APPENDIX A. AIR QUALITY MODELING RESULTS

Road Construction Emissions Model
Data Entry Worksheet

Version 8.1.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D36 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Sac River S/S Contract 3: 2022 Vegetation and Cutoff Wall	
Construction Start Year	2022	Enter a Year between 2014 and 2025 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	7.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	2.30	miles
Total Project Area	28.00	acres
Maximum Area Disturbed/Day	5.00	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd³) (assume 20 if unknown)	Import Volume (yd³/day)	Export Volume (yd³/day)
Soil	Grubbing/Land Clearing	15.00	0.00	35.00
	Grading/Excavation	15.00	1922.00	36.00
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/ceqa/mitigation.shtml). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing	1.20	0.70	4/1/2022	1/1/2022
Grading/Excavation	5.60	3.15	5/8/2022	2/7/2022
Drainage/Utilities/Sub-Grade	0.00	2.10		7/28/2022
Paving	0.00	1.05		7/28/2022
Totals (Months)	7		Note: You have entered a non-default starting date. Please provide starting date for all phases, or default values for other phases will be used.	

Please note: You have entered a different number of months than the project length shown in cell D15.
Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	26.00			3	78.00
Miles/round trip: Grading/Excavation	41.00			131	5371.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.10	0.43	3.23	0.11	0.05	0.02	1,596.61	0.00	0.05	1,612.86
Grading/Excavation (grams/mile)	0.10	0.43	3.23	0.11	0.05	0.02	1,596.61	0.00	0.05	1,612.86
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.02	0.07	0.56	0.02	0.01	0.00	274.55	0.00	0.01	277.35
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	3.62	0.00	0.00	3.66
Pounds per day - Grading/Excavation	1.16	5.06	38.27	1.33	0.59	0.18	18,905.64	0.05	0.64	19,097.92
Tons per const. Period - Grading/Excavation	0.07	0.31	2.36	0.08	0.04	0.01	1,164.58	0.00	0.04	1,176.43
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.07	0.31	2.37	0.08	0.04	0.01	1,168.21	0.00	0.04	1,180.09

Note: Asphalt Hauling emission default values can be overridden in cells D87 through D90, and F87 through F90.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation				0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.10	0.43	3.23	0.11	0.05	0.02	1,596.61	0.00	0.05	1,612.86
Grading/Excavation (grams/mile)	0.10	0.43	3.23	0.11	0.05	0.02	1,596.61	0.00	0.05	1,612.86
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D113 through D118.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values		
User Input				
Miles/ one-way trip	20		Calculated Daily Trips	Calculated Daily VMT
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	14		28	560.00
No. of employees: Grading/Excavation	100		200	4,000.00
No. of employees: Drainage/Utilities/Sub-Grade			0	0.00
No. of employees: Paving			0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	0.92	0.09	0.06	0.02	0.00	348.29	0.01	0.00	349.59
Grading/Excavation (grams/mile)	0.02	0.92	0.09	0.06	0.02	0.00	348.29	0.01	0.00	349.59
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.87	2.06	0.16	0.00	0.00	0.00	79.59	0.01	0.01	81.77
Grading/Excavation (grams/trip)	0.87	2.06	0.16	0.00	0.00	0.00	79.59	0.01	0.01	81.77
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.07	1.26	0.12	0.06	0.02	0.00	434.90	0.01	0.01	436.65
Tons per const. Period - Grubbing/Land Clearing	0.00	0.02	0.00	0.00	0.00	0.00	5.74	0.00	0.00	5.76
Pounds per day - Grading/Excavation	0.53	9.00	0.88	0.41	0.17	0.03	3,106.46	0.07	0.04	3,118.95
Tons per const. Period - Grading/Excavation	0.03	0.55	0.05	0.03	0.01	0.00	191.36	0.00	0.00	192.13
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.03	0.57	0.06	0.03	0.01	0.00	197.10	0.00	0.00	197.89

Note: Water Truck default values can be overridden in cells D145 through D148, and F145 through F148.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Vehicle/Day	Default Values Miles Traveled/Vehicle/Day	Calculated Daily VMT
User Input					
Grubbing/Land Clearing - Exhaust	1		40.00		40.00
Grading/Excavation - Exhaust	2		40.00		80.00
Drainage/Utilities/Subgrade					0.00
Paving					0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.10	0.43	3.23	0.11	0.05	0.02	1,596.61	0.00	0.05	1,612.86
Grading/Excavation (grams/mile)	0.10	0.43	3.23	0.11	0.05	0.02	1,596.61	0.00	0.05	1,612.86
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.01	0.04	0.29	0.01	0.00	0.00	140.80	0.00	0.00	142.23
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	1.86	0.00	0.00	1.88
Pounds per day - Grading/Excavation	0.02	0.08	0.57	0.02	0.01	0.00	281.59	0.00	0.01	284.46
Tons per const. Period - Grading/Excavation	0.00	0.00	0.04	0.00	0.00	0.00	17.35	0.00	0.00	17.52
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.01	0.04	0.00	0.00	0.00	19.20	0.00	0.00	19.40

Note: Fugitive dust default values can be overridden in cells D171 through D173.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		5.00	50.00	0.66	10.40	0.14
Fugitive Dust - Grading/Excavation		5.00	50.00	3.08	10.40	0.64
Fugitive Dust - Drainage/Utilities/Subgrade		0.00	0.00	0.00	0.00	0.00

Values in cells D163 through D215, D234 through D267, D285 through D318, and D336 through D369 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Excavators	0.52	8.40	4.58	0.22	0.20	0.01	1,289.60	0.42	0.01	1,303.50
0.00			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.07	0.38	0.45	0.02	0.02	0.00	61.64	0.01	0.00	61.96
0.00			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Sweepers/Scrubbers	0.24	2.40	2.25	0.15	0.14	0.00	307.72	0.10	0.00	311.03
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.42	5.65	4.23	0.23	0.21	0.01	760.86	0.25	0.01	769.05
0.00			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	1.25	16.82	11.52	0.62	0.57	0.03	2,419.82	0.77	0.02	2,445.54
Grubbing/Land Clearing	tons per phase	0.02	0.22	0.15	0.01	0.01	0.00	31.94	0.01	0.00	32.28

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00			Model Default Tier	Bore/Drill Rigs	1.04	9.51	10.56	0.34	0.31	0.04	4,257.78	1.38	0.04	4,303.77
0.00			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00			Model Default Tier	Cranes	1.82	9.26	20.47	0.85	0.78	0.03	2,733.67	0.88	0.02	2,763.14
0.00			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00			Model Default Tier	Excavators	2.61	41.98	22.92	1.11	1.02	0.07	6,447.99	2.09	0.06	6,517.51
0.00			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Generator Sets	0.41	4.59	3.66	0.18	0.18	0.01	778.79	0.04	0.01	781.46
4.00			Model Default Tier	Graders	2.79	22.10	26.10	1.45	1.33	0.03	3,028.02	0.98	0.03	3,060.56
0.00			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.00			Model Default Tier	Other Material Handling Equipment	5.32	74.84	44.62	2.42	2.23	0.12	11,126.92	3.60	0.10	11,246.88
0.00			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00			Model Default Tier	Rollers	1.26	14.13	13.11	0.76	0.70	0.02	1,929.60	0.62	0.02	1,950.39
10.00			Model Default Tier	Rough Terrain Forklifts	1.40	28.60	18.50	0.65	0.59	0.04	4,171.93	1.35	0.04	4,216.90
10.00			Model Default Tier	Rubber Tired Dozers	10.68	87.59	108.11	4.94	4.55	0.11	10,776.34	3.49	0.10	10,894.12
0.00			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00			Model Default Tier	Signal Boards	0.43	2.26	2.70	0.10	0.10	0.01	369.85	0.04	0.00	371.73
0.00			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Sweepers/Scrubbers	0.24	2.40	2.25	0.15	0.14	0.00	307.72	0.10	0.00	311.03
6.00			Model Default Tier	Tractors/Loaders/Backhoes	1.25	16.96	12.70	0.68	0.63	0.02	2,282.59	0.74	0.02	2,307.15
0.00			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	29.25	314.21	285.70	13.64	12.57	0.50	48,213.20	15.30	0.43	48,724.65
Grading/Excavation	tons per phase	1.80	19.36	17.60	0.84	0.77	0.03	2,969.93	0.94	0.03	3,001.44

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions all Phases (tons per construction period) =>			1.82	19.58	17.75	0.85	0.78	0.03	3,001.87	0.95	0.03	3,033.72

Equipment default values for horsepower and hours/day can be overridden in cells D521 through D424 and F521 through F424.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		60	10.00	8
Air Compressors		78	10.00	8
Bore/Drill Rigs		206	10.00	8
Cement and Mortar Mixers		9	10.00	8
Concrete/Industrial Saws		81	10.00	8
Cranes		226	10.00	8
Crawler Tractors		208	10.00	8
Crushing/Proc. Equipment		85	10.00	8
Excavators		158	10.00	8
Forklifts		89	10.00	8
Generator Sets		84	10.00	8
Graders		175	10.00	8
Off-Highway Tractors		120	10.00	8
Off-Highway Trucks		400	10.00	8
Other Construction Equipment		172	10.00	8
Other General Industrial Equipment		88	10.00	8
Other Material Handling Equipment		187	10.00	8
Pavers		130	10.00	8
Paving Equipment		131	10.00	8
Plate Compactors		8	10.00	8
Pressure Washers		13	10.00	8
Pumps		84	10.00	8
Rollers		81	10.00	8
Rough Terrain Forklifts		100	10.00	8
Rubber Tired Dozers		255	10.00	8
Rubber Tired Loaders		200	10.00	8
Scrapers		362	10.00	8
Signal Boards		6	10.00	8
Skid Steer Loaders		65	10.00	8
Surfacing Equipment		254	10.00	8
Sweepers/Scrubbers		64	10.00	8
Tractors/Loaders/Backhoes		98	10.00	8
Trenchers		81	10.00	8
Welders		46	10.00	8

END OF DATA ENTRY SHEET

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 38 is not summed over overlapping phases.

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Sac River SIS Contract 9.2022 Vegetation and Cutoff Wall

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.35	13.19	12.43	50.70	0.70	50.00	11.01	0.61	10.40	0.03	3,270.03	0.73	0.04	3,301.77
Grading/Excavation	30.38	923.97	325.42	65.40	15.40	50.00	23.79	13.39	10.40	0.11	10,508.79	15.42	1.12	11,225.93
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	30.38	923.97	325.42	65.40	15.40	50.00	23.79	13.39	10.40	0.11	10,508.79	15.42	1.12	11,225.93
Total (tons/construction project)	1.59	20.47	20.21	4.70	0.96	3.74	1.81	0.29	0.73	0.04	4,938.93	0.36	0.07	4,491.10

Notes:
Project Start Year -> 2022
Project Length (months) -> 7
Total Project Area (acres) -> 28
Maximum Area Disturbed/Day (acres) -> 5
Water Truck Used? -> Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	95	0	73	0	560	40
Grading/Excavation	1,358	0	5,911	0	4,000	30
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Sac River SIS Contract 9.2022 Vegetation and Cutoff Wall

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.02	0.24	0.16	0.87	0.01	0.86	0.15	0.01	0.14	0.00	49.17	0.01	0.00	99.54
Grading/Excavation	1.91	20.29	20.05	4.09	0.95	3.03	1.46	0.22	0.64	0.04	4,949.22	0.35	0.07	3,930.39
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	1.91	20.29	20.05	4.09	0.95	3.03	1.46	0.22	0.64	0.04	4949.22	0.35	0.07	3,930.39
Total (tons/construction project)	1.59	20.47	20.21	4.70	0.96	3.74	1.81	0.29	0.73	0.04	4938.93	0.36	0.07	4,019.37

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 39 is not summed over overlapping phases.

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Tac River SIS Control 9.2022 Vegetation and Cut[illegible] Wall				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.94	13.73	12.00	50.70	0.70	50.00	11.00	0.60	10.40	0.03	3,251.82	0.73	0.04	3,289.08
Grading/Excavation	90.59	927.83	909.23	65.23	15.23	50.00	29.62	19.22	10.40	0.71	69,991.17	15.40	1.03	70,693.50
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	90.59	927.83	909.23	65.23	15.23	50.00	29.62	19.22	10.40	0.71	69,991.17	15.40	1.03	70,693.50
Total (tons/construction project)	1.90	20.42	18.34	4.89	0.95	3.94	1.00	0.22	0.78	0.04	4,950.78	0.36	0.07	4,994.75

Notes: Project Start Year -> 2022

Project Length (months) -> 7

Total Project Area (acres) -> 28

Maximum Area Disturbed/Day (acres) -> 5

Water Truck Used? -> Yes

	Total Material Imported/Exported Volume (yd³/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	95	0	73	0	580	40
Grading/Excavation	1,958	0	5,971	0	4,000	30
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Tac River SIS Control 9.2022 Vegetation and Cut[illegible] Wall				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.02	0.24	0.76	0.87	0.01	0.86	0.15	0.01	0.14	0.00	43.00	0.01	0.00	39.99
Grading/Excavation	1.88	20.18	17.58	4.02	0.94	3.08	0.85	0.21	0.64	0.04	4,907.78	0.35	0.07	3,947.50
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	1.88	20.18	17.58	4.02	0.94	3.08	0.85	0.21	0.64	0.04	4907.78	0.35	0.07	3,947.50
Total (tons/construction project)	1.90	20.42	18.34	4.89	0.95	3.94	1.00	0.22	0.78	0.04	4950.78	0.36	0.07	3,988.29

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 38 is not summed over overlapping phases.

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Sac River SIS Contract 9.2022 Vegetation and Culvert Wall				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (English)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.89	20.49	4.52	50.19	0.19	50.00	10.54	0.14	10.40	0.03	5,251.82	0.18	0.04	5,289.08
Grading/Excavation	16.89	241.55	59.19	59.95	9.95	50.00	12.69	2.29	10.40	0.71	69,991.17	15.40	1.03	70,893.50
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	16.89	241.55	59.19	59.95	9.95	50.00	12.69	2.29	10.40	0.71	69,991.17	15.40	1.03	70,893.50
Total (tons/construction project)	1.04	21.91	9.34	9.95	0.21	9.74	0.92	0.14	0.78	0.04	4,950.78	0.38	0.07	4,994.75

Notes:

Project Start Year ->	2022
Project Length (months) ->	[illegible]
Total Project Area (acres) ->	28
Maximum Area Disturbed/Day (acres) ->	5
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd³/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	95	0	78	0	560	40
Grading/Excavation	1,358	0	5,311	0	4,000	30
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Sac River SIS Contract 9.2022 Vegetation and Culvert Wall				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.27	0.08	0.88	0.00	0.88	0.74	0.00	0.74	0.00	49.00	0.01	0.00	59.59
Grading/Excavation	1.02	21.64	9.26	9.29	0.21	9.08	0.78	0.14	0.64	0.04	4,901.78	0.35	0.07	3,947.50
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	1.02	21.64	9.26	9.29	0.21	9.08	0.78	0.14	0.64	0.04	4,901.78	0.35	0.07	3,947.50
Total (tons/construction project)	1.04	21.91	9.34	9.95	0.21	9.74	0.92	0.14	0.78	0.04	4,950.78	0.38	0.07	3,938.28

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

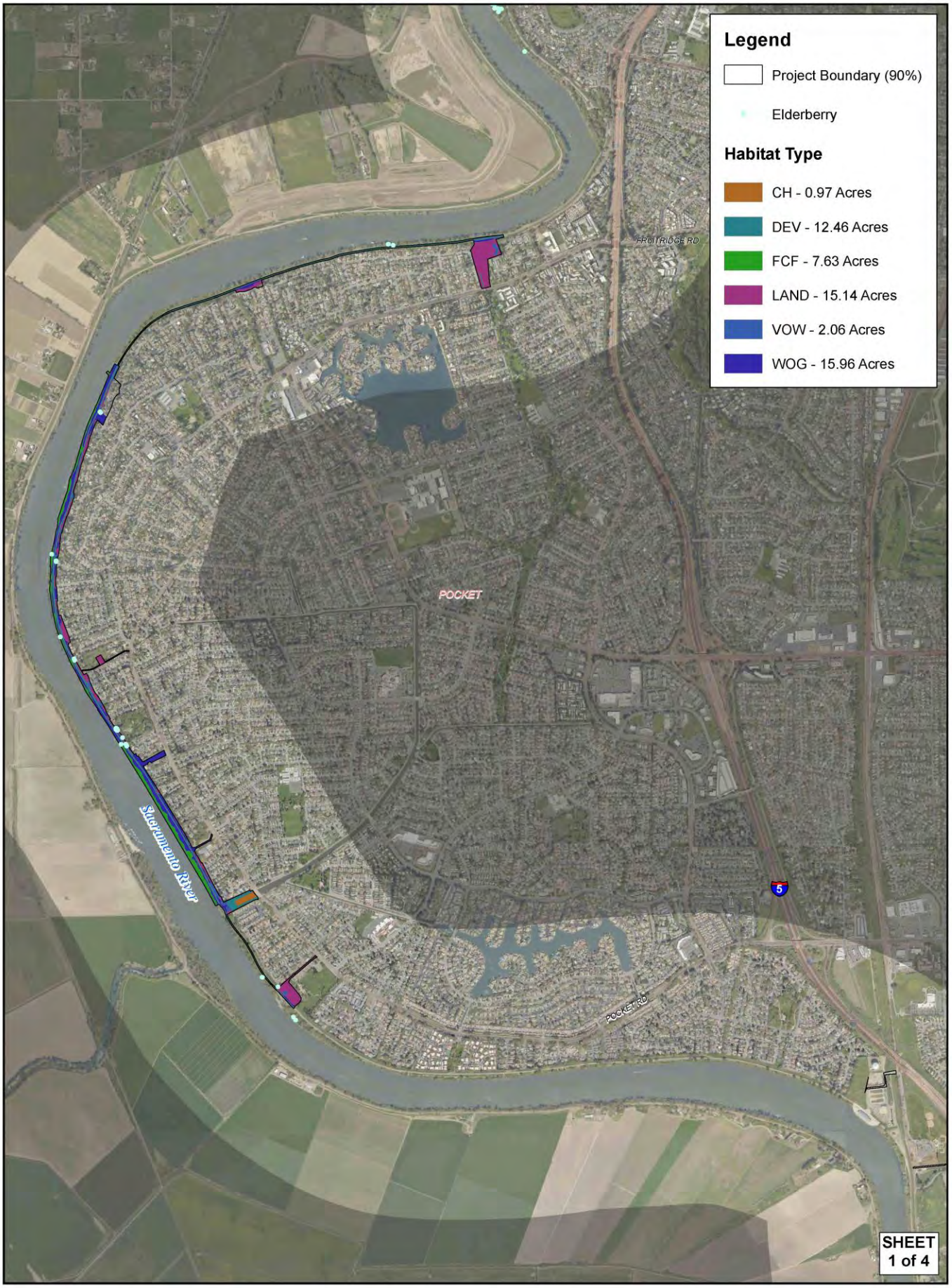
The CO2e emissions are reported as metric tons per phase.

APPENDIX B. BIOLOGICAL RESOURCES DATA

Appendix B-1: Land Cover Maps and Sensitive Biological Resources

Appendix B-2: Species Lists

Appendix B-3: Special-Status Species Occurrence Tables



US Army Corps of Engineers
Sacramento District

EGIS

SREL C3
HABITAT/ELDERBERRY

ARCF 2016

Feet
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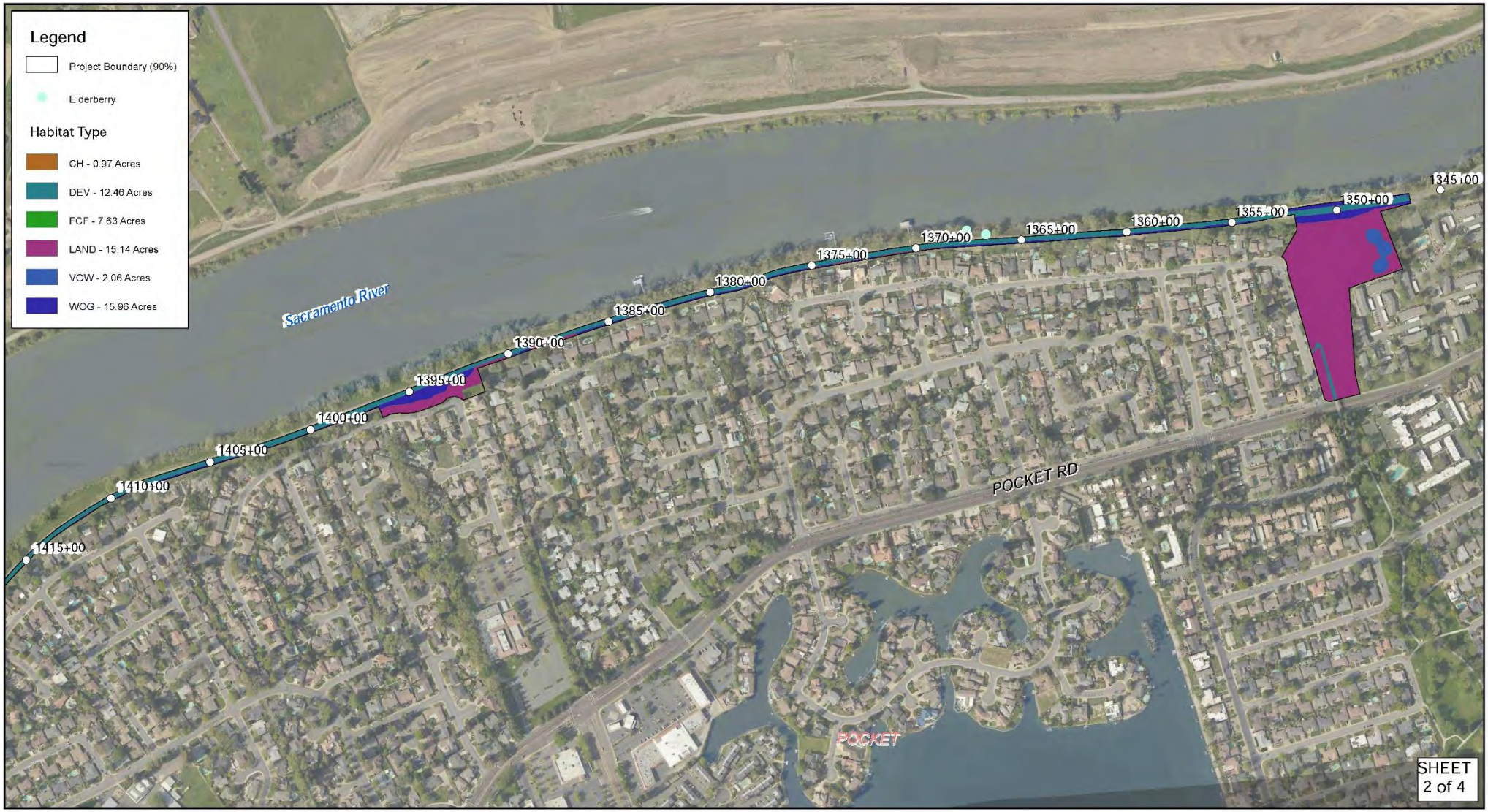

US Army Corps of Engineers
Sacramento District

EGIS

SREL C3
HABITAT/ELDERBERRY

1345+00 - 1415+00

ARCF 2016

Feet

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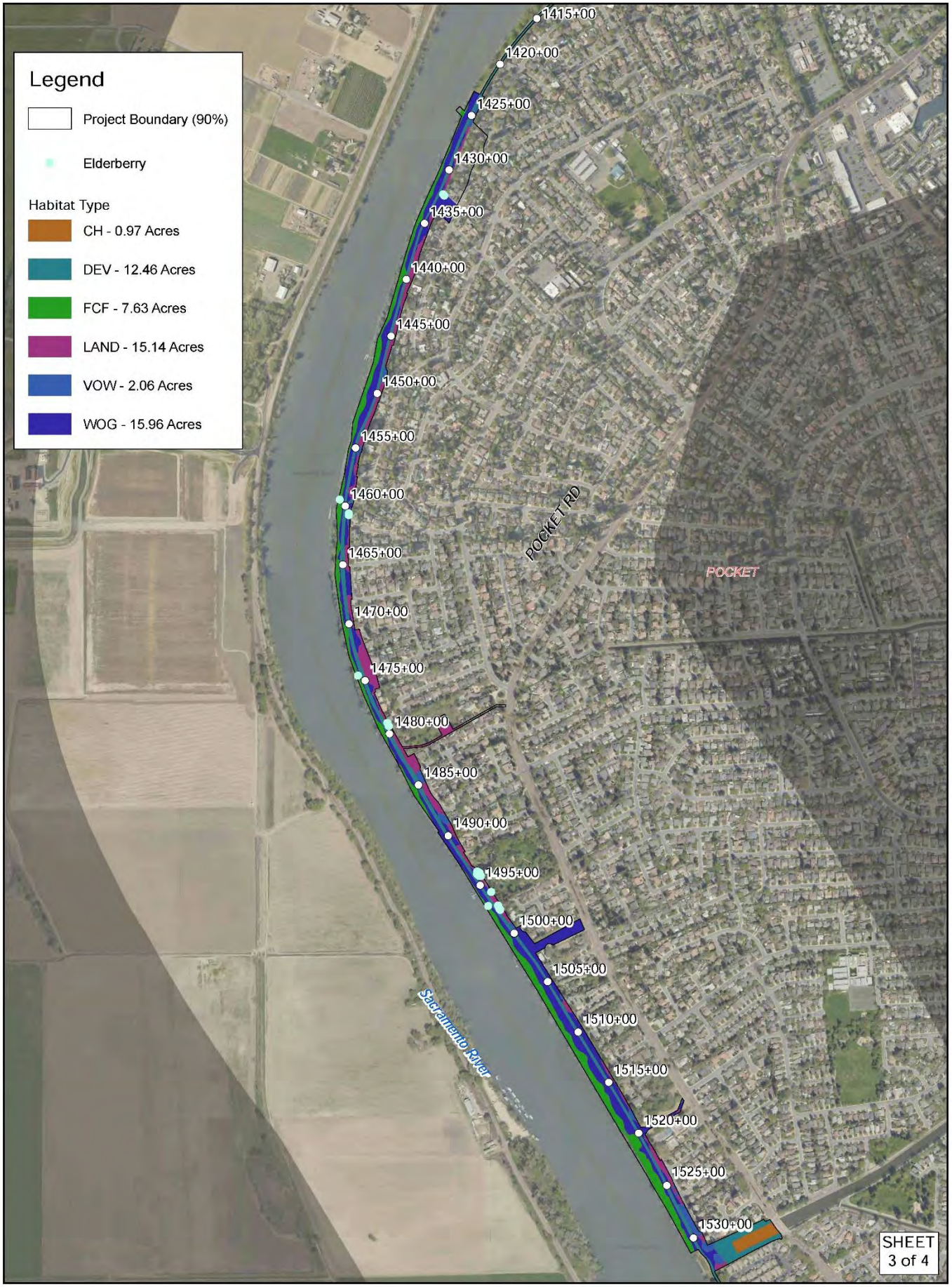

US Army Corps of Engineers
Sacramento District

SREL C3
HABITAT/ELDERBERRY

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ARCF 2016

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US Army Corps of Engineers
Sacramento District

EGIS

SREL C3
HABITAT/ELDERBERRY

1535+00 - 1665+00

ARCF 2016

Feet

Date Saved: 5/12/2021 11:49:28 AM

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Sacramento West (3812155) OR Clarksburg (3812145) OR Taylor Monument (3812165) OR Sacramento East (3812154) OR Rio Linda (3812164) OR Florin (3812144) OR Bruceville (3812134) OR Liberty Island (3812136) OR Davis (3812156) OR Grays Bend (3812166))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Brasenia schreberi watershield	PDCAB01010	None	None	G5	S3	2B.3
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Charadrius montanus mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2	SSC
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Cuscuta obtusiflora var. glandulosa Peruvian dodder	PDCUS01111	None	None	G5T4?	SH	2B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hydrochara ricksecker Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Lasthenia chrysantha alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 11 chinook salmon - Central Valley spring-run ESU	AFCHA0205L	Threatened	Threatened	G5T1T2Q	S2	
Oncorhynchus tshawytscha pop. 7 chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5T1Q	S1	
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Plegadis chihi white-faced ibis	ABNGE02020	None	None	G5	S3S4	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Scutellaria galericulata marsh skullcap	PDLAM1U0J0	None	None	G5	S2	2B.2
Scutellaria lateriflora side-flowering skullcap	PDLAM1U0Q0	None	None	G5	S2	2B.2
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 81

CNPS California Native Plant Society Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

37 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812154, 3812155, 3812145, 3812165, 3812164, 3812144, 3812134, 3812135, 3812136, 3812146 3812156 and 3812166;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	Federal Listing Status	State Listing Status	CA Rare Plant Rank	Habitats	Lowest Elevation	Highest Elevation
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun			4.3	• Chaparral • Cismontane woodland • Valley and foothill grassland	60 m	1215 m
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May			1B.1	• Meadows and seeps (vernally mesic) • Valley and foothill grassland (subalkaline flats)	2 m	75 m
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun			1B.2	• Playas • Valley and foothill grassland (adobe clay) • Vernal pools	1 m	60 m
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct			1B.2	• Chenopod scrub • Meadows and seeps • Valley and foothill grassland (sandy)	0 m	560 m
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct			1B.2	• Chenopod scrub • Meadows and seeps • Playas • Valley and foothill grassland • Vernal pools	1 m	320 m
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep			2B.3	• Marshes and swamps (freshwater)	30 m	2200 m
Brodiaea rosea ssp. vallicola	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)			4.2	• Valley and foothill grassland (swales) • Vernal pools	10 m	335 m
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep			2B.1	• Coastal prairie • Marshes and swamps (lake margins) • Valley and foothill grassland	0 m	625 m
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov			1B.2	• Chaparral • Coastal prairie • Meadows and seeps • Marshes and swamps (coastal salt) • Valley and foothill grassland (vernally mesic)	0 m	420 m
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct			4.2	• Valley and foothill grassland • Vernal pools	0 m	100 m
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	1B.1	• Chenopod scrub • Valley and foothill grassland	5 m	155 m
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep			2B.1	• Marshes and swamps Coastal, fresh or brackish water	0 m	200 m

Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct			2B.2	• Marshes and swamps (freshwater)	15 m	280 m
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May			2B.2	• Valley and foothill grassland (mesic) • Vernal pools	1 m	445 m
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug			1B.2	• Valley and foothill grassland • Vernal pools	3 m	300 m
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct			1B.2	• Chenopod scrub • Meadows and seeps • Playas • Valley and foothill grassland	1 m	835 m
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun			4.2	• Chaparral • Cismontane woodland • Pinyon and juniper woodland • Valley and foothill grassland	10 m	1555 m
Gratiola heterosepala	Bogg's Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug		CE	1B.2	• Marshes and swamps (lake margins) • Vernal pools	10 m	2375 m
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun			4.2	• Valley and foothill grassland (mesic, clay) • Vernal pools (shallow)	0 m	505 m
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep			1B.2	• Marshes and swamps (freshwater)	0 m	120 m
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May			1B.1	• Riparian forest • Riparian woodland	0 m	440 m
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May			4.2	• Vernal pools (alkaline, clay)	20 m	700 m
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)			1B.2	• Marshes and swamps (freshwater and brackish)	0 m	5 m
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun			1B.1	• Vernal pools	1 m	880 m
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May			1B.2	• Valley and foothill grassland (alkaline flats)	2 m	200 m
Libeopsis neesonii	Neeson's libeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov		CR	1B.1	• Marshes and swamps (brackish or freshwater) • Riparian scrub	0 m	10 m
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	Mar-Jun			3.1	• Valley and foothill grassland • Vernal pools (alkaline)	20 m	640 m
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul			1B.1	• Cismontane woodland • Lower montane coniferous forest • Meadows and seeps • Valley and foothill grassland • Vernal pools	5 m	1740 m
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	FT	CE	1B.1	• Vernal pools (adobe, large)	5 m	200 m
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May			1B.1	• Valley and foothill grassland (mesic) • Vernal pools margins	0 m	274 m
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May			1B.2	• Chenopod scrub • Meadows and seeps • Valley and foothill grassland • Vernal pools	2 m	930 m
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)			1B.2	• Marshes and swamps (assorted shallow freshwater)	0 m	650 m
Scutellaria galericulata	marsh skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Sep			2B.2	• Lower montane coniferous forest • Meadows and seeps (mesic) • Marshes and swamps	0 m	2100 m
Scutellaria lateriflora	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	Jul-Sep			2B.2	• Meadows and seeps (mesic)	0 m	500 m

								• Marshes and swamps		
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov			1B.2	• Marshes and swamps (brackish and freshwater)	0 m	3 m
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun			1B.2	• Marshes and swamps • Valley and foothill grassland (mesic, alkaline) • Vernal pools	0 m	300 m
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Poaceae	annual herb	Apr-Aug	FE	CE	1B.1	• Valley and foothill grassland (mesic) • Vernal pools	5 m	10 m

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 11 May 2021].

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The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

NMFS Database Query (5/11/2021)

Quad Name **Sacramento West**
Quad Number **38121-E5**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - **X**
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Clarksburg**
Quad Number **38121-D5**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - **X**
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Sacramento and Yolo counties, California

Local offices

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

San Francisco Bay-Delta Fish And Wildlife

(916) 930-5603
(916) 930-5654

650 Capitol Mall
Suite 8-300
Sacramento, CA 95814

http://kim_squires@fws.gov

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus* Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5945	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake Thamnophis gigas Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened

Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Delta Smelt Hypomesus transpacificus https://ecos.fws.gov/ecp/species/321#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN

YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus — **Breeds Jan 1 to Aug 31**
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black-chinned Sparrow Spizella atrogularis — **Breeds Apr 15 to Jul 31**
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9447

Burrowing Owl Athene cunicularia — **Breeds Mar 15 to Aug 31**
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — **Breeds Jan 1 to Jul 31**
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — **Breeds Jan 1 to Dec 31**
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — **Breeds May 20 to Jul 31**
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — **Breeds Jan 15 to Jun 10**
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — **Breeds Jan 1 to Aug 31**
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — **Breeds Mar 20 to Sep 20**
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

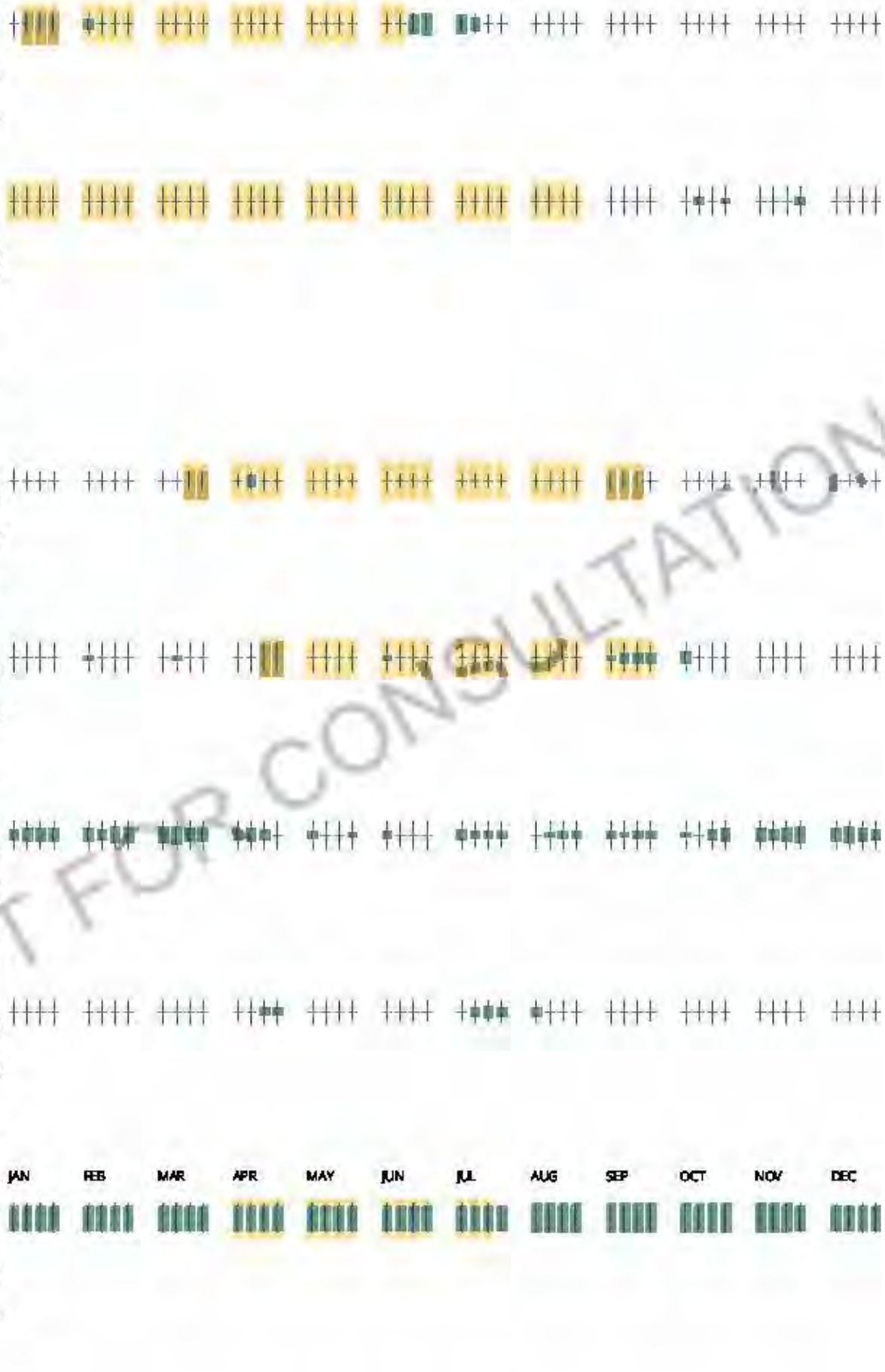
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the conterminous USA)

Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the conterminous USA)

Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Whimbrel BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Wrendc
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Yellow-billed Magpie
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the conterminous USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1C
- PEM1A
- PEM1Ch
- PEM1F
- PEM1J
- PEM1Cx

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1C
- PFO1C
- PFOR
- PFO1R
- PSS1A
- PFO1A
- PSSR
- PFOC
- PSSC
- PSS1Cx
- PSS1R
- PSS1Ax

FRESHWATER POND

- PUBHh
- PUBHx
- PUBH
- PUBKx
- PUBFx

LAKE

- L1UBH

RIVERINE

- R1UBV
- R2UBH
- R2UBHx
- R4SBCx
- R5UBFx
- R5UBF
- R1USQ

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberfidd worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C. COMMENT LETTERS

Delta Stewardship Council
A CALIFORNIA STATE AGENCY

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July 29, 2021

Flood Projects Office
Department of Water Resources
3464 El Camino Avenue Room 200
Sacramento, CA 95821

Delivered via email: PublicCommentARCF16@water.ca.gov

RE: **Comments on Draft Supplemental Environmental Assessment/Environmental Impact Report for the American River Common Features, Water Resources Development Act 2016, Sacramento River East Levee Contract 3 Project**

To whom it may concern:

The Delta Stewardship Council (Council) appreciates the opportunity to comment on the Draft Supplemental Environmental Assessment/Environmental Impact Report (Draft Supplemental EA/EIR) for the American River Common Features, Water Resources Development Act 2016, Sacramento River East Levee Contract 3 (Project). The purpose of the Project is to reduce the flood risk associated with through and under-seepage of water from the Sacramento River to the City of Sacramento. The Project proposes to construct approximately 10,580 cumulative feet (approximately 2 miles) of levee improvements along the Sacramento River by installing a series of cutoff walls to reduce seepage and improve levee stability.

Most of the levee improvements included in the Project were analyzed in the American River Watershed Common Features General Reevaluation Report

(ARCF GRR) Environmental Impact Statement/Environmental Impact Report (EIS/EIR). The Draft Supplemental EA/EIR addresses project modifications and refinements since publication of the ARCF GRR EIS/EIR. The Council previously submitted comments to the Central Valley Flood Protection Board (Flood Board) on the ARCF GRR Draft EIS/EIR (see **Attachment 1**). That comment letter explained the Council's regulatory authority under the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act) (Wat. Code, sections 85000 et seq.); identified Water Code section 85225 requirements for the Flood Board to determine whether the Project is a covered action and, if so, submit a certification of consistency to the Council before implementing the Project; and identified Delta Plan regulatory policies that would be potentially implicated by the Project.

Council staff appreciates the opportunity to discuss the Project and the covered action process with you and other project partners from the U.S. Army Corps of Engineers and Sacramento Area Flood Control Agency at a July 30, 2020 early consultation meeting for the Project. Early consultation represents a critical step in the process for determination of consistency with the Delta Plan for covered actions; it also provides a state or local public agency the opportunity to discuss possible impacts on and benefits to the coequal goals, the Council's regulatory processes, and the Delta Plan (including adaptive management plans and use of best available science) as they pertain to the Project.

Covered Action Determination and Certification of Consistency with the Delta Plan

As explained in the Council's comment letter on the ARCF GRR Draft EIS/EIR and noted in the Draft Supplemental EA/EIR (page 151), the Project appears to meet the definition of a covered action. As defined in Water Code section 85057.5 subdivision (a), a covered action is a plan, program, or project as defined pursuant to Section 21065 of the Public Resources Code that meets all the following conditions:

1. Will occur in whole or in part within the boundaries of the Delta (Water Code, §12220) or Suisun Marsh (Pub. Resources Code, § 29101). The Project would occur in part within the boundaries of the Delta.

2. Will be carried out, approved, or funded by the State or a local public agency. The Project would be approved by the Flood Board, which is a State agency.

3. Will have a significant impact on the achievement of one or both of the coequal goals or the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta. The Project would reduce the chance of under and through seepage, providing increased flood protection to the people and property of Sacramento.

4. Is covered by one or more of the regulatory policies contained in the Delta Plan (Cal. Code Regs., tit. 23, §§ 5003-5015). Delta Plan regulatory policies that may apply to the Project are discussed below.

Prior to implementing the Proposed Action, the Flood Board would submit a Certification of Consistency with the Delta Plan to the Council pursuant to section 85225 of the California Water Code.

Comments Regarding Delta Plan Policies and Potential Consistency Certification

The following section describes the Delta Plan regulatory policies that may apply to the Project. The Council offers this information to assist the Flood Board to prepare a certification of consistency for the Project.

General Policy 1: Detailed Findings to Establish Consistency with the Delta Plan

Delta Plan Policy **G P1** (Cal. Code Regs., tit. 23, § 5002) specifies what must be addressed in a certification of consistency by the state or local public agency for a plan, program, or project that is a covered action. This policy applies only after a proposed action has been determined by the agency to be a covered action because one or more of the Delta Plan regulatory policies (Cal. Code Regs. tit. 23, §§ 5003-5015) is implicated. The following policy requirements under G P1 may apply to the Project:

Mitigation Measures

Delta Plan Policy **G P1(b)(2)** (Cal. Code Regs. tit. 23, § 5002(b)(2)) requires that covered actions not exempt from the California Environmental Quality Act (CEQA) must include all applicable feasible mitigation measures adopted and incorporated into the Delta Plan as amended April 28, 2018 (unless the measure(s) are within the exclusive jurisdiction of an agency other than the agency that files the certification of consistency), or substitute mitigation measures that the agency that files the certification of consistency finds are equally or more effective. Mitigation measures in the Delta Plan's Mitigation Monitoring and Reporting Program (MMRP, Appendix O to the Delta Plan) are available at https://deltacouncil.ca.gov/pdf/delta-plan/2018-appendix-o-mitigation-monitoring-and-reporting-program.pdf.

The Draft Supplemental EA/EIR proposes mitigation measures for air quality, vegetation and wildlife, special status species, climate change, cultural resources, geological resources, hazardous wastes and materials, water quality and groundwater resources, noise, recreation, transportation and circulation, and public utilities and service systems. The Flood Board should review Delta Plan Appendix O and ensure that the Final Supplemental EA/EIR includes all applicable feasible mitigation measures adopted and incorporated into the Delta Plan or identifies substitute mitigation measures that the agency finds are equally or more effective. 1-1

Best Available Science

Delta Plan Policy **G P1(b)(3)** (Cal. Code Regs., tit. 23, § 5002(b)(3)) states that actions subject to Delta Plan regulations must document use of best available science as relevant to the purpose and nature of the project. The Delta Plan defines best available science as "the best scientific information and data for informing management and policy decisions." (Cal. Code Regs, tit. 23, § 5001(f).) Best available science is also required to be consistent with the guidelines and criteria in Appendix 1A of the Delta Plan (https://deltacouncil.ca.gov/pdf/delta-plan/2015-appendix-1a.pdf).

The Final Supplemental EA/EIR should document the use of best available science, as relevant to the Project. 1-2

Ecosystem Restoration Policy 4: Expand Floodplains and Riparian Habitats in Levee Projects

The Council's comments on the Draft ACRF GRR EIS/EIR highlighted Delta Plan Policy **ER P4** (Cal. Code Regs., tit. 23, § 5008), which requires levee projects to increase floodplains and riparian habitats where feasible. The policy also requires the evaluation of setback levees in several areas of the Delta, including urban levee improvement projects in the City of Sacramento. The Flood Board should consider including information in the Final Supplemental EA/EIR to document how the Project evaluated the feasibility of incorporating floodplain and riparian habitats, including setback levees where required, into the design and construction of the Project. 1-3

The Flood Board should also consider including information in the Final EA/EIR that explains and substantiates how other alternatives that would increase riparian habitats were evaluated and incorporated, where feasible.

Ecosystem Restoration Policy 5: Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species

Delta Plan Policy **ER P5** (Cal. Code Regs., tit. 23, § 5009) requires that covered actions that have a reasonable probability of introducing or improving habitat conditions for nonnative invasive species fully consider and avoid or mitigate the potential for new introductions of, or improved habitat conditions for, nonnative invasive species, striped bass, and bass in a way that appropriately protects the ecosystem. The Flood Board should consider including information on Policy ER P5 in the Vegetation and Wildlife section of the Final Supplemental EA/EIR. That section should analyze how the Project would address both nonnative wildlife species as well as terrestrial and aquatic weeds. It should also analyze how the project would avoid or mitigate conditions that would lead to establishment of nonnative invasive species. In the event that mitigation is warranted, mitigation and minimization measures must include Delta Plan Mitigation Measure 4-1 available at: https://deltacouncil.ca.gov/pdf/delta-plan/2018-appendix-o-mitigation-monitoring-and-reporting-program.pdf) or a substitute mitigation measure that is equally or more effective. 1-4

Delta as Place Policy 2: Respect Local Land Use when Siting Water or Flood Facilities or Restoring Habitats

Delta Plan Policy **DP P2** (Cal. Code Regs., tit. 23, § 5011) reflects the Delta Plan's charge to protect the Delta as an evolving place by requiring that water management facilities, ecosystem restoration, and flood management infrastructure be sited to avoid or reduce conflicts with existing or planned future land uses when feasible, considering comments from local agencies and the Delta Protection Commission.

The Draft Supplemental EA/EIR identifies a variety of significant impacts to existing uses that could result from the Project, including temporary impacts on visual character, temporary and short-term recreational opportunities during 1-5

construction, and vegetation removal. The Flood Board should consider including information in Final Supplemental EA/EIR on how the specific proposed flood management infrastructure, as well as rights-of-way, staging areas, borrow disposal areas, and other areas would be sited to avoid or reduce these impacts, where feasible. In addition, the Flood Board should consider including information on any changes in project design or siting that were made to reduce impacts to existing or planned uses.

CEQA Regulatory Setting

For each resource section in which a Delta Plan policy is applicable, the Final Supplemental EA/EIR regulatory setting should describe the Delta Plan and reference specific applicable regulatory policies. 1-6

Conclusion

We encourage the Flood Board to continue to engage in early consultation with Council staff prior to developing and submitting a certification of consistency for the Project. Please contact Erin Mullin at Erin.Mullin@deltacouncil.ca.gov with any questions.

Sincerely,

Jeff Henderson, AICP
Deputy Executive Officer
Delta Stewardship Council

Letter 2

STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

JENNIFER LUCCHESI, *Executive Officer*
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from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1890**

Established in 1938

July 27, 2021

File Ref: SCH #2005072046

Kalia Schuster
Department of Water Resources
3464 El Camino Avenue Room 200
Annex Suite 200
Sacramento, CA, 95821

VIA ELECTRONIC MAIL ONLY: PublicCommentARCF16@water.ca.gov

Subject: Draft Supplemental Environmental Impact Report/Environmental Assessment (SEIR/EA) for the American River Common Features, Water Resources Development Act of 2016, Sacramento River East Levee Contract 3, Sacramento County

Dear Kalia Schuster:

The California State Lands Commission (Commission) staff has reviewed the Draft SEIR/EA for the American River Common Features Development Act of 2016, Sacramento River East Levee Contract 3 (Project), which is being prepared by the Central Valley Flood Protection Board (CVFPB), as the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and the U.S. Army Corps of Engineers (USACE) as the lead agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.). The Commission is a trustee agency for projects that could directly or indirectly affect State sovereign land and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on State sovereign land, the Commission will act as a responsible agency.

Commission Jurisdiction and Public Trust Lands

The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). All tidelands and submerged lands granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust Doctrine.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court.

The Sacramento River, at the location of the proposed Project, is State sovereign land under the jurisdiction of the Commission. Based upon the information provided and a preliminary review of Commission records, Commission staff has determined that the Project will require submission of a lease application for issuance of a lease. The application can be found at our website at www.slc.ca.gov. As the Project proceeds, please submit additional information, including but not limited to ordinary high-water mark (OHWM) and boundary surveys, for a determination of the extent of the Commission's jurisdiction. Please contact Sandra Avila, Public Land Management Specialist, for jurisdiction and leasing requirements for the Project (see contact information at end of letter). Additionally, please ensure that the Commission's Land Management Division staff is included on any future distribution mailing list for the Project.

Proposed Project Description

The USACE, CVFPB, and Sacramento Area Flood Control Agency propose to construct levee improvements along the Sacramento River East Levee to meet embankment and foundation stability requirements. Project objectives include the following:

- Reduce the chance of flooding and damages, once flooding occurs, and improve public safety preparedness, and emergency response.
- Reduce maintenance and repair requirements by modifying the flood management system in ways that are compatible with natural processes.
- Integrate the recovery and restoration of key physical processes, self-sustaining ecological functions, native habitat, and species.
- Ensure that technically feasible and cost-effective solutions are implemented to maximize the flood risk reduction benefits given the practical limitations of applicable funding sources.

Commission staff understand that some utility improvements at Sump 70 would take place on State sovereign land. Temporary waterside access below the OHWM of the river would be required to replace the three existing steel outfall pipes (two 24-inch and one 12-inch) with new steel pipes. Standby bypass pumping and piping would be required during construction activities. The new pipes would tie into the existing waterside outfall structure. No work would be performed within the wetted channel of the Sacramento River. However, dry areas below the OHWM are still considered habitat for Federally protected fish species. The replacement of municipal drainage system pipes would temporally disturb 0.05 acres below the OHWM.

The Draft SEIR/EA identifies Alternative 1 (Proposed Action) as the Environmentally Superior Alternative.

Environmental Review

Commission staff request that the lead agencies consider the following comments on the Draft SEIR/EA.

General Comments

1. Although Table ES-1. *Summary of Environmental Effects and Mitigation Measures for the Proposed Project* is provided in the Executive Summary, throughout the SEIR/EA, it states that adverse impacts are determined to be less than significant with mitigation measures described in the 2016 American River Watershed Common Features General Reevaluation Report (ARCF GRR) Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Sacramento River East Levee (SREL) Contract 1 SEA/EIR, or SREL Contract 2 SEA/EIR, rather than calling out the specific individual measures used to reduce the significance of each impact. 2-1

   Commission staff request that the lead agencies clearly specify exactly which measures are being used to reduce the significance of each impact, as Commission staff are required to prepare separate agency findings, a statement of overriding considerations (if applicable), and a Mitigation and Monitoring Program that rely on this level of detail.

Water Quality

2. On page 28, Section 3.5, it states "Mitigation Measures from the ARCF GRR EIS/EIR (referred to as GEO-1 and WATERS-1 in SREL Contract 1 and 2 SEA/EIRs) amended below in Section 3.5.3, would reduce sedimentation discharge concerns to a negligible level." However, the amended mitigation measure text supposedly shown in Section 3.5.3, is unclear. Please clarify whether the mitigation measures noted above have been amended and if so, provide the complete amended text of each measure. 2-2

Cultural Resources

3. **Tribal Outreach**: Table 3-1 (page 25) states that Cultural Resources is one of the resource areas not discussed in detail in the SEIR/EA. Tribal Cultural Resources were somewhat discussed in the ARCF GRR EIS/EIR. However, due to changes to the Project as analyzed in the SEIR/EA and because it has been over 5 years since the original outreach occurred, Commission staff believe that updated tribal outreach should be conducted. In addition, the tribes' concurrence with the Programmatic Agreement (PA) mentioned in the SEIR/EA should be confirmed, as the PA does not contain tribal signatures. Commission staff request that the results of this updated outreach be provided when complete. 2-3

4. **Title to Resources**: Commission staff request the Archaeological Discovery Plan (Mitigation Measure CR-2, mentioned in Table ES-1) include a statement that the title to all archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California are vested in the State and under the jurisdiction of the Commission (Pub. Resources Code, § 6313), as follows: "The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission." Finally, Commission staff request that the lead agencies consult with Staff Attorney Jamie Garrett (see contact information below) should any cultural resources on State land be discovered during construction of the Project. 2-4

Thank you for the opportunity to comment on the Draft SEIR/EA for the Project. As a responsible and trustee agency, the Commission will need to rely on the Final SEIR for the issuance of any lease as specified above and, therefore, we request that you consider our comments prior to certification of the SEIR.

Please send copies of future project-related documents, including electronic copies of the final SEIR/EA, Mitigation Monitoring and Reporting Program, Notice of Determination, Findings, Statement of Overriding Considerations (if applicable), and approving resolution when they become available. Please refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at (916) 574-1310 or cynthia.herzog@slc.ca.gov. For questions concerning archaeological or historic resources under Commission jurisdiction, please contact Staff Attorney Jamie Garrett, at (916) 574-0398 or jamie.garrett@slc.ca.gov. For questions concerning Commission leasing jurisdiction, please contact Sandra Avila, Public Land Management Specialist, at (916) 574-0282 or sandra.avila@slc.ca.gov.

Sincerely,

Nicole Dobroski, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
C. Herzog, Commission
J. Garrett, Commission
S. Avila, Commission

From: Karen Huss <KHuss@airquality.org>
Sent: Friday, July 23, 2021 9:04 AM
To: DWR Public Comment ARCF 16 <PublicCommentARCF16@water.ca.gov>; spk-pao@usace.army.mil
Cc: Paul Philley <PPhilley@airquality.org>
Subject: SREL Contract 3 Supplemental EIR/EA

Thank you for providing the SREL Contract 3 Supplemental EIR/EA to the Sac Metro Air District for review. We do not have any comments on the document. 3-1

Karen Huss
Associate Air Quality Planner/Analyst
Transportation & Climate Change Division - CEQA & Land Use
Desk: (279) 207-1131
Send project review inquiries to projectreview@airquality.org
Website: www.AirQuality.org
@AQMD

Letter 4

CALIFORNIA Water Boards

GAVIN NEWSOM GOVERNOR

JARED BLUMENFELD SECRETARY FOR ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

2 August 2021

Kalia Schuster
Central Valley Flood Protection Board
3310 El Camino Avenue, Suite 170
Sacramento, CA 95821
kalia.schuster@water.ca.gov

COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT, AMERICAN RIVER WATERSHED COMMON FEATURES, WATER RESOURCES DEVELOPMENT ACT OF 2016 PROJECT, SACRAMENTO RIVER EAST LEVEE CONTRACT 3, SCH#2005072046, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 18 June 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Draft Environmental Impact Report* for the American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River East Levee Contract 3, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as

required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Total Maximum Daily Load – Planning and Assessment

To minimize sediment movement that could trigger algal blooms, the Central Valley Water Board recommends the project activities occur outside of the timeframe of June through September.

Portions of the Sacramento River are within the project area are currently on the Clean Water Act Section 303(d) List of Impaired Waters due to chlordane, chlorpyrifos, DDT (dichlorodiphenyltrichloroethane), diazinon, dieldrin, Group A pesticides, invasive species, mercury, PCBs (polychlorinated biphenyls), and toxicity. Central Valley Water Board staff recommends referencing the most current 303(d) list and requirements contained in existing TMDLs for the Sacramento River within the Supplemental EIR discussing any potential short- and long-term effects of these pollutants from project activities or program level impacts,and discussing mitigation measures and/or best management practices to reduce potential effects. 4-1

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil 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, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml 4-2

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website

at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-0335 or Angela.Nguyen-Tan@waterboards.ca.gov.

Angela Nguyen-Tan
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

SMUD®

Sent Via E-Mail

Letter 5

July 30, 2021

Kalia Schuster
Flood Projects Office
Department of Water Resources
3464 El Camino Ave, Room 150
Sacramento, CA 95821
PublicCommentARCF16@water.ca.gov

Subject: **American River Watershed Common Features, Water Resources Development Act of 2016, Sacramento River East Levee Contract 3 | Supplemental EIR | 2005072046**

Dear Ms. Schuster:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Supplemental Draft Environmental Impact Report (EIR) for the American River Watershed Common Features, Water Resources Development Act of 2016, Sacramento River East Levee Contract 3 (Project, SCH 2005072046). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the Project EIR will acknowledge any Project impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
  - https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services
  - https://www.smud.org/en/Corporate/Do-Business-with-SMUD/Land-Use/Transmission-Right-of-Way
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery
- The potential need to relocate and or remove any SMUD infrastructure that may be affected in or around the project area

SMUD has existing electrical facilities located throughout the project area footprint. All CalOSHA and State of California Public Utilities Commission safety clearances must be maintained during construction and upon completion. If any clearances cannot be maintained the project proponent shall be responsible for the cost of utility relocation and these actions should be reflected within the project description. Upon project completion, all access and clearances must be maintained around all SMUD facilities. Public utility easements and SMUD easements may be required for any new construction.

More specifically, SMUD would like to have the following details related to the electrical infrastructure incorporated into the project description:

- SMUD also operates and maintains a high-pressure gas pipeline which runs immediately south of the proposed southern-most staging area and in the vicinity of the soil borrow area near the SRCSD Wastewater Treatment Plant. Please refer to below map for approximate location information. The pipeline will need to be potholed and located before any work within 100 feet of the gas pipeline. 5-1

- Both overhead 21kV lines and underground 12kV lines run adjacent to or within the project area and must remain. 5-2

SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents. 5-3

Environmental leadership is a core value of SMUD, and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this EIR. If you have any questions regarding this letter, please do not hesitate to contact me at 916.732.6676, or by email at rob.ferrera@smud.org.

Sincerely,

Rob Ferrera
Environmental Services Specialist
Sacramento Municipal Utility District
6201 S Street
Sacramento, CA 95817

cc: Entitlements


Cosumnes River Blvd
Freeport
Delta Shores
Cosumnes River Blvd
Golf Course
S River Rd
160
Sacramento River
160
West Side Fwy
River Rd

South Pocket Homeowners' Association
PO Box 22812, 5930 South Land Park Dr, Sacramento, CA 95822

July 22, 2021

Kalia Schuster
Flood Projects Office
Department of Water Resources
3464 El Camino Avenue Room 200
Sacramento, CA 95821
PublicCommentARCF16@water.ca.gov

Public Affairs Officer
USACE Sacramento District
1325 J Street - - Room 1513
Sacramento, CA 95814
spk-pao@usace.army.mil

Re: SREL Contract 3 Draft Supplemental SEIR/SEA Public Comment Letter
Dear Ms. Schuster and USACE Sacramento District Public Affairs Officer:

Thank you for the opportunity to comment on the Draft Supplemental Environmental Impact Report/Supplemental Environmental Assessment (SEIR/SEA) document for the Sacramento River East Levee (SREL) Contract 3 project.

Introduction
South Pocket Homeowners' Association (SPHA) represents approximately 400 homes in the City of Sacramento with the boundaries of Pocket Road, Interstate 5, Sacramento River, and Greenhaven Drive. Our neighborhood association has been working to represent our neighbors for over thirty years. The Sacramento River East Levee is one of our boundaries and an integral part of our neighborhood. Generally, SPHA and its members support the SREL project due to recognition of the elevated flood risk and the need for improved flood protection in the Sacramento region.

We have specific experience with the SREL Contract 1 in 2020 that is factually relevant to the current Draft SEIR/SEA out for public comment and reflected in our comments below. For context, it is important to note that SPHA was aware of the upcoming project, supported the project, educated our members about the project with articles in neighborhood newsletters, and had SAFCA's Pete Ghelfi as a guest speaker at two of our neighborhood association meetings in the years leading up to the project. Our neighbors were well prepared for the dust, noise, and disruption that might occur with project implementation. However, we were not

prepared for the damage to multiple homes, the lack of substantive response from the lead agencies, and the lack of a formal claims process to address that damage.

Comments

Section 2.1.4 Potential Staging Areas

In Section 2.1.4, Potential Staging Areas, the open area next to Freeport Water Intake Facility is identified as a potential staging area on page 25. This area is also identified as a potential staging area in Figure 2-1 on page 13.

SPHA Comment 1. SPHA strongly objects to the use of the Freeport Water Intake Facility site as a staging area for SREL Contract 3, as the contractor used it as a staging area for SREL Contract 1 in 2020, with the consequence of damage to five (5) residences on El Rito Way, adjacent to the staging site. Not only were adjacent homeowners impacted by damage directly attributable to the staging area construction, but as of June 2021, USACE or the contractor has not compensated or repaired the damage. 6-1

The scope of damage at these five residences includes the following:

- Cracks in interior walls and ceilings of the homes
- Cracks in driveways
- Cracks to various concrete structures on the properties, such as patios and walkways
- Disruption of sewer line requiring replacement

As of June 2021, all five properties have been recently inspected by a USACE representative; however, the homeowners are not aware of an approved plan to compensate them or repair the damage. The earliest damage occurred in April 2020, during the mobilization of the staging area, now 15 months ago. **These homeowners are still waiting for the USACE to compensate them or repair the damage.**

With this unfortunate experience of damage to adjacent residences, SPHA strongly objects to any potential use of this site as a staging area.

3.11.2 Environmental Impacts: Potential Exposure of Sensitive Receptors to Excessive Vibration

In Section 3.11.2, Potential Exposure of Sensitive Receptors to Excessive Vibration, on page 88, the Draft SEIR/SEA states,

> Implementing Mitigation Measure NOI-1 will reduce significant impacts related to construction-related vibration to a less-than-significant level by requiring a vibration control plan and actions to reduce the effects of construction.

This statement is false, as demonstrated by the failure of the same mitigation measure in SREL 1 and the consequent damage to five (5) residences.

SPHA Comment 2. If the lead agencies continue to use this same failed mitigation measure in SREL 3, the significance threshold after mitigation must be updated to Significant and Unavoidable (SU). 6-2

3.11.3 Mitigation Measures
Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects

If the lead agencies choose to use the Freeport Water Intake Facility as a staging area again for SREL 3, SPHA has several comments and recommendations related to vibration and covering the following topics: pre- and post-construction surveys, performance criteria, threshold of significance, ombudsman, and claim form process. These comments are detailed below.

Pre- and Post-Construction Surveys
On page 89 of the Draft SEIR, one component of the proposed vibration control plan is described as follows:

> A voluntary pre- and post-construction survey would be conducted to assess potential architectural damage from levee construction vibration at each residence within 75 feet of construction. The survey would include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation would be reviewed with the individual owners prior to any construction activities. Post-construction monitoring of structures would be performed to identify (and repair, if necessary) damage, if any, from construction vibrations. Any damage would be documented with photographs and video. This documentation would be reviewed with the individual property owners.

Please note that the proposed mitigation measure only addresses damage from levee construction vibration, not staging area construction.

SPHA Comment 3. This language in the Mitigation Measure NOI-1, specifically the vibration control plan, must be updated to include staging area construction. The recommendation for the updated language is as follows: 6-3

> A voluntary pre- and post-construction survey shall be conducted to assess potential architectural damage from **levee and staging area construction vibration** at each residence within 75 feet of construction.

This change to the mitigation measure would make the measure inclusive for all residents adjacent to construction activity, both next to levees and next to staging areas.

The benefit for the lead agencies is this vibration mitigation measure will be applied comprehensively and uniformly within the project footprint. Further, this updated mitigation measure would provide objective documentation for evaluation of damage claims. Photos and video inside and outside residences is best practice as the lead agencies have done for residences next to the levee construction.

Performance Criteria

Three of the four vibration mitigation measures in the vibration control plan on page 89 are vague, unenforceable and lack specific performance criteria.

Bullet one reads:

> Avoid vibratory rollers and packers near sensitive areas.

At least one property owner of a damaged home was told by a worker for the contractor that the large machinery compacting the soil immediately behind his property line was a vibratory roller. "Avoid" is too subjective and vague a term for a mitigation measure thus this mitigation measure was unenforceable and disregarded by the contractor in SREL 1.

SPHA Comment 4. Update this mitigation measure to read "Prohibit vibratory rollers and packers within 100 feet of sensitive areas." 6-4

Bullet two, regarding haul trucks on streets, is reasonable and we have no comment.

Bullet three, concerning pre- and post-construction surveys, was discussed above.

Bullet four reads:

Place vibration monitoring equipment at the property line adjacent to large equipment and, with owner approval, at the back of the residential structures adjacent to the large equipment. Record measurements daily.

While homeowners reported that such monitoring equipment appeared to be placed on their property line, they were not informed what the VdB readings were. When two of the homeowners asked for a copy of the readings from the vibration monitoring equipment on their property lines, they were told yes, they could have it, and then no further response from USACE or the contractor. This measure is vague as written. Were the measurements recorded daily? Were the readings at or below the 80-VdB (vibration decibels) vibration effect criteria for residences per the Federal Transit Administration? Were they at 100 or 120 VdB?

SPHA Comment 5. Require USACE and/or contractor to produce the requested vibration monitoring data, and appropriate interpretation assistance, within 24 hours to a homeowner who requests it and claims their property is being damaged. 6-5

SPHA comment 6. Add specific performance criteria that when USACE or the contractor is informed by an adjacent homeowner that damage is occurring at their property, that USACE issue a stop work order, investigate the damage at that time, and communicate findings back to the homeowner within 48 hours of investigation and before restarting construction activity. 6-6

Lack of Ombudsman

Many large, complex construction projects have a designated ombudsman, who is the identified central point of contact for questions, complaints, and concerns, and tasked with resolving those questions, complaints and concerns. We find no reference to an ombudsman in the Draft SEIR/SEA for SREL 3.

Our experience with SREL 1 highlights the need for an ombudsman on a project of this complexity. Contacts from both SPHA and the individual homeowners with damage were directed to Mr. Tyler Stalker, Deputy Chief of Public Affairs for the USACE Sacramento District. Our recommendation is that an ombudsman who is **authorized to make substantive responses and commit the agency to a course of action,** may be a better approach both for the lead agencies and the public.

SPHA Comment 7. Designate an ombudsman who will be the identified central point of contact for questions, complaints, and concerns, and who is tasked with resolving those questions complaints and concerns in a timely manner. Ensure the ombudsman is fully authorized to respond to the public with substantive responses and commit the agency to a course of action. 6-7

An effective ombudsman can reduce confusion and enhance information flow and accountability.

Lack of Formal Claims Process

In November 2020, when SPHA requested information on a claims process for residents with damaged properties to access, Mr. Stalker advised "Property owners filing a claim for damages should reach out to our Public Affairs Office. USACE will resolve claims through an established USACE/contractor process."

There was no further information made available to the public about the claims process. Further, when the homeowners contacted Mr. Stalker to initiate a claim, they were advised to just send him an email. There was no formal claim form, no claim number for identification and tracking purposes, and negligible information provided about the claims process such as timeline or what to expect.

SPHA recommends that this claims process be more formal, and more information provided to homeowners with damaged properties.

SPHA Comment 8. Formalize the claims process by providing a claim form and claim number for identification and tracking purposes, along with adequate information about the claim process such as timeline and what to expect. 6-8

Closing

SPHA encourages your consideration of these comments. If similar unfortunate situations happen in other neighborhoods, in the Sacramento region, and across the country, they may cumulatively erode critical public support for flood protection projects.

Thank you for the opportunity to provide comments on this important public safety project.

Sincerely,

Sue Ruiz
President, South Pocket Homeowners' Association (SPHA)
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Letter 7

June 27,2021

Comments on SREL Contract 3 Supplemental EIR

1. How were the Haul Access Points selected?

   Please indicate the criteria for selecting Axios River Court as a Haul Access Point.

   Was the empty lot between the Camellia Waldorf School and Pinios River Court considered? 7-1

   If the ability to make a left turn from Pocket Road onto Axios River Court is a factor, was River Village Drive also considered?

   Was there consideration given to the number of small children living on Axios River Court?

2. What does it mean to be a Haul Access Point?

   Please layout the plan for daily activity including number of trucks going up and down the street and the time frame each day. 7-2

Barbara and Michael Ullman

27 Axios River Court

Sacramento 95831

ullman@pacbell.net

916-422-2134

July 30, 2021

Kalia Schuster
Flood Projects Office
Department of Water Resources
3464 El Camino Avenue Room 200
Sacramento, CA 95821
PublicCommentARCF16@water.ca.gov

Public Affairs Officer
USACE Sacramento District
1325 J Street - - Room 1513
Sacramento, CA 95814
spk-pao@usace.army.mil

Re: SREL Contract 3 Draft Supplemental SEIR/SEA Public Comment Letter

Dear Ms. Schuster and USACE Sacramento District Public Affairs Officer:

We appreciate the opportunity to comment on the Draft Supplemental Environmental Impact Report/Supplemental Environmental Assessment (SEIR/SEA) document for the Sacramento River East Levee (SREL) Contract 3 project. In addition, I support the comments and recommendations outlined in the letter from the South Pocket Homeowners Association.

We have direct experience with the SREL Contract 1, which placed the staging area on the property behind my home at the Freeport Water Intake Facility site, identified again for Contract 3 as a potential staging area on page 25 under **Section 2.1.4 Potential Staging Areas** and in Figure 2-1 on page 13. Our home had damages during Contract 1 that remain unresolved as of the date of this letter. The work from Contract 1 spanned April to November 2020. To provide my perspective, I have attached a photo taken on 4/3/2020 to show how extremely close these heavy contraction trucks were to my back fence.

The amount of damage to my home, and at least four other homes on my street, included cracks in walls, concrete, driveways, damage to garden items , heavy dirt and debris, and disruption of my sewer line requiring replacement. I have been a resident since 2003 so I lived through three years of construction to build the Freeport Water Intake Facility. By far, my experience during Contract 1 was worse than any of our prior experience primarily due to the lack of communication/response, lack of updates regarding expanding work hours and damage claims, and lack of having a primary point of contact to call in case of emergency that could actually respond and resolve to any concerns. During Contract 1, we were only able to get a direct response from the contractor, who was able to act fast in November 2020 when the vibration to reconstruct the berms we fought so hard to create during the Freeport Project were leveled and then recreated. Add on the COVID pandemic, and the disruption to our children's education and our working from home, there is no way I want this repeated again. For these reasons, we strongly object to the use of the Freeport Water Intake Facility site as a potential staging area for SREL Contract 3. 8-1

During Contract 1, our biggest concern was vibration. **Under 3.11.2 Environmental Impacts: Potential Exposure of Sensitive Receptors to Excessive Vibration** on page 88, the Draft SEIR/SEA states "...Mitigation Measure NOI-1 will reduce significant impacts related to construction-related vibration to a less-than-significant level by requiring a vibration control plan and actions to reduce the effects of construction." This statement is false. There was a vibration monitor affixed to our neighbor's back fence. We asked for the data from the monitor, were told that we could have access to it, and then never received it. This has led us to conclude that the vibration data showed more-than-significant impacts. 8-2

In **3.11.3 Mitigation Measures, Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects**, if the lead agencies choose to use the Freeport Water Intake Facility site as a staging area in SREL 3, our properties must be notified to receive a voluntary pre- and post-construction survey. This was not the case during Contract 1. Please note that the proposed mitigation measure only addresses damages from levee construction, *not the staging area construction.* This needs to be corrected to include surveys conducted to assess potential damage from levee and staging area construction vibration at each residence within 75 feet of construction. 8-3

On page 89, three of the four mitigation measures in the vibration control plan are unenforceable and lack specific performance criteria. The bullet states "Avoid vibratory rollers and packers near sensitive areas." Sensitive areas need to be defined. During Contract 1, we were only able to get the vibratory rollers shut off by repeatedly contacting the contractor directly. The vibration was so severe that it moved items off tables and pictures off walls. 8-4

Thank you for the opportunity to provide comments on this important public safety project.

Sincerely,

Shari Kawelo

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July 31, 2021

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Public Affairs Officer
USACE Sacramento District
1325 J Street - - Room 1513
Sacramento, CA 95814
spk-pao@usace.army.mil

Re: SREL Contract 3 Draft Supplemental SEIR/SEA Public Comment Letter

Dear Ms. Schuster and USACE Sacramento District Public Affairs Officer:

Thank you for the opportunity to comment on the Draft Supplemental Environmental Impact Report/Supplemental Environmental Assessment (SEIR/SEA) document for the Sacramento River East Levee (SREL) Contract 3 project, additionally, I support the comments and recommendations outlined in the letter from the South Pocket Homeowners Association.

As homeowners of 7751 El Rito Way, we have had the unfortunate opportunity to be directly impacted by the project with the staging area directly behind our home. While we wholeheartedly support the project, to protect our neighborhood, it has also has caused significant interference and stress to our lives; seemingly without any concern by anyone associated with the project. The seemingly inability to address our concerns and impact to us is unconscionable and disgraceful. I worked for the federal government for 30 years, and retired just as this last project started; the fact I didn't receive responses to concerns or complaints, leaves me saddened and angry.

During the last project, whereas, the staging area was directly behind our home, we experienced the following:

1. Lack of communication when addressing problems or concerns.
    a. Sometimes having to make numerous calls to address concerns.
    b. Not having a single "point of contact (POC)" made things very difficult.
    c. When finally contacting someone, being told to contact someone else (it's not "my problem" syndrome).
    d. Being told we would have "follow-up"; however, no follow-up ever happened (eg., home inspection, and vibration data from the "box" directly behind our home).

e. Being told that a "pre-inspection" was an "oversite" even due to our direct location adjacent to the staging area; however, again, no "follow-up".

2. Dirt, dust, debris directly impacting our home.
    a. No attempt from the project to provide any mitigation resources directly to homeowners (House cleaning- both indoor and outdoor).
    b. Apparently, if one single homeowner complained, there was mitigation – this to me is unacceptable – we shouldn't have to be divided as neighbors, in that some received, at least an attempt to make things "right", but the rest of us didn't have the opportunity? Again, unacceptable behavior by those making decisions.
    c. Health concerns – my wife has cancer and I have asthma. Thanks for the effort.

3. Daily annoyance to Noise, Vibration, and Inappropriate activity.
    a. Some days the vibration was so bad (felt like an all day "earthquake), it was impossible to work in the home – and due to Covid, we were all home; my wife (work) and daughter (school). In one particular instance, we were so negatively impacted that I was able to talk to a project manager (who was in the Bay area at the time), that they did stop the vibration work. I would call this a "CLUE"; however, no follow-up.
    b. Noise was so horrible at times; it was impossible to concentrate.
    c. One of the biggest annoyances..... watching the workers park their Privately Owned Vehicles directly behind our home, and then urinate right behind our home – Seriously? Once I shared this with one of my neighbors, he apparently knew someone and complained – shortly after that, the vehicles began parking in another location, and at least that activity ceased – perhaps in the future you can provide "porta potties" for the workers – Oh did I mention my daughter is only sixteen? UNACCEPTABLE!
    d. After work "parties" drinking beer/alcohol at their vehicles. This also ceased when the vehicles parked in another part of the staging area.

4. Damage?
    a. I'm certain there is damage caused to my home. Are you?
    b. Unknown, as there was no pre-inspection. Upon two guys coming over during the conclusion of the last phase, I was told I would hear something soon.. still waiting- crickets.
    c. I was told it was an "oversite" that no pre-inspection was conducted to the homes adjacent to the staging area; however, there were inspections conducted to homes along the Levee. Apparently, since we were not on the Levee itself, it was just a mistake? Again, no follow-up.... Crickets.

d. Data from the box behind our home? Some days it felt like a constant "earthquake", I was told this information would be shared- nope- crickets.
e. It would be nice to have some follow-up concerning this issue and that in the future, someone will have the "due diligence" to think of the staging area as perhaps being even more destructive to the adjacent homes of the staging area than those on the Levee, you know, since they're using it EVERYDAY.... Just a thought.

5. Community Outreach.
    a. Nonexistent, in my humble opinion; leaving a note at my front door is a poor form of communication. Sure, there was "communication" from the "30,000 foot level above" aspect of the project, and that was available to the whole world if they wanted; However, I'm specifically addressing communication with "us", the neighbors, the ones directly, and negatively impacted – there was no one for us to turn to. Your webpage and information did not address me – the guy "next door" – the FAMILY – RIGHT NEXT DOOR--
    b. Create a single POC for future projects for us neighbors that are "DIRECTLY IMPACTED", surely you can understand the need? I HOPE!?!?
    c. When I was able to contact someone, there was minimal follow-up, if any. Additionally, I was given a POC, who in fact, had left that position, so I spent a lot of time trying to get in touch with someone who no longer cared, or if he cared at all in the first place. He was the one who informed me that a pre-inspection of the homes directly adjacent to the staging area was an "oversite", only due to the twenty voicemail messages I left him in complete disgust – I'm actually surprised he even returned my calls, as I was VERY UPSET, and left messages that even I am ashamed of; however, sometimes you hit a "breaking point", and YES, I did hit that point.

6. Mitigation
    a. My bad, there was none – I'm sorry; that's actually your bad. DO BETTER.
    b. My bad, there was some – I guess – but only for neighbors that got in touch with the right people. Just plain "unacceptable" and divisive. DO BETTER.

As I stated earlier, I support this project, and know how important it is for the protection of our neighborhood and region. My concerns are with the "oversites" that were not addressed and MISSED, or were addressed and not responded to. If there are oversites occurring at these levels, I can be certain there are oversites occurring in other aspects of the project. My other concern is the lack of communication with those directly, and negatively, impacted with the staging area directly behind our homes. I am thankful to the South Pocket Homeowner's Association for articulating concerns with the contract and representing those of us who are directly impacted. I just wanted to give you my perspective and a homeowner who had to live through this past project. I hope you WILL DO BETTER.

Oh, and PS – we lived here during the project that occurred 16 years ago too. They did a really great job! Maybe you could look into hiring some of those folks, or perhaps seek their advice on how to do things right in regards to those being directly impacted on a daily basis!

This is an IMPORTANT PROJECT, I get it; however, we are IMPORTANT TOO (not sure if you get it) – Please do the right thing- it's not hard – Please do the right thing, be good "neighbors" to us, as had been seen possible with the original project 16 years ago.....

Thank you,

Scott and Mary Huther
7751 El Rito Way
Sacramento CA 95831

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Mary: 916-320-9081 / maryhuther@yahoo.com

Letter 10

From: vickyr@caprenos.com
Sent: Thursday, July 15, 2021 11:10 AM
To: DWR Public Comment ARCF 16
Subject: Sacramento River East Levee SREL Contract 2

Can you tell me who was awarded the contract for SREL Contract 2 as the prime contractor? Is it Maloney Odin JV like Contract 1? 10-1

Thank you.

Vicky Roff
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858-300-2661 direct line
858-560-7626 fax

APPENDIX D. RESPONSE TO COMMENTS AND REVISIONS TO THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

RESPONSES TO COMMENTS

Introduction

This appendix provides responses to public and agency comments on the Sacramento River East Levee Contract 3 Project draft Supplemental Environmental Impact Report/Environmental Assessment (Supplemental EIR/EA) received during the public comment period for the draft Supplemental EIR/EA.

Public Comment Summary

The draft Supplemental EIR/EA was posted with the State Clearinghouse (SCH #2005072046) on June 18, 2021. The draft Supplemental EIR/EA was circulated for 45 days (June 18 through August 1, 2021) for review by Federal, State, and local agencies; organizations; and members of the public. The draft Supplemental EIR/EA was made available on the Sacramento District, Corps of Engineers (USACE) and Central Valley Flood Protection Board (CVFPB) websites. Hard copies of the draft Supplemental EIR/EA were made available for review at the Sacramento Central Library.

A virtual public meeting was held on July 14, 2021 to provide the public with additional opportunities for comments on the draft Supplemental EIR/EA. All comments received during the public review period were considered by CVFPB and USACE and incorporated into the final Supplemental EIR/EA as appropriate.

The virtual meeting was held, instead of the typical in-person meeting, due to Sacramento County restrictions on meeting size during the Covid-19 pandemic. During the virtual meeting, the chat function was available for the public to send questions to the meeting moderator. Attendees were also given an opportunity to voice questions at the end of the presentation, but attendees were requested to provide comments on the contents of the environmental document in writing via mail or electronic mail. One comment was received during the public meeting, recommending that mitigation measure NOI-1 be expanded to specifically state that measures would be implemented to reduce impacts of vibration at staging areas as well as from construction. This comment was later repeated in writing by the South Pocket Homeowners' Association.

During the draft Supplemental EIR/EA public review period, 10 comment letters were received with a total of 33 comments as follows:

- (7) Delta Stewardship Council
- (4) California State Lands Commission
- (1) Sacramento Metropolitan Air Quality Management District (SMAQMD)
- (2) Central Valley Regional Water Quality Control Board (RWQCB)
- (3) Sacramento Municipal Utility District
- (8) South Pocket Homeowners' Association
- (8) private citizens/companies (four individual letters)

Comments and Responses

The following pages include all public comments received and the responses to those comments. The responses are annotated to refer back to the corresponding letters and comments that precede them.

Comment Letter 1: Delta Stewardship Council

1-1 Comment acknowledged. Delta Plan Appendix O was considered during preparation of the final Supplemental EIR/EA.

1-2 Comment acknowledged and considered. The Project was designed in accordance with the latest USACE engineering standards and based on an alternatives evaluation ("the best scientific information and data for informing management and policy decisions"). Impact analysis was conducted and mitigation measures were developed in accordance with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. As a result of comments received during the public review process for the American River Watershed Common Features General Reevaluation Report (ARCF GRR) EIS/EIR, and later Supplemental EIR documents for Sacramento River East Levee (SREL) Contracts 1, 2, and 3, some previous analyses and mitigation measures were adjusted or modified for Contract 3 to increase the effectiveness and/or strengthen specific mitigation measures.

1-3 Comment acknowledged and considered. Given the urban location of the Project, levee setback alternatives are not feasible. Additional information regarding the feasibility of setback levee alternatives can be found in the ARCF GRR EIS/EIR (USACE and CVFPB 2016).

1-4 Comment acknowledged and considered. The Proposed Action would not affect aquatic environments or nonnative aquatic species. The Proposed Action would disturb existing habitat that is currently dominated by nonnative species. Areas disturbed by the Proposed Action would be re-seeded using native grasses and/or forbs. Additional information addressing this comment can be found in the ARCF GRR EIS/EIR. Based on the analysis provided in the ARCF GRR EIS/EIR and this supplemental document, the Proposed Action would not lead to the increased establishment of nonnative invasive species compared to existing conditions.

1-5 Comment acknowledged and considered. The Proposed Action includes improvements to existing levee infrastructure and does not include expansion or changes to the footprint of these facilities or acquisition of private property beyond the existing flood control infrastructure. Additional information addressing this comment can be found in the ARCF GRR EIS/EIR and in Chapter 3 of this EIR/EA.

1-6 Comment acknowledged. Additional information addressing this comment can be found in the ARCF GRR EIS/EIR and Chapters 3 and 5 of this EIR/EA. As described in Chapter 3 of this EIR/EA, supplemental information on existing conditions, including environmental and regulatory setting, is provided for resource topics only where necessary to support the supplemental impact analysis. Otherwise, the document relies on the regulatory setting as described in the ARCF GRR EIS/EIR and is not repeated.

1-7 Comment acknowledged. As stated in the Supplemental EIR/EA, CVFPB will submit a certification of consistency with the Delta Plan to the Delta Stewardship Council.

Comment Letter 2: California State Lands Commission

2-1 The impact analysis section for each resource topic in Chapter 3 of Part 1 (the Supplemental EIR) identifies each mitigation measure that will be implemented to reduce significant impacts, as requested by the commenter. As the commenter notes, the specific mitigation measures implemented to reduce each significant impact are also identified in Table ES-1. Later Commission comments reference text in Part 2 of the document, the Supplemental EA, which was prepared to satisfy NEPA requirements. CVFPB will make its lead agency findings based on the analysis contained in Part 1 of the document, the Supplemental EIR, and anticipates that responsible agency findings would also be made based on the Supplemental EIR (Part 1 of the document).

2-2 The text referenced by the commenter is in Part 2 of the document, the Supplemental EA that was prepared to meet NEPA requirements. The corresponding CEQA analysis may be found in Section 3.10 of Part 1, the Supplemental EIR, with impact analyses beginning on page 83 of Part 1, the Supplemental EIR. The mitigation measures that are applied in the Supplemental EIR to water quality impacts include HWQ-1 (page 85) and GEO-1 (pages 76 and 77).

2-3 The text referenced by the commenter is in Part 2 of the document, the Supplemental EA that was prepared to meet NEPA requirements. The Supplemental EIR text in Part 1 of the document does include information concerning ongoing outreach to Tribes, and tribal cultural resources were identified and described on page 65 of the draft Supplemental EIR. Ongoing engagement with the associated tribes includes a Tribal Engagement Letter sent in July 2021 including a project description of the SREL Contract 3 Project. The description included the linear extent of the project, dates of construction, a tree removal timeline, and a schedule of the document preparation. The letter also reiterated the State requirement of tribal consultation under the Central Valley Flood Protection Board Tribal Engagement Policy, and encouraged the tribes to submit comments or questions to the CVFPB concerning the project.

Once the Supplemental EIR/EA was published for public review on June 18, 2021, affiliated tribal organizations were sent a Notice of Availability including the dates to submit public comments and contact information to submit any further questions/comments.

2-4 The comment requests additional text be added to the description of the archaeological discovery plan in Mitigation Measure CR-2. Because the suggested text clarifies State

law requirements which would apply to historic or cultural resources discovered on State lands rather than imposing a project-specific mitigation requirement, USACE and CVFPB do not propose to modify the text of Mitigation Measure CR-2. No change to the Supplemental EIR/EA is necessary.

Comment Letter 3: Sacramento Metropolitan Air Quality Management District

3-1 Comment acknowledged. The comment states that SMAQMD has no comments on the Supplemental EIR/EA.

Comment Letter 4: Central Valley Regional Water Quality Control Board

4-1 The requested information is identified in text on pages 81 and 82 of the draft Supplemental EIR/EA, including Table 3-7. Impact analysis (beginning on Page 83) discusses potential effects on surface and groundwater. No change to the Supplemental EIR/EA is necessary.

4-2 Comment acknowledged. The comment describes regulatory processes administered by RWQCB. No change to the Supplemental EIR/EA is necessary.

Comment Letter 5: Sacramento Municipal Utility District

5-1 The comment describes potential impact topics related to its utility infrastructure. The Supplemental EIR identifies the potential to affect utilities in Section 3.14.3, and identifies Mitigation Measure UTL-1 to coordinate with affected utility owners (including SMUD) to minimize damage and service disruptions.

5-2 In response to this comment, the following text is added below the third paragraph in Section 2.1.5, "Utility Relocations and Removals":

> SMUD owns 12kv overhead and underground electrical lines that run adjacent to and in the project footprint. These electrical lines will be protected in place and/or replaced. SMUD also operates and maintains a high-pressure gas pipeline which runs immediately south of the proposed southern-most staging area and in the vicinity of the soil borrow area near the SRCSD Wastewater Treatment Plant. The pipeline will not be affected by construction, and if work is to occur within 100 feet of the pipeline location, the pipeline will need to be potholed to confirm the exact location.

5-3 Comment acknowledged. USACE and its construction contractor will continue to consult with SMUD to address project activities with the potential to affect SMUD's utility infrastructure.

Comment Letter 6: South Pocket Homeowners' Association

6-1 USACE has removed the Freeport Water Intake Facility site from the list of staging areas available to the contractor for the SREL Contract 3 project. These changes are reflected in the final Supplemental EIR/EA, and include:

Figure 2-1 and Figure 2-4 are replaced with new figures that do not include the staging area at Freeport Intake Facility.

The following edit is made to the list of staging areas on Page 25 of the draft Supplemental EIR/EA (Part 1):

> Figure 2-1 through 2-4 illustrate potential staging areas including, but not limited to, the following locations:
> - all of Ellsworth Zacharias Park;
> - landside levee toe along North Point Way, east of Grangers Dairy Drive (locally known as Wounded Warrior Park);
> - vacant lot at 6534 Benham Way;
> - waterside access corridor, Benham Way at Arabella Way;
> - vacant lot at 7150 Pocket Road;
> - vacant lot at 7454 Pocket Road;
> - waterside access corridor between Marlton Court and Aquapher Way;
> - Sump 132 Facility, 7520 Pocket Road;
> - portion of Garcia Bend Park, including the boat ramp; and
> - ~~open area up stream of Freeport Intake Facility; and~~
> - vacant lot at southeast corner of the Bill Conlin Sports Complex.
>
> As indicated previously, USACE may not need to use all the identified potential staging areas.

6-2 Mitigation Measure NOI-1 is modified in several ways in the final Supplemental EIR/EA. The revised text of the mitigation measure is shown below, and includes modifications to specifically include staging areas along with levee construction areas. These modifications are intended to ensure that all residents who may be affected by vibration associated with the project are notified and offered pre- and post-construction surveys to more effectively address potential damage associated with project-related vibration. Other edits clarify the procedures associated with pre- and post-construction surveys, vibration monitoring, and contents of vibration control plans.

The following edit is made to the text of Mitigation Measure NOI-1, starting on Page 88 of the draft Supplemental EIR/EA (Part 1):

> **Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects**

USACE ~~and CVFPB~~ would require construction contractors to implement measures at each work site to avoid and minimize construction noise and vibration effects on sensitive receptors. Prior to the start of construction, a noise control plan would be prepared to identify feasible measures to reduce construction noise, when necessary. The measures in the plan would apply to construction activities within 500 feet of a sensitive receptor, including, but not limited to, residences. These measures may include, but are not limited to, the following:

- Provide written notice to residents within 1,000 feet of the construction zone, advising them of the estimated construction schedule. This written notice would be provided within 1 week to 1 month of the start of construction at that location.
- Display notices with information including, but not limited to, contractor contact telephone number(s) and proposed construction dates and times in a conspicuous manner, such as on construction site fences.
- Schedule the loudest and most intrusive construction activities during daytime hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, when feasible.
- Require that construction equipment be equipped with factory-installed muffling devices, and that all equipment be operated and maintained in good working order to minimize noise generation.
- Locate stationary noise-generating equipment as far as practicable from sensitive receptors.
- Limit unnecessary engine idling (i.e., more than 5 minutes) as required by State air quality regulations.
- Employ equipment that is specifically designed for low noise emission levels, when feasible.
- Employ equipment that is powered by electric or natural gas engines, as opposed to those powered by gasoline fuel or diesel, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, place temporary barriers between stationary noise equipment and noise sensitive receptors to block noise transmission, when feasible, or take advantage of existing barrier features, such as existing terrain or structures, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, prohibit use of backup alarms and provide an alternate warning system, such as a flagman or radar-based alarm that is compliant with State and Federal worker safety regulations.
- Locate construction staging areas as far as practicable from sensitive receptors.
- Design haul routes to avoid sensitive receptors, to the extent practical.
- To the extent feasible and practicable, the primary construction contractors would employ vibration-reducing construction practices such that vibration from construction complies with applicable noise-level rules and regulations that apply to the work, including the vibration standards established for construction vibration-sources by the applicable agencies (City of Sacramento and Sacramento County), depending on the jurisdictional location of the affected receptor(s), and the California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual, which identifies maximum vibration

levels of 0.2 to 0.5-inch per second Peak Particle Velocity (PPV) for minimizing damage to structures. Project construction specifications would require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 VdB within 50 feet at any building. If construction would occur within 50 feet of any occupied building, the contractor would prepare a vibration control plan prior to construction. The plan would include measures to limit vibration, including but not limited to the following:

- Numerical thresholds above which the contractor would be required to document vibration sources and implement measures to reduce vibration, and above which work would be required to stop for consideration of alternative construction methods.
- Avoid vibratory rollers and packers near sensitive areas to the maximum extent practicable.
- Route heavily loaded trucks away from residential streets, if possible. If no alternatives are available, select streets with the fewest homes.

- A voluntary pre- and post-construction survey would be conducted to assess the existing condition of structures prior to construction and potential architectural/structural damage ~~from~~ induced by levee construction vibration at each ~~residence~~ structure within ~~75~~ 100 feet of construction activities, including staging areas. The survey would include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation would be reviewed with the individual owners prior to any construction activities. Post-construction ~~monitoring~~ surveys of structures would be performed to identify (and repair, if necessary) damage, if any, from construction ~~vibrations~~ activities. Any construction-related damage would be documented with photographs and video. This documentation would be reviewed with the individual property owners.
- Place vibration monitoring equipment in lines approximately parallel to the levee alignment at intervals not to exceed 200 feet along the construction limits, including active staging areas. Vibration monitors will be operational at all times during the performance of construction activities. The contractor will monitor and record vibrations continuously. ~~at the property line adjacent to large equipment and, with owner approval, at the back of the residential structures adjacent to the large equipment. Record measurements daily.~~

The issues related to specific damage claims associated with construction work at the Freeport Water Intake Facility staging area during SREL Contract 1 construction are being addressed separately by USACE with individual homeowners.

6-3 Mitigation Measure NOI-1 has been broadened to include surveys of structures near staging areas, as proposed by the commenter. Please refer to the Response to Comment 6-2 which shows the specific text changes to Mitigation Measure NOI-1.

6-4 Several changes are proposed to Mitigation Measure NOI-1, as shown in the Response to Comment 6-2. The specific change requested by the commenter (prohibit vibratory rollers and packers within 100 feet of sensitive areas) is infeasible because this equipment

may be required for levee reconstruction or other locations within 100 feet of sensitive areas to meet engineering specifications.

6-5 Vibration monitoring equipment will be placed at locations where construction activity would occur in proximity to residences or other structures as described in Mitigation Measure NOI-1 (see the Response to Comment 6-2 for detailed text changes proposed to Mitigation Measure NOI-1). The vibration monitoring equipment is intended to provide information to the construction contractor to identify circumstances when additional actions to reduce construction-related vibration should be implemented. However, the mechanism for identifying and resolving issues with vibration effects on nearby structures is the pre-and post-construction surveys to identify and repair construction-related damage. With the changes to Mitigation Measure NOI-1, these surveys would be offered to residents within 75 feet of areas where construction or staging activities would take place.

Because homes and structures are present in close proximity to the levee at many locations, and because engineering specifications for the levee improvements must be followed as part of the project, it may not be possible to avoid vibration damage to every structure. Instead, Mitigation Measure NOI-1 relies on a process of surveys and repair of damage that may occur. Providing instrumentation data and interpretation at 24-hour notice on demand is not feasible during an ongoing construction project with limited periods outside of flood season when work is allowed, and providing data or interpretation would not necessarily reduce or avoid any impacts or damages to structures. No change is proposed to Mitigation Measure NOI-1 beyond those already identified in the Response to Comment 6-2.

6-6 See the Response to Comment 6-5. It is not feasible to require a stop work order in response to each report of damage for a large public works project improving a flood control facility that is located in close proximity to hundreds of homes. The project improvements must be completed during a limited construction season outside of the flood season.

6-7 The project's webpage and posted notices at construction areas identify contact information for questions or concerns related to the construction activities. USACE will designate an Ombudsman that will ensure that questions are routed to a decision-making authority. Contact information will be placed on the project webpage, www.sacleveeupgrades.com. Please refer to the Responses to Comments 6-2 and 6-5 for additional discussion of the changes to the process for responding to neighbor concerns and potential vibration effects.

6-8 The comment proposes changes to the claim process for addressing damage complaints. USACE has made changes to the claim process following Contract 1 construction, including the development of a claim form. Furthermore, several changes have been made to Mitigation Measure NOI-1 to expand and clarify the process for pre- and post-construction surveys and damage repairs. USACE does not propose to introduce claim forms or claim numbers in response to this comment.

Comment Letter 7: Barbara and Michael Ullman

7-1 Axios River Court was selected as a haul access point based on several considerations. The access points need to be placed in proximity to the slurry ponds and portable tanks used to construct the levee improvements. Axios River Court has a turn pocket on Pocket Road which allows trucks to reach the street from either direction on Pocket Road. The nearby lot to the north of Camellia Waldorf School was considered as a potential haul access, but was removed from consideration because of construction activities that would be occurring on that parcel, preventing its use as a haul access. River Village Drive is too far from work areas to be considered as an access point. There are very limited locations where it is possible to access the levee without traveling on a residential roadway with sensitive users, including children. Traffic will comply with applicable speed limits and traffic regulations on Axios River Court and other residential roadways identified for haul access.

7-2 A haul access point is an access road used by trucks and light-duty vehicles to reach the levee during construction of nearby levee improvement work. The number of trips per day would vary depending on the location of construction, but could be up to 180 trucks per day. Construction traffic is permitted between 7 a.m. and 7 p.m., although heavy truck traffic would generally be timed to occur during the middle of the day to avoid morning and evening peak traffic hours.

Comment Letter 8: Shari Kawelo

8-1 The staging area identified by the commenter has been removed from the SREL Contract 3 project. Please refer to the Response to Comment 6-1 for additional information.

8-2 Please refer to the Response to Comment 6-2.

8-3 Please refer to the Response to Comment 6-3.

8-4 Please refer to the Response to Comment 6-4

Comment Letter 9: Scott and Mary Huther

9-1 The comment describes problems related to construction during the SREL Contract 1 project, with a staging area located adjacent the commenters' residence and expresses dissatisfaction with the level of public outreach during the SREL Contract 1 project. The staging area identified by the commenter has been removed from the SREL Contract 3 project. The Responses to Comments 6-1 through 6-8 illustrate further changes that have been made to mitigation measures and survey processes and address many of the concerns identified by the comment letter. The commenter does not identify any specific deficiencies in or propose any changes to the environmental review and analysis identified in the draft Supplemental EIR/EA. No change to the draft Supplemental EIR/EA is necessary.

Comment Letter 10: Caprenos Inc.

10-1 The comment requests information related to contractor selection for the SREL Contract 2 project. This comment is not related to the draft Supplemental EIR/EA and, therefore, no change to the draft Supplemental EIR/EA is necessary.

REVISIONS TO THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

In addition to the revisions shown in underline/strikethrough in the comment responses, several other minor changes were made to the Draft Supplemental EIR, as follows:

- CVFPB has been removed from mitigation measures where USACE will be responsible for implementing the measures and overseeing contractor activities. CVFPB remains the responsible agency for CEQA-only mitigation measures, including those for special-status bats, cultural resources, and tribal cultural resources.
- The acreage of habitat below the ordinary high water mark that would be temporarily disturbed during modification of Sump 70 was adjusted from 0.05 acres to 0.09 acres (page 23). This change does not result in new or substantially more severe significant impacts related to habitats or special status fish discussed in Section 3.4.2 or 3.5.2.
- The number of elderberry shrubs identified within the construction footprint has been updated from 2 to 9, and the number of shrubs assumed to be removed has been increased from “up to 10” to “approximately 20” (page 53). This update does not change the analysis or significance conclusion, because the number of elderberry affected are still below the impact on 163 stems identified in the ARCF GRR Final EIS/EIR.

APPENDIX E. REVISIONS TO THE DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Introduction

This appendix presents corrections and revisions made to the proposed project's Draft Supplemental Environmental Assessment (SEA). This appendix does not identify administrative changes to the SEA text which do not affect the analysis contained in the SEA (for example, updates to the public review process). New text is indicated with an underline and text to be deleted is indicated by a strike through. Text changes are presented in the page order in which they appear in the joint Draft Supplemental Environmental Impact Report/ Environmental Assessment.

The changes identified below are clarifications or amplification of the information and analysis contained in the SEA. None of the changes identified below results in a significant impact that was not already identified in the SEA. Furthermore, none of the impacts identified in the SEA were found to be substantially more severe as the result of the following changes. For these reasons, recirculation of the SEA is not warranted.

Section 2.2 Proposed Action

The paragraph titled 'Municipal Drainage System Pipes' on page 23 is revised as follows:

The pipes of one municipal drainage system (Sump 70) would need to be replaced to install a cutoff wall. Temporary waterside access below the ordinary high-water mark of the river would be required to replace the three existing steel outfall pipes (two 24" and one 12") with new steel pipes. Standby bypass pumping and piping is required during construction activities. The new pipes would tie into the existing waterside outfall structure. No work would be performed within wetted channel of the Sacramento River. However, areas in the dry below the OHWM are still considered habitat for Federally protected fish species. ~~In October 2017 USACE determined OHWM elevations for Sacramento River locations are as follows: at RM 41.9 the OHWM is at approximately 18.17 ft (NAVD88), at RM 55.2 the OHWM is at approximately 23.25 ft (NAVD88), and at RM 130.0 the OHWM is at approximately 51.44 ft (NAVD88).~~ A June 2021 site visit by USACE identified an OHWM at the Sump 70 location of 11.88 feet (WGS84). The replacement of municipal drainage system pipes would temporally disturb approximately 0.18 acres of near-shore habitat, of which ~~0.05~~ 0.09 acres is below the OHWM.

Section 3.3 Resources Not Discussed in Detail

The resource 'Noise' is removed from Table 3-1 on page 25 and moved to the new Section 3.11 'Noise and Vibration'.

Section 3.5 Water Quality and Groundwater Resources

The paragraph under sub-heading 3.5.2 'Environmental Effects' on page 27 is revised as follows:

The installation of cutoff walls would require the replacement of municipal drainage system (sump) pipes that run through the levee from the existing pumping plant at Sump 70 (Station 1420) to the existing outfall structure below the OHWM. A June 2021 site visit by

USACE identified an OHWM at the Sump 70 location of 11.88 feet (WGS84). ~~An October 2017 USACE delineation at RM 55.2 three miles upstream from Sump 70 recorded the OHWM at approximately 23.25 ft (NAVD88). An exact OHWM for Sump 70 will be determined in summer 2021.~~ Work below the OHWM was not considered for seepage, stability, and overtopping improvements on the Sacramento River in the ARCF GRR EIS/EIR. This will cause a temporary impact. Site topography will be restored to its original condition after the pipes are replaced. No rip rap or concrete will be used.

Section 3.6 Vegetation and Wildlife

The paragraph titled 'Proposed Action' under sub-heading 3.6.2 'Environmental Effects' on page 29 is revised as follows:

The replacement of municipal drainage system pipes needed to install cutoff walls includes work in the dry area below the OHWM. The ground surface area below the OHWM that may be impacted by clearing, grubbing, and establishing SWPPP BMPs is approximately ~~0.05~~ 0.09 acres. The ground surface area below the OHWM that may be impacted by excavations for removal and replacement of existing piping is approximately 0.01 acres. ~~Approximately 0.05 acres of ground surface area below the OHWM may be impacted by clearing, grubbing, and establishing SWPPP BMPs and approximately 0.01 acres may be impacted by excavations for removal and replacement of existing piping.~~

Section 3.7 Federal Special-Status Species

The second paragraph of 'Federally-listed Fish Species' under sub-heading 3.7.2 'Environmental Effects' on page 31 is revised as follows:

The replacement of municipal drainage system pipes will disturb approximately ~~0.05~~ 0.09 acres of ground surface area below the OHWM for clearing, grubbing, and establishing SWPPP BMPs and approximately 0.01 acres for the excavation, removal, and replacement of existing piping. The area from (MHW) to 3 meters below the Mean Low Low Water (MLLW) is considered habitat for the Federally listed delta smelt. Approximately 0.03 acres of ground surface below the MHW may be impacted by clearing, grubbing, and establishing SWPP BMPs, however there will be no excavation below the MHW to replace the pipes.

Section 3.8 Fisheries (Non-listed Species)

The paragraph titled 'Proposed Action' under sub-heading 3.8.2 'Environmental Effects' on page 32 is revised as follows:

The replacement of municipal drainage pipes could disrupt native fish by temporarily increasing local noise and turbidity, causing fish to move away from the area that might be providing habitat and cover. As some juvenile species utilize near shore habitat for cover, the increase of noise and turbidity may cause juveniles to move away from shore and into the river channel increasing their risk of predation. Removing and replacing municipal drainage system pipes may disturb soils below the OHWM, but outside the wetted channel, leading to increases in

turbidity and sedimentation in the near shore aquatic habitat. Approximately ~~0.05~~ 0.09 acres of ground surface area below the OHWM may be impacted by clearing, grubbing, and establishing SWPPP BMPs; and approximately 0.01 acres below the OHWM may be impacted by excavations for removal and replacement of existing piping.

Section 3.11 Noise and Vibration is a new section added that includes the following additions and revisions to Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects, which is modified from SREL Contract 2:

3.11.1 Existing Conditions

The environmental and regulatory framework described in Section 3.13 of the ARCF GRR EIS/EIR and Section 3.11 of the SREL Contract 1 & 2 SEA/EIRs is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

3.11.2 Environmental Effects

The No Action Alternative and the Proposed Action will generate equivalent construction noise and vibration from equipment operating at each work location, and from the transport of construction workers, construction materials, and equipment to and from each work location. The construction noise impact discussion in the ARCF GRR Final EIS/EIR adequately addresses the noise and vibration impacts that will occur from levee improvements.

3.11.3 Avoidance, Minimization, and Mitigation Measures

Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects from the SREL Contract 1 & 2 Supplemental SEA/EIRs is updated below.

Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects[1]

USACE ~~and CVFPB~~ would require construction contractors to implement measures at each work site to avoid and minimize construction noise and vibration effects on sensitive receptors. Prior to the start of construction, a noise control plan would be prepared to identify feasible measures to reduce construction noise, when necessary. The measures in the plan would apply to construction activities within 500 feet of a sensitive receptor, including, but not limited to, residences. These measures may include, but are not limited to, the following:

- Provide written notice to residents within 1,000 feet of the construction zone, advising them of the estimated construction schedule. This written notice would be provided within 1 week to 1 month of the start of construction at that location.

[1] To clearly convey the changes, revisions for Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects are shown in comparison to SREL Contract 2 SEA/SEIR.

- Display notices with information including, but not limited to, contractor contact telephone number(s) and proposed construction dates and times in a conspicuous manner, such as on construction site fences.
- Schedule the loudest and most intrusive construction activities during daytime hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, when feasible.
- Require that construction equipment be equipped with factory-installed muffling devices, and that all equipment be operated and maintained in good working order to minimize noise generation.
- Locate stationary noise-generating equipment as far as practicable from sensitive receptors.
- Limit unnecessary engine idling (i.e., more than 5 minutes) as required by State air quality regulations.
- Employ equipment that is specifically designed for low noise emission levels, when feasible.
- Employ equipment that is powered by electric or natural gas engines, as opposed to those powered by gasoline fuel or diesel, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, place temporary barriers between stationary noise equipment and noise sensitive receptors to block noise transmission, when feasible, or take advantage of existing barrier features, such as existing terrain or structures, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, prohibit use of backup alarms and provide an alternate warning system, such as a flagman or radar-based alarm that is compliant with State and Federal worker safety regulations.
- Locate construction staging areas as far as practicable from sensitive receptors.
- Design haul routes to avoid sensitive receptors, to the extent practical.
- To the extent feasible and practicable, the primary construction contractors would employ vibration-reducing construction practices such that vibration from construction complies with applicable noise-level rules and regulations that apply to the work, including the vibration standards established for construction vibration-sources by the applicable agencies (City of Sacramento and Sacramento County), depending on the jurisdictional location of the affected receptor(s), and the California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual, which identifies maximum vibration levels of 0.2 to 0.5-inch per second Peak Particle Velocity (PPV) for minimizing damage to structures. Project construction specifications would require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 VdB within 50 feet at any building. If construction would occur within 50 feet of any occupied building, the contractor would prepare a vibration control plan prior to construction. The plan would include measures to limit vibration, including but not limited to the following:

- Numerical thresholds above which the contractor would be required to document vibration sources and implement measures to reduce vibration, and above which work would be required to stop for consideration of alternative construction methods.

- Avoid vibratory rollers and packers near sensitive areas to the maximum extent practicable.

- Route heavily loaded trucks away from residential streets, if possible. If no alternatives are available, select streets with the fewest homes.

- A voluntary pre- and post-construction survey would be conducted to assess the existing condition of structures prior to construction and potential architectural/structural damage ~~from~~ induced by levee construction vibration at each ~~residence~~ structure within ~~75~~ 100 feet of construction activities, including staging areas. The survey would include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation would be reviewed with the individual owners prior to any construction activities. Post-construction ~~monitoring~~ surveys of structures would be performed to identify (and repair, if necessary) damage, if any, from construction ~~vibrations~~ activities. Any construction-related damage would be documented with photographs and video. This documentation would be reviewed with the individual property owners.

- Place vibration monitoring equipment in lines approximately parallel to the levee alignment at intervals not to exceed 200 feet along the construction limits, including active staging areas. Vibration monitors will be operational at all times during the performance of construction activities. The contractor will monitor and record vibrations continuously. ~~at the property line adjacent to large equipment and, with owner approval, at the back of the residential structures adjacent to the large equipment. Record measurements daily.~~

Section 4.1 Clean Air Act of 1963, as amended, 42 USC 7401, et seq.

The second under Section 4.1 on page 35 is replaced with:

The Proposed Action would have no greater air quality impacts as those stated in the GRR EIS/EIR~~, thus ARCF as a whole is not expected to violate any Federal air quality standards and would not exceed general conformity thresholds for construction year 2022. However,~~ USACE released a conformity determination for public notice in March 2020, and the final report was posted in June 2021. Total NOx emissions of the overall ARCF 16 Project are expected to exceed the EPA's General Conformity de minimis thresholds during several of the ARCF 16 project's construction years, including 2022, and 2023. USACE expects to purchase offsets for NOx emissions from SMAQMD. ~~USACE released a conformity determination for public notice in March 2020, and a notice for the final report would be posted in June 2021. When the final general conformity report is published USACE would be in compliance with the General Conformity requirements prior to construction of the Proposed Action.~~

APPENDIX F. CLEAN WATER ACT SECTION 404(B)(1) CONSISTENCY DETERMINATION

Appendix F

Clean Water Act Section 404(b)(1) Consistency Determination

Introduction

Background

The Sacramento Metropolitan area is one of the most at risk areas for flooding in the United States. The purpose of the American River Watershed Common Features project (ARCF) is to improve the existing infrastructure to reduce flood risk along the American and Sacramento Rivers. The ARCF General Reevaluation Report (GRR) Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) previously analyzed several alternatives, including a No Action/No Project Alternative and two action alternatives. Sacramento River East Levee (SREL) Contract 3, a component of the preferred alternative, includes a small amount of work below the ordinary high-water mark (OHWM) of the Sacramento River to replace three municipal drainage system pipes (Proposed Action). This work is necessary to allow for the installation of a seepage cutoff wall.

The basis of this consistency analysis is an evaluation of the consistency of the Proposed Action, and alternatives to the Proposed Action (as described below and in the SREL Contract 3 Supplemental Environmental Assessment (EA)), with the determinations of the 2015 ARCF GRR's 404(b)(1) evaluation and the applicability of the findings of the 2015 404(b)(1) evaluation to the Proposed Action. The source materials are:

- USACE (2015) *Draft Section 404(b)(1) Water Quality Evaluation American River Common Features General Reevaluation Report*. Appendix E in USACE (2016). This Clean Water Act Section 404(b)(1) evaluation first describes the alternatives considered, including the No Action and the Proposed Action. The differences between the alternatives are associated with the type of erosion protection, whether it be through construction of a launchable rock filled trench, bank protection, or a combination of the two. The alternatives description section also provides information on why certain alternatives were not selected, based on impacts to Waters of the U.S. and practicability factors. Lastly, the Proposed Action is compared to the determinations and findings 2015 404(b)(1) to demonstrate how the Proposed Action is consistent with those findings and is the Least Environmentally Damaging Practicable Alternative (LEDPA).

- USACE. 2016. *American River Watershed General Reevaluation Report, Final Environmental Impact Statement / Environmental Impact Report.* May. Sacramento, California. State Clearing House Number 2005072046.

Scope of Analysis

The replacement of municipal drainage systems was not covered in the ARCF GRR 404(b)(1).

Water Dependency

The functionality of the municipal drainage system requires the pipes to discharge directly into the river below the OHWM, therefore this action is water dependent and we can limit the number of alternatives to onsite measures.

Alternatives

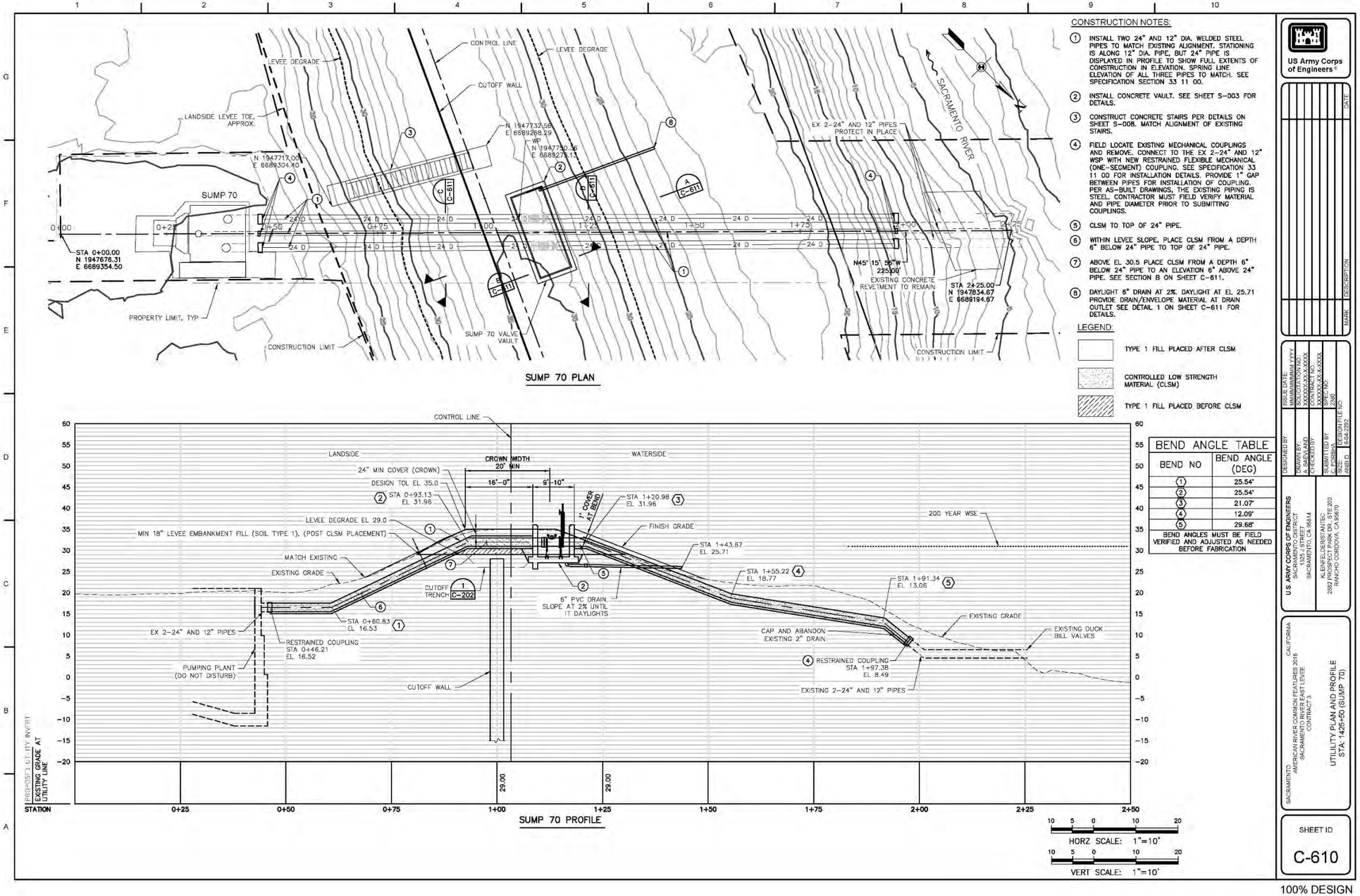
Alternative 1 – No Action/No Fill

Under the No Action Alternative, there municipal drainage pipes would not be replaced at Sump 70. As a result, the cutoff wall in the Sacramento East Levee would not be constructable in this area and the levee would remain susceptible to through-seepage and instability and would continue to be a weak spot in the system. The Sacramento metropolitan area would continue to be subject to an unacceptably high risk of levee failure and subsequent catastrophic flooding.

Alternative 1 (Proposed Action) – Municipal Drainage Pipe Replacement

The pipes of one municipal drainage system (Sump 70) would need to be replaced to install a cutoff wall. Temporary waterside access below the ordinary high-water mark of the river would be required to replace the three existing steel outfall pipes (two 24" and one 12") with new steel pipes. Standby bypass pumping and piping is required during construction activities. The new pipes would tie into the existing waterside outfall structure. No work would be performed within wetted channel of the Sacramento River. The site would be prepared by clearing and stripping the site prior to construction. Vegetation and loose materials would be removed. No tree removal is required. Temporary access ramps would be constructed, if needed, using onsite material.

The replacement of municipal drainage system pipes would temporally disturb approximately 0.18 acres of near-shore habitat comprised of grasses and willow shrubs (*Salix spp.*), of which 0.09 acres is below the OHWM. In October 2017 USACE determined OHWM elevations for Sacramento River locations are as follows: at RM 41.9 the OHWM is at approximately 18.17 ft (NAVD88), at RM 55.2 the OHWM is at approximately 23.25 ft (NAVD88), and at RM 130.0 the OHWM is at approximately 51.44 ft (NAVD88). A June 2021 site visit by USACE identified an OHWM at the Sump 70 location of 11.88 feet (WGS84). Upon completion of the action the area will be restored to pre-project conditions and seeded with a native grass mix.



CONSTRUCTION NOTES:

1. INSTALL TWO 24" AND 12" DIA. WELDED STEEL PIPES TO MATCH EXISTING ALIGNMENT. STATIONING IS ALONG 12" DIA. PIPE, BUT 24" PIPE IS DISPLAYED IN PROFILE TO SHOW FULL EXTENTS OF CONSTRUCTION IN ELEVATION. SPRING LINE ELEVATION OF ALL THREE PIPES TO MATCH. SEE SPECIFICATION SECTION 33 11 00.
2. INSTALL CONCRETE VAULT. SEE SHEET S-003 FOR DETAILS.
3. CONSTRUCT CONCRETE STAIRS PER DETAILS ON SHEET S-008. MATCH ALIGNMENT OF EXISTING STAIRS.
4. FIELD LOCATE EXISTING MECHANICAL COUPLINGS AND REMOVE. CONNECT TO THE EX 2-24" AND 12" WSP WITH NEW RESTRAINED FLEXIBLE MECHANICAL (ONE-SEGMENT) COUPLING. SEE SPECIFICATION 33 11 00 FOR INSTALLATION DETAILS. PROVIDE 1" GAP BETWEEN PIPES FOR INSTALLATION OF COUPLING. PER AS-BUILT DRAWINGS, THE EXISTING PIPING IS STEEL. CONTRACTOR MUST FIELD VERIFY MATERIAL AND PIPE DIAMETER PRIOR TO SUBMITTING COUPLINGS.
5. CLSM TO TOP OF 24" PIPE.
6. WITHIN LEVEE SLOPE, PLACE CLSM FROM A DEPTH 6" BELOW 24" PIPE TO TOP OF 24" PIPE.
7. ABOVE EL 30.5 PLACE CLSM FROM A DEPTH 6" BELOW 24" PIPE TO AN ELEVATION 6" ABOVE 24" PIPE. SEE SECTION B ON SHEET C-611.
8. DAYLIGHT 8" DRAIN AT 2%. DAYLIGHT AT EL 25.71 PROVIDE DRAIN/ENVELOPE MATERIAL AT DRAIN OUTLET SEE DETAIL 1 ON SHEET C-611 FOR DETAILS.

LEGEND:

- TYPE 1 FILL PLACED AFTER CLSM
- CONTROLLED LOW STRENGTH MATERIAL (CLSM)
- TYPE 1 FILL PLACED BEFORE CLSM

BEND ANGLE TABLE

BEND NO	BEND ANGLE (DEG)
1	25.54°
2	25.54°
3	21.07°
4	12.09°
5	29.68°

BEND ANGLES MUST BE FIELD VERIFIED AND ADJUSTED AS NEEDED BEFORE FABRICATION

US Army Corps of Engineers

MARK	DESCRIPTION	DATE

ISSUE DATE: MM/MM/MM YYYY
SOLICITATION NO: XXXXXXXXXXXXXXX
AWARD NO: XXXXXXXXXXXXXXX
XXXXXX-XX-XXXXX
SPEC NO: XXXX

DESIGNED BY:
DRAWN BY: A. BENJAMIN
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
DESIGN FILE NO: 8.04.2292

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO, CA 95814

KLEINFELDER/STANTEC
2882 PROSPECT PARK DR. STE 200
RANCHO CORDOVA, CA 95670

SACRAMENTO
AMERICAN RIVER COMMON FEATURES 2016
SACRAMENTO RIVER EAST LEVEE
CONTRACT 3
CALIFORNIA

UTILITY PLAN AND PROFILE
STA: 1425+50 (SUMP 70)

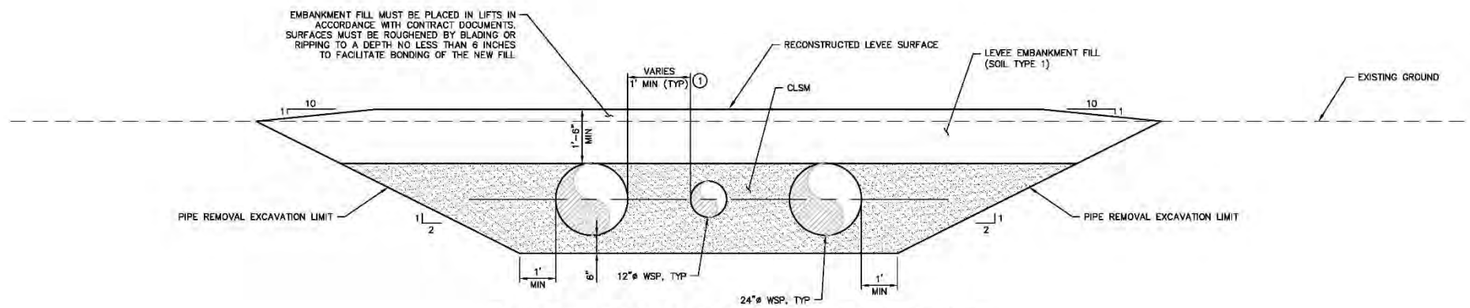
SHEET ID
C-610

100% DESIGN

Figure 1. Plan view of the municipal pipe replacement at Sump 70.

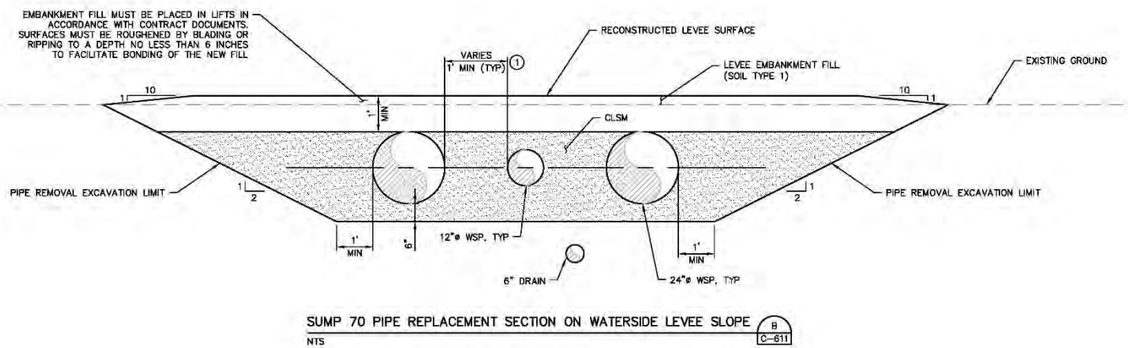
CONSTRUCTION NOTES:

1. DISCHARGE LINES TO BE REMOVED AND REPLACED IN THE EXISTING ALIGNMENT TO THE EXTENTS SHOWN ON SHEET C-610.



SUMP 70 PIPE REPLACEMENT SECTION ON LANDSIDE LEVEE SLOPE (A, C-611)

NTS



SUMP 70 PIPE REPLACEMENT SECTION ON WATERSIDE LEVEE SLOPE (B, C-611)

NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: A. JOHNSON
DRAWN BY: S. JONES
CHECKED BY: S. TOKKAS
SUBMITTED BY: C. CRISOSTOMO
SIZE: ANSI D
ISSUE DATE: MM/MM/MM/YYYY
SOLICITATION NO.: W912XX-XX-X-XXXX
CONTRACT NO.: XXXXXXX-XX-XXXX
SPK CONTRACT NO.: XXXX
DESIGN FILE NO.: E 04 2282

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO, CA 95814

KLEINFELDER/STANTEC
2882 PROSPECT PARK DR., STE 200
RANCHO CORDOVA, CA 95670

SACRAMENTO — CALIFORNIA
AMERICAN RIVER COMMON FEATURES, 2016
SACRAMENTO RIVER EAST LEVEE
CONTRACT 3

SUMP 70
PIPE REPLACEMENT SECTIONS

SHEET ID
C-605

100% DESIGN

Figure 2. Cross section of pipe excavation..

Review of Findings

The replacement of municipal drainage system pipes was not specifically covered in the 2015 404(b)(1) evaluation. However, this work is within the footprint considered, uses comparable techniques, and has considerably less impact than the erosion protection work described for the Sacramento River. This type of utility replacement work was not specifically evaluated and therefore warrants an abbreviated review of the GRR's 404(b)(1) findings.

Physical Substrate

The construction of SREL Contract 3, including Alternative 1 described above, will cause a temporary impact (less than two years) to very small area (0.05 acres) below the OHWM, but outside the wetted channel of the Sacramento River. This area will be stabilized with appropriate erosion control methods in the interim time until subsequent erosion repair is completed. No riprap or concrete will be placed. There will be minimal to no change to site topography, and therefore no change waterbody elevation, water patterns, or water circulation.

Changes to Environmental Quality and Value

Potential impacts to environmental quality and value include a potential temporary increase in turbidity during construction, runoff of exposed soils, and fuel spills during construction. Emissions from construction equipment and haul trucks also pose a potential impact to environmental quality and value during the duration of construction activities. Best management practices (BMPs) and measures incorporated from the GRR EIS/EIR, with clarifying modifications, would be implemented during construction.

Construction contractors would be required to prepare and implement a SWPPP and comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) general stormwater permit for construction activity. The contractor would be required to obtain a permit from the Central Valley RWQCB detailing a plan to control any spills that could occur during construction. The plan would describe the construction activities to be conducted, BMPs that would be implemented to prevent discharges of contaminated stormwater into waterways, and inspection and monitoring activities that would be conducted. These avoidance and minimization measures would reduce effects on water chemistry and ensure that the Proposed Action would not violate State water quality standards identified in the Basin Plan or the Toxic Effluent Standards of Section 307 of the Clean Water Act.

There are no special aquatic sites within the project area.

Physical Substrate

<u>Existing Substrate and Fill</u>: The Proposed Action would not create a permanent change of substrate on the riverbanks. Temporary disturbance of the substrate is required to excavate pipes, but native fill material will be replaced, and the site will be restored to pre-project conditions.

Changes to Disposal Area Elevation: The Proposed Action would not cause a change to the disposal area elevation.

Duration and Extent of Substrate Change: The Proposed Action would not cause a permanent change of substrate on the riverbank.

Migration of Fill: The Proposed Action is designed to avoid significant migration of fill and no greater than existing conditions.

Changes to Environmental Quality and Value: Potential impacts to environmental quality and value include a potential temporary increase in turbidity during construction, runoff of exposed soils, and fuel spills during construction. Emissions from construction equipment and haul trucks also pose a potential impact to environmental quality and value during the duration of construction activities. Best management practices (BMPs) and measures incorporated from the GRR EIS/EIR, with clarifying modifications, would be implemented during construction.

Water Circulation, Fluctuation, and Salinity

Water Circulation: Because the Project Area would be returned to pre-project conditions its implementation would have no effect on current patterns and water circulation.

Fluctuation: Because the Proposed Action would cause no change to site topography, the Proposed Action would not change water level fluctuation patterns.

Salinity: Because the project site is located in a freshwater riverine system, the Proposed Project would not alter salinity gradients.

Water Quality

pH: The proposed construction materials (on-site or imported sand and silt soil) would have little potential to affect the pH of the Sacramento River.

Water Chemistry: Construction of the Proposed Action would include ground disturbance activities that could expose soils to increased rates of erosion during storm events that could increase the rate of sedimentation in receiving waters. Also use and storage of equipment could result in the accidental spills of fuel, oil, and other construction equipment related materials that could also be carried in stormwater runoff to receiving waters. As a result, there is the potential for construction activities to adversely affect receiving water chemistry.

Construction contractors would be required to prepare and implement a SWPPP and comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) general stormwater permit for construction activity. The contractor would be required to obtain a permit from the Central Valley RWQCB detailing a plan to control any spills that could occur during construction. The plan would describe the construction activities to be conducted, BMPs that would be implemented to prevent discharges of contaminated stormwater into waterways,

and inspection and monitoring activities that would be conducted. These avoidance and minimization measures would reduce effects on water chemistry and ensure that the Proposed Action would not violate State water quality standards identified in the Basin Plan or the Toxic Effluent Standards of Section 307 of the Clean Water Act.

Clarity: The Proposed Action would not place material in the wetted channel. Thus, impacts to clarity would only be from minor erosion from precipitation events prior to the reestablishment of vegetation on site. Clarity is not expected to be substantially affected outside the immediate Project Area. Any reduction of clarity caused by construction activities would be short in duration and would return to pre-construction levels upon project completion.

Color: The Proposed Action would not place material in the wetted channel. Thus, impacts to color would only be from minor erosion from precipitation events prior to the reestablishment of vegetation on site. Color is not expected to be substantially affected outside the immediate Project Area. Any reduction of clarity caused by construction activities would be short in duration and would return to pre-construction levels upon project completion.

Odor: The Proposed Action would not result in any major sources of odor, and would not involve operation of any of the common types of facilities that are known to produce odors in water (e.g., wastewater treatment facility). Air-borne odors associated with diesel exhaust emissions from the use of onsite construction equipment may be noticeable from time to time by adjacent receptors. However, the odors would be intermittent and temporary, would dissipate rapidly from the source with an increase in distance, and are unlikely to affect water odor. Furthermore, as required by California Air Resources Board (CARB) regulation 13 CCR 2449(d)(3), no in-use off-road diesel vehicles may idle for more than 5 consecutive minutes. In addition, implementation of mitigation measures, which are required to reduce other air quality effects, would further reduce exhaust emissions and provide advanced notification of construction activity.

Taste, dissolved gases, temperature, nutrients, and eutrophication**:** The proposed materials and construction activities are not expected to affect taste, dissolved gases, temperature, nutrients, or eutrophication.

Suspended Particulates/Turbidity: The Proposed Action will not place material in the wetted channel, and thus will only alter suspended particulate type and concentration or turbidity during Stormwater runoff from landside construction areas. To reduce these to a less-than-significant level, the construction contractor would prepare and implement a SWPPP, and would install, prior to in-water work, a turbidity curtain or other comparable minimization measure. Following construction of the levee repairs BMPs would continue to be monitored and implemented while vegetation matures enough to stabilize surface soil in the Project Area.

Contaminants

The Proposed Action's construction activities would involve the use of potentially hazardous material, such as fuels, oils and lubricants, and cleaners, which are commonly used in

construction projects. Also, although the five hazardous waste/materials sites identified in the study area of the GRR are not in the Project Area, contaminants could already be present at the construction site. To minimize the impacts associated with contaminants, the Proposed Action would incorporate the following measures described in the GRR EIS/EIR.

- Construction contractors would be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations during project construction and operation.

- Testing of borrow sites would occur prior to the use of material and sites which have contaminated soils would not be used for this project.

- Any hazardous substance encountered during construction would be removed and properly disposed of by a licensed contractor in accordance with Federal, State, and local regulations.

- The risk of significant hazards associated with the transport, use, and disposal of these materials is low, and compliance with applicable regulations would reduce the potential for accidental release of hazardous materials during transport and construction activities.

- Project areas would be tested contaminants prior to construction, and any materials found would be disposed of in accordance with all Federal, State, and local regulations at an approved disposal site.

- The contractor would be required to prepare a SWPPP and a Spill Prevention Control and Countermeasures Plan (SPCCP), which detail the contractor's plans, including BMPs, to prevent discharges from the construction site into drainage systems, lakes, or rivers.

Aquatic Ecosystems and Organisms

The Proposed Activity will have no direct impact to aquatic organisms or the aquatic food web and will not impact the benthic substrate of the Project Area. Temporary impacts to aquatic organisms from turbidity due to stormwater runoff from landside construction areas would be less than significant. Within the Project Area, there are no sanctuaries and refuges, mud flats, vegetated shallows, coral reefs, or riffle and pool complexes.

Threatened and Endangered Species

Areas below the OHWM are designated critical habitat for Sacramento River winter-run Chinook salmon (Oncorhynchus tshawytscha), Central Valley (CV) spring-run Chinook salmon (O. tshawytscha), and southern distinct population segment (sDPS) green sturgeon (Acipenser medirostris) by the National Marine Fisheries Service. Additionally, this habitat is designated as Essential Fish Habitat under the Magnuson Stevens Fishery Conservation Act for Pacific Salmon

(Chinook). Areas below the mean high water (MHW) are considered suitable habitat for delta smelt (Hypomesus transpacificus)).

The replacement of municipal drainage system pipes would disturb approximately 0.09 acres of ground surface area below the OHWM for clearing, grubbing, and establishing SWPPP BMPs and approximately 0.01 acres for the excavation, removal, and replacement of existing piping. The area from (MHW) to 3 meters below the Mean Low Low Water (MLLW) is considered habitat for the Federally listed delta smelt. Approximately 0.03 acres of ground surface below the MHW may be impacted by clearing, grubbing, and establishing SWPP BMPs, however there will be no excavation below the MHW to replace the pipes.

Federally listed terrestrial species include the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus)*, which is known to occur in the area, and the western yellow-billed cuckoo (*Coccyzus americanus*), which may utilize riparian habitat along the Sacramento River as stopover habitat. No trees or elderberry shrubs would be removed.

Human Use Characteristics

Drinking Water: The Proposed Action's fill material would not violate Environmental Protection Agency or State water quality standards or violate the primary drinking water standards of the Safe Drinking Water Act (42 USC 300f-300j). Also, the Proposed Action's design, compliance with State water quality thresholds and standard construction and erosion practices would preclude the introduction of substances into surrounding waters, and materials removed for disposal off-site would be disposed of in an appropriate landfill or other upland area.

Recreation Facilities: The Proposed Action would cause temporary closure of recreation facilities (Sacramento River Bike Trail, Zacharias Park, and Garcia Bend Park) during construction.

Commercial Fisheries: The Proposed Action would not cause an impact to commercial fish species.

Parks: The Project Area does not include any National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, or Similar Preserves.

Aesthetics

The Proposed Action would result in vegetation loss and construction activities that would disrupt the existing visual conditions. Disturbed areas would be reseeded with native grasses. However, there would still be a temporal loss of vegetation.

Determination

The proposed action, although not specifically identified in the ARCF GRR EIS/EIR, is water dependent and is planned to be overlain by the erosion protection measures proposed along the Sacramento River in subsequent years. The Proposed Action is thereby consistent with the

GRR 404(b)(1) analysis as it falls within the same footprint and is unlikely to result in no changes in the net volume of material placed in the river over the GRR-disclosed thresholds.