33.1 acres of waters of the United States, specifically farmed wetlands, you shall;

a. Rehabilitate 5.95 acres of marsh complex (open water channels, perennial marsh, and seasonal wetlands) at Frazer South property.

b. Create 5.95 acres of upland buffer habitat at the Frazer South property.

c. Preserve 11.95 acres of farmed wetlands at the Elsie property.

2. In conjunction with the compensatory mitigation outlined above to mitigate for the loss of 33.1 acres of farmed wetlands, within one year from the start of any construction activities within waters of the U.S., you shall either;

a. Debit a total of 9.35 credits from Beach Lake Wetlands Mitigation Bank (6.908 perennial wetland credits, 2.248 seasonal wetland credits, and 0.194 riparian wetland credit) or,

b. Purchase 9.35 seasonal wetland creation credits at a Corps approved mitigation bank or,

c. Purchase 6.174 vernal pool creation credits at a Corps approved mitigation bank. The selected mitigation bank shall include the area of the permitted project within its service area.

3. To mitigate for the loss of 5.9 acres of waters of the United States, specifically seasonal wetlands, you shall;

a. Re-establish on-site 1.7 acres of seasonal wetlands within the created bio-swales as shown and described in the revised July 28, 2011 *Riego Road/State Route 99 Interchange Project, Sutter County, California - Clean Water Act Section 404 Nationwide Permit 23 Pre-construction Notification* and the August 2, 2011 conceptual *Wetland Mitigation and Monitoring Plan for the Riego Road/State Route 99 Interchange, Sutter County, California,*

b. Purchase 1.7 seasonal wetland creation credits at a Corps-approved mitigation bank within the 10-digit HUC (1802016104). The selected mitigation bank shall include the area of the permitted project within its service area.

c. Provide compensation monies for the creation of 3.4 acres of seasonal wetlands to the Sacramento District Wetlands Conservation Fund in the amount of $510,000.00 ($150,000 per acre x 3.4 acres) payable to the National Fish and Wildlife Foundation (NFWF). The *Lower Sacramento,* Hydrologic Unit Code #18020161, must be indicated in the in-lieu fee agreement in order to insure the proper location of future mitigation. Within fourteen (14) days of receiving a receipt that your fees have been deposited, you shall submit a copy (typically Exhibit B) to this office for recordation.

4. To mitigate for the loss of 1.7 acres of waters of the United States, specifically drainage ditches, you shall re-establish on-site 1.9 acres of other waters as shown and described in the revised July 28, 2011 *Riego Road/State Route 99 Interchange Project, Sutter County, California - Clean Water Act Section 404 Nationwide Permit 23 Pre-construction Notification.*

5. To ensure mitigation compliance described in special condition 1, the conceptual document entitled *Wetland Mitigation and Monitoring Plan for the Riego Road/State Route 99 Interchange, Sutter County, California*, dated August 2, 2011, is incorporated by reference as a condition of this authorization except as modified by the following special conditions:

6. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Corps prior to initiation of construction activities within waters of the United States. The plan shall include mitigation site design drawings, long-term management plan, site protection instrument, and final performance standards, and shall be presented in the format of the *Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004.*

7. You shall commence compensatory mitigation described in special conditions 1, 3 and 4 concurrent with, or prior to, the initiation of construction activities in waters of the U.S. In addition, you shall notify this office in writing at least 10 calendar days prior to the start of mitigation construction and within 10 calendar days following completion of the required mitigation work.

8. Prior to initiation of construction activities within waters of the United States, you shall implement the following financial assurance measures to ensure long-term viability of the off-site mitigation areas, as described in special condition 1 above:

a. Establish a fully-funded endowment to provide for maintenance and monitoring of on-site and off-site mitigation, preservation, and avoidance areas. Information on the proposed endowment holder and the proposed endowment agreement shall be provided to this office for approval prior to establishment.

b. Designate an appropriate conservation-oriented third-party entity to function as preserve manager and to hold the required conservation easements. Information on the proposed conservation easement holder shall be provided to this office for approval prior to designation.

c. Record permanent conservation easements maintaining all mitigation, preservation, and avoidance areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed conservation easement language shall be provided to this office for approval prior to recordation.

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

9. You shall submit annual mitigation monitoring reports to this office by May 1st each year of the monitoring period and for each additional year, if remediation is required. During monitoring years 3 & 5, the report shall include a wetland delineation of all preserved, created, enhanced, and restored waters of the U.S. The annual reports shall follow the format described in the enclosed Regulatory Guidance Letter No. 08-03, dated October 10, 2008 or subsequent guidance as appropriate.

10. You shall demonstrate continued success of the mitigation wetlands, without remedial action, for three consecutive years after the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met. You shall submit an additional monitoring report at the end of the three-year period demonstrating continued success of the compensatory mitigation program without remedial action.

11. Within 60 days following completion of compensatory mitigation construction activities at the on-site and off-site mitigation areas, you shall provide to this office a GIS map (with a base aerial photograph) of the compensatory mitigation areas ascribed to the Project. All digital data and associated metadata shall also be provided on a digital medium (DVD), as an Environmental Systems Research Institute (ESRI) shapefile format, including the verified wetland delineation and any modified or created aquatic features, in NAD-83 projection.

12. Your responsibility to complete the required compensatory mitigation as set forth in special conditions 1 - 4 will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the Corps.

13. You are responsible for all work authorized herein and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of this permit authorization. You shall ensure that a copy of the permit authorization and associated drawings are available for quick reference at the project site until all construction activities are completed.

14. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. Caltrans acting as the lead Federal agency for this project may consult as appropriate to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register, pursuant to 36 CFR Part 800, as amended August 5, 2004.

15. This Corps permit does not authorize you to take an endangered species, in particular giant garter snake (Thamnophis gigas) or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-03-F-0026, dated March 27, 2006) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion,

where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The U. S. Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. In the event of project design or scope changes, the permittee shall obtain concurrence from the U. S. Fish and Wildlife Service that the changes do not result in an "incidental take" and shall obtain the necessary authorizations (amendments) under the Endangered Species Act prior to proceeding with the authorized work. This permit is contingent upon you complying with all conditions of this Biological Opinion and any subsequent amendments, including those ascribed to the Corps.

16. This permit is contingent upon the permittee obtaining water quality certification under Section 401 of the Clean Water Act. Evidence of a water quality certification must be submitted to the Corps, prior to commencing work in waters of the United States. All terms and conditions of the Section 401 water quality certification are expressly incorporated as conditions of this permit.

17. You shall notify this office of the start and completion dates for each phase of the authorized work within 30 calendar days prior to initiation of construction activities within waters of the U.S. and 30 calendar days following completion of construction activities. Along with this notification, you shall submit a copy of the project construction/work schedule or similar report.

18. Within 30 days prior to initiation of construction activities within waters of the United States, you shall submit to this office pre-construction photographs of the proposed permanent and temporary discharge areas in waters of the U.S., landscape view photographs of major project features, which have been taken no more than 1 year prior to initiation of construction activities. Within 30 days following construction activities, you shall submit post-construction photographs of the same locations, showing the placement and/or removal of fill, landscape view photographs of all major project features. The camera positions and view angles of pre and post-construction photographs shall be identical and identified on a map, aerial photo, or project drawing. Construction locations shall include all major project features and waters of the United States, including mitigation areas.

19. You shall ensure project disposal, staging, and borrow (DSB) sites located inside and outside the project boundary are delineated for waters of the U.S. and approved by the Corps prior to commencing work authorized herein. You shall submit to this office a site plan, including site limits and access roads, a final grading plan, and a storm water management plan or water pollution control plan. Documentation shall demonstrate usage of the site complies with all local, state and federal environmental and permitted use regulations.

20. You shall clearly mark and identify the limits of project disturbance in the field with highly visible markers such as construction fencing or silt barriers prior to commencement of construction activities within waters of the United States. Such identification shall be properly maintained until construction is completed and the soils have been stabilized. Equipment, materials, or any other substances or activity that impact waters of the United States outside of the Corps permit area (as shown on the permit drawings) is prohibited.

21. You shall remove temporary fill material placed in waters of the United States, including wetlands, in its entirety and the affected area(s) returned to pre-construction elevations, contours and conditions within 30 days of completion of authorized work. A horizontal marker (e.g. fabric, certified weed free straw, etc.) shall be used to delineate the existing ground elevation of the waters and wetlands temporarily filled during construction.

22. Within 60 days following completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, you shall submit as-built drawings and a description of the work conducted on the project site and within the on-site and off-site compensatory mitigation, area(s) to this office for review. The drawings shall be signed and sealed by a registered professional engineer and include the following:

a. The Corps SPK permit identification number.

b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the enclosed permit drawings. The drawing should show all earth disturbances, wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas.

c. Ground photographs of the completed work. The cameral positions and view-angles of the ground photographs shall be identified on a map, aerial photograph, or project drawing.

d. A description and list of all deviations between the work as authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings the location of any deviations that have been listed.

23. You and your authorized contractor shall allow representatives from this office to inspect the authorized activity and all mitigation, and avoidance areas at any time deemed necessary to ensure that work is being or has been accomplished in accordance with the terms and conditions of this permit verification.

24. If any of the above conditions are violated or unauthorized activities occur, you shall stop work immediately and notify this office. You shall provide us with a detailed description of the unauthorized activity(s), photo documentation, and any measures taken to remedy the violation.

25. You shall notify this office of any proposed modifications to the project, including revisions to any of the work plans or documents cited in this authorization, for review and approval prior to construction work associated with the proposed modification(s).

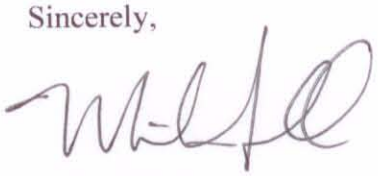
26. Within 30 days after completion of the authorized work, you must sign the enclosed *Compliance Certification* form and return it to this office, along with the items required in Special Condition 22.

This verification is valid until March 18, 2012, when the existing NWPs are scheduled to be modified, reissued, or revoked. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP. Failure to comply with the General Conditions of this NWP, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2010-01257 in any correspondence concerning this project. If you have any questions, please contact Ms. Leah M. Fisher at our California South Branch Office at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814-4708, email *Leah.M.Fisher@usace.army.mil*, or telephone 916-557-6639. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,



Michael S. Jewell
Chief, Regulatory Division

Enclosures

Copies Furnished without enclosures:
Mr. Paul Jones, U.S. Environmental Protection Agency, Region IX, Wetlands Regulatory Office (WTR-8), 75 Hawthorne Street, San Francisco, California, 94105-3901
Mr. Scott Zaitz, Storm Water and Water Quality Certification Unit, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Mr. Jason Hanni, U.S. Fish and Wildlife Service, Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901
Ms. Maria Rea, National Marine Fisheries Service, 650 Capitol Mall, Suite 8-300, Sacramento, California 95814-4706
Ms. Jenny Marr, California Department of Fish and Game, 1100 Fortress Ave, Suite 2, Chico, California 95973
Ms. Suzanne Melim, State of California, Department of Transportation, District 3, 703 B Street, P.O. Box 911 Marysville, California 95901
Ms. Sharon Stacey, California Department of Transportation, North Region/District 2, 1031 Butte Street, MS 30, P.O. Box 496073, Redding, California 96049-6073

COMPLIANCE CERTIFICATION

Permit File Number: SPK-2010-01257

Nationwide Permit Number: 23 Approved Categorical Exclusion.

Permittee: State of California
Department of Transportation
Attn: Ms. Susan D. Bauer
P.O. Box 911
Marysville, California 95901-0911

County: Sacramento

Date of Verification: November 21, 2011

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it, along with the required items listed in Special Condition 18, to the following address:

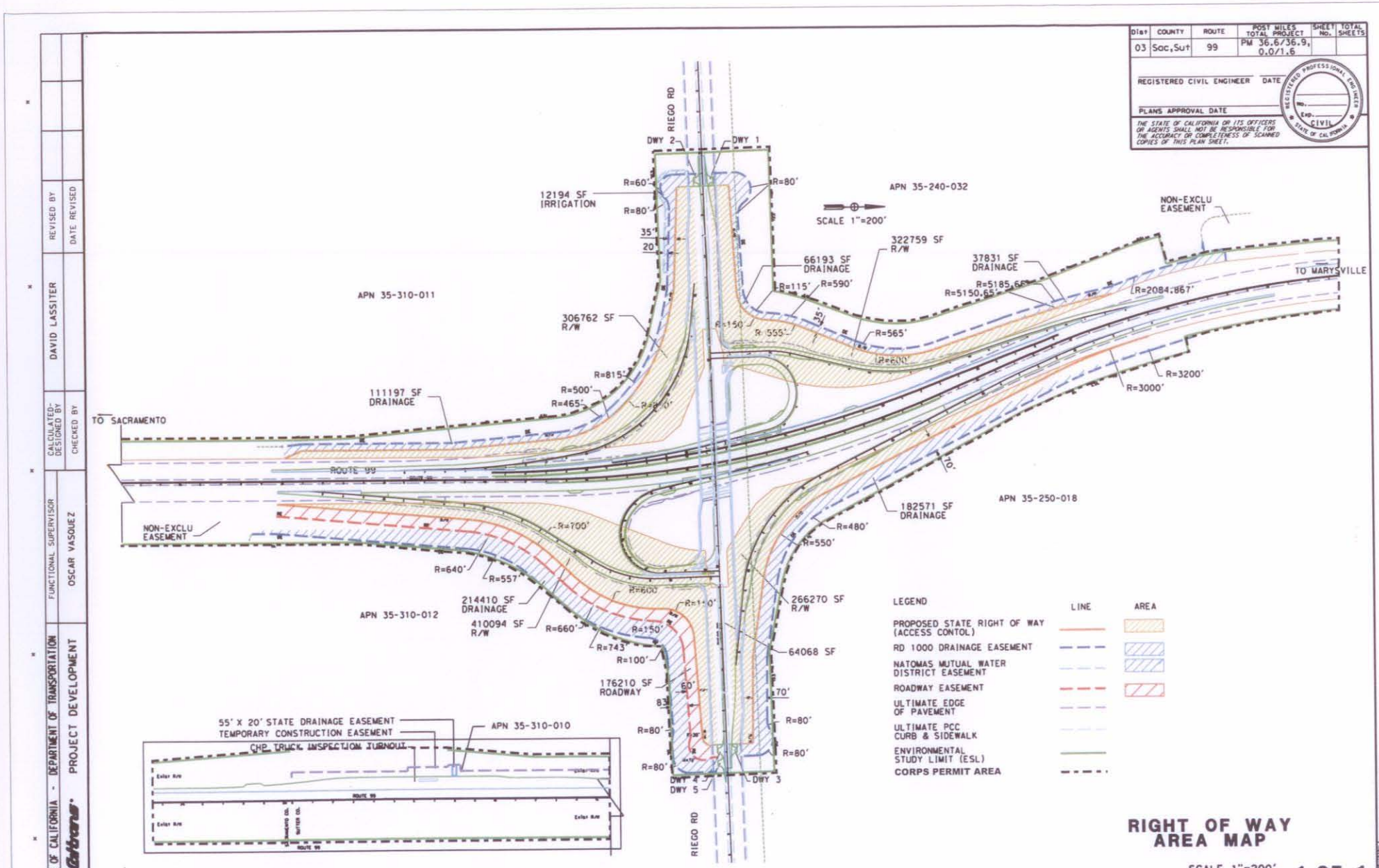
U.S. Army Corps of Engineers
Sacramento District
650 Capitol Mall, Suite 5-200
Sacramento, California 95814-4708
DLLS-CESPK-RD-Compliance@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____ _____
Signature of Permittee Date



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac,Sut	99	PM 36.6/36.9, 0.0/1.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY: DAVID LASSITER

CHECKED BY

REVISED BY

DATE REVISED

RIGHT OF WAY AREA MAP

SCALE 1"=200' 1 OF 1

LAST REVISION DATE PLOTTED => 08-18-10

TIME PLOTTED => 11:16

240660RW AREAS 08.18.10.dgn 8/18/2010 2:48:27 PM

USERNAME => RUSER

RELATIVE BORDER SCALE 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE 03000006141

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-03-F-0026

MAR 27 2006

Mr. Gene Fong, Division Administrator
U.S. Department of Transportation
Federal Highway Administration
California Division
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Subject: Addendum of the Proposed Riego Road and State Route 99 Interchange Project in Sutter County, California to the Intra-Service Biological and Conference Opinion on Issuance of a Section 10(a)(1)(B) Incidental Take Permit to the City of Sacramento and Sutter County for Urban Development in the Natomas Basin, Sacramento and Sutter Counties, California (Service File 1-1-03-F-0225)

Dear Mr. Fong:

This letter is in response to the U.S. Department of Transportation - Federal Highway Administration's (FHWA) October 30, 2002, request for formal consultation, pursuant to section 7(a) of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*)(Act), on the proposed Riego Road and State Route (SR) 99 Interchange project in Sutter County, California. The U.S. Fish and Wildlife Service (Service) received your request on October 31, 2002. The County of Sutter (County), in conjunction with FHWA and the California Department of Transportation (Caltrans) (hereafter collectively referred to as the project proponents), proposes to construct a new interchange at the intersection of Riego Road and SR 99. The applicants will replace the existing signalized intersection with a Type L-9 (partial cloverleaf) interchange. In addition, they will relocate a California Highway Patrol (CHP) truck inspection area from north of the Riego Road/SR 99 intersection to just north of the Sutter/Sacramento County boundary. After reviewing the information provided by FHWA and LSA Associates, Inc. (consultant for the project proponents) (LSA), the Service concurs with your determination that the proposed project is likely to adversely affect the threatened giant garter snake (*Thamnophis gigas*)(snake). The snake has been observed in close proximity to the proposed project site, there is suitable snake habitat in the proposed project area, and the proposed project activities are of the nature that may

harass, harm, injure or kill snakes. In addition, implementation of the proposed project is likely to result in indirect and cumulative effects to the snake, as the proposed project will facilitate urban development in the Sutter County portion of the Natomas Basin.

The proposed project is not likely to result in direct effects to the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)(beetle), endangered vernal pool tadpole shrimp (*Lepidurus packardi*), threatened vernal pool fairy shrimp (*Branchinecta lynchi*), threatened California tiger salamander (*Ambystoma californiense*)(salamander), endangered Sacramento Orcutt grass (*Orcuttia viscida*), threatened Colusa grass (*Neostapfia colusana*) and threatened slender Orcutt grass (*Orcuttia tenuis*); no suitable habitat for any of these species is located in the proposed project area. Implementation of the proposed project may however result in indirect and cumulative effects to these species, as the proposed project will facilitate urban development in the Natomas Basin and these species may be found there. No designated beetle or vernal pool critical habitat will be adversely modified or destroyed, as none is located in the proposed project's action area.

The proposed project is located within the County's Permit Area (TE0736653-0), as defined in the Final Natomas Basin Habitat Conservation Plan (NBHCP) (City *et al.* 2003). The proposed project site includes portions of SR 99 and its surrounding lands from approximately 1.1 kilometer (km) north to 1.0 km south of the Riego Road/SR 99 interchange. It is located in Sections 32 and 33 of Township 11 North, Range 4 East and Sections 3 and 4 of Township 10 North, Range 4 East of the *Verona, California* and *Taylor Monument, California* 7.5-minute quadrangle maps, respectively.

The purpose of the proposed project is to replace the existing signalized interchange at the intersection of SR 99 and Riego Road with a with a Type L-9 (partial cloverleaf) interchange. Riego Road will be improved so that it crosses SR 99 by way of an overcrossing. It will be expanded to five lanes on the overcrossing (three westbound lanes and two eastbound lanes), with four lanes approaching both sides of the overcrossing. Improvements to Riego Road associated with the new interchange will occur out to approximately 0.4 km from the proposed interchange. As part of the proposed project, SR 99 will be expanded in the vicinity of the proposed interchange so that it may be eventually expanded from a four to six-lane freeway. The improved roadway will also accommodate possible future expansion to include two high occupancy vehicle lanes. The distance of roadwork on SR 99 from the proposed intersection to the north will be approximately 1.1 km. This will result in expansion of the SR 99 roadway area by approximately 2.1 acres. The distance of roadwork on SR 99 from the proposed intersection to the south will be approximately 2.4 km. This will result in expansion of the SR 99 roadway by approximately 4.3 acres. Construction of the proposed interchange will require the relocation of drainage canals operated by Reclamation District 1000 where the proposed interchange will be constructed. In order minimize the potential effects of the proposed project on the snake, all canal relocations will take place between May 1 and October 1. The construction area will be accessed using existing roadways. The four quadrants (cloverleafs) of the new interchange will be used as staging areas.

In addition to construction of the new interchange, the proposed project includes the relocation of a California Highway Patrol (CHP) truck inspection station. The existing station is located on the west side of SR 99 and is approximately 1.0 km north of the proposed interchange. The new inspection station will be located approximately 0.7 km south of the proposed interchange. The existing truck inspection station will be used as a staging and parking area for construction of the new truck inspection station. After construction of the new truck inspection station, the existing truck inspection station will be abandoned.

FHWA has proposed to abide the terms and conditions of the NBHCP. In accordance with the NBHCP, FHWA will conduct a pre-construction survey of the proposed project site between 30 days and six months of commencing the proposed project. Based upon the results of the surveys, FHWA will implement the appropriate species-specific avoidance and minimization measures, as listed in Chapter V of the NBHCP. Based upon the September 25, 2002, biological assessment, a November 5, 2003, email from Jeff Bray of LSA to Craig Aubrey of the Service, and an August 4, 2004, site survey conducted by Mr. Aubrey, the avoidance and minimization measures conducted for the proposed project will likely include, at a minimum, those required in the NBHCP for the snake and the burrowing owl (*Athene cunicularia*). The proposed project will result in the permanent conversion of 58.24 acres of land within the County's NBHCP Permit Area. Prior to groundbreaking on the proposed project, the project proponents will mitigate this loss of habitat in accordance with the NBHCP, which will result in the preservation of 29.12 acres of mitigation lands in the Natomas Basin. Respective responsibilities for the total mitigation obligation are outlined in letters from FHWA to the Service and the County to the Service, dated March 13 and March 8, 2006, respectively. According to the letters, FHWA will participate in acquiring the mitigation land and funding the restoration and enhancement portions of the NBHCPs' mitigation fee. Sutter County will pay the remainder of the NBHCP mitigation fee. Regardless of responsibility described in this Addendum to the NBHCP's Biological Opinion, since the proposed project is located within Sutter County's NBHCP Permit Area and Sutter County is a project proponent, failure by either of the project proponents to meet their mitigation responsibilities (e.g., mitigation land is acquired but only a portion of the required mitigation fees are paid) would likely result in a finding by the Service that Sutter County is in violation of its NBHCP incidental take permit.

The proposed project consists of infrastructure improvements to facilitate planned development within the County's Permit Area and is a covered activity under the County's NBHCP and incidental take permit. The proposed project, including the avoidance, minimization, and mitigation measures submitted by FHWA is consistent with the NBHCP and no new circumstances as identified at 50 C.F.R. 402.16 have occurred that would alter the non-jeopardy determination for the NBHCP's 22 covered species we made in our internal biological opinion (Service File No. 1-1-03-F-0225) regarding the NBHCP and County's incidental take permit application. Therefore, the biological opinion remains valid and, upon fulfillment of the County's obligations under the NBHCP, take of NBHCP-covered species by the project proponents will be authorized through the County's incidental take permit.

This letter constitutes an addendum to the Intra-Service Biological and Conference Opinion (Service File No. 1-1-03-F-0225) exempting from the take prohibitions of Section 9 of the Act,

take of the snake, beetle, salamander, vernal pool tadpole shrimp, and vernal pool fairy shrimp by the FHWA arising out of its undertaking the proposed Riego Road and State Route 99 Interchange project. We note that no take beyond that anticipated in the NBHCP biological opinion will occur. By this addendum we are extending to the FHWA the take coverage already provided to the County under the County's incidental take permit. Therefore, the FHWA's obligations under the Act for section 7 formal consultation have been completed.

This concludes formal consultation on the proposed Riego Road and State Route 99 Interchange project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

As discussed above, the proposed project has been designed so that SR 99 may eventually be expanded to accommodate additional lanes. If the roadway expansion results in additional conversion of lands (i.e., conversion of greater than 58.24 acres of land) or effects to NBHCP-covered species not described in this document, then FHWA should reinitiate formal consultation in accordance with the above paragraph.

If you have any questions or concerns about this biological opinion for the proposed Riego Road and State Route 99 Interchange project or the consultation process in general, please contact Craig Aubrey or Holly Herod at (916) 414-6645.

Sincerely,

Peter A. Cross

for Kenneth Sanchez
Acting Field Supervisor

cc:
ARD (ES), Portland, OR
California Department of Transportation, Sacramento, California (Attn: Chris Collison)
California Department of Fish and Game, Rancho Cordova, California (Attn: Kent Smith)
State Water Resources Control Board, Sacramento, California (Attn: Gary Carlton)
County of Sutter, Yuba City, California (Attn: Rich Hall)

US Army Corps of Engineers

REGULATORY GUIDANCE LETTER

No. 08-03 **Date: 10 October 2008**

SUBJECT: Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources.

1. Purpose and Applicability

a. Purpose. This Regulatory Guidance Letter (RGL) provides the Districts and regulated public guidance on minimum monitoring requirements for compensatory mitigation projects, including the required minimum content for monitoring reports. This RGL replaces RGL 06-03.

b. Applicability. The final Mitigation Rule published on April 10, 2008, states that the submission of monitoring reports to assess the development and condition of compensatory mitigation projects is required, but the content and level of detail for those reports must be commensurate with the scale and scope of the compensatory mitigation projects as well as the compensatory mitigation project type (see 33 CFR 332.6(a)(1)).

This RGL applies to all Department of the Army (DA) permit authorizations under Section 404 of the Clean Water Act and Sections 9 and 10 of the Rivers and Harbors Act that contain special conditions requiring compensatory mitigation provided through aquatic resource restoration, establishment and/or enhancement. This guidance also applies to monitoring reports that are prepared for mitigation bank sites and in-lieu-fee project sites.

This RGL supports the Program Analysis and Review Tool (PART) program goals for the Regulatory Program. Specifically, this RGL supports the PART performance measures for mitigation site compliance and mitigation bank/ in-lieu-fee compliance. These measures apply to active mitigation sites, mitigation banks, and in-lieu-fee project sites that still require monitoring.

2. Background

Recent studies by the Government Accountability Office (GAO) and National Research Council (NRC) indicated that the U.S. Army Corps of Engineers (Corps) was not providing adequate oversight to ensure that compensatory mitigation projects were successfully replacing the aquatic resource functions lost as a result of permitted activities. For example, the GAO study determined that many project files requiring

mitigation lacked monitoring reports despite the fact that such reports were required as a condition of the permit. Similarly, the NRC study documented that a lack of clearly stated objectives and performance standards in the approved compensatory mitigation proposals made it difficult to ascertain whether the goal of no net loss of wetland resources was achieved.

On April 10, 2008, the Corps and Environmental Protection Agency published the "Compensatory Mitigation for Losses of Aquatic Resources: Final Rule" (Mitigation Rule) which governs compensatory mitigation for activities authorized by permits issued by the Department of the Army (33 CFR Parts 325 and 332). This RGL complements and is consistent with the final Mitigation Rule.

3. Discussion

Inconsistent approaches to monitoring compensatory mitigation projects are one of several factors that have affected the ability of Corps project managers (PMs) to adequately assess achievement of the performance standards of Corps-approved mitigation plans. Standardized monitoring requirements will aid PMs when reviewing compensatory mitigation sites, thereby allowing the Corps to effectively assess the status and success of compensatory mitigation projects.

This RGL addresses the minimum information needed for monitoring reports that are used to evaluate compensatory mitigation sites. Monitoring requirements are typically based on the performance standards for a particular compensatory mitigation project and may vary from one project to another.

Monitoring reports are documents intended to provide the Corps with information to determine if a compensatory mitigation project site is successfully meeting its performance standards. Remediation and/or adaptive management used to correct deficiencies in compensatory mitigation project outcomes should be based on information provided in the monitoring reports and site inspections.

4. Guidance

a. Monitoring guidelines for compensatory mitigation.

i. Performance Standards. Performance standards, as defined in 33 CFR 332.2, and discussed in more detail at 33 CFR 332.5, will be consistent with the objectives of the compensatory mitigation project. These standards ensure that the compensatory mitigation project is objectively evaluated to determine if it is developing into the desired resource type and providing the expected functions. The objectives, performance standards, and monitoring requirements for compensatory mitigation projects required to offset unavoidable impacts to waters of the United States must be provided as special conditions of the DA permit or specified in the approved final mitigation plan (see 33 CFR 332.3(k)(2)). Performance standards may be based on functional, conditional, or other suitable assessment methods and/or criteria and may be incorporated into the

special conditions to determine if the site is achieving the desired functional capacity. Compensatory mitigation projects offset the impacts to diverse types of aquatic resources, including riverine and estuarine habitats. Special conditions of the DA permits will clearly state performance standards specific to the type and function of the ecosystem in relation to the objectives of the compensatory mitigation project.

ii. Monitoring Timeframe. The special conditions of the DA permit (or the mitigation plan as referenced in the special conditions) must specify the length of the monitoring period (see 33 CFR 332.6(a)(1)). For mitigation banks, the length of the monitoring period will be specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. For in-lieu fee projects, the length of the monitoring period will be specified in either the DA permit or the approved in-lieu fee project plan.

The monitoring period must be sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years (see 33 CFR 332.6(b)). The District determines how frequently monitoring reports are submitted, the monitoring period length, and report content. If a compensatory mitigation project has met its performance standards in less than five years, the monitoring period length can be reduced, if there are at least two consecutive monitoring reports that demonstrate that success. Permit conditions will support the specified monitoring requirement and include deadlines for monitoring report submittal. Longer monitoring timeframes are necessary for compensatory mitigation projects that take longer to develop (see 33 CFR 332.6(b)). For example, forested wetland restoration may take longer than five years to meet performance standards.

Annual monitoring and reporting to the Corps is appropriate for most types of compensatory mitigation projects, though the project sponsor may have to monitor progress more often during the project's early stages. Certain compensatory mitigation projects may require more frequent monitoring and reporting during the early stages of development to allow project managers to quickly address problems and/or concerns. Annual monitoring can resume once the project develops in accordance with the approved performance standards. In cases where monitoring is required for longer than five years, monitoring may be conducted on a less than annual timeframe (such as every other year), though yearly monitoring is recommended until the project becomes established as a successful mitigation project. In this case, off-year monitoring should include some form of screening assessment such as driving by the mitigation site, telephone conversations regarding condition of the mitigation site, etc. On-site conditions, the complexity of the approved mitigation plan, and unforeseen circumstances will ultimately determine whether the monitoring period should be extended beyond the specified monitoring time frame for a particular project. Complex and/or ecologically significant compensatory mitigation projects should have higher priority for site visits.

As discussed above, the remaining monitoring requirements may be waived upon a determination that the compensatory mitigation project has achieved its performance standards. The original monitoring period may be extended upon a determination that

performance standards have not been met or the compensatory mitigation project is not on track to meet them (e.g., high mortality rate of vegetation). Monitoring requirements may also be revised in cases where adaptive management or remediation is required.

iii. Monitoring Reports. Monitoring requirements, including the frequency for providing monitoring reports to the District Commander and the Interagency Review Team (IRT), will be determined on a case-by-case basis and specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. The content of the monitoring reports will be specified in the special conditions of the DA permit so that the requirements are clearly identified for the permittee or third-party mitigation sponsor. In addition, the monitoring reports should comply with the timeframes specified in the special conditions of the DA permit. Monitoring reports will not be used as a substitute for on site compliance inspections. The monitoring report will provide the PM with sufficient information on the compensatory mitigation project to assess whether it is meeting performance standards, and to determine whether a compliance visit is warranted. The party responsible for monitoring can electronically submit the monitoring reports and photos for review.

Visits to mitigation sites will be documented in the administrative record and will count toward District performance goals. An enforcement action may be taken if the responsible party fails to submit complete and timely monitoring reports.

b. Contents of Monitoring Reports. Monitoring reports provide the PM with a convenient mechanism for assessing the status of required compensatory mitigation projects. The PM should schedule a site visit and determine potential remedial actions if problems with the compensatory mitigation project are identified in a monitoring report.

The submittal of large bulky reports that provide mostly general information should be discouraged. While often helpful as background, reiteration of the mitigation and monitoring plan content, lengthy discussions of site progress, and extensive paraphrasing of quantified data are unnecessary. Monitoring reports should be concise and effectively provide the information necessary to assess the status of the compensatory mitigation project. Reports should provide information necessary to describe the site conditions and whether the compensatory mitigation project is meeting its performance standards.

Monitoring reports will include a Monitoring Report Narrative that provides an overview of site conditions and functions. This Monitoring Report Narrative should be concise and generally less than 10 pages, but may be longer for compensatory mitigation projects with complex monitoring requirements. Monitoring Report Narratives may be posted on each District's Regulatory web site.

Monitoring reports will also include appropriate supporting data to assist District Commanders and other reviewers in determining how the compensatory mitigation project is progressing towards meeting its performance standards. Such supporting data may include plans (such as as-built plans), maps, and photographs to illustrate site

conditions, as well as the results of functional, condition, or other assessments used to provide quantitative or qualitative measures of the functions provided by the compensatory mitigation project site.

c. Monitoring Report Narrative:

i. Project Overview (1 page)

(1) Corps Permit Number or Name of the Mitigation Bank or In-Lieu Fee Project

(2) Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted.

(3) A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.

(4) Written description of the location, any identifiable landmarks of the compensatory mitigation project including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitudes, UTMs, state plane coordinate system, etc.).

(5) Dates the compensatory mitigation project commenced and/or was completed.

(6) Short statement on whether the performance standards are being met.

(7) Dates of any recent corrective or maintenance activities conducted since the previous report submission.

(8) Specific recommendations for any additional corrective or remedial actions.

ii. Requirements (1 page)

List the monitoring requirements and performance standards, as specified in the approved mitigation plan, mitigation banking instrument, or special conditions of the DA permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or trending towards success. A table is a recommended option for comparing the performance standards to the conditions and status of the developing mitigation site.

iii. Summary Data (maximum of 4 pages)

Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the PM in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photos should be formatted to print on a standard 8 ½" x 11" piece of paper, dated, and clearly labeled with the direction from which the photo was taken. The photo location points should also be identified on the appropriate maps.

iv. Maps and Plans (maximum of 3 pages)

Maps should be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps and plans should clearly delineate the mitigation site perimeter(s), which will assist PMs in locating the mitigation area(s) during subsequent site inspections. Each map or diagram should be formatted to print on a standard 8 ½" x 11" piece of paper and include a legend and the location of any photos submitted for review. As-built plans may be included.

v. Conclusions (1 page)

A general statement should be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the permittee or sponsor, including a timetable, should be provided. The District Commander will ultimately determine if the mitigation site is successful for a given monitoring period.

d. Completion of Compensatory Mitigation Requirements. For permittee-responsible mitigation projects, compensatory mitigation requirements will not be considered fulfilled until the permittee has received written concurrence from the District Commander that the compensatory mitigation project has met its objectives and no additional monitoring reports are required. PMs will review the final monitoring reports to make this determination. A final field visit should be conducted to verify that on-site conditions are consistent with information documented in the monitoring reports.

e. Special Condition. The following condition should be added to all DA permits that require permittee-responsible mitigation. This condition does not apply to mitigation banks or in-lieu-fee programs:

Your responsibility to complete the required compensatory mitigation as set forth in Special Condition X will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.

5. Duration

This guidance remains in effect unless revised or rescinded.

STEVEN L. STOCKTON, P.E.
Director of Civil Works

U S Army Corps of Engineers
Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

23. Approved Categorical Exclusions. Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from environmental documentation, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP.

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO). Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are the: Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at: http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rglsindx.htm. Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same web site.

A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

☐ **1. Navigation.**

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☐ **2. Aquatic Life Movements**. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

☐ **3 Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized**.**

☐ **4. Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

☐ **5. Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

☐ **6. Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

☐ **7. Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

☐ **8. Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or

restricting its flow must be minimized to the maximum extent practicable.

☐ **9. Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☐ **10. Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☐ **11. Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ **12. Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ **13. Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☐ **14. Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

☐ **15. Wild and Scenic Rivers**. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ **16. Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ **17. Endangered Species**.

☐ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

☐ (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

☐ **18. Historic Properties**.

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☐ **19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ **20 Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the

aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

☐ (h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☐ **21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

☐ **22. Coastal Zone Management**. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

☐ **23. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

☐ **24. Use of Multiple Nationwide Permits**. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

☐ **25. Transfer of Nationwide Permit Verifications**. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

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

(Transferee)

(Date)

☐ **26. Compliance Certification**. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

☐ (b) A statement that any required mitigation was completed in accordance with the permit conditions; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation.

☐ **27. Pre-Construction Notification.**

☐ (a) **Timing**.. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

☐ (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic

property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

☐ (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

☐ (5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

☐ (e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant

submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

☐ **(a) 28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

1. When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

c. Pre-project color photographs of the project site taken from designatedlocations documented on the plan drawing.

2. The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4. The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate “preserve” parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.

7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

9. For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.

10. For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

11. For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

12. For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

13. For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

14. For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.

15. For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

17. For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

2. In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

III. Nevada Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

IV. Utah Only

1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.

2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream

3. For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

V. Colorado Only

1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.

a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).

b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]

c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.

(1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.

(2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).

(3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in

building structures is not authorized by this nationwide permit.

(4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.

d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.

2. Final Regional Conditions Applicable to All Nationwide Permits within Colorado

e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.

f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material in not authorized by the following nationwide permits in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

(1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR

(2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR

(3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.

3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas

i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (http://soils.usda.gov/technical/classification/taxonomy).

j. Springs: Within the state of Colorado, all NWPs, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

4. Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to

prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mates that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.

b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (http://www.spa.usace.army.mil/reg/)

c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that nod-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website: http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm

C. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

D. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands

contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal

interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “waterbodies” include streams, rivers, lakes, ponds, and wetlands.

California Regional Water Quality Control Board
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2 March 2012

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CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION; CALIFORNIA DEPARTMENT OF TRANSPORTATION, RIEGO ROAD/STATE ROUTE 99 INTERCHANGE PROJECT (WDID#5A51CR00063), SUTTER COUNTY

This Order responds to your 10 August 2011 application submittal for the Water Quality Certification of a highway improvement project permanently impacting approximately 4.2 acres and temporarily impacting approximately 0.127 acre of waters of the United States.

This Order serves as certification of the United States Army Corps of Engineers' Individual Permit (SPK#-2010-01257) under § 404 of the Clean Water Act and a Waste Discharge Requirement under the Porter-Cologne Water Quality Control Act.

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This Order serves as a Water Quality Certification (Certification) action that is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to § 13330 of the California Water Code and § 3867 of the California Code of Regulations.

2. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to § 3855(b) of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial Certification action shall be conditioned upon total payment of the full fee required under § 3833 of the California Code of Regulations, unless otherwise stated in writing by the certifying agency.

4. This Certification is valid for the duration of the described project. This Certification is no longer valid if the project (as currently described) is modified, or coverage under § 404 of the Clean Water Act has expired.

5. All reports, notices, or other documents required by this Certification or requested by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) shall be signed by a person described below or by a duly authorized representative of that person.
   (a) For a corporation: by a responsible corporate officer such as (1) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; (2) any other person who performs similar policy or decision-making functions for the corporation; or (3) the manager of one or more manufacturing, production, or operating facilities if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
   (b) For a partnership or sole proprietorship: by a general partner or the proprietor.
   (c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

6. Any person signing a document under Standard Condition number 5 shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ADDITIONAL TECHNICAL CERTIFICATION CONDITIONS:

In addition to the above standard conditions, the California Department of Transportation shall satisfy the following:

1. The California Department of Transportation shall notify the Central Valley Water Board in writing 7 days in advance of the start of any work within waters of the United States or State. The notification should include the name of the project and the WDID number, and should be sent to the Central Valley Water Board Contact indicated in this Certification.

2. Except for activities permitted by the United States Army Corps of Engineers under § 404 of the Clean Water Act soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. All areas disturbed by project activities shall be protected from washout or erosion.

4. The California Department of Transportation shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the Project site during construction for review by site personnel and agencies. All personnel (employees, contractors, and subcontractors) performing work on the proposed project shall be adequately informed and trained regarding the conditions of this Certification.

5. All temporarily affected areas will be restored to pre-construction contours and conditions upon completion of construction activities.

6. The California Department of Transportation shall perform surface water sampling: 1) when performing any in-water work; 2) in the event that project activities result in any materials reaching surface waters; or 3) when any activities result in the creation of a visible plume in surface waters. The monitoring requirements in Table 1 shall be conducted upstream out of the influence of the project, and 300 feet downstream of the work area. The sampling frequency may be modified for certain projects with written permission from Central Valley Water Board staff.

Table 1:

Parameter	Unit	Type of Sample	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Grab[1]	Every 4 hours during in-water work	[2]
Settleable Material	mL/L	Grab[1]	Every 4 hours during in-water work	[2]
Visible construction related pollutants [3]	Observations	Visual Inspections	Continuous throughout the construction period	—

[1] Grab sample shall not be collected at the same time each day to get a complete representation of variations in the receiving water.
[2] Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant, method shall be approved by Central Valley Water Board staff.
[3] Visible construction-related pollutants include oil, grease, foam, fuel, petroleum products, and construction related, excavated, organic or earthen materials.

A surface water monitoring report shall be submitted to the Central Valley Water Board Contact indicated in this Certification within two weeks of initiation of sampling and every two weeks thereafter. In reporting the monitoring data, the California Department of Transportation shall arrange the data in tabular form so that the sampling locations, date, constituents, and concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the project complies with Certification requirements. The report shall include surface water sampling results and visual observations, laboratory reports, chain of custody records, and calculations of the turbidity increase in the receiving water applicable to the natural turbidity conditions specified in the turbidity criteria below.

7. The Central Valley Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River*, Fourth Edition, revised October 2011 (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Turbidity and settleable matter limits are based on water quality objectives contained in the Basin Plan and required as part of this Certification.

8. Activities shall not cause turbidity increases in surface water to exceed:
   (a) where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTUs;
   (b) where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;
   (c) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   (d) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; and
   (e) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTUs over background turbidity as measured in surface waters at the downstream sampling location. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected. Averaging periods may only be assessed by prior approval of the Central Valley Water Board staff.

9. Activities shall not cause settleable matter to exceed 0.1 mL/L in surface waters as measured in surface waters within 300 feet downstream of the project.

10. The discharge of petroleum products or other excavated materials to surface water is prohibited. Activities shall not cause visible oil, grease, or foam in the work area or 300 feet downstream of the work area. The California Department of Transportation shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.

11. The California Department of Transportation shall notify the Central Valley Water Board immediately if the above criteria for turbidity and settleable matter are exceeded.

12. Activities shall not cause degradation of waters of the State.

13. This Certification does not allow permanent water diversion of flow from the receiving water. This Certification is invalid if any water is permanently diverted as a part of the project.

14. If surface water diversions and/or dewatering are anticipated, the California Department of Transportation shall develop and submit a Surface Water Diversion and/or Dewatering Plan(s) (Plan) to the Central Valley Water Board Contact indicated in this Certification at least thirty (30) days prior to commencement of in-water construction. The Plan(s) shall include the proposed method and duration of diversion activities, structure configuration, construction materials, equipment, erosion and sediment controls, and a map or drawing indicating the location(s) of diversion and/or dewatering, and discharge points. The Surface Water Diversion and/or Dewatering Plan(s) must be consistent with this Certification.

15. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel which will cause little or no siltation. Stream flow shall be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses.

16. When work in a flowing stream is unavoidable and any dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream, to maintain beneficial uses of waters of the State below the dam. Construction, dewatering, and removal of temporary cofferdams shall not violate Conditions 7 through 9 of this Certification. If water quality criteria are exceeded, the California Department of Transportation shall notify the Central Valley Water Board immediately.

17. The California Department of Transportation shall comply with all United States Fish and Wildlife Service requirements and recommendations, including, but not limited to, those requirements and recommendations described in the Biological Opinion (1-1-03-F-0026), provided to the California Department of Transportation, dated 27 March 2006.

18. The use of netting material (e.g., monofilament-based erosion blankets) that could trap aquatic dependent wildlife is prohibited within the project area, as indicated in Figure 1.

19. Raw cement, concrete or washing thereof, asphalt, drilling fluids or lubricants, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering waters of the United States and waters of the State.

20. If unanticipated discharges to the waters of the State and/or waters of the United States and/or soil occur, the California Department of Transportation shall notify the Central Valley Water Board Contact indicated in this Certification in writing within 5 calendar days of occurrence. Unanticipated discharges may include, but are not limited to, any construction materials, hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete, asphalt, paint or other coating material, or other construction-related potentially hazardous substances.

21. The California Department of Transportation must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ for discharges to surface waters comprised of storm water associated with construction activity, including, but not limited to, demolition, clearing, grading, and excavation, and other land disturbance activities of one or more acres, or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres.

22. The Conditions in this Certification are based on the information in the attached "Project Information Sheet." If the information in the attached Project Information Sheet is modified or the project changes, this Certification is no longer valid until amended by the Central Valley Water Board.

23. The mitigation measures specified in the approved Mitigated Negative Declaration for the project, as they pertain to biology, hydrology and water quality impacts, are included in this Certification, as required by § 21081.6 of the Public Resource Code and CEQA Guidelines, § 15097 of the California Code of Regulations.

24. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state and federal law. The applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with this Certification.
    (a) If the California Department of Transportation or a duly authorized representative of the project fails or refuses to furnish technical or monitoring reports, as required under this Certification, or falsifies any information provided in the monitoring reports, the applicant is subject to civil liability, for each day of violation, and/or criminal liability.
    (b) In response to a suspected violation of any condition of this Certification, the Central Valley Water Board may require the California Department of Transportation to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
    (c) The California Department of Transportation shall allow the staff(s) of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this Certification and determining the ecological success of the project.

25. The California Department of Transportation shall provide a Notice of Completion (NOC) no later than 30 days after the project completion. The NOC shall demonstrate that the project has been carried out in accordance with the project's description (and any amendments approved). The NOC shall include a map of the project location(s), including final boundaries of any in situ restoration area(s), if appropriate, and representative pre and post construction photographs. Each photograph shall include a descriptive title, date taken, photographic site, and photographic orientation.

26. The California Department of Transportation shall provide evidence of all on-site and off-site compensatory mitigation requirements, including, but not limited to, the purchase of mitigation credits as required by the at least 30 days prior to commencing construction to the Central Valley Water Board.

    Compensatory mitigation must comply with the State of California's 1993 Wetlands Conservation Policy, which ensures no overall net loss of wetlands for impacts to waters of the State.

Evidence of compliance with compensatory mitigation requirements includes providing a letter from the approved compensatory mitigation bank. The letter must: (a) be on the compensatory mitigation bank's letterhead; (b) be signed by an authorized representative of the compensatory mitigation bank; (c) indicate the United States Army Corps of Engineers' SPK number; (d) describe the project name and location; and (e) detail the type of compensatory mitigation credits purchased for the project's impacts.

ADDITIONAL STORM WATER QUALITY CONDITIONS:

The California Department of Transportation shall also satisfy the following additional storm water quality conditions:

1. During the construction phase, the California Department of Transportation must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:
   (a) the Storm Water Pollution Prevention Plan must be prepared during the project planning and design phases and implemented, as appropriate, before construction; and
   (b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.

2. The California Department of Transportation must minimize the short and long-term impacts on receiving water quality from the Riego Road/State Route 99 Interchange Project by implementing the following post-construction storm water management practices and as required by the local agency permitting the project, as appropriate:
   (a) minimize the amount of impervious surface;
   (b) reduce peak runoff flows;
   (c) provide treatment BMPs to reduce pollutants in runoff;
   (d) ensure existing waters of the State (e.g., wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;
   (e) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;
   (f) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges);
   (g) use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural BMPs to mitigate the projected pollutant load increases in surface water runoff; and
   (h) identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion/ sediment loss.

CENTRAL VALLEY WATER BOARD CONTACT:

Skyler Anderson, Environmental Scientist
11020 Sun Center Drive #200
Rancho Cordova, California 95670-6114
sanderson@waterboards.ca.gov
(916) 464-4849

WATER QUALITY CERTIFICATION:

I hereby issue an Order certifying that any discharge from the California Department of Transportation, Riego Road/State Route 99 Interchange Project (WDID#5A51CR00063) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges That Have Received State Water Quality Certification (General WDRs)".

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the California Department of Transportation's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the *Water Quality Control Plan for the Sacramento River and San Joaquin River*, Fourth Edition, revised October 2011.

for Pamela C. Creedon
Executive Officer

Enclosure: Project Information

Attachment: Figure 1 - Riego Road/State Route 99 Interchange Project Area

cc: Distribution List, page 15

PROJECT INFORMATION

Application Date: 10 August 2011

Applicant: Winder Bajwa
California Department of Transportation
District 3
P.O. Box 911
Marysville, CA 95901

Applicant Representatives: Suzanne Melim
California Department of Transportation
District 3
P.O. Box 911
Marysville, CA 95901

Project Name: Riego Road/State Route 99 Interchange Project

Application Number: WDID#5A51CR00063

Type of Project: Highway Improvement project

Approximate Timeframe of Project Implementation: Reclamation Ditch 1000 drainage ditch relocation and work within Giant garter snake habitat will take place between 1 May and 1 October as a requirement of the Biological Opinion issued by the United States Fish and Wildlife Service. Following drainage ditch relocation, construction of the new overcrossing ramps will begin. All impacts to waters, including ditch relocation, will occur during the first year of construction. Construction will begin in 2012 and completed in 2013.

Project Location: Section 33, Township 11 North, Range 4 East, MDB&M.
Latitude: 38°45'01"N and Longitude: 121°32'20"W

County: Sutter

Receiving Water(s) (hydrologic unit): Unnamed tributary of the Sacramento River, Sacramento Hydrologic Basin, Valley-American Hydrologic Unit #519.21, Lower American HSA

Water Body Type: Seasonal Wetlands, Irrigation Canals, Drainage Ditch

Designated Beneficial Uses: The *Water Quality Control Plan for the Sacramento River and San Joaquin River*, Fourth Edition, revised October 2011 (Basin Plan) has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include, but are not limited to: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge (GWR), Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Preservation of Biological Habitats of Special Significance (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wildlife Habitat (WILD). A

comprehensive and specific list of the Beneficial Uses applicable for the project area can be found at http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml

303(d) List of Water Quality Limited Segments: The project is not located within a water quality limited segment. The most recent list of approved water quality limited segments can be found at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

Project Description: The Riego Road/ State Route 99 Interchange Project (Project) will replace the signalized intersection at Riego Road and State Route 99 (SR-99) with a grade separated interchange that will provide uninterrupted crossing for vehicle travel on SR-99 and Riego Road.

Additional work will include installation of a new California Highway Patrol turnout and enforcement area south of the interchange on SR-99. The new interchange will include on and off ramps for vehicles entering and exiting SR-99.

Construction of the new interchange will require realignment of Reclamation District 1000's drainage ditches along SR-99, the filling of nine seasonal wetlands located in created roadside swales, and the partial filling of rice fields, agricultural ditches, and irrigation canals located within the project area.

New drainage ditches will be created within new drainage easements established outside the California Department of Transportation right-of-way and new bio-swales will be created within the project area to provide site drainage and water quality benefits.

Fill and excavation activities in wetlands and rice fields will be conducted when no water is present and soils are not saturated. New drainage ditches will be constructed in dry rice fields prior to the connection to existing ditches that potentially could be holding water. If water is present in existing drainages or canals, temporary dewatering of the channel will be necessary to allow work. It is anticipated that temporary dewatering will occur where the new relocated ditches join existing ditches, where new culvert inlet/outfalls will be constructed in existing ditches and where new flash board risers will be constructed in existing irrigation canals.

Relocation of the Reclamation District 1000 drainage ditches will take place in four phases:

1. Phase 1: The new drainage ditches are excavated in dry rice fields.
2. Phase 2: The new ditches are opened and connected to the existing ditches. Water is allowed to flow through the new ditches as well as the existing ditches. The banks along the new ditches are planted according to the planting plan prepared for the project.
3. Phase 3: Water is cut off from the existing ditches using sheet piles or other similar method and the existing ditches are pumped free of standing water and allowed to dry out for a minimum of 15 days allowing any snakes and wildlife opportunity to relocate to the new ditch.
4. Phase 4: The existing ditches are permanently filled, the sheet piles are removed and the remaining ditch banks are vegetated.

The Project will affect four (4) rice fields, eight (8) seasonal wetlands, nine (9) agricultural drainage ditches, and two (2) agricultural irrigation canals. Each water body is listed in Table 1, which details the activities occurring within each feature, the impact areas and the fill quantities.

Table 1: Summary of Impacts to Waters of the United States

Water Body Designation	Activity in Water Body	Acreage Impacted (P)=Permanent (T)=Temporary	Linear Feet Impacted	Cubic Yards of Earth Fill	Cubic Yards of Riprap Fill	Cubic Yards of Aggregate Road Base
SW-1	Site Grading	0.093 (P)	-	75	0	
SW -2	Site Grading	0.078 (P)	-	63	0	
SW -3	Site Grading	0.015 (P)	-	12	0	
SW -4	Site Grading	0.078 (P)	-	63	0	
SW -5	Site Grading	0.025 (P)	-	20	0	
SW -6	Site Grading	0.012 (P)	-	10	0	
SW -7	Site Grading	0.004 (P)	-	3	0	
SW-8	Site Grading	0.017 (P)	-	14	0	
Seasonal Wetland Totals ****Seasonal Wetland (SW)***		***0.322(P)***	-	***260***	0	
DDW-1	Fill most of ditch. Install new culvert outfall with RSP at new north end	0.003 (T) 0.524 (P)	24(T) 2,285 (P)	7,405	30	
DDW-2	Shorten ditch and install new culvert outfall with RSP at new west end	0.003 (T) 0.214(P)	12 (T) 824 (P)	2,670	28	
DDW-3	Fill ditch entirely	0.024 (P)	1,030 (P)	37	0	
DDW-4	Remove culvert 42. Install new culvert outfall with RSP	0.099 (T) 0.005 (P)	229 (T) 10 (P)	0	30	
DDW-5	Fill most of ditch. conform to new ditch at south end	0.003 (T) 0.631 (P)	12 (T) 2,290 (P)	7,421	0	
DDW-6	Shorten ditch and install new culvert outfall with RSP at new east end	0.005 (T) 0.217 (P)	12 (T) 525 (P)	1,701	15	
DDW-7	Fill ditch entirely	0.556 (P)	2,413 (P)	7,820	0	
Drainage Ditch Wetland Totals ****Drainage Ditch Wetland (DDW)***		***0.113 (T)*** ***2.171 (P)***	***289 (T)*** ***9,377 (P)***	***27,054***	***103***	
IC-1	Shorten canal and install new flash board riser with RSP at new west end	0.004 (T) 0.303(P)	12(T) 880 (P)	2,851	15	
IC-2	Shorten canal and install new culvert outfall and flash board riser with RSP at new east end	0.005 (T) 0.315 (P)	12(T) 764 (P)	2,476	15	
Irrigation Canal Totals ****Irrigated Canal (IC)***		***0.009 (T)*** ***0.618 (P)***	***24 (T)*** ***1,644 (P)***	***5,327***	***30***	
DD-1	Fill most of ditch. Conform to new ditch at south end	0.005 (T) 0.931 (P)	12 (T) 2220 (P)	13,156	30	
DD-2	Fill ditch entirely	0.093 (P)	227 (P)	736	0	
Drainage Ditch Totals ****Drainage Ditch (DD)***		***0.005 (T)*** ***1.024 (P)***	***12 (T)*** ***2,447 (P)***	***13,892***	***30***	
Culverts	Remove 25 culverts entirely	0.065 (P)	1,352 (P)	0	0	
Culvert Totals		***0.065 (P)***	***1,352 (P)***	***0***	***0***	
Rice Fields	Excavate new drainage ditches/bio swales. Fill to allow new roadway construction.	33.10 (P)	-	50,000 (4,100 linear feet of road)		7,000
Rice Field Totals		***33.10 (P)***		***50,000***		***7,000***
Grand Total		**0.127 (T)** **4.200 (P)**	**325 (T)** **14,820 (P)**	**96,533 CY**	**163 CY**	**7,000 CY**

The Riego Road/State Route 99 Project will result in 0.127 acre of temporary impacts and 4.2 acres of permanent impacts to waters of the United States.

Preliminary Water Quality Concerns: Construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: The California Department of Transportation will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. The California Department of Transportation will conduct turbidity and settleable matter testing during in-water work, stopping work if the Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: Approximately 103,700 cubic yards of clean soil, rock, and steel will be placed into 4.2 acres of waters of the United States.

Dredge Volume: Approximately 30,295 cubic yards of soil will be removed from 33.1 acres of rice field.

United States Army Corps of Engineers File Number: SPK# 2010-01257

United States Army Corps of Engineers Permit Number: Nationwide Permit # 23

California Department of Fish and Game Streambed Alteration Agreement: Not Required

Possible Listed Species: Swainson's hawk and Giant garter snake

Status of CEQA Compliance: The County of Sutter approved the Mitigated Negative Declaration and filed a Notice of Determination on 11 December 2008 (State Clearinghouse Number 2002112046).

As a Responsible Agency under California Environmental Quality Act (CEQA), the Central Valley Water Board reviewed the Mitigated Negative Declaration and found that impacts to water quality were adequately addressed. Through implementation of measures and mitigation at a minimum 1:1 ratio level, impacts to water quality will be mitigated to a less than significant level. Mitigation for impacts to water quality is discussed in the "Proposed Mitigation to Address Concerns" section above, and the "Compensatory Mitigation" section below.

With regard to the remaining impacts identified in the Mitigated Negative Declaration the corresponding mitigation measures proposed are within the responsibility and jurisdiction of another public agency, and not within the jurisdiction of the Central Valley Water Board.

Compensatory Mitigation: The Riego Road/State Route 99 Interchange Project will result in 0.322 acre of permanent impacts to seasonal wetlands, 33.1 acres of permanent impacts to rice field wetlands and 3.878 acres of permanent impacts to drainage ditches, irrigation canals and culverts.

To mitigate for the loss of 0.322 acre of seasonal wetlands, the California Department of Transportation shall purchase 0.322 acre (1:1 mitigation-to-impact ratio) of seasonal wetland credits from a United States Army Corps of Engineers approved mitigation bank.

Impacts to 33.1 acres of rice field wetland, considered Giant garter snake habitat, are being compensated through purchase of 23.95 acres of snake habitat within the Natomas Basin Conservancy as required by the United States Fish and Wildlife.

Compensation for impacts to drainage ditches, irrigation canal functions and culverts will be partially mitigated onsite through implementation of the drainage plan prepared for the project. The drainage plan will construct 5,736 linear feet of new drainage ditches and 25,162 linear feet of new bio-swales within the California Department of Transportation right-of-way.

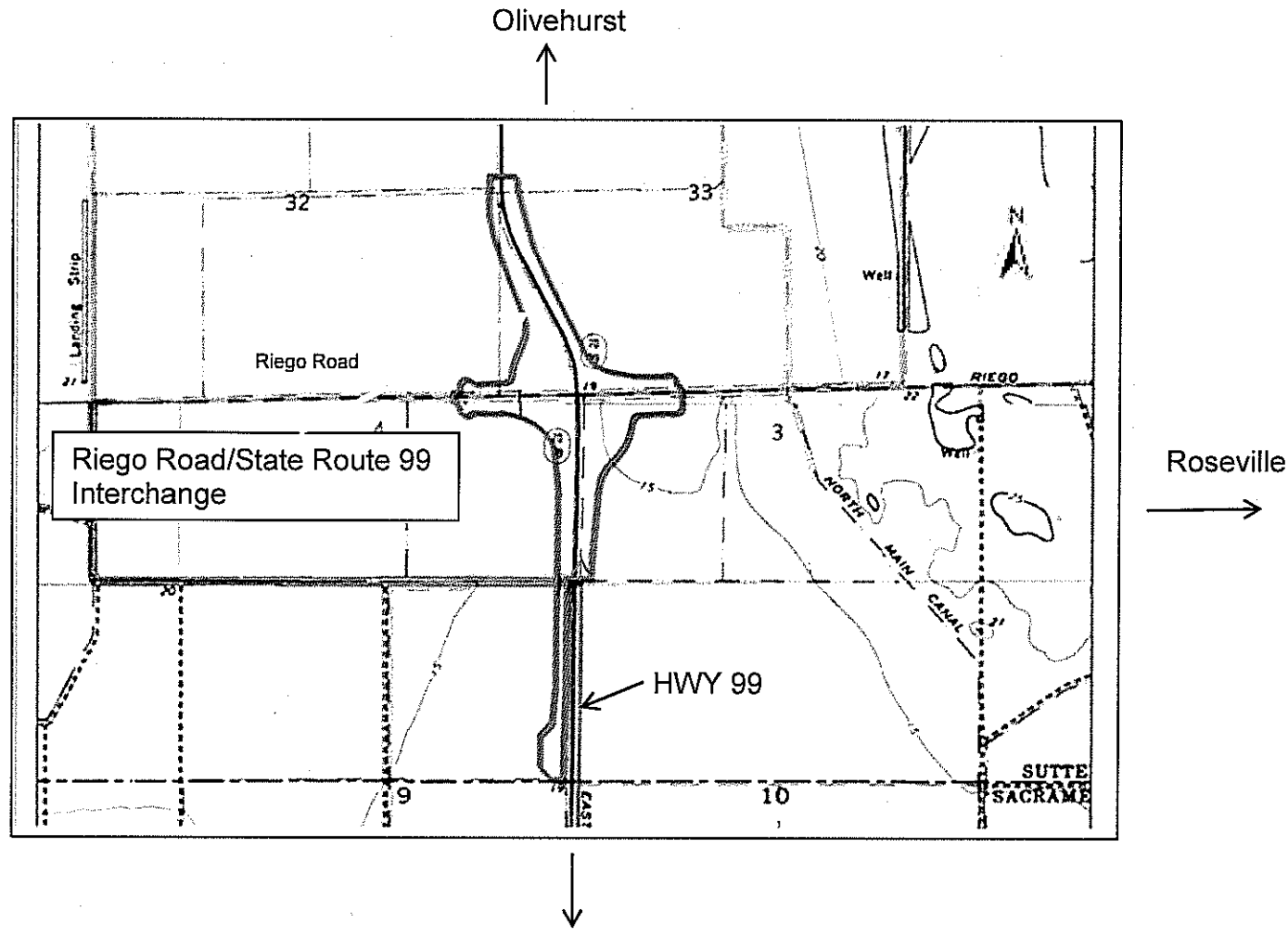
The new onsite drainage features will amount to approximately 3.634 acres of new waters of the United States (1.9001 acres of drainage ditch and 1.733 acres of bio-swales) which will partially compensate for the 3.878 acres of permanent impacts to drainage features.

Additionally, the California Department of Transportation proposes to purchase 0.224 acre of seasonal wetland credits from a United States Army Corps of Engineers approved mitigation bank.

Evidence of this purchase shall be provided to the Central Valley Water Board prior to proceeding with the activity authorized by this permit.

Application Fee Provided: Total fees of $40,000.00 have been submitted to the Central Valley Water Board as required by § 3833(b)(3)(A) and § 2200(a)(3) of the California Code of Regulations.

Figure 1-Riego Road/State Route 99 Interchange Project Area



DISTRIBUTION LIST

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United States Fish & Wildlife Service
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Sacramento, CA 95825

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Department of Fish and Game
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Bill Jennings
CA Sportfishing Protection Alliance
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Stockton, CA 95204

Suzanne Melim
P.O. Box 911
Marysville, CA 95901

(Electronic copy only) Bill Orme
State Water Resources Control Board
401 Certification and Wetlands Unit Chief

(Electronic copy only) Dave Smith
Wetlands Section Chief (W-3)
United States Environmental Protection Agency

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Underground Classification

C015-101-11T

DEPARTMENT OF TRANSPORTATION

(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of 2800 Gateway Oaks Drive, Suite 200, Sacramento, CA 95833

(MAILING ADDRESS)

at ROUTE 99 IMPROVEMENTS – RIEGO ROAD

(LOCATION)

has been classified as *** POTENTIALLY GASSY with Special Conditions***

(CLASSIFICATION)

as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

SPECIAL CONDITIONS

1. A Certified Gas Tester shall perform pre-entry and continuous monitoring of the underground environment to measure Oxygen and detect explosive, flammable, and toxic gasses whenever an employee is working in the underground environment.
2. Mechanical ventilation shall provide for continuous exhaust of fumes and air at any time an employee is working in the underground environment. The primary ventilation fans must be located outside of the underground environment and shall be reversible by a single switch near the fan location.
3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 54-inch diameter by 20 feet deep drilled shaft located on Route 99, approximately 0.4 miles south of the intersection of Route 99 and Riego Road, north of Sacramento, Sutter County.

This classification shall be conspicuously posted at the place of employment.

Date July 20, 2010

John R Leahy

(SENIOR ENGINEER)

John R. Leahy

03 77089

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
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3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 60-inch diameter by 24 feet deep drilled shaft located on Riego Road, approximately 360 feet east of the intersection of Route 99 and Riego Road, north of Sacramento, Sutter County.

This classification shall be conspicuously posted at the place of employment.

Date July 20, 2010

John R. Leahy

(SENIOR ENGINEER)

John R. Leahy

03 77089

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
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The 60-inch diameter by 23 feet deep drilled shaft located on Riego Road, approximately 300 feet west of the intersection of Route 99 and Riego Road, north of Sacramento, Sutter County.

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(CLASSIFICATION)

as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

SPECIAL CONDITIONS

1. A Certified Gas Tester shall perform pre-entry and continuous monitoring of the underground environment to measure Oxygen and detect explosive, flammable, and toxic gasses whenever an employee is working in the underground environment.
2. Mechanical ventilation shall provide for continuous exhaust of fumes and air at any time an employee is working in the underground environment. The primary ventilation fans must be located outside of the underground environment and shall be reversible by a single switch near the fan location.
3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 60-inch diameter by 24 feet deep drilled shaft located on Riego Road, approximately 1,125 feet west of the intersection of Route 99 and Riego Road, north of Sacramento, Sutter County.

This classification shall be conspicuously posted at the place of employment.

Date July 20, 2010

John R. Leahy

(SENIOR ENGINEER)

John R. Leahy

03 77089

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Underground Classification

C020-101-11T

DEPARTMENT OF TRANSPORTATION

(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of 2800 Gateway Oaks Drive, Suite 200, Sacramento, CA 95833

(MAILING ADDRESS)

at ROUTE 99 IMPROVEMENTS – RIEGO ROAD

(LOCATION)

has been classified as *** POTENTIALLY GASSY with Special Conditions***

(CLASSIFICATION)

as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

SPECIAL CONDITIONS

1. A Certified Gas Tester shall perform pre-entry and continuous monitoring of the underground environment to measure Oxygen and detect explosive, flammable, and toxic gasses whenever an employee is working in the underground environment.
2. Mechanical ventilation shall provide for continuous exhaust of fumes and air at any time an employee is working in the underground environment. The primary ventilation fans must be located outside of the underground environment and shall be reversible by a single switch near the fan location.
3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 60-inch diameter by 24 feet deep drilled shaft located on Riego Road, approximately 1,215 feet east of the intersection of Route 99 and Riego Road, north of Sacramento, Sutter County.

This classification shall be conspicuously posted at the place of employment.

Date July 20, 2010

(SENIOR ENGINEER)

John R. Leahy

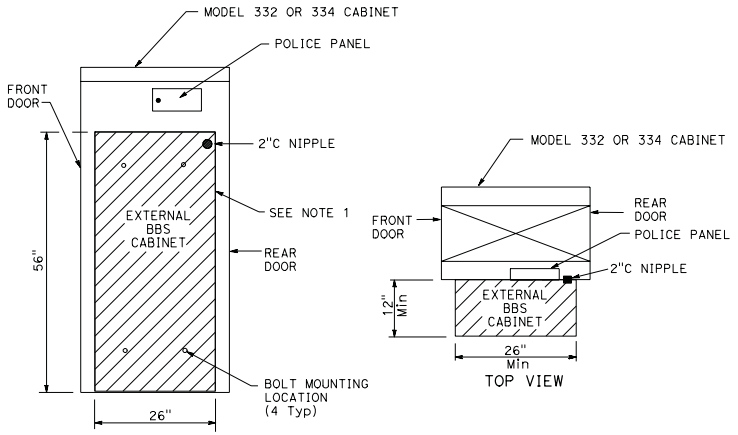
03 77089

For Contract No. :03-406601

Information Handout

Battery Back Up System

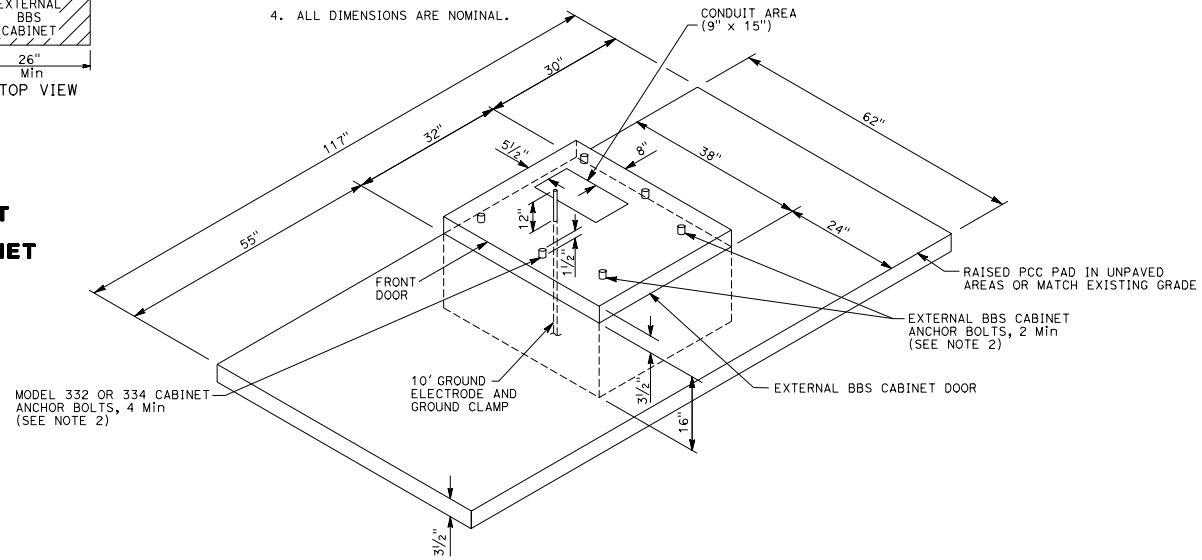
Route: 03-Sac,Sut-99-36.6/36.9, 0.0/1.6



EXTERNAL BBS CABINET MOUNTED TO THE MODEL 332 OR 334 CABINET

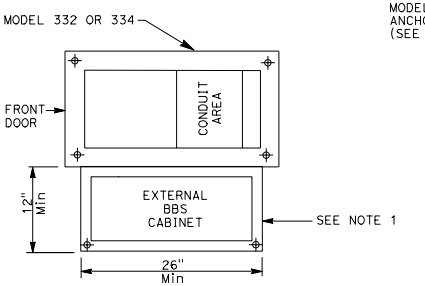
NOTE: (THIS SHEET ONLY)

1. THE EXTERNAL BBS CABINET SHALL BE MOUNTED TO THE MODEL 332 OR 334 CABINET WITH FOUR 18-8 STAINLESS STEEL HEX HEAD, FULLY-THREADED, ⅜"-16 X 1" BOLTS; TWO WASHERS PER BOLT, DESIGNED FOR ⅜" BOLTS AND ARE 18-8 STAINLESS STEEL, 1" OUTSIDE DIAMETER, ROUND, AND FLAT; AND ONE K-LOCK NUT PER BOLT THAT IS 18-8 STAINLESS STEEL AND A HEX-NUT. THE ENGINEER WILL HAVE TO APPROVE THE BOLT MOUNTING LOCATION PRIOR TO INSTALLATION.
2. THE ANCHOR BOLTS SHALL BE ¾" Dia X 15" WITH A 2"-90° BEND. THE CABINET MANUFACTURER'S SPECIFICATION SHALL DETERMINE THE LOCATION OF THE ANCHOR BOLTS IN THE FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE THE ANCHOR BOLTS AND ITS LOCATION IN THE FOUNDATION PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF THE BBS CABINET PRIOR TO CONSTRUCTING THE FOUNDATION OF THE MODIFIED PORTION OF THE Std MODEL 332 AND 334 CABINET FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE ANY NECESSARY DEVIATIONS PRIOR TO CONSTRUCTION.
4. ALL DIMENSIONS ARE NOMINAL.



MODIFIED MODEL 332 AND 334 CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM (BBS)

(FOR DIMENSIONS AND DETAILS NOT SHOWN AND ADDITIONAL NOTES, SEE SHEET ES-3C OF THE STANDARD PLANS FOR MODEL 332 AND 334 CABINETS)



BASE PLAN FOR BBS MOUNTED TO THE MODEL 332 OR 334 CABINET

(FOR DIMENSIONS AND DETAILS NOT SHOWN, SEE SHEET A6-1 TO A6-4, CABINET HOUSING DETAILS OF THE TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATION (TEES))

ELECTRICAL SYSTEMS
(BBS FOUNDATION DETAILS)

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Theresa Gabriel — REGISTERED CIVIL ENGINEER — 12-20-07 DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — Theresa A. Gabriel — No. E15129 — Exp. 6-30-10 — ELECT — STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

Caltrans

LAST REVISION 2-2-09 | DATE PLOTTED => 13-MAR-2009 | TIME PLOTTED => 09:11

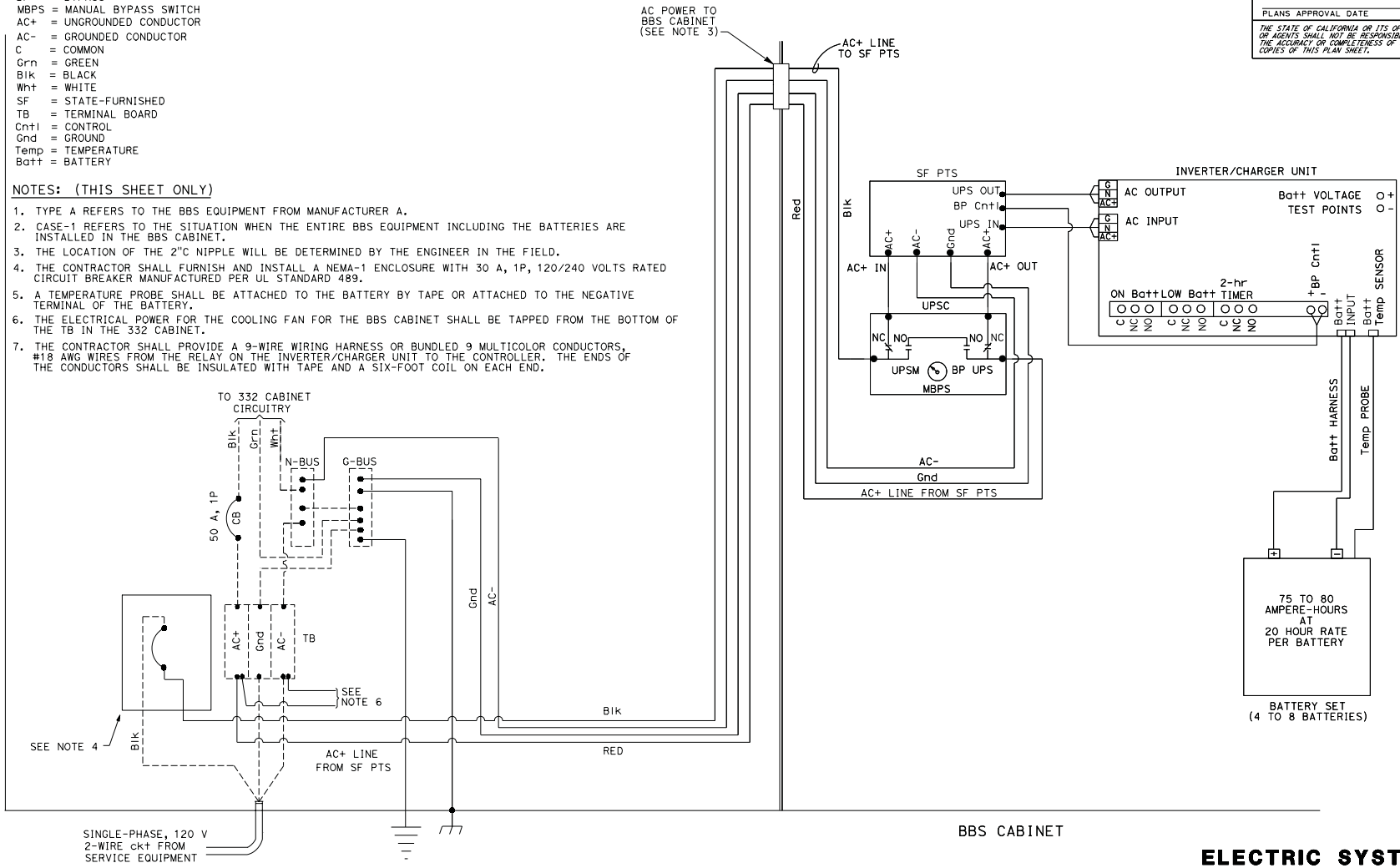
BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => trcarol | DGN FILE => BBS Foundation.dgn | CU 00000 | EA 000000

LEGEND: (THIS SHEET ONLY)

PTS = POWER TRANSFER SWITCH
UPS = UNINTERRUPTIBLE POWER SUPPLY
UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
UPSM = UPS MODE
BP = BYPASS
MBPS = MANUAL BYPASS SWITCH
AC+ = UNGROUNDED CONDUCTOR
AC- = GROUNDED CONDUCTOR
C = COMMON
Grn = GREEN
Blk = BLACK
Wht = WHITE
SF = STATE-FURNISHED
TB = TERMINAL BOARD
Cntl = CONTROL
Gnd = GROUND
Temp = TEMPERATURE
Batt = BATTERY

NOTES: (THIS SHEET ONLY)

1. TYPE A REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER A.
2. CASE-1 REFERS TO THE SITUATION WHEN THE ENTIRE BBS EQUIPMENT INCLUDING THE BATTERIES ARE INSTALLED IN THE BBS CABINET.
3. THE LOCATION OF THE 2"C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OF THE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.



Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Theresa Gabriel 12-20-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

Theresa A. Gabriel No. E15129 Exp. 6-30-10 ELECT
REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA

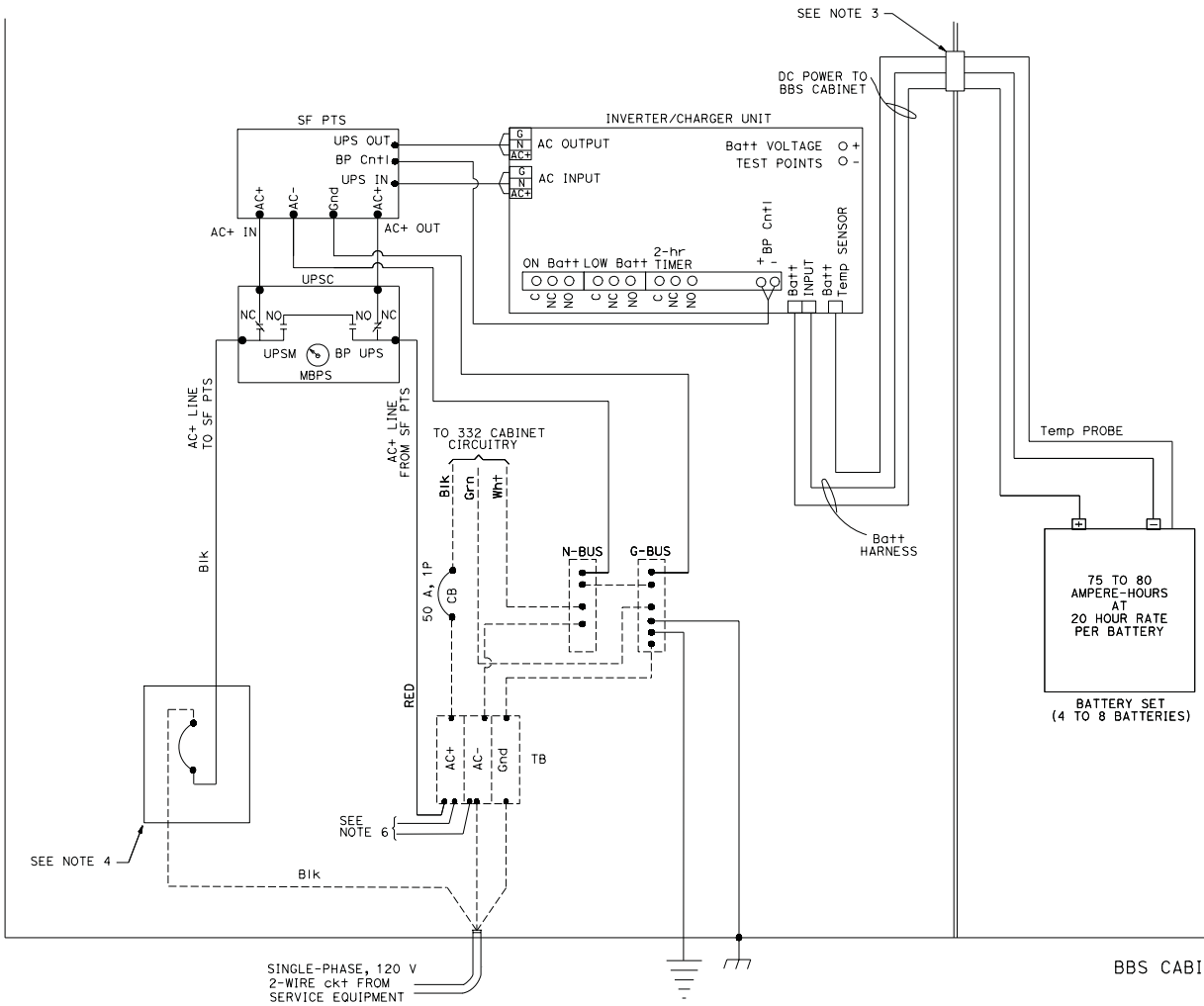
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ELECTRIC SYSTEM
(BBS POWER CONNECTION DIAGRAM, TYPE A, CASE-1)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 3-11-09
DATE PLOTTED => 13-MAR-2009
TIME PLOTTED => 09:06

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trcarol
DGN FILE => BBS 1250FSM.dgn
CU 00000
EA 000000



LEGEND: (THIS SHEET ONLY)

PTS = POWER TRANSFER SWITCH
UPS = UNINTERRUPTIBLE POWER SUPPLY
UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
UPSM = UPS MODE
BP = BYPASS
MBPS = MANUAL BYPASS SWITCH
AC+ = UNGROUNDED CONDUCTOR
AC- = GROUNDED CONDUCTOR
C = COMMON
Grn = GREEN
Blk = BLACK
Wht = WHITE
SF = STATE-FURNISHED
Batt = BATTERY
Temp = TEMPERATURE
TB = TERMINAL BOARD
Cntl = CONTROL
Gnd = GROUND

NOTES: (THIS SHEET ONLY)

1. TYPE B REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER B.
2. CASE-2 REFERS TO THE SITUATION WHEN ONLY THE BATTERIES ARE INSTALLED IN THE BBS CABINET. THE REMAINING EQUIPMENT IS PLACED IN THE 332 CONTROLLER CABINET.
3. THE LOCATION OF THE 2"C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OFTHE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Theresa Gabriel 12-20-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — Theresa A. Gabriel — No. E15129 — Exp. 6-30-10 — ELECT — STATE OF CALIFORNIA

ELECTRICAL SYSTEMS
(BBS POWER CONNECTION DIAGRAM, TYPE A, CASE-2)

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 2-2-09
DATE PLOTTED => 13-MAR-2009
TIME PLOTTED => 09:07

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trcarol
DGN FILE => BBS 1250FSP.dgn
CU 00000
EA 000000

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Theresa Gabriel 12-20-07
REGISTERED CIVIL ENGINEER DATE

Theresa A. Gabriel No. E15129 Exp. 6-30-10 ELECT REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA

PLANS APPROVAL DATE

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NOTES: (THIS SHEET ONLY)

1. TYPE B REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER B.
2. CASE-1 REFERS TO THE SITUATION WHEN THE ENTIRE BBS EQUIPMENT INCLUDING THE BATTERIES ARE INSTALLED IN THE BBS CABINET.
3. THE LOCATION OF THE 2"C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
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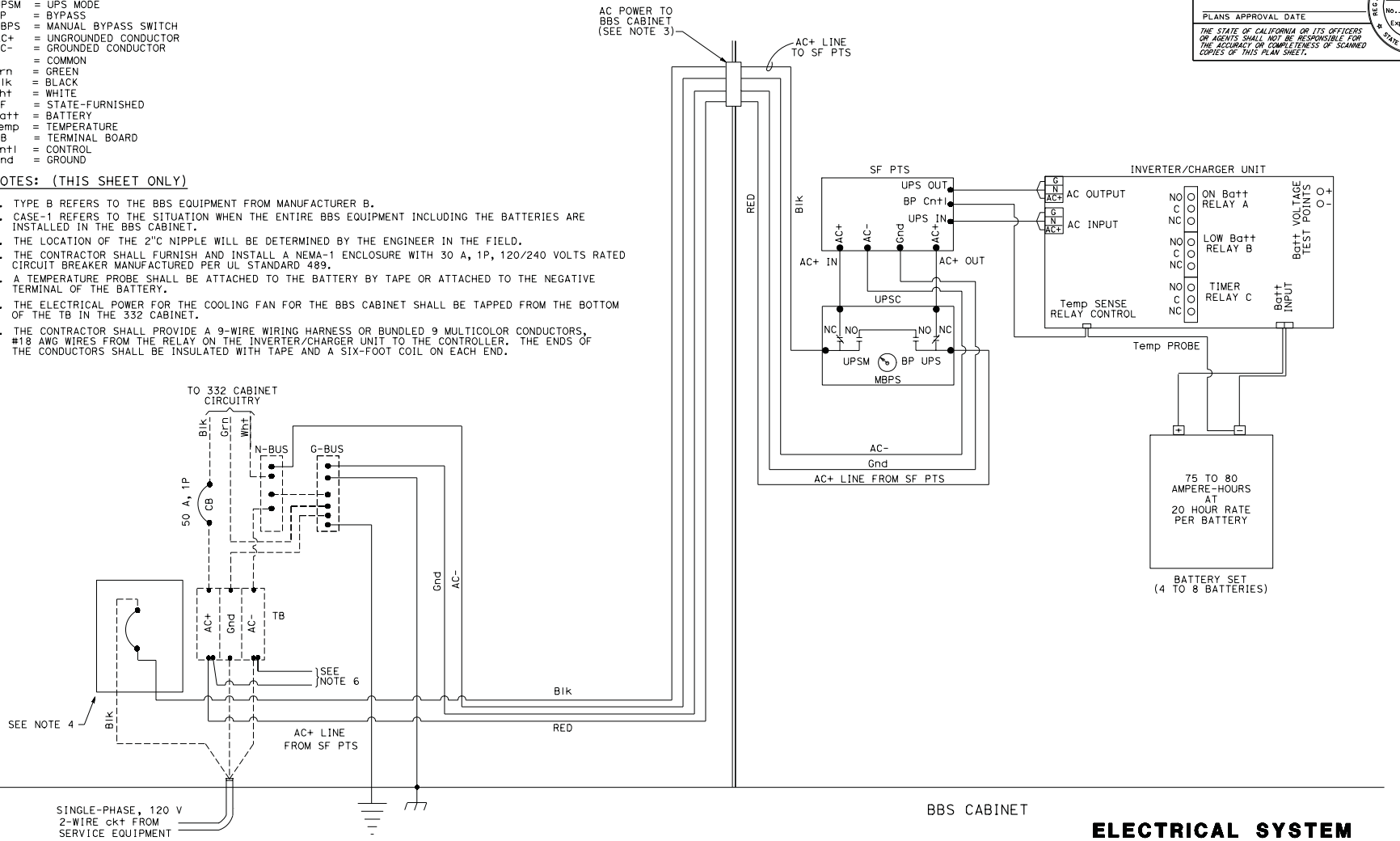


ELECTRICAL SYSTEM

(BBS POWER CONNECTION DIAGRAM, TYPE B, CASE-1)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans.
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 3-11-09
DATE PLOTTED => 21-SEP-2009
TIME PLOTTED => 13:33

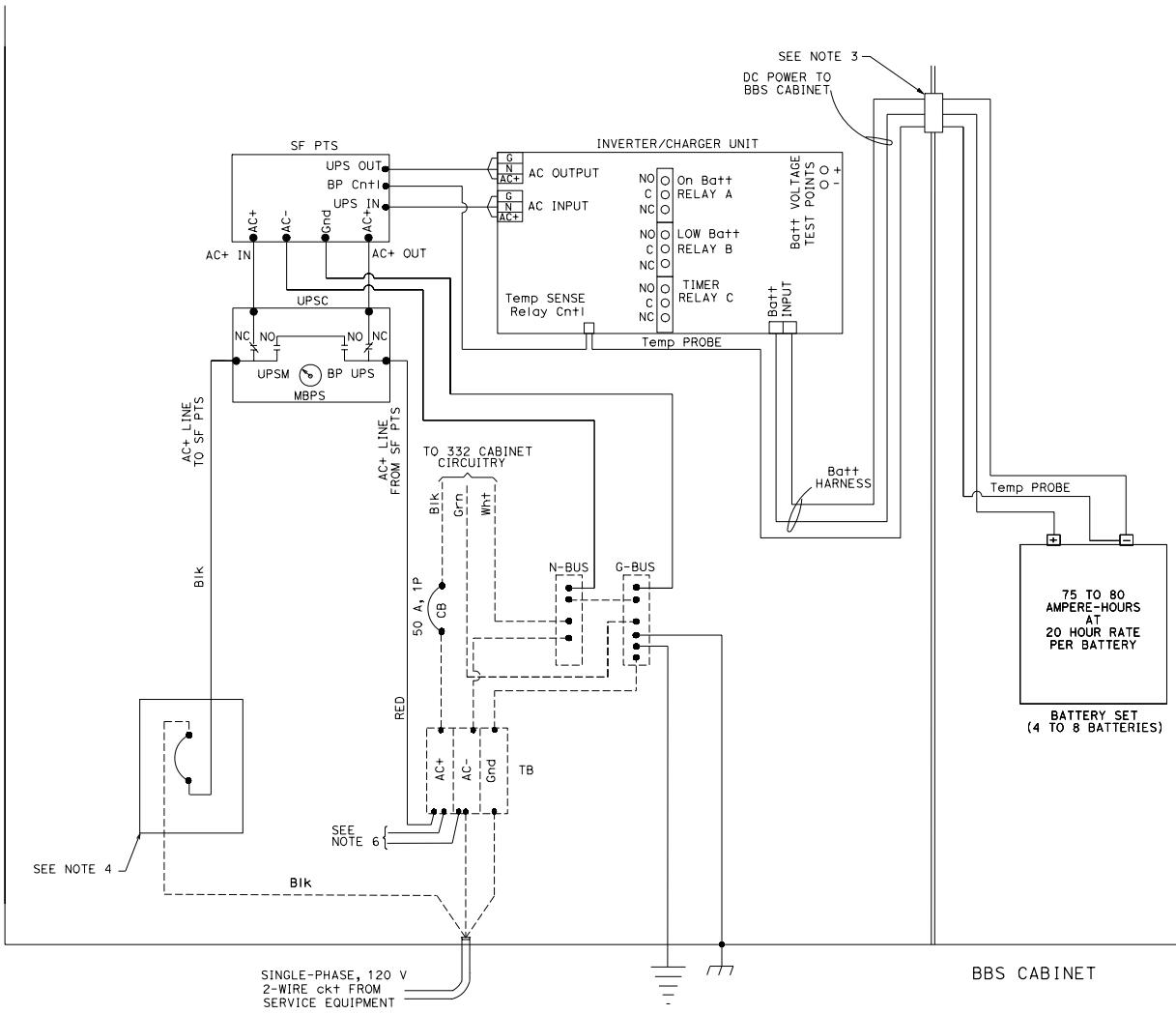
BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trcarol
DGN FILE => BBS DUIFSW.dgn
CU 00000
EA 000000

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Theresa Gabriel 12-20-07
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Theresa A. Gabriel — No. E15129 — Exp. 6-30-10 — ELECT — STATE OF CALIFORNIA

PLANS APPROVAL DATE



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NOTES: (THIS SHEET ONLY)

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2. CASE-2 REFERS TO THE SITUATION WHEN ONLY THE BATTERIES ARE INSTALLED IN THE BBS CABINET. THE REMAINING EQUIPMENT IS PLACED IN THE 332 CONTROLLER CABINET.
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ELECTRICAL SYSTEM

(BBS POWER CONNECTION DIAGRAM, TYPE B, CASE-2)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 3-11-09
DATE PLOTTED => 13-MAR-2009
TIME PLOTTED => 09:10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
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DGN FILE => BBS DUIFSP.dgn
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