P Street Lift Station Project
IS/MND

Appendix

Appendix A

RCEM Emission Outputs

ECORP Consulting, Inc

Unmitigated

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> P Street Lift Station 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	0.73	6.81	8.06	2.86	0.36	2.50	0.81	0.29	0.52	0.02	2,342.33	0.42	0.14	2,393.90
Grading/Excavation	3.80	36.60	38.69	4.11	1.61	2.50	1.96	1.44	0.52	0.09	8,638.91	2.45	0.19	8,758.34
Drainage/Utilities/Sub-Grade	3.47	33.74	34.61	3.90	1.40	2.50	1.79	1.27	0.52	0.08	8,172.57	1.85	0.19	8,274.77
Paving	1.20	16.83	12.62	0.63	0.63	0.00	0.54	0.54	0.00	0.03	3,299.02	0.73	0.15	3,360.88
Maximum (pounds/day)	3.80	36.60	38.69	4.11	1.61	2.50	1.96	1.44	0.52	0.09	8,638.91	2.45	0.19	8,758.34
Total (tons/construction project)	0.37	3.70	3.79	0.42	0.16	0.26	0.20	0.14	0.05	0.01	878.60	0.22	0.02	890.88

Notes:

Project Start Year ->	2024
Project Length (months) ->	11
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	0
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	0	0	200	0	400	4
Grading/Excavation	200	0	200	0	400	4
Drainage/Utilities/Sub-Grade	50	0	200	0	400	4
Paving	0	0	200	0	400	4

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 -> P Street Lift Station 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	0.01	0.08	0.10	0.04	0.00	0.03	0.01	0.00	0.01	0.00	29.12	0.01	0.00	26.99
Grading/Excavation	0.21	2.05	2.16	0.23	0.09	0.14	0.11	0.08	0.03	0.00	483.22	0.14	0.01	444.43
Drainage/Utilities/Sub-Grade	0.13	1.26	1.29	0.15	0.05	0.09	0.07	0.05	0.02	0.00	304.76	0.07	0.01	279.93
Paving	0.02	0.31	0.24	0.01	0.01	0.00	0.01	0.01	0.00	0.00	61.51	0.01	0.00	56.85
Maximum (tons/phase)	0.21	2.05	2.16	0.23	0.09	0.14	0.11	0.08	0.03	0.00	483.22	0.14	0.01	444.43
Total (tons/construction project)	0.37	3.70	3.79	0.42	0.16	0.26	0.20	0.14	0.05	0.01	878.60	0.22	0.02	808.20

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.

Road Construction Emissions Model
Data Entry Worksheet

Version 9.0.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with
yellow or blue background can be modified. Program defaults have a white backgrounc
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project type
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new proje

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	P Street Lift Station	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (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 constructi
Project Construction Time	11.30	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	0.21	miles
Total Project Area	0.50	acres
Maximum Area Disturbed/Day	0.25	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 (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		200.00
	Drainage/Utilities/Sub-Grade	20.00	50.00	
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00		

Mitigation Options

On-road Fleet Emissions Mitigation	2010 and Newer On-road Vehicles Fleet	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/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Stand

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)	Current Equipment Tier	Type
			Model Default Tier	Aerial Lifts
			Model Default Tier	Air Compressors
			Model Default Tier	Bore/Drill Rigs
			Model Default Tier	Cement and Mortar Mixers
			Model Default Tier	Concrete/Industrial Saws
			Model Default Tier	Cranes
1.00			Model Default Tier	Crawler Tractors
			Model Default Tier	Crushing/Proc. Equipment
1.00			Model Default Tier	Excavators
			Model Default Tier	Forklifts
			Model Default Tier	Generator Sets
			Model Default Tier	Graders
			Model Default Tier	Off-Highway Tractors
			Model Default Tier	Off-Highway Trucks
			Model Default Tier	Other Construction Equipment
			Model Default Tier	Other General Industrial Equipr
			Model Default Tier	Other Material Handling Equipn
			Model Default Tier	Pavers
			Model Default Tier	Paving Equipment
			Model Default Tier	Plate Compactors
			Model Default Tier	Pressure Washers
			Model Default Tier	Pumps
			Model Default Tier	Rollers
			Model Default Tier	Rough Terrain Forklifts
			Model Default Tier	Rubber Tired Dozers
			Model Default Tier	Rubber Tired Loaders
			Model Default Tier	Scrapers
1.00			Model Default Tier	Signal Boards
			Model Default Tier	Skid Steer Loaders
			Model Default Tier	Surfacing Equipment
			Model Default Tier	Sweepers/Scrubbers
			Model Default Tier	Tractors/Loaders/Backhoes
			Model Default Tier	Trenchers
			Model Default Tier	Welders

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
0.00	N/A	0

0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0

	Grubbing/Land Clearing	pounds per day
	Grubbing/Land Clearing	tons per phase

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)	Current Equipment Tier	Type
			Model Default Tier	Aerial Lifts
			Model Default Tier	Air Compressors
			Model Default Tier	Bore/Drill Rigs
			Model Default Tier	Cement and Mortar Mixers
			Model Default Tier	Concrete/Industrial Saws
			Model Default Tier	Cranes
1.00			Model Default Tier	Crawler Tractors
			Model Default Tier	Crushing/Proc. Equipment
3.00			Model Default Tier	Excavators
			Model Default Tier	Forklifts
			Model Default Tier	Generator Sets
1.00			Model Default Tier	Graders
			Model Default Tier	Off-Highway Tractors
			Model Default Tier	Off-Highway Trucks
			Model Default Tier	Other Construction Equipment
			Model Default Tier	Other General Industrial Equipr
			Model Default Tier	Other Material Handling Equipn
			Model Default Tier	Pavers
			Model Default Tier	Paving Equipment
			Model Default Tier	Plate Compactors
			Model Default Tier	Pressure Washers
			Model Default Tier	Pumps
2.00			Model Default Tier	Rollers
			Model Default Tier	Rough Terrain Forklifts
			Model Default Tier	Rubber Tired Dozers
1.00			Model Default Tier	Rubber Tired Loaders
2.00			Model Default Tier	Scrapers
1.00			Model Default Tier	Signal Boards
			Model Default Tier	Skid Steer Loaders
			Model Default Tier	Surfacing Equipment

			Model Default Tier	Sweepers/Scrubbers
2.00			Model Default Tier	Tractors/Loaders/Backhoes
			Model Default Tier	Trenchers
			Model Default Tier	Welders

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
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0

	Grading/Excavation	pounds per day
	Grading/Excavation	tons per phase

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)	Current Equipment Tier	
			Model Default Tier	Aerial Lifts
1.00			Model Default Tier	Air Compressors
1.00			Model Default Tier	Bore/Drill Rigs
			Model Default Tier	Cement and Mortar Mixers
			Model Default Tier	Concrete/Industrial Saws
			Model Default Tier	Cranes
			Model Default Tier	Crawler Tractors
			Model Default Tier	Crushing/Proc. Equipment
			Model Default Tier	Excavators
			Model Default Tier	Forklifts
1.00			Model Default Tier	Generator Sets
1.00			Model Default Tier	Graders
			Model Default Tier	Off-Highway Tractors
			Model Default Tier	Off-Highway Trucks
			Model Default Tier	Other Construction Equipment
			Model Default Tier	Other General Industrial Equipr
			Model Default Tier	Other Material Handling Equipn
			Model Default Tier	Pavers
			Model Default Tier	Paving Equipment
1.00			Model Default Tier	Plate Compactors
			Model Default Tier	Pressure Washers
1.00			Model Default Tier	Pumps

			Model Default Tier	Rollers
1.00			Model Default Tier	Rough Terrain Forklifts
			Model Default Tier	Rubber Tired Dozers
			Model Default Tier	Rubber Tired Loaders
2.00			Model Default Tier	Scrapers
1.00			Model Default Tier	Signal Boards
			Model Default Tier	Skid Steer Loaders
			Model Default Tier	Surfacing Equipment
			Model Default Tier	Sweepers/Scrubbers
2.00			Model Default Tier	Tractors/Loaders/Backhoes
			Model Default Tier	Trenchers
			Model Default Tier	Welders

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
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0

	Drainage/Utilities/Sub-Grade	pounds per day
	Drainage/Utilities/Sub-Grade	tons per phase

Paving	Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Current	
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type
			Model Default Tier	Aerial Lifts
			Model Default Tier	Air Compressors
			Model Default Tier	Bore/Drill Rigs
			Model Default Tier	Cement and Mortar Mixers
			Model Default Tier	Concrete/Industrial Saws
			Model Default Tier	Cranes
			Model Default Tier	Crawler Tractors
			Model Default Tier	Crushing/Proc. Equipment
			Model Default Tier	Excavators
			Model Default Tier	Forklifts
			Model Default Tier	Generator Sets
			Model Default Tier	Graders
			Model Default Tier	Off-Highway Tractors
			Model Default Tier	Off-Highway Trucks

			Model Default Tier	Other Construction Equipment
			Model Default Tier	Other General Industrial Equipr
			Model Default Tier	Other Material Handling Equipn
1.00			Model Default Tier	Pavers
1.00			Model Default Tier	Paving Equipment
			Model Default Tier	Plate Compactors
			Model Default Tier	Pressure Washers
			Model Default Tier	Pumps
3.00			Model Default Tier	Rollers
			Model Default Tier	Rough Terrain Forklifts
			Model Default Tier	Rubber Tired Dozers
			Model Default Tier	Rubber Tired Loaders
			Model Default Tier	Scrapers
1.00			Model Default Tier	Signal Boards
			Model Default Tier	Skid Steer Loaders
			Model Default Tier	Surfacing Equipment
			Model Default Tier	Sweepers/Scrubbers
2.00			Model Default Tier	Tractors/Loaders/Backhoes
			Model Default Tier	Trenchers
			Model Default Tier	Welders

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
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0
0.00	N/A	0

Mitigated

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> P Street Lift Station 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	0.71	7.46	6.98	2.81	0.31	2.50	0.76	0.24	0.52	0.02	2,342.33	0.42	0.14	2,393.90
Grading/Excavation	2.99	44.64	18.16	3.32	0.82	2.50	1.23	0.71	0.52	0.09	8,638.91	2.45	0.19	8,758.34
Drainage/Utilities/Sub-Grade	2.73	39.82	17.33	3.27	0.77	2.50	1.21	0.69	0.52	0.08	8,172.57	1.85	0.19	8,274.77
Paving	1.20	16.83	12.62	0.63	0.63	0.00	0.54	0.54	0.00	0.03	3,299.02	0.73	0.15	3,360.88
Maximum (pounds/day)	2.99	44.64	18.16	3.32	0.82	2.50	1.23	0.71	0.52	0.09	8,638.91	2.45	0.19	8,758.34
Total (tons/construction project)	0.30	4.39	1.98	0.35	0.09	0.26	0.13	0.08	0.05	0.01	878.60	0.22	0.02	890.88

Notes:

Project Start Year ->	2024
Project Length (months) ->	11
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	0
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	0	0	200	0	400	4
Grading/Excavation	200	0	200	0	400	4
Drainage/Utilities/Sub-Grade	50	0	200	0	400	4
Paving	0	0	200	0	400	4

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.

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Total Emission Estimates by Phase for -> P Street Lift Station 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	0.01	0.09	0.09	0.03	0.00	0.03	0.01	0.00	0.01	0.00	29.12	0.01	0.00	26.99
Grading/Excavation	0.17	2.50	1.02	0.19	0.05	0.14	0.07	0.04	0.03	0.00	483.22	0.14	0.01	444.43
Drainage/Utilities/Sub-Grade	0.10	1.48	0.65	0.12	0.03	0.09	0.05	0.03	0.02	0.00	304.76	0.07	0.01	279.93
Paving	0.02	0.31	0.24	0.01	0.01	0.00	0.01	0.01	0.00	0.00	61.51	0.01	0.00	56.85
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The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model
Data Entry Worksheet

Version 9.0.0

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Optional data input sections have a blue background. Only areas with
yellow or blue background can be modified. Program defaults have a white backgrounc
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project type
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new proje

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	P Street Lift Station	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (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 constructi
Project Construction Time	11.30	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	0.21	miles
Total Project Area	0.50	acres
Maximum Area Disturbed/Day	0.25	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 (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		200.00
	Drainage/Utilities/Sub-Grade	20.00	50.00	
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00		

Mitigation Options

On-road Fleet Emissions Mitigation	2010 and Newer On-road Vehicles Fleet	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	Tier 4 Equipment	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/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Stand
Will all off-road equipment be tier 4?	Tier 4 equipment for limited equipment types	If 'Tier 4 equipment for limited equipment types' is selected, please provide tier information for each equipment type in cells from E183 to E379 below.

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)	Current Equipment Tier	Type
		Model Default Tier	Model Default Tier	Aerial Lifts
		Model Default Tier	Model Default Tier	Air Compressors
		Model Default Tier	Model Default Tier	Bore/Drill Rigs
		Model Default Tier	Model Default Tier	Cement and Mortar Mixers
		Model Default Tier	Model Default Tier	Concrete/Industrial Saws
		Model Default Tier	Model Default Tier	Cranes
1.00		Model Default Tier	Model Default Tier	Crawler Tractors
		Model Default Tier	Model Default Tier	Crushing/Proc. Equipment
1.00		Tier 4	Tier 4	Excavators
		Model Default Tier	Model Default Tier	Forklifts
		Model Default Tier	Model Default Tier	Generator Sets
		Model Default Tier	Model Default Tier	Graders
		Model Default Tier	Model Default Tier	Off-Highway Tractors
		Model Default Tier	Model Default Tier	Off-Highway Trucks
		Model Default Tier	Model Default Tier	Other Construction Equipment
		Model Default Tier	Model Default Tier	Other General Industrial Equipn
		Model Default Tier	Model Default Tier	Other Material Handling Equipn
		Model Default Tier	Model Default Tier	Pavers
		Model Default Tier	Model Default Tier	Paving Equipment
		Model Default Tier	Model Default Tier	Plate Compactors
		Model Default Tier	Model Default Tier	Pressure Washers
		Model Default Tier	Model Default Tier	Pumps
		Model Default Tier	Model Default Tier	Rollers
		Model Default Tier	Model Default Tier	Rough Terrain Forklifts
		Model Default Tier	Model Default Tier	Rubber Tired Dozers
		Model Default Tier	Model Default Tier	Rubber Tired Loaders
		Model Default Tier	Model Default Tier	Scrapers
1.00		Model Default Tier	Model Default Tier	Signal Boards
		Model Default Tier	Model Default Tier	Skid Steer Loaders
		Model Default Tier	Model Default Tier	Surfacing Equipment
		Model Default Tier	Model Default Tier	Sweepers/Scrubbers
		Model Default Tier	Model Default Tier	Tractors/Loaders/Backhoes
		Model Default Tier	Model Default Tier	Trenchers
		Model Default Tier	Model Default Tier	Welders

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
0.00	N/A	0

Grading/Excavation	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Current Equipment Tier	Type
Override of Default Number of Vehicles	*Program-estimate*			
		Model Default Tier	Model Default Tier	Aerial Lifts
		Model Default Tier	Model Default Tier	Air Compressors
		Model Default Tier	Model Default Tier	Bore/Drill Rigs
		Model Default Tier	Model Default Tier	Cement and Mortar Mixers
		Model Default Tier	Model Default Tier	Concrete/Industrial Saws
		Model Default Tier	Model Default Tier	Cranes
1.00		Model Default Tier	Model Default Tier	Crawler Tractors
		Model Default Tier	Model Default Tier	Crushing/Proc. Equipment
3.00		Tier 4	Tier 4	Excavators
		Model Default Tier	Model Default Tier	Forklifts
		Model Default Tier	Model Default Tier	Generator Sets
1.00		Tier 4	Tier 4	Graders
		Model Default Tier	Model Default Tier	Off-Highway Tractors
		Model Default Tier	Model Default Tier	Off-Highway Trucks
		Model Default Tier	Model Default Tier	Other Construction Equipment
		Model Default Tier	Model Default Tier	Other General Industrial Equipn
		Model Default Tier	Model Default Tier	Other Material Handling Equipn
		Model Default Tier	Model Default Tier	Pavers
		Model Default Tier	Model Default Tier	Paving Equipment
		Model Default Tier	Model Default Tier	Plate Compactors
		Model Default Tier	Model Default Tier	Pressure Washers
		Model Default Tier	Model Default Tier	Pumps
2.00		Model Default Tier	Model Default Tier	Rollers
		Model Default Tier	Model Default Tier	Rough Terrain Forklifts
		Model Default Tier	Model Default Tier	Rubber Tired Dozers
1.00		Model Default Tier	Model Default Tier	Rubber Tired Loaders
2.00		Tier 4	Tier 4	Scrapers
1.00		Model Default Tier	Model Default Tier	Signal Boards
		Model Default Tier	Model Default Tier	Skid Steer Loaders
		Model Default Tier	Model Default Tier	Surfacing Equipment
		Model Default Tier	Model Default Tier	Sweepers/Scrubbers
2.00		Model Default Tier	Model Default Tier	Tractors/Loaders/Backhoes
		Model Default Tier	Model Default Tier	Trenchers
		Model Default Tier	Model Default Tier	Welders

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
0.00	N/A	0
0.00	N/A	0

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

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
0.00	N/A	0
0.00	N/A	0

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

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
0.00	N/A	0
0.00	N/A	0

Appendix B

Biological Resources Assessment

ECORP Consulting, Inc.

Biological Resources Assessment
for the
City of Live Oak P Street Lift Station Project

Sutter County, California

Prepared For:

Kjeldsen, Sinnock & Neudeck, Inc.

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

DRAFT

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
BA	Biological Assessment
BCC	Birds of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
CFR	Code of Federal Regulations
City	City of Live Oak
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct Population Segment
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
F	Fahrenheit
LSA	Lake or Streambed Alteration
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	P Street Lift Station Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
Study Area	Environmental Study Limits
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

On behalf of Kjeldsen, Sinnock & Neudeck, Inc., ECORP Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the City of Live Oak (City) P Street Lift Station Project (Project) located in the City of Live Oak, Sutter County, California. For this BRA, the Environmental Study Limits (Study Area) is 0.62 acre. The purpose of the assessment was to collect information on the biological resources present and evaluate the potential for special-status species and their habitats to occur in the Study Area, assess potential biological impacts related to Project activities, and identify potential mitigation measures to inform the Project's California Environmental Quality Act (CEQA) documentation for biological resources.

1.1 Project Location

The Study Area is located in the unsectioned Rancho Boga Land Grant (Mount Diablo Base Meridian) of the Gridley, California 7.5' topographic quadrangle (U.S. Geological Survey [USGS] 1952, photorevised 1973; Figure 1-1). The Study Area is located in the northwestern quadrant of the P Street and Date Street intersection in Live Oak, California. The approximate center of the Study Area is located at North American Datum 1983 coordinates 39.271984° latitude and -121.666578° longitude within the Honcut Headwater-Lower Feather Watershed (Hydrologic Unit Code #18020159; Natural Resources Conservation Service [NRCS] et al. 2016).

1.2 Purpose of this Biological Resources Assessment

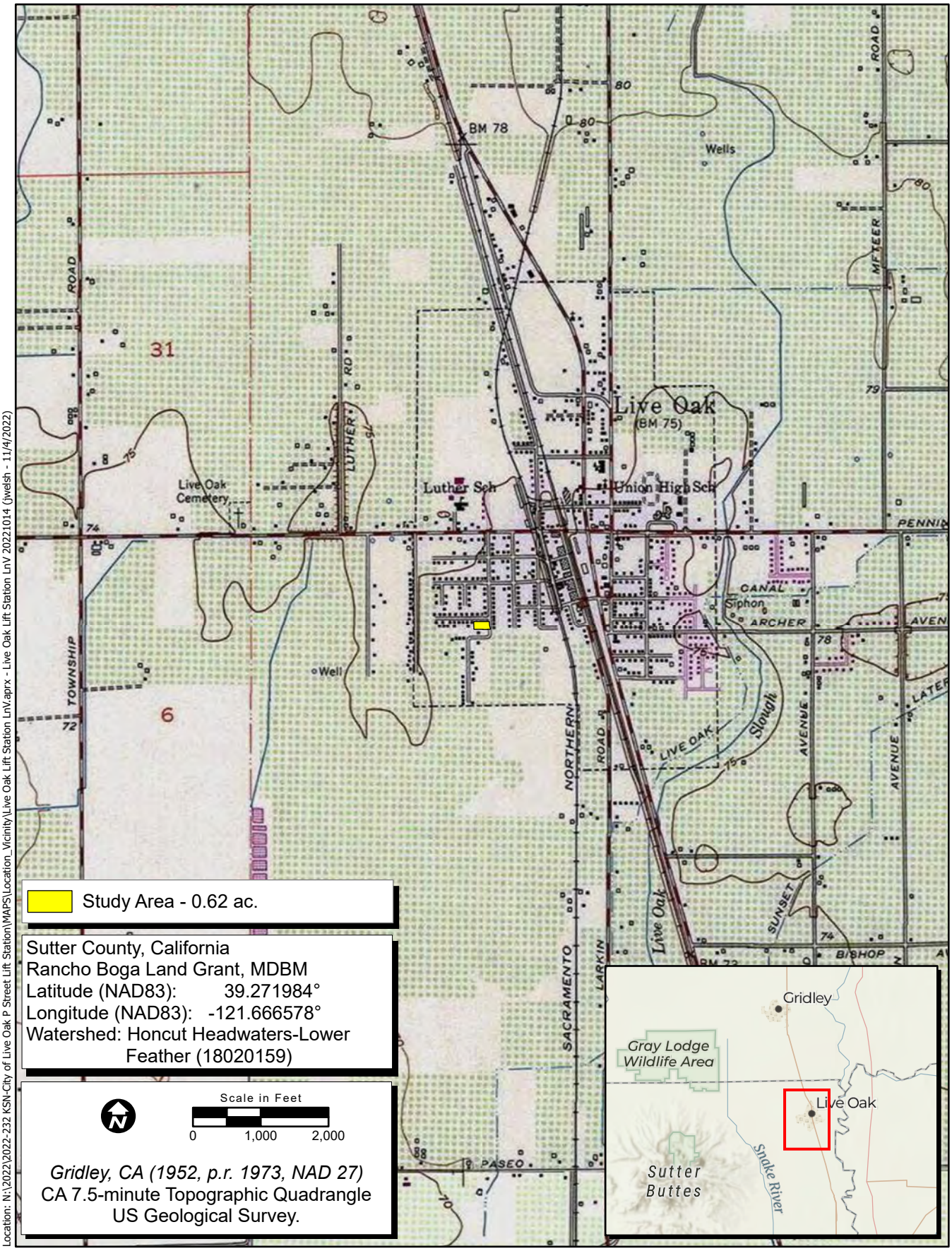
The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and sensitive habitats such as wetlands, riparian communities, and sensitive natural communities within the Study Area.

This assessment includes information generated from literature review and an assessment-level reconnaissance site visit. This BRA does not include determinate field surveys for plant and animal species, nor does it include an Aquatic Resources Delineation performed according to U.S. Army Corps of Engineers (USACE) protocol.

This assessment includes a preliminary analysis of impacts on biological resources anticipated to result from the Project, as presently defined. The mitigation recommendations presented in this assessment are based on the preliminary analysis, a review of existing literature, and the results of site reconnaissance surveys.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;



Location: N:\2022\2022-232 KSN-City of Live Oak P Street Lift Station\MAPS\Location_Vicinity\Live Oak Lift Station LnV.aprx - Live Oak Lift Station LnV 20221014 (jwelsh - 11/4/2022)

Map Date: 11/4/2022
Sources: ESRI, USGS

Figure 1-1. Study Area Location and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

- are identified as a California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) or a watch list species (CDFW WL);
- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS; USWFS 2021);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2), "plants about which more information is needed" (i.e., species with a CRPR of 3), or "plants of limited distribution – a watch list" (i.e., species with a CRPR of 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code, § 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. While other species (i.e., special-status lichens, California Natural Diversity Database [CNDDB] tracked species with no special status) are sometimes found in database searches or within the literature, these species were not included within this analysis.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on nonfederal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its designated Critical Habitat. Through consultation and the issuance of a Biological Opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as

hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants only for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of non-game birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code. The provisions of the MBTA and referenced sections of the Fish and Game Code have been interpreted to include noise or disruption that leads to the abandonment of an active nest.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California, this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State or Local Regulations

2.2.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the state as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful projects under permits issued by CDFW.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered

under the federal or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the California ESA. The CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

2.2.3 Native Plant Protection Act

The NPPA of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to "preserve, protect and enhance rare and endangered plants in this state." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare." The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

2.2.4 California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds:

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.
- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

2.2.5 Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration (LSA) to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and the measures being undertaken to protect affected fish and wildlife resources. The final proposal mutually agreed upon by the CDFW and the applicant is the LSA Agreement.

2.2.6 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the state Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Stormwater NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb 1 or more acres of land require development and implementation of a Stormwater Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirement for these activities.

2.2.7 California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria parallel the definitions used in the ESA, California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under the ESA, California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as SSC by CDFW, birds identified as BCC by the USFWS, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

2.2.7.1 Species of Special Concern

The CDFW defines SSC as a species, subspecies, or distinct population of an animal native to California that is not legally protected under the ESA, California ESA, or California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding range.

- The species is listed as federally (but not state) threatened or endangered or meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- SSC are typically associated with habitats that are threatened.

Projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.7.2 U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of BCC (USFWS 2021) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS highest conservation priorities. Projects that result in substantial impacts to BCC may be considered significant under CEQA.

2.2.7.3 Sensitive Natural Communities

The CDFW maintains the California Natural Community List (CDFW 2020), which provides a list of vegetation alliances, associations, and special stands as defined in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Impacts to sensitive natural communities may be considered significant under CEQA.

2.2.7.4 California Rare Plant Ranks

The CNPS maintains the electronic Inventory of Rare and Endangered Plants of California (CNPS 2022), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private-sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.

- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; differences in Threat Ranks do not constitute additional or different protection (CNPS 2022).

Substantial impacts to plants ranked 1A, 1B, 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

2.2.7.5 California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of nonlisted species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines, which provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would

obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.8 City of Live Oak 2030 General Plan

The Conservation and Open Space Element of the City 2030 General Plan (City of Live Oak 2011) describes the conservation, development, and use of natural resources, and describes the City's strategies for preservation and conservation of open space lands. The purpose of this Element is to identify the goals, policies, and implementation programs that will be used by the City to protect natural, cultural, and open space resources. The following Biological Resources goals could be relevant to Project development:

- **Goal BIOLOGICAL-1** Protect and enhance habitat suitable for special-status species that can occur in the Study Area.
- **Goal BIOLOGICAL-2** Protect native oak and other large tree species occurring through the Study Area that provide valuable habitat for wildlife species and contribute to the historic and aesthetic character of the City.

3.0 METHODS

3.1 Literature Review

The following resources were queried to determine the special-status species that had been documented within or in the vicinity of the Study Area:

- The CDFW CNDDB data for the "Gridley, California" 7.5-minute USGS quadrangle and the surrounding eight quadrangles (CDFW 2022).
- The USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2022a).
- The CNPS electronic Inventory of Rare and Endangered Plants of California for the "Gridley, California" 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles (CNPS 2022).
- The National Oceanic and Atmospheric Administration (NOAA)/NMFS species list for the Gridley, California quadrangle (NOAA 2016).
- City 2030 General Plan, Public Review Draft Environmental Impact Report (City of Live Oak. 2009).

The results of the database queries are included in Attachment A.

3.2 Field Surveys Conducted

This BRA includes a reconnaissance site visit to generally characterize onsite resources including plant communities, wildlife, special-status species, and sensitive natural communities. The field assessment was

conducted by ECORP biologist Keith Kwan on October 26, 2022. The purpose of this assessment was to identify potential biological resources constraints (e.g., aquatic resources, special-status species) onsite, identify regulatory requirements for development of the site, and assess potential mitigation needs. During the assessment, the following biological resource information was collected:

- Direct observations of special-status species;
- Other animal and plant species directly observed;
- Habitat and vegetation communities; and
- Identification of aquatic resources.

To date, no detailed field surveys conducted according to agency protocol have been performed for the Study Area.

3.3 Special-Status Species Considered for the Project

Based on available species occurrence information and field observations, the special-status species returned from the database queries in Attachment A were evaluated for their potential to occur within the Study Area (Table 4-1 in Section 4.6). Each species was evaluated based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDB or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Study Area.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation.
- **Absent** - No suitable habitat (including soils and elevation requirements), or the species is not known to occur within the Study Area or the vicinity of the Study Area based on CNDDB records and other documentation or determinate field surveys.

3.4 Sensitive Natural Communities

A Manual of California Vegetation, Second Edition (Sawyer et al. 2009) was used to describe vegetation communities onsite, where applicable. Sensitive natural communities are those that are listed in the CNDDB and have a State rarity rank of S1, S2, or S3.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is located on a partially developed parcel in the City of Live Oak and is situated at an elevation of approximately 74 feet above mean sea level in the Sacramento Valley subregion of the Great

Central Valley region of California (Baldwin et al. 2012). The average winter temperature is 48.1 degrees Fahrenheit (˚F) and the average summer temperature is 76.5˚F; the average annual precipitation is approximately 20.07 inches (NOAA 2022).

The existing lift station facility occupies the southeastern corner of the Study Area. The undeveloped portion of the Study Area appears to have been leveled and historically disturbed as evidenced by gravel and remnant asphalt surfaces. Several mature trees, including valley oak (*Quercus lobata*) and blue gum (*Eucalyptus globulus*), are located at the western boundary bordering a residence. The surrounding lands include residential development to the north, south and west, and the Date Street Park to the east.

Representative photographs of the Study Area are included as Attachment B.

4.2 Vegetation Communities

The undeveloped portion of the Study Area has been highly disturbed with patches of gravel and remnant asphalt. The plants found in this area are common weedy species that are typically found on disturbed sites, including filaree (*Erodium botrys*), prickly lettuce (*Lactuca serriola*), chicory (*Cichorium intybus*), panicled willow-herb (*Epilobium brachycarpum*), and cheeseweed (*Malva parviflora*). The row of trees along the western boundary includes blue gum, a valley oak, and unidentified nonnative shrubs. This disturbed vegetation community is not characterized in *A Manual of California Vegetation*.

Four sensitive natural communities were identified in the literature review as occurring in the vicinity of the Study Area (CDFW 2022), including Northern Hardpan Vernal Pool, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian Forest. None of these or any other sensitive naturals communities were found onsite.

4.3 Wildlife Observations, Movement Corridors, and Nursery Sites

The Study Area is located in a residential development and lacks any significant wildlife habitat elements, such as aquatic habitat, emergent wetlands, or woodlands. The Study Area is not located within an area mapped in the Essential Habitat Connectivity Project (Spencer et al. 2010). Wildlife observed during the reconnaissance site visit included Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), California scrub-jay (*Aphelocoma californica*), ruby-crowned kinglet (*Corthylio calendula*), cedar waxwing (*Bombycilla cedrorum*), and yellow-rumped warbler (*Setophaga coronata*). While there is minimal wildlife use onsite due to the developed setting, the trees located along the western boundary support potential nesting habitat for a variety of birds including special-status birds, and potential roosting habitat for bats. No California ground squirrels (*Otospermophilus beecheyi*) or their burrows, including burrow surrogates (e.g., debris piles, pipes, or culverts), or other small mammal burrows were found onsite.

4.4 Soils

According to the Web Soil Survey, one soil unit has been mapped within the Study Area, 127-Conejo-Urban land complex, 0 percent slopes (Figure 4-1; NRCS 2022). This soil unit is characteristic of dry alluvial fans and terraces; is not derived from serpentinite or other ultramafic parent materials; and is not considered hydric, nor does it contain hydric components or inclusions (NRCS 2022).

4.5 Aquatic Resources

A preliminary aquatic resources assessment was performed to identify potential Waters of the U.S./State concurrent with the BRA site visit. There are no aquatic resources present within the Study Area. The entire Study Area has been leveled and disturbed. A stormwater ditch has been excavated through the Study Area. This feature did not have ordinary high water mark field indicators or the three parameters necessary to be defined as a wetland. According to the National Wetlands Inventory, no aquatic resources have been previously mapped onsite (Figure 4-2; USFWS 2022b).

4.6 Evaluation of Special-Status Species

Table 4-1 lists all the special-status plant and animal species (as defined in Section 3.3) identified in the literature review. Included in this table is the listing status for each species, a brief habitat description, and a determination on the potential to occur within the Study Area. Following the table is a brief description and discussion of each special-status species that is known to occur in the Study Area (from the literature review) or is considered to potentially occur within the Study Area.

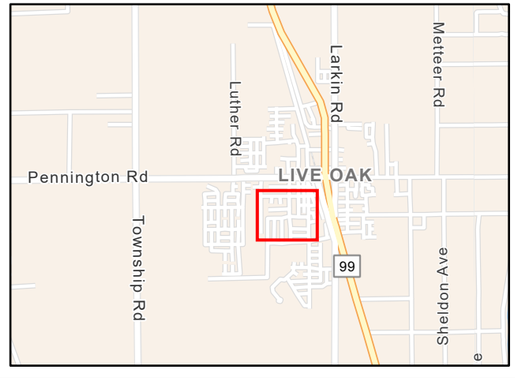
Map Contents

Study Area - 0.62 ac.

Soil Type within Study Area

127 - Conejo-Urban land complex, 0 percent slopes, MLRA 17

Sources: Maxar (6/4/2021), ESRI, NRCS (2019), Sutter County (10/5/2022)



Location: N:\2022\2022-232 KSN-City of Live Oak P Street Lift Station\MAPS\Soils_and_Geology\LOPSLS Soils.aprx - LOPSLS Soils 20221104 (jwelsh - 11/4/2022)

Map Date: 11/4/2022

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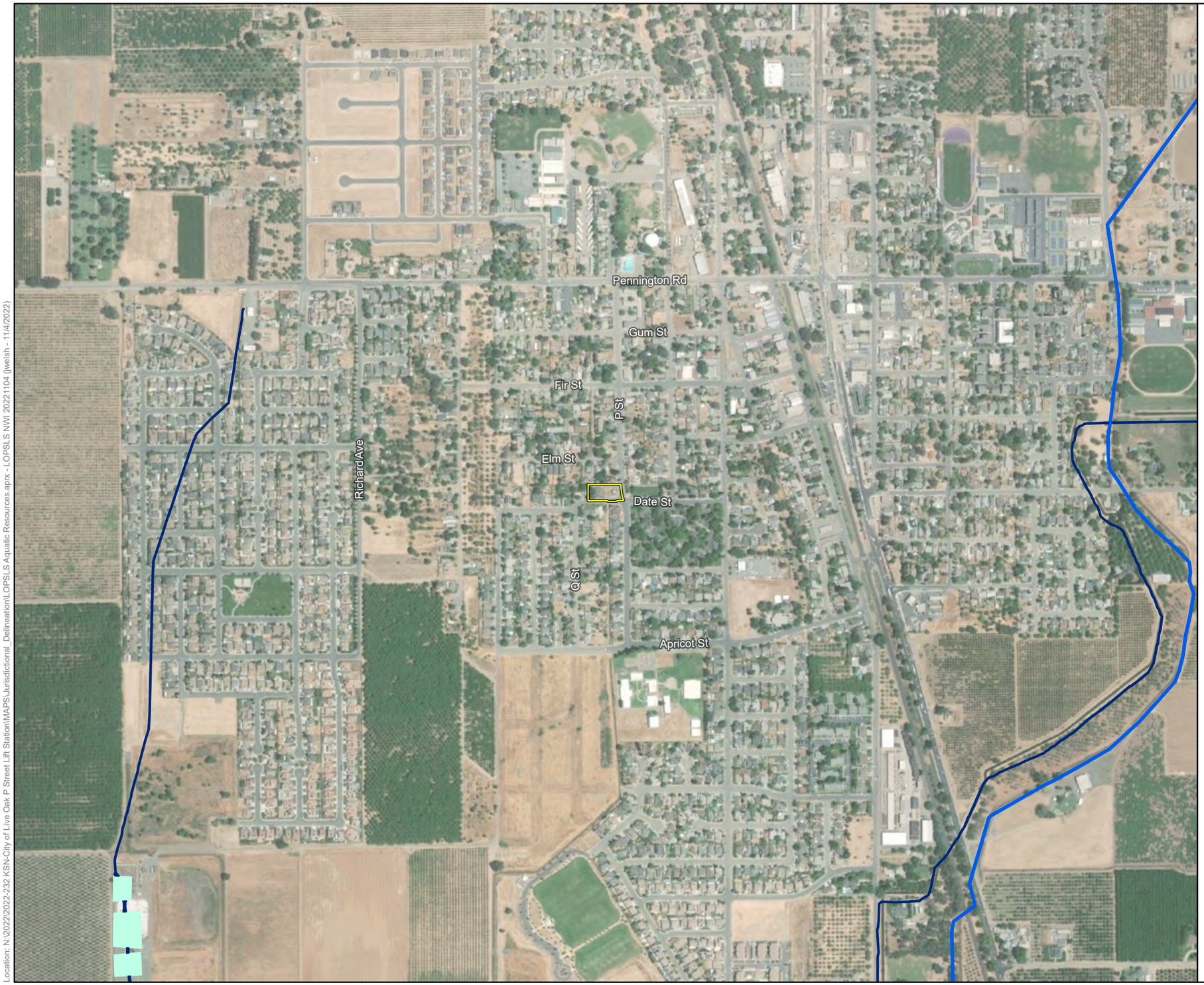
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 100 200

Figure 4-1. Natural Resources Conservation Service Soil Types

2022-232 KSN-City of Live Oak P Street Lift Station



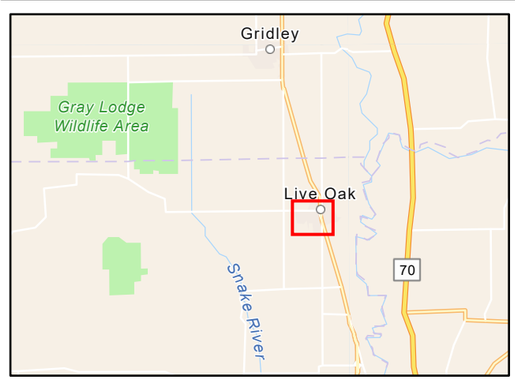
Map Contents

- Study Area - 0.62 ac.

Aquatic Resource Type

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Sources: Maxar (6/4/2021), ESRI, USFWS NWI (May 2022), Sutter County (10/5/2022)



Location: N:\2022\2022-232 KSN-City of Live Oak P Street Lift Station\MAPS\Jurisdictional_Delineation\LOPSLS Aquatic Resources.aprx - LOPSLS NWI 20221104 (jwelsh - 11/4/2022)

Map Date: 11/4/2022

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Scale in Feet
0 700

Figure 4-2. National Wetlands Inventory

2022-232 KSN-City of Live Oak P Street Lift Station

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Plants						
Ferris' milk-vetch *(Astragalus tener* var. *ferrisiae)*	–	–	1B.1	Vernally mesic meadows and seeps and in sub-alkaline flats within valley and foothill grasslands (5'–245').	April–May	Absent. There is no suitable habitat onsite.
Heartscale *(Atriplex cordulata* var. *cordulata)*	–	–	1B.2	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities (0'–1,835').	April–October	Absent. There is no suitable habitat onsite.
Lesser saltscale *(Atriplex minuscula)*	–	–	1B.1	Alkaline, sandy soils in chenopod scrub, playas, and valley and foothill grassland (50'–655').	May–October	Absent. There is no suitable habitat onsite.
Subtle orache (*Atriplex subtilis*)	–	–	1B.2	Alkaline valley and foothill grasslands (130'–330').	June–September	Absent. There is no suitable habitat onsite.
Mexican mosquito fern *(Azolla microphylla)*	–	–	4.2	Marshes and swamps, ponds or slow-moving bodies of water (100'–330').	August	Absent. There is no suitable habitat onsite.
Pink creamsacs *(Castilleja rubicundula* var. *rubicundula)*	–	–	1B.2	Serpentinite substrates in chaparral openings, cismontane woodland, meadows and seeps, and valley and foothill grassland (65'–2,985').	April–June	Absent. There is no suitable habitat onsite.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	–	–	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernally mesic valley and foothill grassland (0'–1,380').	May–November	Absent. There is no suitable habitat onsite.
Parry's rough tarplant *(Centromadia parryi* ssp. *rudis)*	–	–	4.2	Alkaline, vernally mesic areas, and seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides (0'–330').	May–October	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Red-stemmed cryptantha (*Cryptantha rostellata*)	–	–	4.2	Often gravelly volcanic openings and roadsides of cismontane woodland and valley and foothill grassland (130'–2,625').	April–June	Absent. There is no suitable habitat onsite.
Recurved larkspur *(Delphinium recurvatum)*	–	–	1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grasslands (10'–2,590').	March–June	Absent. There is no suitable habitat onsite.
Shield-bracted monkeyflower (*Erythranthe glaucescens*)	–	–	4.3	Serpentine seeps and sometimes streambanks of chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland (195'–4,070').	February–August	Absent. There is no suitable habitat onsite.
Mendocino tarplant (*Hemizonia congesta* ssp. *calyculata*)	–	–	4.3	Sometimes serpentinite substrates of cismontane woodland and valley and foothill grassland (740'–4,595').	July–November	Absent. There is no suitable habitat onsite.
Hogwallow starfish *(Hesperevax caulescens)*	–	–	4.2	Sometimes alkaline in mesic areas with clay soil within valley and foothill grassland and shallow vernal pools (0'–1,655').	March–June	Absent. There is no suitable habitat onsite.
Water star-grass (*Heteranthera dubia*)	–	–	2B.2	Alkaline (pH of 7 of higher), still or slow-moving, and usually slightly eutrophic waters of marshes and swamps (100'–4,905').	July–October	Absent. There is no suitable habitat onsite.
Woolly rose-mallow *(Hibiscus lasiocarpos* var. *occidentalis)*	–	–	1B.2	Marshes and freshwater swamps. Often in riprap on sides of levees (0'–395').	June–September	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Ahart's dwarf rush *(Juncus leiospermus* var. *ahartii)*	–	–	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005) (100'–750').	March–May	Absent. There is no suitable habitat onsite.
Del Norte pea (*Lathyrus delnorticusi)*	–	–	4.3	Lower montane coniferous forest, North Coast coniferous forest; serpentinite (often) (100'-4,755')	June-July	Absent. There is no suitable habitat onsite.
Colusa layia *(Layia septentrionalis)*	–	–	1B.2	Sandy or serpentinite soils in chaparral, cismontane woodland, and valley and foothill grasslands (330'–3,595').	April–May	Absent. There is no suitable habitat onsite.
Bristly leptosiphon (*Leptosiphon aureus*)	–	–	4.2	Chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland (180'–4,920').	April–July	Absent. There is no suitable habitat onsite.
Woolly meadowfoam *(Limnanthes floccosa* ssp. *floccosa)*	–	–	4.2	Vernally mesic chaparral, cismontane woodland, valley and foothill grassland, and vernal pools (195'–4,380').	March–May	Absent. There is no suitable habitat onsite.
Veiny monardella *(Monardella venosa)*	–	–	1B.1	Heavy clay soils in cismontane woodland and valley and foothill grasslands (195'–1,345').	May–July	Absent. There is no suitable habitat onsite.
Baker's navarretia *(Navarretia leucocephala* ssp. *bakeri)*	–	–	1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands (15'–5,710').	April–July	Absent. There is no suitable habitat onsite.
Slender Orcutt grass *(Orcuttia tenuis)*	FT	CE	1B.1	Vernal pools, often gravelly (115'–5,775').	May–September	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Ahart's paronychia (*Paronychia ahartii*)	–	–	1B.1	Well-drained rocky outcrops, often vernal pool edges, and volcanic upland (Hartman and Rabeler 2012) of cismontane woodland, valley and foothill grassland, and vernal pools (100'–1,675').	February–June	Absent. There is no suitable habitat onsite.
Wine-colored tufa moss *(Plagiobryoides vinosula)*	–	–	4.2	Usually in granitic rock or granitic soil along seeps and streams, sometimes in clay (100'–5,695').	–	Absent. There is no suitable habitat onsite.
Hartweg's Golden Sunburst *(Pseudobahia bahiifolia)*	FE	CE	1B.1	Clay, often acidic soils in cismontane woodland, valley and foothill grasslands (50'–490').	March–April	Absent. There is no suitable habitat onsite.
California alkali grass (*Puccinellia simplex*)	–	–	1B.2	Alkaline, vernally mesic areas and sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools (5'–3,050').	March–May	Absent. There is no suitable habitat onsite.
Sanford's arrowhead *(Sagittaria sanfordii)*	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,135').	May–October	Absent. There is no suitable habitat onsite.
English Peak greenbriar *(Smilax jamesii)*	–	–	4.2	Boradleafed upland forest, lower montane coniferous forest, marshes and swamps, North Coast coniferous forest, upper montane coniferous forest; lake margins, mesic (sometimes), and streambanks (1,655'-6,480').	May-October	Absent. There is no suitable habitat onsite.
Greene's tuctoria *(Tuctoria greenei)*	FE	CR	1B.1	Vernal pools (100'–3,510').	May–July	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Brazilian watermeal *(Wolffia brasiliensis)*	–	–	2B.3	Assorted shallow freshwater marshes and swamps (65'–330').	April–December	Absent. There is no suitable habitat onsite.
Invertebrates						
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	-	Vernal pools/wetlands.	November-April	Absent. There is no suitable habitat onsite.
Monarch butterfly (*Danaus plexippus*)	FC	-	-	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed.	Any season	Absent. There is no suitable habitat onsite.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	-	Elderberry shrubs.	Any season	Absent. There is no suitable habitat onsite.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	-	Vernal pools/wetlands.	November-April	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Fish						
Green sturgeon (*Acipenser medirostris*)	FT	--	CDFW: SSC	Anadromous; undammed cold-water rivers having relatively deep pools with large substrates.	N/A	Absent. There is no suitable habitat onsite.
Delta smelt (*Hypomesus transpacificus*)	FT	CE	-	Sacramento-San Joaquin Delta.	N/A	Absent. There is no suitable habitat onsite.
Steelhead (CA Central Valley Distinct Population Segment [DPS]) (*Oncorhynchus mykiss irideus*)	FT	-	-	Fast-flowing, well-oxygenated rivers and streams below dams in the Sacramento and San Joaquin River systems.	N/A	Absent. There is no suitable habitat onsite.
Chinook salmon (Central Valley spring-run Evolutionarily Significant Unit [ESU]) (*Oncorhynchus tshawytscha*)	FT	CT	-	Undammed rivers, streams, creeks in the Sacramento and San Joaquin River systems.	N/A	Absent. There is no suitable habitat onsite.
Chinook salmon (Sacramento River winter-run ESU) *(Oncorhynchus tshawytscha)*	FE	CE	-	Undammed reaches of the mainstem and tributaries to the Sacramento River downstream of Shasta Reservoir.	N/A	Absent. There is no suitable habitat onsite.
Amphibians						
Foothill yellow-legged frog Northeast/Northern Sierra Clade (*Rana boylii*)	-	CT	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May – October	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Western spadefoot (*Spea hammondii*)	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May (breeding)	Absent. There is no suitable habitat onsite.
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	CDFW WL	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May (breeding)	Absent. There is no suitable habitat onsite.
Reptiles						
Northwestern pond turtle (*Actinemys marmorata*)	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Absent. There is no suitable habitat onsite.
Giant garter snake (*Thamnophis gigas*)	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Birds						
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	-	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15-August 15 (nesting)	Absent. There is no suitable habitat onsite.
California black rail (*Laterallus jamaicensis coturniculus*)	-	CT	BCC	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March-September (breeding)	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Greater sandhill crane *(Antigone canadensis tabida)*	-	CT	CFP	Breeds in NE California, Nevada, Oregon, Washington, and BC, Canada; winters from CA to Florida. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	March-August (breeding); September-March (wintering)	Absent. There is no suitable habitat onsite.
Lesser sandhill crane *(Antigone canadensis canadensis)*	-	-	SSC	Breeds in Siberia, Alaska, and arctic Canada; winters in SW US, including CA, south into Mexico. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	September-March (wintering)	Absent. There is no suitable habitat onsite.
Black tern *(Chlidonias niger)*	-	-	BCC, SSC	Breeding range includes northeastern California, Central Valley, Great Plains of U.S. and Canada; winters in Central and South America; nesting habitat includes shallow freshwater marsh with emergent vegetation, prairie sloughs, lake margins, river islands, and cultivated rice fields.	May-August (nesting)	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
White-tailed kite (*Elanus leucurus*)	-	-	CFP	Nests in trees in riparian, oak woodland, savannah, and agricultural communities near foraging habitat such as grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 2020).	March-August (nesting)	Low Potential. No documented CNDDB occurrences within 5 miles of the Study Area (CDFW 2022); however, trees along the western boundary represent marginal nesting habitat.
Northern harrier (*Circus hudsonius*)	-	-	BCC, SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/ brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April-September (nesting)	Absent. There is no suitable habitat onsite.
Bald eagle (*Haliaeetus leucocephalus*)	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands.	February – September (nesting); October-March (wintering)	Absent. There is no suitable habitat onsite.
Swainson's hawk (*Buteo swainsoni*)	-	CT	-	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during discing/ harvesting, and irrigated pastures.	March-August (nesting)	Low Potential. Five occurrences within 5 miles of the Study Area (CDFW 2022). The larger trees along the western boundary of the Study Area represent marginal nesting habitat; there is no foraging habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Burrowing owl *(Athene cunicularia)*	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitats such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August (nesting)	Absent. There is no suitable habitat onsite.
Long-eared owl *(Asio otus)*	-	-	BCC, SSC	Nests in open forests, riparian woodland, conifer forests, dense vegetation adjacent to grasslands, shrublands or other open communities.	March-August (breeding); November-March (wintering in Central Valley)	Absent. There is no suitable habitat onsite.
Short-eared owl (*Asio flammeus*)	-	-	BCC, SSC	Nests in large expanses of prairie, coastal grasslands, heathlands, shrub-steppe, tundra, and agricultural areas.	March-July (breeding); August-March (wintering in Central Valley)	Absent. There is no suitable habitat onsite.
Nuttall's woodpecker *(Dryobates nuttallii)*	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July (nesting)	Potential. No CNDDB occurrences within 5 miles of the Study Area (CDFW 2022); however, the trees along the western boundary represent potential nesting habitat.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Merlin *(Falco columbarius)*	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	September-April (wintering in the Central Valley); does not breed in California	Absent. There is no suitable habitat onsite.
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	-	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur.	April 1- July 31 (nesting)	Absent. There is no suitable habitat onsite.
Loggerhead shrike (*Lanius ludovicianus*)	-	-	SSC	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats.	March-July (nesting)	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Yellow-billed magpie (*Pica nuttallii*)	-	-	BCC	Endemic to California; found in the Central Valley and Coast Range south of San Francisco Bay and north of Los Angeles County. Builds large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or croplands; also found in urban parklike settings.	April-June (nesting)	Potential. No CNDDB occurrences within 5 miles of the Study Area (CDFW 2022).; However, the trees along the western boundary represent potential nesting habitat.
Oak titmouse (*Baeolophus inornatus*)			BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree).	March-July (nesting)	Potential. No CNDDB occurrences within 5 miles of the Study Area (CDFW 2022); however, the trees along the western boundary represent potential nesting habitat.
Bank swallow (*Riparia riparia*)	-	CT	-	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand and gravel quarries and road cuts. In California, breeding range includes northern and central California.	May-July (nesting)	Absent. There is no suitable habitat onsite.
Wrentit (*Chamaea fasciata*)	-	-	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	March-August (nesting)	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Lawrence's goldfinch (*Spinus lawrencei*)	-	-	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g., small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water.	March-September (nesting)	Absent. There is no suitable habitat onsite.
Grasshopper sparrow (*Ammodramus savannarum*)	-	-	BCC, SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental.	May-August (nesting)	Absent. There is no suitable habitat onsite.
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	-	CE	BCC	Resident coastally from Point Conception south into Baja California; coastal salt marsh	Year round resident; nests March-August	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Song sparrow "Modesto" (*Melospiza melodia heermanni*)	-	-	SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June (nesting)	Absent. There is no suitable habitat onsite.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	-	-	BCC, SSC	In California, breeds in the Great Basin region, along Colorado River south to Baja California, Salton Sea, Kern, Ventura, Riverside, San Diego and possibly Orange, Lake counties and locally in the Central Valley, Nests are constructed over deep water in emergent vegetation of prairie wetlands, quaking aspen parklands, mountain meadows, forest edges, large lakes.	April-July (nesting)	Absent. There is no suitable habitat onsite.
Tricolored blackbird (*Agelaius tricolor*)	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside, and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc, and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August (nesting)	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Bullock's oriole (*Icterus bullockii*)	-	-	BCC	Breeding habitat includes riparian and oak woodlands where nests are built in deciduous trees, but may also use orchards, conifers, and eucalyptus trees (Flood et al. 2020).	March-July (nesting)	Potential. No CNDDB occurrences within 5 miles of the Study Area (CDFW 2022); however, the trees along the western boundary represent potential nesting habitat.
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)	-	-	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County.	March-July (nesting)	Absent. There is no suitable habitat onsite.
Mammals						
Pallid bat *(Antrozous pallidus)*	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2022). Forages in grasslands, oak savannahs, ponderosa pine forests, fruit orchards, and vineyards.	April-September (breeding)	Potential. No CNDDB occurrences within five miles of the Study Area (CDFW 2022); however, the trees along the western boundary represent potential roosting habitat

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Ringtail (*Bassariscus astutus*)	-	-	FP	Most often found in riparian corridors in forested, shrubby habitats. Dens in rock outcrops, hollow trees and snags at low to middle elevations. Its range includes the North and South Coast Ranges, Sierra Nevada, Cascades, and the mountainous areas of the Mojave Desert.	Any season	Absent. There is no suitable habitat onsite.
Townsend's big-eared bat *(Corynorhinus townsendii)*	-	-	SSC	Habitats include coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitats. Roosts in caves, mines, buildings, rock crevices, hollow trees. Forages in edge habitats along streams adjacent to and within wooded habitats.	April-September (breeding)	Low Potential. No CNDDB occurrences within 5 miles of the Study Area (CDFW 2022); however, the trees along the western boundary represent marginal roosting habitat.
Marysville California kangaroo rat (*Dipodomys californicus eximius*)	-	-	SSC	Known only from the Sutter Buttes area. Occurs in areas with friable soil in grass-forb stages of chaparral and valley and foothill grassland (CDFW 2022).	Any season	Absent. There is no suitable habitat onsite.
Greater mastiff bat (*Eumops perotis californicus*)	-	-	SSC	Primarily a cliff-dwelling species but also found in crevices in large boulders and buildings (WBWG 2022).	April-September (breeding)	Absent. There is no suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey/ Active Period**	**Potential To Occur Onsite**
	FESA	**CESA/ NPPA**	**Other**			
Silver-haired bat (*Lasionycteris noctivagans*)	-	-	WBWG - M	Maternity roosts occur in natural hollows and bird-excavated cavities or under loose bark of larger snags. May hibernate in trees, rock crevices, sloughing bark, or in wood piles, mines, caves, or buildings. Prefers forest, north temperate zone conifer and mixed conifer/hardwood forests but may occur in more xeric habitats in winter and during migration (WBWG 2022).	April-September (breeding)	Absent. There is no suitable habitat onsite.
Western red bat (*Lasiurus blossevillii*)	-	-	SSC	Roosts in foliage of trees or shrubs; day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2022).	April-September (breeding)	Potential. No CNDDB occurrences within 5 miles of the Study Area (CDFW 2022); however, trees onsite represent potential roosting habitat.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey/ Active Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
American badger *(Taxidea taxus)*	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent. There is no suitable habitat onsite.

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	FESA listed, Endangered
FT	FESA listed, Threatened
FP	Formally Proposed for FESA listing
FC	FESA Candidate Species
BCC	USFWS Bird of Conservation Concern (USFWS 2021)
CT	CESA or NPPA listed, Threatened
CE	CESA or NPPA listed, Endangered
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5 050-reptiles/amphibians)
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern
1B	CRPR/Rare or Endangered in California and elsewhere
2B	Plants rare, threatened, or endangered in California but more common elsewhere
4	CRPR/Plants of Limited Distribution – A Watch List
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
Delisted	Formally Delisted (delisted species are monitored for 5 years)

4.7 Migratory Bird Treaty Act Protected Birds

The trees and the existing lift station facility within the Study Area support potential nesting habitat for a variety of common birds that, while not considered special-status as previously defined, are protected under the MBTA. Such species include California scrub-jay, northern mockingbird (*Mimus polyglottos*), and house finch (*Haemorhous mexicanus*).

4.8 Sensitive Natural Communities

Four sensitive natural communities were identified in the literature review as occurring in the vicinity of the Study Area (CDFW 2022), including Northern Hardpan Vernal Pool, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian Forest. None of these or any other sensitive naturals communities were found onsite. No further discussion of sensitive natural communities is provided within this assessment.

5.0 IMPACT ANALYSIS

This section specifically addresses the questions raised by the CEQA - Appendix G Environmental Checklist Form, IV. Biological Resources. This impact analysis assumes the Project will implement measures that fulfill the intent of recommended measures described in Section 6.0.

5.1 Special Status Species

Would the Project result in effects, either directly or through habitat modifications, to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

No special-status species are known to occur within the Study Area; however, no protocol-level field surveys have been conducted. Based on the field reconnaissance, the Study Area supports potential habitat for several special-status birds and mammals. Potential effects to special-status species are summarized in the following sections by taxonomic group or species.

5.1.1 Special-Status and Other Protected Birds

The trees along the western boundary of the Study Area represent marginal nesting habitat for one state-listed bird species (Swainson's hawk). These trees also provide marginal to suitable nesting habitat for five nonlisted special-status bird species and a variety of other nonlisted birds that are protected under the MBTA and the California Fish and Game Code. Project development could permanently remove or alter suitable nesting habitat for special-status and other protected birds. If project construction occurs during the nesting season and active nests are present, they may be directly or indirectly impacted by development.

Implementation of recommendations BIO2 and BIO3 described in Section 6.0 would avoid or minimize potential effects to special-status and other protected birds.

5.1.2 Special-Status Bats

The trees along the western boundary of the Study Area represent potential roosting habitat for three special-status bat species. Project development could permanently remove or alter suitable roosting habitat for special-status bats, and if special-status bats occur onsite, they may be directly or indirectly impacted by development.

Implementation of recommendations BIO2, BIO4, and BIO5 described in Section 6.0 would avoid, minimize, and/or compensate for potential effects to special-status bats. With implementation of these measures, the Project is not expected to significantly impact special-status bats.

5.2 Riparian Habitat and Sensitive Natural Communities

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

The Study Area supports disturbed weedy habitat. There are no sensitive natural communities as defined by CDFW, and there is no riparian habitat onsite. Therefore, the Project will not impact riparian habitat or sensitive natural communities.

5.3 Aquatic Resources, Including Waters of the U.S. and State

Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Based on the preliminary aquatic resources assessment, there are no aquatic resources or potential waters of the U.S. or state present within the Study Area.

5.4 Wildlife Movement/Corridors

Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The Study Area provides very limited migratory opportunities for terrestrial wildlife because of the developed nature of the surrounding lands and the absence of significant wildlife habitat elements onsite. Project construction is likely to temporarily disturb and displace some wildlife from the vicinity of the Study Area. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume but will likely be more limited due to the loss of open space within the Study Area. The Project is not expected to substantially interfere with wildlife movement.

There are no documented nursery sites, and no nursery sites were observed within the Study Area during the site reconnaissance. With implementation of BIO3, BIO4, and BIO5, the Project is not expected to impact wildlife nursery sites.

5.5 Local Policies, Ordinances, and Other Plans

Does the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The City does not have a tree preservation ordinance, but General Plan Policy Biological 2-1 authorizes the protection of native oak trees, and there is a valley oak tree present onsite. Project development could result in the direct or indirect impacts to protected oak trees.

Implementation of recommendations BIO2, BIO6, and BIO7 described in Section 6.0 would avoid, minimize, and/or compensate for potential effects to protected oak trees. With implementation of these measures, the Project is not expected to significantly impact protected oak trees.

Does the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Study Area is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be no impact.

6.0 RECOMMENDATIONS

The Study Area supports potential habitat for special-status species and protected oak trees. This section summarizes recommended measures to avoid, minimize, or compensate for potential impacts to biological resources from the Proposed Project.

6.1 General Recommendations

The following general measures are recommended to avoid impacts to offsite and onsite biological resources:

- **BIO1:** The project should implement erosion control measures and Best Management Practices to reduce the potential for sediment or pollutants to enter drainage channels at the Project site.
- **BIO2:** A qualified biologist should conduct a mandatory Worker Environmental Awareness Program for all contractors, work crews, and any onsite personnel to aid workers in recognizing special-status species and sensitive biological resources that may occur onsite. The program shall include identification of the special-status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and Mitigation Measures required to reduce impacts to biological resources within the work area.

6.2 Special-Status Species

Recommendations to minimize impacts to special status species or habitats are summarized below by species or taxonomic group.

6.2.1 Special-Status Birds and Migratory Bird Treaty Act-Protected Birds (Including Nesting Raptors)

Six special-status birds and various other protected birds have the potential to nest within and immediately adjacent the Study Area. Construction activity, vehicle traffic, and other human activities could disrupt nesting activity or remove potential nest trees. Prior to construction, a qualified biologist should review the proposed construction activities and determine if impacts could occur to nesting birds. If the qualified biologist determines there could be potential impacts, the following measure is recommended to minimize potential impacts to nesting birds:

- **BIO3:** If construction is to be initiated during the nesting season (generally February 1 through August 31), conduct a preconstruction nesting bird survey of all suitable nesting habitat in and adjacent to the Project site within 14 days of the commencement of construction. The survey shall be conducted in accessible areas within a 500-foot radius of Project work areas for raptors and within a 100-foot radius for other nesting birds. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival or the nest is otherwise no longer occupied.

6.2.2 Mammals

Three special-status bats have potential to occur within the Study Area. Implementation of recommendation BIO2 and the following measures would avoid and/or minimize potential adverse effects to special-status bats:

- **BIO4:** Bat roost surveys shall be conducted by a qualified wildlife biologist prior to removal of any tree having the potential to provide bat roosting habitat. Specific survey methodologies will be determined by a qualified biologist and consistent with any applicable recommendations or requirements of CDFW, and may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat or observations of bat sign (e.g., guano), or use of ultrasonic detectors (e.g., SonoBat, Anabat). Removal of any significant roost sites will be avoided to the extent feasible.
- **BIO5:** If it is determined that an active roost site cannot be avoided and will be affected, the biologist shall notify and consult with CDFW on appropriate bat exclusion methods and roost removal procedures.

6.2.3 Protected Oak Trees

There is a native oak tree within the Study Area protected by General Plan policy. Implementation of recommendation BIO2 and the following measures would avoid and/or minimize potential adverse effects to protected oaks:

- **BIO6:** A certified arborist shall conduct a survey to evaluate any trees proposed to be removed or disturbed.

- **BIO7:** The applicant shall consult with the City to develop measures to preserve protected trees or mitigate their loss.

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LIST OF ATTACHMENTS

ATTACHMENT A

Results of Database Queries

California Native Plant Society

Search Results

32 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3912125:3912145:3912135:3912137:3912136:3912147:3912146:3912126:3912127**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	No Photo Available
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	 © 1994 Robert E. Preston, Ph.D.
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	 © 2000 Robert E. Preston, Ph.D.
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	 © 2000 Robert E. Preston, Ph.D.
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual/perennial herb	Aug	None	None	G5	S4	4.2	No Photo Available
Brodiaea rosea ssp. *vallicola*	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G5T3	S3	4.2	 © 2011 Steven Perry
Castilleja rubicundula var. *rubicundula*	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	None	None	G5T2	S2	1B.2	 ©2010 Vernon Smith
Centromadia parryi ssp. *parryi*	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2	No Photo

										Available
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	No Photo Available
Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G4	S3	4.2	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	No Photo Available
Erythranthe glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb-Aug(Sep)	None	None	G3G4	S3S4	4.3	 Neal Kramer 2020
Hemizonia congesta ssp. *calyculata*	Mendocino tarplant	Asteraceae	annual herb	Jul-Nov	None	None	G5T4	S4	4.3	 © 2015 John Doyen
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	 © 2017 John Doyen
Heteranthera dubia	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	G5	S2	2B.2	 ©2010 Louis-M. Landry
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	 © 2020 Steven Perry
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	None	None	G2T1	S1	1B.2	 © 2004 Carol W. Witham
Lathyrus delnorticus	Del Norte pea	Fabaceae	perennial herb	Jun-Jul	None	None	G4	S3	4.3	 © 2016 Keir Morse
Lavia	Colusa lavia	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.2	

Layia septentrionalis									 © 2013 Jake Ruygt
Leptosiphon aureus	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2	 © 2007 Len Blumin
Limnanthes floccosa ssp. *floccosa*	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	G4T4	S3	4.2	 © 2021 Scot Loring
Monardella venosa	veiny monardella	Lamiaceae	annual herb	May-Jul	None	None	G1	S1	1B.1	 © 2007 George W. Hartwell
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1	 © 2018 Barry Rice
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	 © 2013 Justy Leppert
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	None	None	G3	S3	1B.1	 © 2004 Carol W. Witham
Plagiobryoides vinosula	wine-colored tufa moss	Bryaceae	moss		None	None	G3G4	S3S4	4.2	No Photo Available
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	FE	CE	G1	S1	1B.1	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	 ©2013 Debra L. Cook
Smilax jamesii	English Peak greenbrier	Smilacaceae	perennial rhizomatous herb	May-Jul(Aug-Oct)	None	None	G3G4	S3S4	4.2	 Sheli Wingo

2004

Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	 ©2008 F. Gauna
Wolffia brasiliensis	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr-Dec	None	None	G5	S2	2B.3	 © 2021 Scot Loring

Showing 1 to 32 of 32 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 28 October 2022].

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Gridley (3912136) OR Yuba City (3912125) OR Palermo (3912145) OR Honcut (3912135) OR Pennington (3912137) OR West of Biggs (3912147) OR Biggs (3912146) OR Sutter (3912126) OR Sutter Buttes (3912127))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	***Ambystoma californiense pop. 1*** California tiger salamander - central California DPS	Threatened	Threatened	G2G3T3	S3	WL
AAABF02020	***Spea hammondii*** western spadefoot	None	None	G2G3	S3	SSC
AAABH01053	***Rana boylii pop. 3*** foothill yellow-legged frog - north Sierra DPS	None	Threatened	G3T2	S2	
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC11011	***Circus hudsonius*** northern harrier	None	None	G5	S3	SSC
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S3	
ABNKD06030	***Falco columbarius*** merlin	None	None	G5	S3S4	WL
ABNME03041	***Laterallus jamaicensis coturniculus*** California black rail	None	Threatened	G3T1	S1	FP
ABNMK01014	***Antigone canadensis tabida*** greater sandhill crane	None	Threatened	G5T5	S2	FP
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S3	SSC
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S2	
ABPBXA3013	***Melospiza melodia pop. 1*** song sparrow ("Modesto" population)	None	None	G5T3?Q	S3?	SSC
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S1S2	SSC
ABPBY06100	***Spinus lawrencei*** Lawrence's goldfinch	None	None	G3G4	S4	
AFCAA01031	***Acipenser medirostris pop. 1*** green sturgeon - southern DPS	Threatened	None	G2T1	S1	
AFCHA0205L	***Oncorhynchus tshawytscha pop. 11*** chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5T2Q	S2	
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G3G4	S3S4	
AMACC08010	***Corynorhinus townsendii*** Townsend's big-eared bat	None	None	G4	S2	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMACD02011	***Eumops perotis californicus*** western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAFD03071	***Dipodomys californicus eximius*** Marysville California kangaroo rat	None	None	G4T1	S1	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJF04010	***Taxidea taxus*** American badger	None	None	G5	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
ARADB36150	***Thamnophis gigas*** giant gartersnake	Threatened	Threatened	G2	S2	
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT61410CA	***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	***Great Valley Valley Oak Riparian Forest*** Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2T3	S3	
IMBIV19010	***Gonidea angulata*** western ridged mussel	None	None	G3	S1S2	
PDAST4R0P2	***Centromadia parryi ssp. parryi*** pappose tarplant	None	None	G3T2	S2	1B.2
PDAST5N0F0	***Layia septentrionalis*** Colusa layia	None	None	G2	S2	1B.2
PDAST7P010	***Pseudobahia bahiifolia*** Hartweg's golden sunburst	Endangered	Endangered	G1	S1	1B.1

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDCAR0L0V0	***Paronychia ahartii*** Ahart's paronychia	None	None	G3	S3	1B.1
PDCHE040B0	***Atriplex cordulata var. cordulata*** heartscale	None	None	G3T2	S2	1B.2
PDCHE042M0	***Atriplex minuscula*** lesser saltscale	None	None	G2	S2	1B.1
PDCHE042T0	***Atriplex subtilis*** subtle orache	None	None	G1	S1	1B.2
PDFAB0F8R3	***Astragalus tener var. ferrisiae*** Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDLAM18082	***Monardella venosa*** veiny monardella	None	None	G1	S1	1B.1
PDMAL0H0R3	***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow	None	None	G5T3	S3	1B.2
PDPLM0C0E1	***Navarretia leucocephala ssp. bakeri*** Baker's navarretia	None	None	G4T2	S2	1B.1
PDRAN0B1J0	***Delphinium recurvatum*** recurved larkspur	None	None	G2?	S2?	1B.2
PDSCR0D482	***Castilleja rubicundula var. rubicundula*** pink creamsacs	None	None	G5T2	S2	1B.2
PMALI040Q0	***Sagittaria sanfordii*** Sanford's arrowhead	None	None	G3	S3	1B.2
PMJUN011L1	***Juncus leiospermus var. ahartii*** Ahart's dwarf rush	None	None	G2T1	S1	1B.2
PMLEM03020	***Wolffia brasiliensis*** Brazilian watermeal	None	None	G5	S2	2B.3
PMPOA4G050	***Orcuttia tenuis*** slender Orcutt grass	Threatened	Endangered	G2	S2	1B.1
PMPOA53110	***Puccinellia simplex*** California alkali grass	None	None	G2	S2	1B.2
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1
PMPON03010	***Heteranthera dubia*** water star-grass	None	None	G5	S2	2B.2

Record Count: 57

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

Sutter County, California

Local office

Sacramento Fish And Wildlife Office

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

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

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.

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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:

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

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi — Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2246

Critical habitats

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

There are no critical habitats at this location.

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 https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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
Bald Eagle *Haliaeetus leucocephalus* 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.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* 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/8	Breeds Apr 1 to Aug 15
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25

Common Yellowthroat *Geothlypis trichas sinuosa* 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	Breeds May 20 to Jul 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Nuttall's Woodpecker *Picoides nuttallii* 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	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie *Pica nuttalli* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

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.

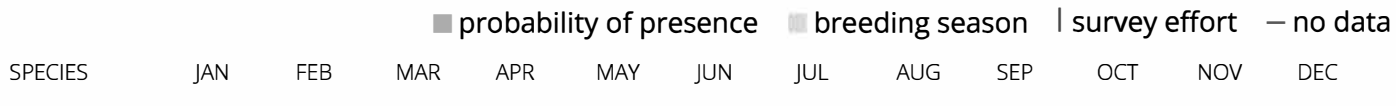
Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

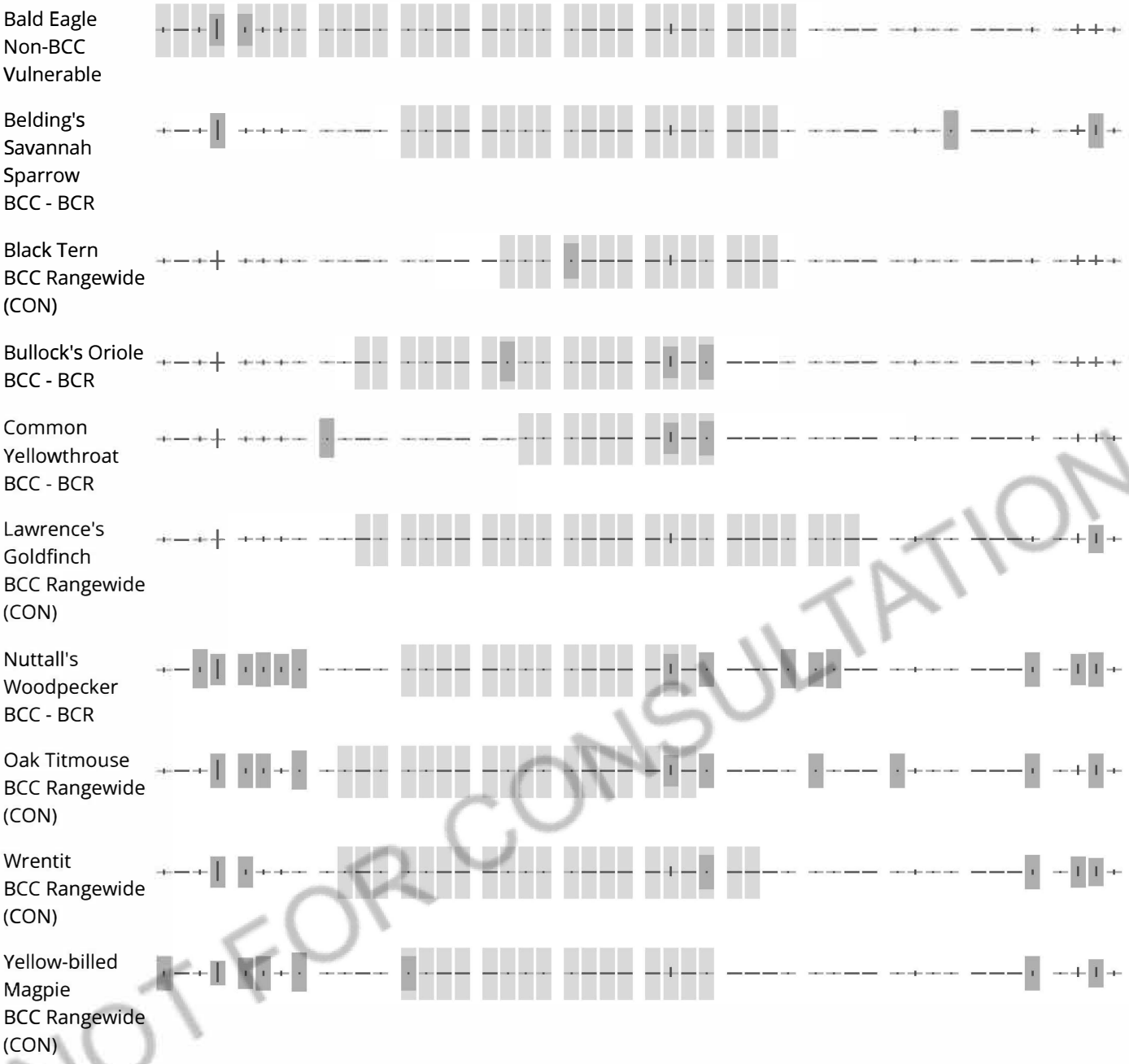
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.





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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more

information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

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 (NWI)

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.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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 tuberficid 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.

Quad Name Gridley
Quad Number 39121-C6

1.0 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**

2.0 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 -
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**

3.0 ESA Marine Invertebrates

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

4.0 ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

5.0 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) -

6.0 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) -

7.0 ESA Pinnipeds

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

8.0 Essential Fish Habitat

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

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

MMPA Cetaceans -
MMPA Pinnipeds -

ATTACHMENT B

Representative Site Photos

Photo 1. Disturbed Habitat with Adjacent Development on Northern Boundary

Photo 2. Constructed Stormwater Ditch

Photo 3. Disturbed Habitat with Trees Along Western Boundary

Photo 4. Disturbed Habitat with Existing Lift Station Facility

Attachment C

Energy Consumption - Total Construction-Related Gasoline Usage

ECORP Consulting, Inc.

Proposed Project
Total Construction-Related Gasoline Usage

Table 1. Construction Year One			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	808	808,000	10.15
Total Gallons Consumed During Construction Year One:			**79,606**

Sources:

[1]ECORP Consulting. 2022. Roadway Construction Emissions Model. See Appendix A of P Street Lift Station Project Initial Study/Mitigated Negative Declaration

[2]Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1.* January 2016. http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pd

Attachment D

Noise - Roadway Construction Noise Model (RCNM),Version 1.1

ECORP Consulting, Inc.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/3/2022
Case Description: **P Street Lift Station - Grubbing & Clearing**

Description	**Land Use**
Grubbing & Clearing	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Tractor	No	40	84		53	3
Excavator	No	40		80.7	53	3

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Tractor	80.5	76.5
Excavator	77.2	73.2
Total	80.5	**78.2**

*Calculated Lmax is the Loudest value.
3 dBA shielding due to line-of-sight break by wooden fence

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/3/2022
Case Description: **P Street Lift Station - Grading & Excavation**

Description	Land Use
Grading & Excavation	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Tractor	No	40	84		53	3
Excavator	No	40		80.7	53	3
Excavator	No	40		80.7	53	3
Excavator	No	40		80.7	53	3
Grader	No	40	85		53	3
Roller	No	20		80	53	3
Roller	No	20		80	53	3
Front End Loader	No	40		79.1	53	3
Front End Loader	No	40		79.1	53	3
Backhoe	No	40		77.6	53	3
Backhoe	No	40		77.6	53	3

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Tractor	80.5	76.5
Excavator	77.2	73.2
Excavator	77.2	73.2
Excavator	77.2	73.2
Grader	81.5	77.5
Roller	76.5	69.5
Roller	76.5	69.5
Front End Loader	75.6	71.6
Front End Loader	75.6	71.6
Backhoe	74.1	70.1
Backhoe	74.1	70.1
Total	81.5	**83.6**

*Calculated Lmax is the Loudest value.
3 dBA shielding due to line-of-sight break by wooden fence

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/3/2022
Case Description: **P Street - Drainage & Utilities**

Description	**Land Use**
Drainage & Utilities	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Compressor (air)	No	40		77.7	53	3
Boring Jack Power Unit	No	50		83	53	3
Generator	No	50		80.6	53	3
Grader	No	40	85		53	3
Compactor (ground)	No	20		83.2	53	3
Pumps	No	50		80.9	53	3
Dozer	No	40		81.7	53	3
Scraper	No	40		83.6	53	3
Scraper	No	40		83.6	53	3
Backhoe	No	40		77.6	53	3
Backhoe	No	40		77.6	53	3

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Compressor (air)	74.2	70.2
Boring Jack Power Unit	79.5	76.5
Generator	77.1	74.1
Grader	81.5	77.5
Compactor (ground)	79.7	72.7
Pumps	77.4	74.4
Dozer	78.2	74.2
Scraper	80.1	76.1
Scraper	80.1	76.1
Backhoe	74.1	70.1
Backhoe	74.1	70.1
Total	81.5	**84.9**

*Calculated Lmax is the Loudest value.
3 dBA shielding due to line-of-sight break by wooden fence

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/3/2022
Case Description: **P Street Lift Station - Paving**

Description	**Land Use**
Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Paver	No	50		77.2	53	3
Paver	No	50		77.2	53	3
Roller	No	20		80	53	3
Roller	No	20		80	53	3
Roller	No	20		80	53	3
Backhoe	No	40		77.6	53	3
Backhoe	No	40		77.6	53	3

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Paver	73.7	70.7
Paver	73.7	70.7
Roller	76.5	69.5
Roller	76.5	69.5
Roller	76.5	69.5
Backhoe	74.1	70.1
Backhoe	74.1	70.1
Total	76.5	**78.5**

*Calculated Lmax is the Loudest value.
3 dBA shielding due to line-of-sight break by wooden fence