

Appendix A

Reclamation's Cultural Resources Determination

CULTURAL RESOURCE COMPLIANCE
Mid-Pacific Region
Division of Environmental Affairs
Cultural Resources Branch

MP-153 Tracking Number: 14-SCAO-291

Project Name: Santa Clara Valley Water District Reverse Flow Project

NEPA Document: EA-14-029

MP 153 Cultural Resources Reviewer: Scott Williams



Date: September 22, 2014

The proposed undertaking by Reclamation to approve Santa Clara Valley Water District to place temporary pumps within Reclamation's rights-of-way (ROW) in order to reverse-flow previously banked CVP water up the Aqueduct for exchange with Reclamation. This is the type of undertaking that does not have the potential to cause effects to historic properties, should such properties be present, pursuant to the NHPA Section 106 regulations codified at 36 CFR § 800.3(a)(1). Reclamation has no further obligations under NHPA Section 106, pursuant to 36 CFR § 800.3(a)(1).

Santa Clara proposes to install three temporary pump stations within Reclamation's ROW at check structures 20, 18, and 15 of the joint-use portion of the Aqueduct. A fourth pump station would be placed within DWR's ROW at check structure 22 of the Aqueduct. The temporary pump stations and power units would be delivered by flatbed delivery trucks to the proposed project sites. The pump stations and power units would be placed on skids (beams which create a frame attached to the bottom of the pumps). The skids would allow for movement of the station from the truck to the ground and serve as the structural support. Placement would occur by a crane or forklift placed at the top of the embankment. Prefabricated piping would be placed on the embankment and connected to the pumps to allow the water to be pumped around the sides of the existing control gates at each check structure. Fuel tanks, with spill containment, would be placed on the Aqueduct roadway at each proposed site. All project components would be placed above ground; as the installation of the proposed project requires only placement of prefabricated equipment and piping. As a result no ground disturbing activities such as grading, trenching or excavation would occur. The equipment would be placed in an area of less than 0.5 acres at each site.

This document is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

Appendix B

Reclamation's Indian Trust Assets Determination



Emerson, Rain <remerson@usbr.gov>

Re: Project Description for Review (EA-14-029)

RIVERA, PATRICIA <privera@usbr.gov>

Mon, Sep 22, 2014 at 8:40 AM

To: "Emerson, Rain" <remerson@usbr.gov>

Cc: Kristi Seabrook <kseabrook@usbr.gov>, "Williams, Mary D (Diane)" <marywilliams@usbr.gov>

Rain,

I reviewed the proposed cation to approve the placement of temporary pumping facilities to reverse flow previously banked Central Valley Project (CVP) water for exchange as described below.

Temporary Pumping Facilities

Santa Clara Valley Water District (Santa Clara) proposes to install three temporary pump stations within Reclamation's rights-of-way (ROW) at check structures 20, 18, and 15 of the joint-use portion of the California Aqueduct (Aqueduct). A fourth pump station would be placed within the California Department of Water Resource's (DWR) ROW at check structure 22 of the Aqueduct.

The general pump station configuration at each of the check structures would include the following temporary components:

- Up to four 13- to 100-cubic-foot-per-second (cfs) nominal pumps located on the right embankment adjacent to the secondary maintenance road, except at Check 18 where the pumps would be on the left embankment adjacent to the primary maintenance road.
- Up to four 12 inch to 36 inch intake (suction) pipelines.
- Up to four 12 inch to 36 inch discharge pipelines, including instantaneous and totalizing flow meters reading in cfs and acre-feet (AF) respectively, placed alongside the secondary access roads, except at Check 18, where they would be placed alongside the primary maintenance road.
- Up to four 500-gallon fuel tanks (one per pump) with regulated spill containment.
- Up to two 1,200-gallon fuel tanks with regulated spill containment.

Installation of the temporary pumping stations and associated appurtenances is anticipated to last approximately four weeks and would utilize equipment such as cranes, flatbed delivery trucks, and a forklift. Installation work hours would be during daylight hours, Monday through Friday.

The temporary pump stations and power units would be delivered by flatbed delivery trucks to the proposed project sites. The pump stations and power units would be placed on skids (beams which create

a frame attached to the bottom of the pumps). The skids would allow for movement of the station from the truck to the ground and serve as the structural support. Placement would occur by a crane or forklift placed at the top of the embankment. Prefabricated piping would be placed on the embankment and connected to the pumps to allow the water to be pumped around the sides of the existing control gates at each check structure. Fuel tanks, with spill containment, would be placed on the Aqueduct roadway at each proposed site.

All project components would be placed above ground; as the installation of the proposed project requires only placement of prefabricated equipment and piping. As a result no ground disturbing activities such as grading, trenching or excavation would occur. The equipment would be placed in an area of less than 0.5 acres at each site.

Operations

Semitropic Water Storage District would pump up to 31,500 AF of Santa Clara's previously banked CVP water into the Aqueduct north of Check Structure 25. Up to 13,500 AF would be exchanged with DWR under normal operations of the banking program. The remaining water, up to 18,000 AF, would be reverse flowed through metered discharge piping placed around the sides of the existing control gates at up to four check structures (22, 20, 18, and/or 15), and delivered to CVP contractors north of check structure 20 (and south of Dos Amigos Pumping Plant) to meet scheduled demands. In exchange, Reclamation would deliver an equal amount, less conveyance losses if any, of CVP water supply to Santa Clara from San Luis Reservoir or O'Neill Forebay, depending upon conditions at the time of exchange. Santa Clara would coordinate with Reclamation and DWR to avoid unneeded pumping.

Each of the pump stations would be designed for a capacity of up to 100 cfs. However, the actual pumping rate would depend on a number of considerations including how soon the system becomes operational, the amount of CVP water supply available for exchange, hydrologic conditions, and the actual amount of water needed to complete the exchange.

Semitropic's pump-in capabilities are generally greatest beginning September 1, due to drop off of internal irrigation demands. Santa Clara's plan is to operate the bypass pump stations when the flows at Dos Amigos Pumping Plant (located between Checks 13 and 14 along the Aqueduct) are projected to be less than 100 cfs. If at least 100 cfs is scheduled to flow from Dos Amigos to meet demands south of Semitropic, the pumps would not need to operate since a direct exchange under normal operations would be possible.

It is anticipated that Santa Clara would operate the pumps between the months of August and February (e.g., when flows at Dos Amigos Pumping Plant are expected to be less than 100 cfs, Santa Clara may operate the pump stations between August and December 2014 and possibly in January and February 2015 at 100 cfs or until 18,000 AF is reached). If the pumps are operated at their maximum capacity (100 cfs), it is expected that the operation would occur over a period of 90 days to

pump the maximum amount of 18,000 AF around Check Structures 22, 20, 18, and/or 15. If Santa Clara determines that a lower flow rate is needed for the water exchange, it may operate fewer of the installed facilities or operate them at below their maximum capacities; conversely pumping duration would be longer to achieve the maximum amount of 18,000 AF.

Once the maximum expected pumping (18,000 AF) is completed, the temporary pumping facilities and infrastructure would be removed from each site. Removal is anticipated to last approximately four weeks and would require the use of cranes, forklifts and flatbed delivery trucks. No ground disturbance would occur. All project components will be removed by Santa Clara by June 30, 2016 regardless if all 18,000 AF has been pumped.

The proposed action does not have a potential to impact Indian Trust Assets.

Patricia Rivera
Native American Affairs Program Manager
US Bureau of Reclamation
Mid-Pacific Region
2800 Sacramento, California 95825
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Kristi please log in. No further action required. Thanks

Appendix C

Air Quality Modeling Results

California Aqueduct 2014 Reverse Flow
San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2015
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - City Park setting was used as it was the most similar to our project.

Construction Phase - Project construction will take approximately four weeks total.

Vehicle Trips - Approximately 1,924 round trips over the life of the 90 day project, or 22 trips per day. Trips would average 30 miles each.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	CC_TL	7.30	30.00
tblVehicleTrips	CNW_TL	7.30	30.00
tblVehicleTrips	CW_TL	9.50	30.00
tblVehicleTrips	ST_TR	1.59	22.00
tblVehicleTrips	SU_TR	1.59	22.00
tblVehicleTrips	WD_TR	1.59	22.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.2084	1.1370	0.8684	1.2800e-003	0.0124	0.0758	0.0882	4.0500e-003	0.0731	0.0772	0.0000	108.4287	108.4287	0.0222	0.0000	108.8951
Total	0.2084	1.1370	0.8684	1.2800e-003	0.0124	0.0758	0.0882	4.0500e-003	0.0731	0.0772	0.0000	108.4287	108.4287	0.0222	0.0000	108.8951

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.2082	1.1357	0.8675	1.2800e-003	0.0124	0.0757	0.0881	4.0500e-003	0.0730	0.0771	0.0000	108.3168	108.3168	0.0222	0.0000	108.7827
Total	0.2082	1.1357	0.8675	1.2800e-003	0.0124	0.0757	0.0881	4.0500e-003	0.0730	0.0771	0.0000	108.3168	108.3168	0.0222	0.0000	108.7827

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.1056	0.1143	0.1048	0.0000	0.0000	0.1188	0.1021	0.0000	0.1231	0.1166	0.0000	0.1032	0.1032	0.0900	0.0000	0.1032

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2004	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1545	0.2228	0.5236	1.1500e-003	0.0667	3.3800e-003	0.0701	0.0179	3.1100e-003	0.0210	0.0000	96.3757	96.3757	3.3700e-003	0.0000	96.4465
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0409
Water						0.0000	0.0000		0.0000	0.0000	0.0000	1.2132	1.2132	5.0000e-005	1.0000e-005	1.2178
Total	0.3549	0.2228	0.5236	1.1500e-003	0.0667	3.3800e-003	0.0701	0.0179	3.1100e-003	0.0210	0.0183	97.5889	97.6072	4.5000e-003	1.0000e-005	97.7053

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2004	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1545	0.2228	0.5236	1.1500e-003	0.0667	3.3800e-003	0.0701	0.0179	3.1100e-003	0.0210	0.0000	96.3757	96.3757	3.3700e-003	0.0000	96.4465
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0409
Water						0.0000	0.0000		0.0000	0.0000	0.0000	1.2132	1.2132	5.0000e-005	1.0000e-005	1.2178
Total	0.3549	0.2228	0.5236	1.1500e-003	0.0667	3.3800e-003	0.0701	0.0179	3.1100e-003	0.0210	0.0183	97.5889	97.6072	4.5000e-003	1.0000e-005	97.7053

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	1/1/2015	5	1	
2	Building Construction	Building Construction	1/2/2015	5/21/2015	5	100	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2015**Unmitigated Construction On-Site****Acres of Grading: 0.5**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-003	0.0000	2.9000e-003	1.4800e-003	0.0000	1.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	0.0134	8.5100e-003	1.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	0.8173	0.8173	2.4000e-004	0.0000	0.8224
Total	1.2700e-003	0.0134	8.5100e-003	1.0000e-005	2.9000e-003	7.3000e-004	3.6300e-003	1.4800e-003	6.7000e-004	2.1500e-003	0.0000	0.8173	0.8173	2.4000e-004	0.0000	0.8224

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	2.0000e-005	2.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0298
Total	7.0000e-005	2.0000e-005	2.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0298

3.2 Site Preparation - 2015**Mitigated Construction On-Site****Acres of Grading: 0.5**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-003	0.0000	2.9000e-003	1.4800e-003	0.0000	1.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	0.0134	8.5000e-003	1.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	0.8163	0.8163	2.4000e-004	0.0000	0.8214
Total	1.2700e-003	0.0134	8.5000e-003	1.0000e-005	2.9000e-003	7.3000e-004	3.6300e-003	1.4800e-003	6.7000e-004	2.1500e-003	0.0000	0.8163	0.8163	2.4000e-004	0.0000	0.8214

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	2.0000e-005	2.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0298
Total	7.0000e-005	2.0000e-005	2.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0298	0.0298	0.0000	0.0000	0.0298

3.3 Building Construction - 2015**Unmitigated Construction On-Site****Acres of Grading: 0**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1800	1.0782	0.7502	1.1000e-003		0.0743	0.0743		0.0717	0.0717	0.0000	93.2416	93.2416	0.0215	0.0000	93.6932
Total	0.1800	1.0782	0.7502	1.1000e-003		0.0743	0.0743		0.0717	0.0717	0.0000	93.2416	93.2416	0.0215	0.0000	93.6932

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.0404	0.0610	8.0000e-005	2.2800e-003	7.3000e-004	3.0100e-003	6.5000e-004	6.7000e-004	1.3200e-003	0.0000	7.6417	7.6417	7.0000e-005	0.0000	7.6432
Worker	0.0163	4.8900e-003	0.0485	9.0000e-005	7.2000e-003	6.0000e-005	7.2600e-003	1.9100e-003	5.0000e-005	1.9700e-003	0.0000	6.6984	6.6984	3.9000e-004	0.0000	6.7066
Total	0.0271	0.0453	0.1095	1.7000e-004	9.4800e-003	7.9000e-004	0.0103	2.5600e-003	7.2000e-004	3.2900e-003	0.0000	14.3401	14.3401	4.6000e-004	0.0000	14.3498

3.3 Building Construction - 2015

Mitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1798	1.0769	0.7493	1.1000e-003		0.0742	0.0742		0.0716	0.0716	0.0000	93.1307	93.1307	0.0215	0.0000	93.5817
Total	0.1798	1.0769	0.7493	1.1000e-003		0.0742	0.0742		0.0716	0.0716	0.0000	93.1307	93.1307	0.0215	0.0000	93.5817

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.0404	0.0610	8.0000e-005	2.2800e-003	7.3000e-004	3.0100e-003	6.5000e-004	6.7000e-004	1.3200e-003	0.0000	7.6417	7.6417	7.0000e-005	0.0000	7.6432
Worker	0.0163	4.8900e-003	0.0485	9.0000e-005	7.2000e-003	6.0000e-005	7.2600e-003	1.9100e-003	5.0000e-005	1.9700e-003	0.0000	6.6984	6.6984	3.9000e-004	0.0000	6.7066
Total	0.0271	0.0453	0.1095	1.7000e-004	9.4800e-003	7.9000e-004	0.0103	2.5600e-003	7.2000e-004	3.2900e-003	0.0000	14.3401	14.3401	4.6000e-004	0.0000	14.3498

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1545	0.2228	0.5236	1.1500e-003	0.0667	3.3800e-003	0.0701	0.0179	3.1100e-003	0.0210	0.0000	96.3757	96.3757	3.3700e-003	0.0000	96.4465
Unmitigated	0.1545	0.2228	0.5236	1.1500e-003	0.0667	3.3800e-003	0.0701	0.0179	3.1100e-003	0.0210	0.0000	96.3757	96.3757	3.3700e-003	0.0000	96.4465

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	22.00	22.00	22.00	175,423	175,423
Total	22.00	22.00	22.00	175,423	175,423

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	30.00	30.00	30.00	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.413934	0.062658	0.156245	0.177779	0.051620	0.007958	0.018367	0.098272	0.001808	0.001614	0.006467	0.000958	0.002320

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2004	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.2004	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0303					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.2004	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0303					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1701					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.2004	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.2132	5.0000e-005	1.0000e-005	1.2178
Unmitigated	1.2132	5.0000e-005	1.0000e-005	1.2178

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.19148	1.2132	5.0000e-005	1.0000e-005	1.2178
Total		1.2132	5.0000e-005	1.0000e-005	1.2178

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.19148	1.2132	5.0000e-005	1.0000e-005	1.2178
Total		1.2132	5.0000e-005	1.0000e-005	1.2178

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0409
Unmitigated	0.0183	1.0800e-003	0.0000	0.0409

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.09	0.0183	1.0800e-003	0.0000	0.0409
Total		0.0183	1.0800e-003	0.0000	0.0409

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.09	0.0183	1.0800e-003	0.0000	0.0409
Total		0.0183	1.0800e-003	0.0000	0.0409

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

Unit Emissions

Date: 8/20/2014

Equipment Description:

Operating Schedule 24 hr/day
 7 day/week
 4.0 weeks/month
 3.0 months/yr
 2,016 hrs/year
 84 days/year

Emission Factors (EF)			
CARB E.O. U-R-004-0416			
Pollutant	g/bhp-hr	g/kW-hr	Source
NMHC+NOx	2.54	3.4	CARB E. O.
NOx	2.41	3.23	95% of NMHC+NOx
SOx	0.0051	---	Mass Balance
PM ₁₀	0.08	0.11	CARB E. O.
CO	0.45	0.6	CARB E. O.
VOC	0.13	0.17	5% NMHC+NOx

Power Rating: 2,190 bhp

Rating 50-260 bhp
 # Engines 13

Potential Emissions (PE)			
Assuming 2,190 bhp			
Pollutant	lb/hr	lb/day	lb/yr
NOx	11.63	279.1	23,444
SOx	0.02	0.6	50
PM ₁₀	0.40	9.5	798
CO	2.16	51.8	4,355
VOC	0.61	14.7	1,234

tons/yr
 11.722
 0.025
 0.399
 2.1775
 0.617

Appendix D

Comment Letter and Reclamation's Response to Comments



Westlands Water District

3130 N. Fresno Street, P.O. Box 6056, Fresno, California 93703-6056, (559) 224-1523, FAX (559) 241-6277

November 18, 2014

United States Bureau of Reclamation
Attention: Rain Emerson
1243 N Street
Fresno, CA 93721
remerson@usbr.gov

SUBJECT: ***RE: Draft Finding of No Significant Impacts Santa Clara Valley Water District
California Aqueduct Reverse Flow***

Dear Ms. Emerson

Westlands Water District (Westlands) reviewed Santa Clara Valley Water District (SCVWD) California Aqueduct Reverse Flow Draft Finding of No Significant Impacts (FONSI 14-029 or FONSI). Based on information presented, Westlands was not able to evaluate the potential impacts of the proposed project because FONSI 14-029 did not adequately address water quality impacts or provide potential increases in concentrations of Constituents of Concern resulting from the proposed project.

Westlands previously submitted comments to the SCVWD and the United States Bureau of Reclamation (USBR) during the CEQA comment period for the project's draft Initial Study and Mitigated Negative Declaration (copy of letter enclosed). We also discussed our water quality concerns with the USBR and SCVWD during the development of this project. Westlands is disappointed that our request for an evaluation on the water quality impacts within the San Luis Canal was not completed by the Bureau of Reclamation. In addition, the FONSI did not evaluate or present potential impacts to agricultural production within Westlands resulting from the use of water pumped into Reaches 4 through 7 of the San Luis Canal. Also, the FONSI did not evaluate whether sufficient demand exists to deliver SCVWD's groundwater and Westlands' water supply. Westlands offers the following comments regarding the proposed project:

1. The proposed project intends to pump groundwater that was previously banked in Semitropic Water Storage District up the California Aqueduct and deliver the water to Westlands in exchange for surface water stored in San Luis Reservoir. The FONSI referred to the original Environmental Assessment (EA) 05-126 for water quality impacts however the original EA did not evaluate the water quality impacts to federal contractors north of Semitropic's groundwater bank. In order to arrive at an appropriate conclusion, the FONSI should provide an assessment of the water quality impacts resulting from the proposed reverse flow of groundwater made

available from Semitropic's groundwater bank. Westlands requests that the USBR require SCVWD to develop a water quality model that forecasts the increase in total dissolved solids (TDS) concentrations resulting from pumping groundwater into the California Aqueduct, up to Check 15. Since multiple pools within Reaches 4-7 of the San Luis Canal are impacted as a result of this exchange, resulting TDS concentration should be calculated for each pool. Sufficient information exists on San Luis Canal flows and demands for SCVWD to develop a water quality model that forecast TDS concentrations by reach.

2. Impacts to the exchange partners' ability to transfer or deliver other water supplies are not discussed in detail in this FONSI. The exchange partners are generically described as Department of Water Resources (DWR) or USBR. However the exchange with USBR and SCVWD occurs in San Luis Reservoir or O'Neil Forebay assuming demands exists between Checks 25 and 15. Westlands service area encompasses Checks 20 through 15. If Westlands is expected to deliver SCVWD's groundwater "on pattern", then the FONSI should evaluate the impacts that such delivery will have on Westlands' ability to deliver other water supplies "on pattern". If Westlands is required to deliver supplies made available from this proposed project, it will impact our ability to transfer additional water supplies for Westlands water users.

The FONSI failed to evaluate demand patterns north of Check 22. Through the end of the 2014/15 contract year, we anticipate that all of Westlands demands will be supplied by Westlands' groundwater pump-in program (the Canal Integration Program (CIP)) and other water transfers that must be delivered on pattern and cannot be stored. Westlands currently operates the CIP and uses the San Luis Canal/ California Aqueduct for conveyance to deliver groundwater throughout its service area. The CIP is serving 70 percent of Westlands demands and Westlands received approval to extend the program until the end of December 2014. As Westlands' demands decrease in the fall and winter months, our first priority is to deliver CIP water and non-storable transfer water for our users. We do not anticipate any available capacity to deliver other supplies this contract year. Westlands expects similar operational constraints in future years and the USBR has not evaluated how this project will impact Westlands or its water users' ability to deliver transfers "on pattern", while also delivering SCVWD groundwater for exchange.

3. The FONSI did not analyze on farm impacts resulting from the proposed project. There are certain constituents such as boron, sodium, and chloride that impact agriculture. In a dry year like 2014, our water users depend on higher quality surface water from the San Luis Canal to blend with groundwater supplies. Although water quality impact information was not made available in the FONSI, Westlands anticipates that water quality will be negatively impacted with elevated concentrations of dissolved solids. Elevated TDS levels impact crop production, reduce yields, and increase treatment and chemical costs. The District requests an analysis of the on farm impacts resulting from the proposed project.

Thank you for the opportunity to comment on this proposed project. If you have any questions please contact Katarina Campbell at 559-241-6226.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jose Gutierrez", followed by a long horizontal line.

Jose Gutierrez, P.E.

Deputy General Manager of Resources

Cc: Michael Jackson, U.S. Bureau of Reclamation

Enclosure: September 25, 2014 letter regarding SCVWD California Aqueduct Reverse Flow Draft
Initial Study and Mitigated Negative Declaration



Westlands Water District

3130 N. Fresno Street, P.O. Box 6056, Fresno, California 93703-6056, (559) 224-1523, FAX (559) 241-6277

September 25, 2014

Santa Clara Valley Water District
Attention: Elise Latedjou-Durand
5750 Almaden Expressway
San Jose, CA 95118
edurand@valleywater.org

SUBJECT: ***RE: Santa Clara Valley Water District California Aqueduct Reverse Flow
Draft Initial Study and Mitigated Negative Declaration***

Dear Ms. Latedjou-Durand

Westlands Water District (Westlands) reviewed Santa Clara Valley Water District California Aqueduct Reverse Flow Draft Initial Study and Mitigated Negative Declaration (SCVWD Reverse Flow IS/MND or IS/MND). Based on information presented, Westlands was not able to evaluate the potential impacts of the proposed project because the SCVWD Reverse Flow IS/MND did not adequately address water quality impacts or provide potential increases in concentrations of Constituents of Concern resulting from the proposed project. The IS/MND did not evaluate or present potential impacts to agricultural production within Westlands resulting from the use of water pumped into Reaches 4 through 7 of the San Luis Canal. Also, the IS/MND did not evaluate whether sufficient demand exists to deliver SCVWD's groundwater and Westlands' water supply. Westlands offers the following comments regarding the proposed project:

1. The proposed project intends to pump groundwater that was previously banked in Semitropic Water Storage District up the California Aqueduct and deliver the water to Westlands in exchange for surface water stored in San Luis Reservoir. The initial study should provide an assessment of the water quality impacts resulting from the proposed reverse flow of groundwater made available from Semitropic's groundwater bank. Westlands requests that SCVWD develop a water quality model that forecasts the increase in total dissolved solids (TDS) concentrations resulting from pumping groundwater into the California Aqueduct, up to Check 15. Since multiple pools within Reaches 4-7 of the San Luis Canal are impacted as a result of this exchange, resulting TDS concentration should be calculated for each pool within this reach.
2. Impacts to the exchange partners' ability to transfer or deliver other water supplies are not discussed in this IS/MND. The exchange partners are generically described as State Water Project (SWP) contractors between Checks 25 and 20 or Central Valley Project (CVP) contractors between Checks 20 and 15. Westlands service area encompasses Checks 20 through 15. If

Westlands is expected to deliver SCVWD's groundwater "on pattern", then the IS/MND should evaluate the impacts that such delivery will have on Westlands' ability to deliver other water supplies "on pattern". If Westlands is required to deliver supplies made available from this proposed project, it will impact our ability to transfer additional water supplies for Westlands water users.

The SCVWD Reverse Flow IS/MND should evaluate demand patterns north of Check 22. Through the end of the 2014/15 contract year, we anticipate that all of Westlands demands will be supplied by Westlands' groundwater pump-in program (the Canal Integration Program (CIP)) and other water transfers that must be delivered on pattern and cannot be stored. Westlands currently operates the CIP and uses the San Luis Canal/ California Aqueduct for conveyance to deliver groundwater throughout our service area. The CIP is serving 40 percent of Westlands demands and a request has been submitted to extend the program until the end of February 2015. As Westlands' demands reduce in the fall and winter months, our first priority is to deliver CIP water and non-storable transfer water for our users. We do not anticipate any available capacity to deliver other supplies.

3. The IS/MND reports there will be no on farm impacts since the distribution system and infrastructure is not impacted. However, there are certain constituents such as boron, sodium, and chloride that impact agriculture. In a dry year like 2014, our water users depend on higher quality surface water from the San Luis Canal to blend with groundwater supplies. Although water quality impact information was not made available in the IS/MND, Westlands anticipates that water quality will be negatively impacted with elevated concentrations of dissolved solids. Elevated TDS levels impact crop production, reduce yields, and increase treatment and chemical costs. The District requests an analysis of the on farm impacts resulting from the proposed project.

Thank you for the opportunity to comment on this proposed project. If you have any questions please contact Katarina Campbell at 559-241-6226.

Sincerely,



Jose Gutierrez, P.E.
Deputy General Manager of Resources

Cc: Eileen Jones, U.S. Bureau of Reclamation

Response to Westlands Water District Comment Letter, November 18, 2014

- WWD-1 As described in Table 1 (page 6-7) of EA-14-029, the Proposed Action must comply with the California Department of Water Resources' (DWR) water quality requirements.
- WWD-2 See Response to WWD-1 regarding water quality. As described in Section 1.2 (page 2) of EA-14-029, the Proposed Action would only be utilized in the event that "normal operations" (as defined in Section 1.1 on page 1) of Santa Clara Valley Water District's existing water banking and exchange program could not be done. In addition, an exchange with Reclamation could only be done if there is scheduled contractor demand from San Luis Reservoir or through O'Neill Forebay. Additionally, consistent with the terms and conditions in the approval letter, Santa Clara Valley Water District must submit a schedule prior to introduction so that Reclamation can ensure there are sufficient demands within the federal facilities. If there is not sufficient demand in the federal facilities, Reclamation will not approve the exchange of water. Section 2.2 (page 5) has been updated to clarify this.
- WWD-3 See Responses to WWD-1 and WWD-2. Semitropic must meet all water quality requirements set by DWR.
- WWD-4 See Response to WWD-2.
- WWD-5 See Responses to WWD-1 and WWD-3. As stated above, Semitropic must meet all water quality requirements set by DWR. DWR will monitor instream conditions to confirm this. In addition,