



## AGENDA

**REGULAR MEETING OF THE BOARD OF DIRECTORS  
LA PUENTE VALLEY COUNTY WATER DISTRICT  
112 N. FIRST STREET, LA PUENTE, CALIFORNIA  
MONDAY, FEBRUARY 24, 2020 AT 5:30 PM**

**1. CALL TO ORDER**

**2. PLEDGE OF ALLEGIANCE**

**3. ROLL CALL OF BOARD OF DIRECTORS**

President Hernandez \_\_\_\_\_ Vice President Hastings \_\_\_\_\_ Director Barajas \_\_\_\_\_  
Director Escalera \_\_\_\_\_ Director Rojas \_\_\_\_\_

**4. PUBLIC COMMENT**

Anyone wishing to discuss items on the agenda or pertaining to the District may do so now. The Board may allow additional input during the meeting. A five-minute limit on remarks is requested.

**5. ADOPTION OF AGENDA**

Each item on the Agenda shall be deemed to include an appropriate motion, resolution or ordinance to take action on any item. Materials related to an item on this agenda submitted after distribution of the agenda packet are available for public review at the District office, located at the address listed above.

**6. APPROVAL OF CONSENT CALENDAR**

There will be no separate discussion of Consent Calendar items as they are considered to be routine by the Board of Directors and will be adopted by one motion. If a member of the Board, staff, or public requests discussion on a particular item, that item will be removed from the Consent Calendar and considered separately.

- A. Approval of Minutes of the Regular Meeting of the Board of Directors held on February 10, 2020.
- B. Approval to Attend the U.S. House Transportation & Infrastructure Subcommittee on Water Resources and Environment on Friday, March 6, 2020, in Baldwin Park, CA.

**7. FINANCIAL REPORTS**

- A. Summary of the District's Cash and Investments as of January 31, 2020.  
**Recommendation:** Receive and File.
- B. Statement of District's Revenue and Expenses as of January 31, 2020.  
**Recommendation:** Receive and File.

- C. Statement of the Industry Public Utilities Water Operations Revenue and Expenses as of January 31, 2020.

**Recommendation:** Receive and File.

**8. PUBLIC HEARING ON THE ADOPTION OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE PUENTE VALLEY OPERABLE UNIT SHALLOW ZONE SOUTH INTERIM REMEDY PROJECT LOCATED WITHIN THE CITIES OF INDUSTRY AND LA PUENTE, CA.**

**9. ACTION / DISCUSSION ITEMS**

- A. Consideration of Resolution No. 263 Adopting the Initial Study/Mitigated Negative Declaration for the Puente Valley Operable Unit, Shallow Zone South Interim Remedy Project.

**Recommendation:** Approve Resolution No. 263.

- B. Consideration of Agreement for Operation Services of a Water Treatment Facility with Northrop Grumman Systems Corporation for the Puente Valley Operable Unit Shallow Zone South Project.

**Recommendation:** Authorize the General Manager to Execute Agreement for Operations Services of a Water Treatment Facility for the Puente Valley Operable Unit Shallow Zone South Project.

- C. Consideration of Amendment No. 1 to the Agreement for Operation Services of a Water Treatment Facility Between the District and Northrop Grumman for the Puente Valley Operable Unit Intermediate Zone Project.

**Recommendation:** Approve Amendment No. 1 to the Agreement for Operation Services of a Water Treatment Facility.

- D. Consideration of Resolution 264 Establishing a Policy for Discontinuation of Residential Water Service for Non-Payment.

**Recommendation:** Approve Resolution 264.

- E. Consideration of Engineering Services Proposal from Tetra Tech for Recycled Water Customer Retrofit Support Services.

**Recommendation:** Authorize the General Manager to Proceed with the Work as Proposed by Tetra Tech for a Not to Exceed Amount of \$30,000.

**10. GENERAL MANAGER'S REPORT**

**11. OTHER ITEMS**

- A. Upcoming Events.
- B. Information Items.

**12. ATTORNEY'S COMMENTS**

### **13. BOARD MEMBER COMMENTS**

- A. Report on Events Attended.
- B. Other Comments.

### **14. FUTURE AGENDA ITEMS**

### **15. ADJOURNMENT**

**POSTED:** Friday, February 21, 2020

President Henry P. Hernandez, Presiding.

Any qualified person with a disability may request a disability-related accommodation as needed to participate fully in this public meeting. In order to make such a request, please contact Mr. Greg Galindo, Board Secretary, at (626) 330-2126 in sufficient time prior to the meeting to make the necessary arrangements.

**Note:** Agenda materials are available for public inspection at the District office or visit the District's website at [www.lapuentewater.com](http://www.lapuentewater.com).



**MINUTES OF THE REGULAR MEETING OF  
THE BOARD OF DIRECTORS OF THE  
LA PUENTE VALLEY COUNTY WATER DISTRICT  
FOR MONDAY, FEBRUARY 10, 2020 AT 5:30 PM**

**1. CALL TO ORDER**

President Hernandez called the meeting to order at 5:33 p.m.

**2. PLEDGE OF ALLEGIANCE**

President Hernandez led the meeting in the Pledge of Allegiance.

**3. ROLL CALL OF THE BOARD OF DIRECTORS**

President Hernandez	Vice President Hastings	Director Barajas	Director Escalera	Director Rojas
Present	Present	Present	Present	Present

**OTHERS PRESENT**

**Staff and Counsel:** General Manager & Board Secretary, Gregory Galindo; Office Manager, Gina Herrera; Customer Support & Accounting Clerk, Vanessa Koyama; Operations & Maintenance Superintendent, Paul Zampiello and District Counsel, James Ciampa.

**Public:** Hamid Amini from Geosyntec and Al Contreras with Upper San Gabriel Valley Municipal Water District were present.

**4. PUBLIC COMMENTS**

There were no comments from the public.

**5. ADOPTION OF AGENDA**

Motion: Adopt Agenda as Presented.

1st: Director Rojas

2nd: President Hernandez

	<b>President Hernandez</b>	<b>Vice President Hastings</b>	<b>Director Barajas</b>	<b>Director Escalera</b>	<b>Director Rojas</b>
<b>Vote</b>	Yes	Yes	Yes	Yes	Yes

Motion carried by a vote of: 5 Yes, 0 No, 0 Abstain.

**6. APPROVAL OF CONSENT CALENDAR**

Motion: Approve Consent Calendar as Presented.

1st: President Hernandez

2nd: Director Rojas

	<b>President Hernandez</b>	<b>Vice President Hastings</b>	<b>Director Barajas</b>	<b>Director Escalera</b>	<b>Director Rojas</b>
<b>Vote</b>	Yes	Yes	Yes	Yes	Yes

Motion carried by a vote of: 5 Yes, 0 No, 0 Abstain.

**7. ACTION / DISCUSSION ITEMS**

**A. Consideration of Proposal from Civiltec Engineering for Construction Support Services for the District’s Recycled Water System Project.**

Mr. Galindo summarized the proposal from Civiltec Engineering to provide engineering support during construction of the Recycled Water System Project. He also presented an updated project cost estimate. After some discussion on the project’s construction process a motion was made by Director Escalera.

Motion: Authorize the General Manager to Proceed with the Work as Proposed by Civiltec Engineering for an Amount Not to Exceed \$69,000.

1st: Director Escalera

2nd: Director Barajas

	<b>President Hernandez</b>	<b>Vice President Hastings</b>	<b>Director Barajas</b>	<b>Director Escalera</b>	<b>Director Rojas</b>
<b>Vote</b>	Yes	Yes	Yes	Yes	Yes

Motion carried by a vote of: 5 Yes, 0 No, 0 Abstain.

**B. Consideration of Resolution 262 Authorizing the Execution and Delivery of the 2020 Installment Agreement for the District’s Recycled Water System and Nitrate Treatment System.**

Mr. Galindo reviewed the Letter of Intent to secure a loan from Opus Bank, which was approved at the previous Board meeting. He discussed the Installment Agreement and various other aspects of the loan. Mr. Ciampa then provided an overview of the Installment Agreement. There was some discussion amongst the Board and staff on some specifics of the agreement and then a motion was made by Director Rojas.

Motion: Approve Resolution 262 Authorizing the Execution and Delivery of the 2020 Installment Agreement for the District’s Recycled Water System and Nitrate Treatment System.

1st: Director Rojas

2nd: Vice President Hastings

	<b>President Hernandez</b>	<b>Vice President Hastings</b>	<b>Director Barajas</b>	<b>Director Escalera</b>	<b>Director Rojas</b>
<b>Vote</b>	Yes	Yes	Yes	Yes	Yes

Motion carried by a vote of: 5 Yes, 0 No, 0 Abstain.

**C. Consideration to Receive and File the Nitrate Treatment System Technical Memorandum Prepared by Geosyntec Consultants, Inc.**

Mr. Galindo gave an overview of the need for Nitrate treatment at the District’s treatment facility. He discussed the various types of treatments available for Nitrate removal and explained why regenerable ion exchange was the preferred treatment for the District’s treatment facility. Mr. Hamid Amini from Geosyntec also gave a short presentation on the technical memorandum and the process that was used to conclude what system was the most preferred for the District’s needs. During the presentation there was some discussion regarding how the system will fit in with the existing treatment systems and of the DDW permitting process.

Motion: Receive and File the Nitrate Treatment System Technical Memorandum Prepared by Geosyntec Consultants, Inc.

1st: Vice President Hastings

2nd: Director Barajas

	<b>President Hernandez</b>	<b>Vice President Hastings</b>	<b>Director Barajas</b>	<b>Director Escalera</b>	<b>Director Rojas</b>
<b>Vote</b>	Yes	Yes	Yes	Yes	Yes

Motion carried by a vote of: 5 Yes, 0 No, 0 Abstain.

**8. GENERAL MANAGER’S REPORT**

Mr. Galindo reported on the next step for the Nitrate Treatment Project. He stated that staff will contact the manufacturer of the selected treatment system and begin discussions on obtaining a design of the system for District. He explained that after that process, a District selected engineering firm will complete the design of the system and its integration into the District’s treatment facility. Mr. Galindo also reported that there was no SRF grant funding available for this project, only a low interest SRF loan. He stated that staff would meet with the Nitrate Treatment Ad Hoc Committee to discuss the next steps. He had nothing further to report.

**9. OPERATIONS AND COMPLIANCE REPORT**

Mr. Zampiello provided a summary of the report and discussed the most recent information regarding PFAS chemicals. He reported the recent change to the State’s response levels and informed the Board that the sampling results from the District’s and Industry’s wells were below the notification levels.

Motion: Receive and File the Operations and Compliance Report.

1st: President Hernandez

2nd: Vice President Hastings

	<b>President Hernandez</b>	<b>Vice President Hastings</b>	<b>Director Barajas</b>	<b>Director Escalera</b>	<b>Director Rojas</b>
<b>Vote</b>	Yes	Yes	Yes	Yes	Yes

Motion carried by a vote of: 5 Yes, 0 No, 0 Abstain

## **10. OTHER ITEMS**

### **A. Upcoming Events**

Mrs. Herrera reviewed upcoming events with the Board and verified which events each Board Member would be attending.

### **B. Information Items.**

Included in Board Packet

## **11. ATTORNEY'S COMMENTS**

Mr. Ciampa had no items to report.

## **12. BOARD MEMBER COMMENTS**

### **A Report on Events Attended**

### **B Other Comments**

Director Rojas requested that the meeting be closed in memory of David Perez former Mayor of the City of Industry and also in memory of Betty Jean Sherfield, who was a long-time resident of La Puente.

## **13. FUTURE AGENDA ITEMS**

## **14. ADJOURNMENT**

President Hernandez adjourned the meeting at 6:41 p.m.

Attest:

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Henry P. Hernandez, President

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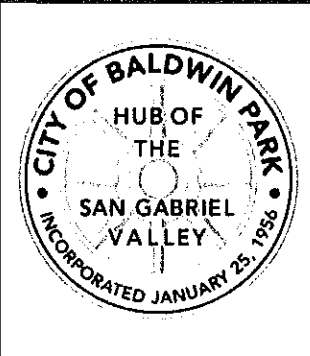
Greg B. Galindo, Secretary



# U.S. CONGRESSWOMAN GRACE F. NAPOLITANO

## HOUSE TRANSPORTATION & INFRASTRUCTURE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

*Hosted by*



**FRIDAY, MARCH 6, 2020**

**10:00 A.M. – 12:00 P.M.**

**LOCATION**

**BALDWIN PARK CITY HALL - COUNCIL CHAMBERS  
14403 PACIFIC AVE., BALDWIN PARK, CA 91706**

**ROUNDTABLE DISCUSSION**

**CHAIRWOMAN GRACE NAPOLITANO WILL  
LEAD A ROUNDTABLE DISCUSSION WITH  
WATER AND COMMUNITY LEADERS ON A  
VARIETY OF CRITICAL ISSUES INCLUDING:**

**WHITTIER NARROWS DAM SAFETY**

**WATER RESOURCES DEVELOPMENT ACT  
OF 2020 (WRDA)**

**OTHER WATER INFRASTRUCTURE  
PROJECTS**

*In the Baldwin Park  
City Council  
Chambers  
located at:*

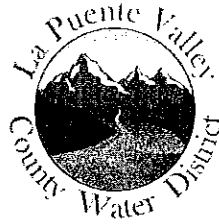
*14403 Pacific Ave.  
Baldwin Park, CA  
91706*

*Complimentary parking  
is available on the 2nd &  
3rd Floor of the City Hall  
Parking Structure.  
Park under the green  
lights.*

*FOR MORE INFORMATION?*

**CONTACT BOB PENCE AT (626) 350-0150 OR  
BOB.PENCE@MAIL.HOUSE.GOV**





**Summary of Cash and Investments  
January 2020**

**La Puente Valley County Water District**

Investments	Interest Rate (Apportionment Rate)	Beginning Balance	Receipts/ Change in Value	Disbursements/ Change in Value	Ending Balance
Local Agency Investment Fund	1.970%	\$ 3,023,485.20	\$ 17,369.08	\$ 700,000.00	\$ 2,340,854.28
Raymond James Financial Services		\$ 102,146.68	\$ 167.69	-	\$ 102,314.37
<b>Checking Account</b>					
Well Fargo Checking Account (per General Ledger)		\$ 309,973.42	\$ 1,317,499.78	\$ 497,670.92	\$ 1,129,802.28
<b>District's Total Cash and Investments:</b>					<b>\$ <u>3,572,970.93</u></b>

**Industry Public Utilities**

Checking Account	Beginning Balance	Receipts	Disbursements	Ending Balance
Well Fargo Checking Account (per General Ledger)	\$ 1,069,419.42	\$ 135,207.74	\$ 133,057.56	\$ 1,071,569.60
<b>IPU's Total Cash and Investments:</b>				<b>\$ <u>1,071,569.60</u></b>

I certify that; (1) all investment actions executed since the last report have been made in full compliance with the Investment Policy as set forth in Resolution No. 237 and, (2) the District will meet its expenditure obligations for the next six (6) months.

*Greg B. Galindo*

, General Manager

Date: 2.20.2020

Greg B. Galindo

**La Puente Valley County Water District (Treatment Plant Included)**  
**Statement of Revenues and Expenses**  
**For the Period Ending January 31, 2020**  
(Unaudited)

	LPVCWD YTD 2020	TP YTD 2020	COMBINED YTD 2020	COMBINED BUDGET 2020	8% OF BUDGET	COMBINED 2019 YE
Total Operational Rate Revenues	\$ 125,268	\$ -	\$ 125,268	\$ 2,265,900	6%	\$ 2,149,034
Total Operational Non-Rate Revenues	54,456	153,079	207,535	2,588,800	8%	\$ 2,143,472
Total Non-Operating Revenues	3,402	-	3,402	329,700	1%	441,305
<b>TOTAL REVENUES</b>	<b>183,127</b>	<b>153,079</b>	<b>336,206</b>	<b>5,184,400</b>	<b>6%</b>	<b>4,733,812</b>
Total Salaries & Benefits	150,124	20,056	170,180	2,126,800	8%	1,965,876
Total Supply & Treatment	11,473	117,028	128,501	1,824,900	7%	1,408,691
Total Other Operating Expenses	20,369	15,995	36,364	475,300	8%	333,941
Total General & Administrative	18,807	-	18,807	456,500	4%	314,672
<b>TOTAL EXPENSES</b>	<b>200,773</b>	<b>153,079</b>	<b>353,852</b>	<b>4,883,500</b>	<b>7%</b>	<b>4,023,179</b>
<b>TOTAL OPERATIONAL INCOME</b>	<b>(17,647)</b>	<b>-</b>	<b>(17,647)</b>	<b>300,900</b>	<b>-6%</b>	<b>710,632</b>
Capital Improvements	(1,109)	-	(1,109)	(3,745,000)	0%	(549,376)
Capital Outlay	-	-	-	(120,000)	0%	(34,402)
<b>TOTAL CAPITAL</b>	<b>(1,109)</b>	<b>-</b>	<b>(1,109)</b>	<b>(3,865,000)</b>	<b>0%</b>	<b>(583,778)</b>
<b>INCOME (AFTER CAPITAL EXP.)</b>	<b>(18,755)</b>	<b>-</b>	<b>(18,755)</b>	<b>(3,564,100)</b>	<b>1%</b>	<b>126,855</b>
Capital Reimbursement (OU Projects)	-	-	-	600,000	0%	150,000
Grant Revenue	-	-	-	305,000		-
Loan Proceeds	-	-	-	3,000,000		-
Loan Repayment	-	-	-	-	0%	-
<b>PROJECTED CHANGE IN CASH</b>	<b>(18,755)</b>	<b>-</b>	<b>(18,755)</b>	<b>340,900</b>	<b>-6%</b>	<b>276,855</b>
Contributed Capital	-	-	-	-		320,192
Add Back Capitalized Assets	1,109	-	1,109	3,865,000	0%	583,778
Less Depreciation Expense	(31,667)	(15,000)	(46,667)	(560,000)	8%	(560,000)
Less OPEB & Pension Liability Expense	-	-	-	(10,000)	0%	-
<b>NET INCOME (LOSS)</b>	<b>\$ (49,313)</b>	<b>\$ (15,000)</b>	<b>\$ (64,313)</b>	<b>\$ 3,635,900</b>	<b>-2%</b>	<b>\$ 620,824</b>

**La Puente Valley County Water District**  
**Statement of Revenues and Expenses**  
**For the Period Ending January 31, 2020**  
**(Unaudited)**

	January 2020	YTD 2020	ANNUAL BUDGET 2020	8% OF BUDGET	YEAR END 2019
<b>Operational Rate Revenues</b>					
Water Sales	\$ 60,668	\$ 60,668	\$ 1,405,000	4%	\$ 1,326,182
Service Charges	55,138	55,138	712,000	8%	671,670
Surplus Sales	5,444	5,444	50,000	11%	53,504
Customer Charges	2,822	2,822	33,900	8%	36,108
Fire Service	1,196	1,196	64,000	2%	60,950
Miscellaneous Income	-	-	1,000	0%	620
<b>Total Operational Rate Revenues</b>	<b>125,268</b>	<b>125,268</b>	<b>2,265,900</b>	<b>6%</b>	<b>2,149,034</b>
<b>Operational Non-Rate Revenues</b>					
Management Fees	-	-	432,200	0%	265,926
PVOU Service Fees (Labor)	-	-	93,000	0%	10,667
BPOU Service Fees (Labor)	20,056	20,056	295,000	7%	288,379
IPU Service Fees (Labor)	54,456	54,456	715,800	8%	696,375
Other O & M Fees	-	-	7,500	0%	-
<b>Total Operational Non-Rate Revenues</b>	<b>74,512</b>	<b>74,512</b>	<b>1,543,500</b>	<b>5%</b>	<b>1,261,347</b>
<b>Non-Operational Revenues</b>					
Taxes & Assessments	-	-	220,000	0%	283,793
Rental Revenue	3,116	3,116	38,000	8%	37,119
Interest Revenue	-	-	50,000	0%	71,917
Market Value Adjustment	-	-	-	N/A	366
Miscellaneous Income	286	286	16,700	2%	26,409
Developer Fees	-	-	5,000	0%	21,701
<b>Total Non-Operational Revenues</b>	<b>3,402</b>	<b>3,402</b>	<b>329,700</b>	<b>1%</b>	<b>441,305</b>
<b>TOTAL REVENUES</b>	<b>203,183</b>	<b>203,183</b>	<b>4,139,100</b>	<b>5%</b>	<b>3,851,686</b>
<b>Salaries &amp; Benefits</b>					
Total District Wide Labor	107,188	107,188	1,267,700	8%	1,166,069
Directors Fees & Benefits	9,100	9,100	118,200	8%	111,494
Benefits	27,278	27,278	317,300	9%	296,082
OPEB Payments	3,616	3,616	158,800	2%	145,854
Payroll Taxes	9,902	9,902	98,800	10%	91,701
Retirement Program Expense	13,096	13,096	166,000	8%	154,675
<b>Total Salaries &amp; Benefits</b>	<b>170,180</b>	<b>170,180</b>	<b>2,126,800</b>	<b>8%</b>	<b>1,965,876</b>
<b>Analysis Purposes Only:</b>					
<i>Offsetting Revenue</i>	<b>(74,512)</b>	<b>(74,512)</b>	<b>(1,103,800)</b>	<b>7%</b>	<b>(995,421)</b>
<i>District Labor Net Total</i>	<b>95,669</b>	<b>95,669</b>	<b>1,023,000</b>	<b>9%</b>	<b>970,454</b>
<b>Supply &amp; Treatment</b>					
Purchased & Leased Water	518	518	483,800	0%	225,634
Power	10,552	10,552	167,900	6%	151,166
Assessments	-	-	276,700	0%	220,707
Treatment	124	124	9,500	1%	2,976
Well & Pump Maintenance	278	278	38,500	1%	65,555
<b>Total Supply &amp; Treatment</b>	<b>11,473</b>	<b>11,473</b>	<b>976,400</b>	<b>1%</b>	<b>666,037</b>

**La Puente Valley County Water District**  
**Statement of Revenues and Expenses**  
**For the Period Ending January 31, 2020**  
**(Unaudited)**

	January 2020	YTD 2020	ANNUAL BUDGET 2020	8% OF BUDGET	YEAR END 2019
<b>Other Operating Expenses</b>					
General Plant	3,268	3,268	56,300	6%	40,101
Transmission & Distribution	875	875	94,700	1%	63,170
Vehicles & Equipment	4,708	4,708	31,500	15%	23,206
Field Support & Other Expenses	10,935	10,935	66,500	16%	46,750
Regulatory Compliance	583	583	57,000	1%	40,273
<b>Total Other Operating Expenses</b>	<b>20,369</b>	<b>20,369</b>	<b>306,000</b>	<b>7%</b>	<b>213,501</b>
<b>General &amp; Administrative</b>					
District Office Expenses	2,388	2,388	63,100	4%	55,137
Customer Accounts	1,990	1,990	25,000	8%	23,085
Insurance	-	-	67,900	0%	48,558
Professional Services	8,070	8,070	125,000	6%	84,065
Training & Certification	2,763	2,763	42,500	7%	43,447
Public Outreach & Conservation	83	83	33,000	0%	8,159
Other Administrative Expenses	3,512	3,512	72,500	5%	33,189
<b>Total General &amp; Administrative</b>	<b>18,807</b>	<b>18,807</b>	<b>429,000</b>	<b>4%</b>	<b>295,640</b>
<b>TOTAL EXPENSES</b>	<b>220,829</b>	<b>220,829</b>	<b>3,838,200</b>	<b>6%</b>	<b>3,141,054</b>
<b>TOTAL OPERATIONAL INCOME</b>	<b>(17,647)</b>	<b>(17,647)</b>	<b>300,900</b>	<b>-6%</b>	<b>710,632</b>
<b>Capital Improvements</b>					
Zone 3 Improvements	-	-	-	N/A	(10,860)
Fire Hydrant Repair/Replacements	-	-	(5,000)	0%	(5,880)
Service Line Replacements	-	-	(20,000)	0%	(45,609)
Valve Replacements	-	-	(15,000)	0%	(27,390)
Meter Read Collection System	-	-	(25,000)	0%	-
SCADA Improvements	-	-	(125,000)	0%	-
Ferrero Lane & Rorimer St. Improvements	-	-	(65,000)	0%	-
5th St. Waterline Improvement	-	-	-	N/A	(170,870)
LP-CIWS Interconnection (Ind. Hills)	-	-	(75,000)	0%	-
Hudson Plant Improvements	-	-	(375,000)	0%	-
Well No.5 Rehab (Design)	-	-	(30,000)	0%	(192,036)
Nitrate Treatment System	-	-	(1,130,000)	0%	(95,066)
Phase 1 - Recycled Water System	(1,109)	(1,109)	(1,880,000)	0%	(1,666)
Other Improvements	-	-	-	N/A	-
<b>Total Capital Improvements</b>	<b>(1,109)</b>	<b>(1,109)</b>	<b>(3,745,000)</b>	<b>0%</b>	<b>(549,376)</b>

**La Puente Valley County Water District**  
**Statement of Revenues and Expenses**  
**For the Period Ending January 31, 2020**  
**(Unaudited)**

	January 2020	YTD 2020	ANNUAL BUDGET 2020	8% OF BUDGET	YEAR END 2019
<b>Capital Outlay</b>					
Truck(s)	-	-	(110,000)	0%	(34,402)
Other Equipment	-	-	(5,000)	0%	-
IT Equipment	-	-	(5,000)	0%	-
<b>Total Capital Outlay</b>	<b>-</b>	<b>-</b>	<b>(120,000)</b>	<b>0%</b>	<b>(34,402)</b>
<b>TOTAL CAPITAL</b>	<b>(1,109)</b>	<b>(1,109)</b>	<b>(3,865,000)</b>	<b>0%</b>	<b>(583,778)</b>
<b>INCOME (AFTER CAPITAL EXP.)</b>	<b>(18,755)</b>	<b>(18,755)</b>	<b>(3,564,100)</b>	<b>1%</b>	<b>126,855</b>
<b>Funding &amp; Debt Repayment</b>					
Capital Reimbursement (OU Projects)	-	-	600,000	0%	150,000
Grant Revenue	-	-	305,000	0%	-
Loan Proceeds	-	-	3,000,000	0%	-
Loan Repayment	-	-	-	N/A	-
<b>CASH DIFFERENCE</b>	<b>(18,755)</b>	<b>(18,755)</b>	<b>340,900</b>	<b>-6%</b>	<b>276,855</b>
Contributed Capital	-	-	-	N/A	320,192
Add Back Capitalized Assets	1,109	1,109	3,865,000	0%	583,778
Less Depreciation Expense	(31,667)	(31,667)	(380,000)	8%	(380,000)
Less OPEB Expense - Not Funded	-	-	(10,000)	0%	-
<b>NET INCOME (LOSS)</b>	<b>\$ (49,313)</b>	<b>\$ (49,313)</b>	<b>\$ 3,815,900</b>	<b>-1%</b>	<b>\$ 800,824</b>

**Treatment Plant**  
**Statement of Revenues and Expenses**  
**For the Period Ending January 31, 2020**  
**(Unaudited)**

	January 2020	YTD 2020	ANNUAL BUDGET 2020	8% OF BUDGET	YEAR END 2019
<b>Non-Rate Operational Revenues</b>					
Reimbursements from CR's	133,023	133,023	\$ 1,340,300	10%	882,126
Miscellaneous Income	-	-	-	N/A	-
<b>Total Non-Rate Operational Revenues</b>	<b>133,023</b>	<b>133,023</b>	<b>1,340,300</b>	<b>10%</b>	<b>882,126</b>
<b>Salaries &amp; Benefits</b>					
<i>BPOU TP Labor (1)</i>	20,056	20,056	295,000	7%	-
Contract Labor	-	-	-	N/A	-
<b>Total Salaries &amp; Benefits</b>	<b>20,056</b>	<b>20,056</b>	<b>295,000</b>	<b>7%</b>	<b>-</b>
<b>Supply &amp; Treatment</b>					
NDMA, 1,4-Dioxane Treatment	79,795	79,795	201,000	40%	168,733
VOC Treatment	-	-	-	N/A	26,698
Perchlorate Treatment	1,988	1,988	351,500	1%	311,926
Other Chemicals	1,321	1,321	53,000	2%	21,626
Treatment Plant Power	12,920	12,920	195,000	7%	164,422
Treatment Plant Maintenance	21,005	21,005	48,000	44%	29,196
Well & Pump Maintenance	-	-	-	N/A	20,052
<b>Total Supply &amp; Treatment</b>	<b>117,028</b>	<b>117,028</b>	<b>848,500</b>	<b>14%</b>	<b>742,654</b>
<b>Other Operating Expenses</b>					
General Plant	8,900	8,900	35,000	25%	17,438
Transmission & Distribution	-	-	-	N/A	5,250
Vehicles & Equipment	906	906	9,300	10%	11,018
Field Support & Other Expenses	-	-	15,000	0%	22
Regulatory Compliance	6,189	6,189	110,000	6%	86,712
<b>Total Other Operating Expenses</b>	<b>15,995</b>	<b>15,995</b>	<b>169,300</b>	<b>9%</b>	<b>120,440</b>
<b>General &amp; Administrative</b>					
District Office Expenses	-	-	2,500	0%	-
Insurance	-	-	10,000	0%	10,362
Professional Services	-	-	15,000	0%	8,670
<b>Total General &amp; Administrative</b>	<b>-</b>	<b>-</b>	<b>27,500</b>	<b>0%</b>	<b>19,032</b>
<b>TOTAL EXPENSES</b>	<b>153,079</b>	<b>153,079</b>	<b>1,340,300</b>	<b>11%</b>	<b>882,126</b>
<b>TOTAL EXPENSES (Minus Labor)</b>	<b>133,023</b>	<b>133,023</b>	<b>1,045,300</b>	<b>13%</b>	<b>882,126</b>
<b>TOTAL OPERATIONAL INCOME</b>	<b>-</b>	<b>-</b>	<b>-</b>		<b>-</b>
Depreciation Expense	(15,000)	(15,000)	(180,000)	8%	(180,000)
<b>Total Non-Cash Items (Dep. &amp; OPEB)</b>	<b>(15,000)</b>	<b>(15,000)</b>	<b>(180,000)</b>	<b>8%</b>	<b>(180,000)</b>
<b>NET INCOME (LOSS)</b>	<b>\$ (15,000)</b>	<b>\$ (15,000)</b>	<b>\$ (180,000)</b>	<b>8%</b>	<b>(180,000)</b>

(1) The labor expense depicted here is the amount of labor billed to the BPOU in which the District receives reimbursement which is shown on the District's Statement of Revenues and Expenses as operational non-rate revenue (BPOU Service Fees).

**INDUSTRY PUBLIC UTILITIES - WATER OPERATIONS**  
**Statement of Revenue and Expenses Summary**  
For the Period Ending January 31, 2020  
(Unaudited)

	January 2020	FISCAL YTD 2019-2020	BUDGET FY 2019-2020	58% OF BUDGET	FY END 2018-2019
Total Operational Revenues	\$ 168,580	\$ 1,159,222	\$ 1,983,600	58%	\$ 1,870,756
Total Non-Operational Revenues	-	-	42,500	0%	31,502
<b>TOTAL REVENUES</b>	<b>168,580</b>	<b>1,159,222</b>	<b>2,026,100</b>	<b>57%</b>	<b>1,902,258</b>
Total Salaries & Benefits	54,456	376,847	687,500	55%	674,004
Total Supply & Treatment	18,140	137,772	667,200	21%	780,162
Total Other Operating Expenses	11,613	105,849	221,000	48%	179,462
Total General & Administrative	3,779	136,997	304,000	45%	265,387
Total Other & System Improvements	-	67,758	287,800	24%	68,587
<b>NET OPERATING INCOME (LOSS)</b>	<b>87,988</b>	<b>825,221</b>	<b>2,167,500</b>	<b>38%</b>	<b>1,967,602</b>
<b>OPERATING INCOME</b>	<b>80,592</b>	<b>334,000</b>	<b>(141,400)</b>		<b>(65,344)</b>
<b>NET INCOME (LOSS)</b>	<b>\$ 80,592</b>	<b>\$ 334,000</b>	<b>\$ (141,400)</b>		<b>\$ (65,344)</b>

# INDUSTRY PUBLIC UTILITIES - WATER OPERATIONS

## Statement of Revenue and Expenses

For the Period Ending January 31, 2020

(Unaudited)

	January 2020	FISCAL YTD 2019-2020	BUDGET FY 2019-2020	58% OF BUDGET	FY END 2018-2019
<b>Operational Revenues</b>					
1 Water Sales	\$ 96,852	\$ 728,144	\$ 1,239,000	59%	\$ 1,133,233
2 Service Charges	56,384	355,481	618,600	57%	615,778
3 Customer Charges	2,105	11,625	21,000	55%	19,095
4 Fire Service	13,239	63,971	105,000	61%	102,650
5 <i>Total Operational Revenues</i>	<b>168,580</b>	<b>1,159,222</b>	<b>1,983,600</b>	<b>58%</b>	<b>1,870,756</b>
<b>Non-Operational Revenues</b>					
6 Contamination Reimbursement	-	-	40,000	0%	31,502
7 Developer Fees	-	-	2,500	0%	-
8 Miscellaneous Income	-	-	-	N/A	-
9 <i>Total Non-Operational Revenues</i>	-	-	<b>42,500</b>	<b>0%</b>	<b>31,502</b>
10 <b>TOTAL REVENUES</b>	<b>168,580</b>	<b>1,159,222</b>	<b>2,026,100</b>	<b>57%</b>	<b>1,902,258</b>
<b>Salaries &amp; Benefits</b>					
11 Administrative Salaries	18,269	118,433	202,400	59%	200,341
12 Field Salaries	17,978	124,541	234,800	53%	231,034
13 Employee Benefits	10,794	78,095	150,100	52%	145,869
14 Pension Plan	4,995	35,942	61,900	58%	60,337
15 Payroll Taxes	2,420	16,393	31,700	52%	29,991
16 Workman's Compensation	-	3,443	6,600	52%	6,431
17 <i>Total Salaries &amp; Benefits</i>	<b>54,456</b>	<b>376,847</b>	<b>687,500</b>	<b>55%</b>	<b>674,004</b>
<b>Supply &amp; Treatment</b>					
18 Purchased Water - Leased	-	-	235,900	0%	379,470
19 Purchased Water - Other	1,113	10,504	22,500	47%	21,271
20 Power	2,220	72,559	125,000	58%	98,112
21 Assessments	-	13,236	232,700	6%	161,648
22 Treatment	-	173	6,100	3%	7,399
23 Well & Pump Maintenance	14,807	41,300	45,000	92%	112,261
24 <i>Total Supply &amp; Treatment</i>	<b>18,140</b>	<b>137,772</b>	<b>667,200</b>	<b>21%</b>	<b>780,162</b>
<b>Other Operating Expenses</b>					
25 General Plant	286	2,058	35,000	6%	13,288
26 Transmission & Distribution	858	28,594	75,000	38%	77,363
27 Vehicles & Equipment	-	19,052	36,000	53%	33,891
28 Field Support & Other Expenses	9,970	23,069	35,000	66%	24,898
29 Regulatory Compliance	499	33,075	40,000	83%	30,022
30 <i>Total Other Operating Expenses</i>	<b>11,613</b>	<b>105,849</b>	<b>221,000</b>	<b>48%</b>	<b>179,462</b>



# INDUSTRY PUBLIC UTILITIES - WATER OPERATIONS

## Statement of Revenue and Expenses

For the Period Ending January 31, 2020

(Unaudited)

	<b>FISCAL YTD</b>	<b>BUDGET FY</b>	<b>58% OF</b>	<b>FY END</b>	
	<b>January 2020</b>	<b>2019-2020</b>	<b>BUDGET</b>	<b>2018-2019</b>	
<b>General &amp; Administrative</b>					
31 Management Fee	-	94,713	191,300	50%	187,569
32 Office Expenses	1,892	11,477	19,200	60%	34,693
33 Insurance	-	12,843	15,000	86%	14,991
34 Professional Services	-	2,444	30,000	8%	4,514
35 Customer Accounts	1,617	12,130	30,000	40%	17,674
36 Public Outreach & Conservation	14	1,385	15,000	9%	4,038
37 Other Administrative Expenses	257	2,004	3,500	57%	1,908
38 <i>Total General &amp; Administrative</i>	<b>3,779</b>	<b>136,997</b>	<b>304,000</b>	<b>45%</b>	<b>265,387</b>
<b>Other Exp. &amp; System Improvements (Water Ops Fund)</b>					
39 Fire Hydrant Repair/Replace	-	9,543	6,300	151%	11,629
40 Service Line Replacements	-	26,489	30,000	88%	44,327
41 Valve Replacements & Installations	-	7,643	19,500	39%	8,723
42 Meter Read Collection System	-	-	12,000	0%	-
43 SCADA System Assessment & Improvement	-	-	20,000	0%	-
44 Water Rate Study	-	24,084	-	0%	3,908
45 Groundwater Treatment Facility Feas. Study	-	-	200,000	0%	-
46 <i>Total Other &amp; System Improvements</i>	-	<b>67,758</b>	<b>287,800</b>	<b>24%</b>	<b>68,587</b>
47 <b>TOTAL EXPENSES</b>	<b>87,988</b>	<b>825,221</b>	<b>2,167,500</b>	<b>38%</b>	<b>1,967,602</b>
48 <b>NET OPERATING INCOME (LOSS)</b>	<b>80,592</b>	<b>334,000</b>	<b>(141,400)</b>		<b>(65,344)</b>

NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW  
ZONE – SOUTH INTERIM REMEDY PROJECT



**NORTHROP GRUMMAN SYSTEMS  
CORPORATION PUENTE VALLEY  
OPERABLE UNIT, SHALLOW ZONE –  
SOUTH INTERIM REMEDY PROJECT**

FINAL INITIAL STUDY/MITIGATED  
NEGATIVE DECLARATION

February 20, 2020

**Lead Agency:**

La Puente Valley County Water District  
112 North 1st Street  
La Puente, California 91744

**Proponent:**

Northrop Grumman Systems  
Corporation  
980 Fairview Park Drive  
Falls Church, Virginia 22042

**Consultant:**

Stantec Consulting Services Inc.  
290 Conejo Ridge Avenue  
Thousand Oaks, California 91361



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**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

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## DOCUMENT ERRATA

The following minor revisions or errata have been made to correct typing errors and additions within the Final IS/MND. Additions and corrections are in Red text and deletions can be found as strikethrough black text (i.e. ~~text~~).

Section	Page	Errata
Acronym	iv	Update proper name
2.3.5	2.4	Clarification
3.4	3.16 – 3.18	Update of Impact Analysis



## Abbreviations

µg/m <sup>3</sup>	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AQMP	Air Quality Management Plan
ARARs	Applicable or Relevant and Appropriate Requirements
Basin	San Gabriel Basin
Basin Plan	LARWQCB Water Quality Control Plan
C/GMP	Compliance/General Monitoring Plan
CAAQS	California Ambient Air Quality Standards
CAGN	Coastal California Gnatcatcher
CalEEMod	California Emissions Estimator Model
CALFIRE	California Department of Forestry and Fire Protection
CalGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	State Endangered Species Act
CFCs	Chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	Conservation Geological Survey
CH <sub>4</sub>	Methane
CMA	Congestion Management Agency
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2e</sub>	Carbon Dioxide Equivalent
COCs	Chemicals of Concern
COPCs	Chemicals of Potential Concern
CUPA	Certified Unified Program Agency
CWA	Federal Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel
DEHP	1,4-dioxane, bis(2-Ethylhexyl)phthalate





**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

DWR	California Department of Water Resources
DZ	Deep Zone
EIR	Environmental Impact Report
EPCRA	Emergency Planning and Community Right-to-Know Act
ESD	Explanation of Significant Differences
EW-C	EW-Cadbrook
EW-N	EW-Nelson
FAA	Federal Aviation Administration
Farmland	Farmland of Statewide Importance
FESA	Federal Endangered Species Act
GHGs	Greenhouse Gases
GPM	Gallons per Minute
H <sub>2</sub> S	hydrogen sulfide
HCP	Habitat Conservation Plan
HDPE	High-Density Polyethylene
HFCs	Hydrofluorocarbons
IROD	Interim Record of Decision
IS/MND	Initial Study/Mitigated Negative Declaration
IZ	Intermediate Zone
Judgement	Los Angeles Superior Court Case 924128
LACDPH	Los Angeles County Department of Public Health
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation District
LGAC	Liquid-Phase Granular Activated Carbon
LGAC	Local Government Advisory Committee
LOS	Level of Service
LPVCWD	La Puente Valley County Water District
LRA	Local Responsibility Area
LSI	Langelier Saturation Index
LSTs	Localized Significance Thresholds
MBTA	Migratory Bird Treaty Act
Metro	Metropolitan Transportation Authority
mg/m <sup>3</sup>	milligrams per cubic meter
MOV	Mouth of the Valley
N <sub>2</sub> O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Community Conservation Plan
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
O&M	Operations and Maintenance
O <sub>3</sub>	Ozone
OSHA	Occupation Safety and Health Administration
Pb	Lead
PFCs	Perfluorocarbons
PFDR	Pre-Final Design Report
PHG	Public Health Goals
PM <sub>10</sub>	Particulate Matter with Diameter of Less than 10 Microns
PM <sub>2.5</sub>	Particulate Matter with Diameter of Less than 2.5 Microns
PRC	Public Resources Code
Project	Shallow Zone-South Interim Remedy Project
PVOU	Puente Valley Operable Unit
PVSC	Puente Valley Steering Committee
RA	Remedial Action
RAOs	Remedial Action Objectives
RCC	Reinforced Cement Concrete
RCRA	Resource Conservation and Recovery Act
RDI	Remedial Design Investigation
RO	Reverse Osmosis
RPS	Renewables Portfolio Standard
RPW	Relatively Permanent Waters
RTP	Regional Transportation Plan
RWQCB	California Regional Water Quality Control Board
San Gabriel VWC	San Gabriel Valley Water Company
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF <sub>6</sub>	Sulfur Hexafluoride
SO <sub>2</sub>	Sulfur Dioxide
SR	California State Route
Superfund	National Priorities List
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SZ	Shallow Zone
SZ1	Shallow Zone 1
SZ2	Shallow Zone 2
SZ-South	Puente Creek
TDS	Total Dissolved Solids



NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW  
ZONE – SOUTH INTERIM REMEDY PROJECT

TMDL	Total Maximum Daily Load
TNW	Traditional Navigable Waters
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
UAO	Unilateral Administrative Order
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGVMWD	Upper San Gabriel Valley Municipal Water District
UV/Ox	Ultraviolet Light and Hydrogen Peroxide
VFD	Variable Frequency Drive
VHFHSZ	Very High Fire Hazard Severity Zone
VOCs	Volatile Organic Compounds
WARM	Warm Freshwater Habitat
WATCH Manual	Work Area Traffic Control Handbook
Watermaster	Main San Gabriel Basin Watermaster
WILD	Wildlife Habitat
WPA	Water Production Agreement
WQA	San Gabriel Basin Water Quality Authority
µg/L	micrograms per Liter



# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

## PROJECT SUMMARY

### 1.0 PROJECT SUMMARY

The purpose of the proposed Project is the hydraulic containment of the shallow zone south of Puente Creek (SZ-South) via groundwater extraction, treatment of extracted groundwater, and planned end-use as surface water discharge to San Jose Creek. The Project consists of two existing groundwater extraction wells (EW-Cadbrook (EW-C) and EW-Nelson (EW-N)), a proposed treatment plant, numerous existing compliance monitoring wells and piezometers, and proposed conveyance piping.

Groundwater in the San Gabriel Basin (Basin) has been the subject of environmental investigation since 1979, when groundwater contamination with volatile organic compounds (VOCs) was first detected. In May 1984, the Basin was placed on the United States Environmental Protection Agency's (USEPA's) National Priorities List (Superfund). USEPA subsequently divided the Basin into eight different operable units, one of which is the Puente Valley Operable Unit (PVOU), which is the location of the proposed Project. The PVOU is located within the southeastern portion of the San Gabriel Valley, about 25 miles from the Pacific Ocean, in eastern Los Angeles County.

Between 1993 and 2001, the Puente Valley Steering Committee (PVSC), which represented the parties responding to a U.S. Environmental Protection Act (USEPA) request for assessment, was actively engaged in evaluating the nature and extent of groundwater contamination in the PVOU. In September 1998, USEPA issued an interim record of decision (IROD) setting forth the means by which groundwater contamination in the PVOU would be addressed. The IROD selected "Alternative 3" from the Interim Remedial Investigation/Feasibility Study, which included migration control in the shallow and intermediate groundwater zones at the mouth of the valley (MOV), as the most appropriate remedy for the overall protection of human health and the environment.

The PVOU encompasses the Puente Basin and a portion of the Main San Gabriel Basin where Puente Valley opens into the Main San Gabriel Basin. The transition area is referred to as the MOV area. The Puente and Main San Gabriel Basins collect infiltration on the valley floors and runoff from the surrounding highlands, recharging the groundwater aquifer. Groundwater generally flows towards the Whittier Narrows, the Main San Gabriel Basin's only outlet, which hydraulically connects the Main San Gabriel Basin to the Central Basin to the south. This flow system is influenced by water supply production well fields, spreading basins, and other recharge operations.

The hydrostratigraphy in the PVOU area is divided into three principal aquifer units: Shallow Zone (SZ), Intermediate Zone (IZ), and Deep Zone (DZ). The SZ is further divided into two sub-units, Shallow Zone 1 (SZ1) and Shallow Zone 2 (SZ2), which are separated by the low permeability 70s Silt-Clay marker bed (SZ1-SZ2 aquitard). The SZ1 extends from the ground surface to the top of the SZ1-SZ2 aquitard and includes saturated sediments in the groundwater-bearing zone, as well as sediments in the overlying vadose zone. The SZ2 extends from the bottom of the SZ1-SZ2 aquitard to the top of the Galaxy Silt-Clay marker bed, which marks the division between the SZ and IZ.



# **NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

## **PROJECT SUMMARY**

The IROD defined chemicals of potential concern (COPCs) for the PVOU, most of which were VOCs. The IROD selected containment of groundwater with COPCs in the SZ and IZ at the MOV as the most appropriate remedy (USEPA, 1998).

### **1.1 LOCATION**

The SZ-South Interim Remedy is located in the City of Industry and City of La Puente. Contaminated groundwater from the SZ aquifer will be extracted by extraction wells and conveyed via piping system from the wells to a water treatment plant located at 111 Hudson Avenue in the City of Industry, California. Figure 1 shows the regional location of the Project site. Figure 2 shows the location of the existing extraction wells, proposed conveyance pipes, and proposed water treatment site.

### **1.2 GENERAL ENVIRONMENTAL SETTING**

The PVOU encompasses the Puente Basin and a portion of the Main San Gabriel Basin where the Puente Valley opens into the Main San Gabriel Basin. The transition area where the Puente Valley opens into the Main San Gabriel Basin is referred to as the MOV area. The Puente and Main San Gabriel Basins are natural groundwater reservoirs filled with unconsolidated and semi-consolidated alluvial deposits that overlie relatively impermeable rock. The water-bearing deposits range widely in thickness from less than 25 feet in the extreme eastern portion and Puente Valley perimeter to approximately 1,300 feet in the MOV area.

In the PVOU, the groundwater flow occurs along a relatively narrow and shallow section parallel to the valley axis in the vicinity of San Jose Creek, then flows out of the valley toward the Main San Gabriel Basin. Groundwater in the eastern portion of the basin generally flows to the west and southwest toward the Whittier Narrows. In the western portion of the basin, west of the Rio Hondo, groundwater flow is toward the major production wells in Alhambra and Monterey Park. Outflow from the basin occurs at Whittier Narrows, which hydraulically connects the Main San Gabriel Basin to the downstream Central Basin.

The water levels in the Main San Gabriel Basin are known to vary significantly. In the PVOU area, water level fluctuations up to 30 feet have been observed at monitoring wells screened in the SZ. These fluctuating water levels have impacts on the yield and capture zones of extraction wells screened in the SZ.

Within the MOV area of the PVOU the following seven water supply production wells are actively pumped, have been recently operated, or recently installed but not yet operated:

- San Gabriel Valley Water Company (San Gabriel VWC) wells B11B, B9B, B24A, B24B, and B24C are active production wells;
- San Gabriel VWC well B7E is infrequently used for standby production; and
- San Gabriel VWC well B11A has been out of service since at least 2005.



# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

## PROJECT SUMMARY

None of the water supply wells listed above are screened in the SZ. There is only one active or recently active water production well (B11B) that has screens within the IZ in the MOV area. The other active or recently active water production wells are screened in the DZ.

## 1.3 HISTORICAL PERSPECTIVE

USEPA issued an IROD for the PVOU in September 1998, that specified performance criteria for the PVOU remedy (USEPA, 1998). Specifically, the performance criteria dictated that the SZ Interim Remedy prevents VOCs at concentrations above ten times the Applicable or Relevant and Appropriate Requirements (ARARs) from migrating beyond the plume's lateral and vertical extent at the time the interim remedy is operational and functional.

The anticipated remedy in the IROD included:

- Groundwater extraction from four wells in the SZ at a combined flow of 700 gallons per minute (gpm);
- Extracted groundwater treatment for VOCs at a single, 1,700-gpm treatment plant centrally located near the extraction system;
- Discharge of treated groundwater to surface waters or to a water supply line for potable use; and
- Installation of a groundwater monitoring system to provide compliance with the Remedial Action Objectives (RAOs) and performance criteria, as well as an early warning system for the groundwater treatment plant.

Due to the presence of 1,4-dioxane and perchlorate in groundwater in the PVOU, USEPA modified the IROD by issuing an Explanation of Significant Differences (ESD) in March 2005 (USEPA, 2005). The ESD revised the performance criteria in the IROD and added requirements to treat perchlorate and to contain and treat 1,4-dioxane, as required.

## 1.4 PROJECT OBJECTIVES

The Project objectives are to meet the Performance Criteria of the remedy for the SZ-South Interim Remedy as specified in the IROD and ESD. These Performance Criteria are to prevent groundwater in the SZ at the MOV with chemicals of concern (COCs) greater than or equal to ten times the Containment Levels from:

- Migrating beyond the plume's lateral extent of impacts as measured at the time the SZ Remedial Action (RA) containment systems are operational and functional; and
- Migrating vertically into the IZ.

The COCs requiring hydraulic containment were identified by comparing historical SZ-South monitoring well groundwater sampling results to the Containment Levels for the COCs listed in the ESD (including 1,4-dioxane and VOCs). A chemical was included as a COC requiring hydraulic containment if at least two samples exceeded ten times the Containment Level.



# **NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

## **PROJECT SUMMARY**

To meet the Performance Criteria, two groundwater extraction wells (EW-C and EW-N)) screened across both SZ1 and SZ2 were installed in August 2018, so the well system would be capable of extracting water and providing hydraulic containment for both SZ1 and SZ2.

The IZ Interim Remedy is being implemented concurrently by Northrop Grumman to meet the Performance Criteria for the IZ Interim Remedy as specified in the IROD and ESD. La Puente Valley County Water District (LPVCWD), as the lead agency for the proposed Project associated with the IZ Interim Remedy, conducted an Initial Study and prepared a mitigated negative declaration filed with Los Angeles County in November 2017 and adopted by LPVCWD in December 2017.

## **1.5 SCHEDULE**

### **1.5.1 Construction Schedule**

Northrop Grumman anticipates that the construction phase of the Project will begin once the permitting documents and design phase have been completed. Construction is currently anticipated to begin in July 2020 and to be completed by July 2021. A section of the conveyance system along Cadbrook Drive is anticipated to be installed in early 2020 prior to the rest of the treatment plant construction.

### **1.5.2 Operation Schedule**

Operation of the extraction wells and treatment plant is expected to be initiated following completion of the construction activities.

## **1.6 PERMITS, APPROVALS AND AGREEMENTS**

The following permits, agreements and regulatory review processes are anticipated in order to construct and operate the proposed Project. Some of these permits and approvals are not subject to California Environmental Quality Act (CEQA) compliance since the proposed Project involves procurement of federal, ministerial and/or legally exempt permits. In addition, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121(e)(1), 42 U.S.C. Section 9621(e), no federal, state, or local permit is required for the portion of any CERCLA removal or remedial action conducted entirely on-site. CERCLA requires meeting the substantive provisions of permitting regulations that are ARARs (OSWER, 1992). Per the ESD, "ARARs include only substantive, not administrative, requirements, pertain only to on-site activities, and are frozen at the time of the IROD, or ESD." Permit applications would be filed for on-site activities to demonstrate compliance with the specific standards and rules of relevant agencies.

### **1.6.1 Compliance, Sentinel, and Other Monitoring Wells**

Existing compliance, sentinel, and monitoring wells are located in existing rights-of-way within City of La Puente and City of Industry. These locations allow for continuous access for groundwater monitoring. Should access to the wells for Project activities have the potential to impact traffic, Northrop Grumman will secure encroachment permits from the agencies.



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### 1.6.2 City of Industry

The proposed new water treatment plant will be located on the 111 Hudson Avenue property within the City of Industry. Portions of the conveyance pipeline from the extraction wells to the treatment plant and treated discharge conveyance pipeline from the treatment plant to the storm drain will be located in the City of Industry. The wastewater discharge conveyance pipeline to the Los Angeles County Sanitation District (LACSD) sewer, to be installed as part of the IZ Interim Remedy, will be located in the City of Industry. License agreements were previously executed with the City of Industry to provide for continuous access to the anticipated pipelines. The existing pipeline license agreements were amended with the City of Industry in 2016, to allow for continuous access to sections of the proposed pipeline that will be installed in the City of Industry. Should access to the pipelines or appurtenances associated with the proposed Project have the potential to impact traffic, Northrop Grumman will obtain encroachment permits from City of Industry during pipeline installation and for operation and maintenance (O&M) activities following construction.

The following permits are being obtained from the City of Industry Planning and Engineering Departments in conjunction with permitting for the IZ Interim Remedy treatment plant:

- A Development Plan application for 111 Hudson Avenue was approved by the City Council for the IZ Interim Remedy (including zoning); a separate application will be resubmitted for SZ-South specific components;
- Encroachment and construction permits for constructing the discharge line to the storm drain located along the south side of the treatment plant property were obtained from City of Industry; and
- Encroachment and excavation permits for construction of the conveyance pipeline in City of Industry rights-of-way concurrently with construction of the pipeline for the IZ Interim Remedy were obtained from City of Industry.

Additional permits will be obtained from the City of Industry Planning and Engineering Departments, as needed, for the following:

- Encroachment and building permits for use of and construction in City of Industry rights-of-way;
- Excavation permits for construction in City rights-of-way;
- Zoning approval; and
- Construction and building permits for construction of the treatment plant, via Los Angeles County Department of Public Works (LACDPW).

The 111 Hudson Avenue property and treatment plant will be developed and constructed in compliance with applicable design standards such as landscaping, setback, and traffic flow requirements.





# **NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

## **PROJECT SUMMARY**

### **1.6.3 City of La Puente**

The two extraction wells, EW-N and EW-C were installed in existing rights-of-way in the City of La Puente. An encroachment permit was obtained prior to installation of the extraction wells and additional encroachment permits will be obtained for future sampling and O&M activities in the event access to wells has the potential to affect traffic.

Portions of the conveyance pipeline from the extraction wells to the treatment plant will be located in the City of La Puente. A license agreement was previously executed with the City of La Puente to provide for continuous access to the anticipated pipelines. The existing pipeline license agreement was amended with the City of La Puente in 2016, to allow for continuous access to sections of the proposed pipeline and the two extraction wells within the City of La Puente. Northrop Grumman will obtain encroachment permits from City of La Puente during pipeline installation and for O&M activities following construction in the event access to the pipelines or appurtenances has the potential to impact traffic.

### **1.6.4 Los Angeles County**

Los Angeles County Flood Control District (LACFCD) manages storm drains within the County. A storm drain connection permit application will be submitted to the City of Industry, which may forward it to LACFCD for review via a “City Services Request.” The City of Industry is a listed discharger in the MS4 permit. LACFCD will therefore permit the surface water discharge of treated water to the storm drain, which discharges directly to San Jose Creek.

Because City of Industry contracts building and safety services from Los Angeles County, Northrop Grumman may submit a permit application for construction of the treatment plant, including design drawings, to LACDPW as needed.

### **1.6.5 Los Angeles County Department of Public Health (LACDPH)**

Well construction permits were obtained by Northrop Grumman from the LACDPH prior to construction of the extraction wells, piezometers, and monitoring wells.

### **1.6.6 Los Angeles County Sanitation District (LACSD)**

The treatment plant will generate wastewater from backwash of the bag filters, liquid-phase granular activated carbon (LGAC), reverse osmosis (RO), and the RO concentrate waste. Northrop Grumman will obtain an industrial wastewater permit directly from the LACSD. The LACSD has previously indicated that, because of the high total dissolved solids (TDS) levels in the RO system waste concentrate wastewater, the wastewater must be piped to a sewer that connects to the LACSD Carson treatment plant. Conveyance piping from the waste discharge at the treatment plant to the industrial wastewater sewer line will be shared with the IZ system and installed as part of the IZ Interim Remedy construction activities.



## **NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

### **PROJECT SUMMARY**

#### **1.6.7 Southern California Edison (SCE)**

Permits will be obtained from SCE for electrical service connections, panels, and meters for the treatment plant and the extraction wells.

The SZ-South electrical permit application for providing power to extraction wells EW-C and EW-N was submitted to SCE on November 16, 2017 for review. The design was received from SCE in November 2018.

The electrical permit application for providing power to the property where the SZ-South and IZ Interim Remedy treatment plants will be located (111 Hudson Avenue) was submitted to SCE in 2018, and SCE provided drawings in February 2019. The SZ-South and IZ Interim Remedy treatment plants will have separate electrical service and meters. An application for providing a meter for electrical service for the SZ-South Interim Remedy treatment plant will be submitted.

#### **1.6.8 Federal Aviation Administration (FAA)**

The future treatment plant location at 111 Hudson Avenue is across the street from the City of Industry Civic Financial Center Heliport at the intersection of Hudson Avenue and Stafford Street. The heliport is owned by the Successor Agency and is used by the Los Angeles County Sheriff's Department. Height limits for nearby structures are determined by the FAA.

A permit application for development at 111 Hudson Avenue was submitted for the IZ Interim Remedy treatment plant, and a determination of "no hazard to air navigation" was issued for the IZ Interim Remedy treatment plant. If needed, a separate or amended application will be submitted for the SZ-South Interim Remedy treatment plant.

#### **1.6.9 Main San Gabriel Basin Watermaster (Watermaster)**

Water rights in the Main San Gabriel Basin have been established pursuant to an adjudication and judgment in Los Angeles Superior Court Case 924128 (Judgment). The Court maintains continuing jurisdiction such that extractions from the Main San Gabriel Basin are restricted and overdraft is corrected with artificial recharge of supplemental water. Pursuant to that authority, the Watermaster manages groundwater in the PVOU. The Watermaster's role and responsibilities in management of groundwater quality in the Main San Gabriel Basin are described in Section 45 of the Judgment and Section 28 of the Watermaster Rules and Regulations. Section 45 of the Judgment permits the Watermaster to take actions "to encourage, assist and accomplish the cleanup and improvement of degraded water quality in the Basin by non-parties." Section 28 of the Watermaster Rules authorizes the Watermaster to take a variety of actions to "preserve and restore the quality of Ground Water within the Basin," including the approval of the construction and operation of "Ground Water Treatment Facilities."

Northrop Grumman will obtain a Water Production Agreement (WPA) from the Watermaster for the operation of the extraction wells, the treatment plant, and the surface water discharge to San Jose Creek.



**PROJECT SUMMARY**

**1.6.10 California Regional Water Quality Control Board, Los Angeles Region (RWQCB)**

**1.6.10.1 Discharges to Surface Water**

Treated groundwater will be discharged to surface water (San Jose Creek) via the storm drain. Discharges to surface waters are regulated by the RWQCB through the issuance of NPDES permits. The NPDES permit requirements include a monitoring and reporting program and Waste Discharge Requirements that specify effluent limitations for flow and water quality. Water quality effluent limitations take the form of both concentration and load-based thresholds and are generally based on Basin Plan Objectives; they are occasionally adjusted to allow for dilution credits, site specific objectives, and/or total maximum daily load waste-load allocations.

USEPA has incorporated the substantive NPDES requirements into ARARs for surface water discharge. These ARARs are published in the ESD (ESD, 2005). A letter from the RWQCB to USEPA on 29 June 2017 described other potential ARARs that would be applicable for surface water discharge to a tributary of the San Gabriel River (RWQCB, 2017), as San Jose Creek is. Northrop Grumman will apply for a NPDES permit to coordinate the discharge with the RWQCB and to demonstrate compliance with NPDES requirements.

As described previously, the connection and discharge will also need to be permitted by the City of Industry and potentially LACFCD.

**1.6.10.2 Treatment Plant Property Soil Cleanup**

As part of the 2015 acquisition of the treatment plant property at 111 Hudson Avenue, Northrop Grumman performed a Phase II Environmental Site Assessment to supplement and confirm historical soil, soil vapor, and groundwater information (Stantec, 2015). The Los Angeles RWQCB issued a letter to the Site owner in January 1996, indicating that no further assessment or remediation would be required. Petroleum hydrocarbons were detected in soil samples during the 2015 assessment, and Northrop Grumman has proposed to the RWQCB that an estimated 250 to 500 cubic yards be remediated where elevated petroleum hydrocarbons were detected. Northrop Grumman submitted a soil remediation work plan to the RWQCB, which was approved on May 3, 2017. The work plan was implemented in July 2017, and Northrop Grumman submitted a Completion Report for Remediating Hydrocarbon-Containing Soil to RWQCB on August 3, 2017 (Geosyntec, 2017a). On October 24, 2017, RWQCB issued a No Further Requirements Letter.

In December 2018 and January 2019, soil with potential staining were encountered during construction activities. Approximately 40 cubic yards of soil were excavated and stored in stockpiles. The analytical results indicated that the soil was non-hazardous, and the soil was transported to an off-site disposal facility. On May 3, 2019, RWQCB issued a designation of non-case status letter.



## **NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

### **PROJECT SUMMARY**

#### **1.6.11 San Gabriel Basin Water Quality Authority (WQA)**

The WQA was created and authorized by the State of California to address the need for coordinated and accelerated groundwater cleanup programs in the San Gabriel Basin, including the PVOU, in part by coordinating the plans and activities of state and federal agencies and others involved in the cleanup. The WQA engages the existing rules, regulations, and standards of agencies of the State to coordinate and promote the reasonable and beneficial use of water produced and treated under mandate from USEPA.

The WQA is under the direction and leadership of a seven-member board. The board is comprised of one member from each of the three overlying municipal water districts, one from a city with prescriptive water pumping rights, one from a city without prescriptive water pumping rights, and two members representing water producers in the San Gabriel Basin. The three municipal water districts are: 1) San Gabriel Valley Municipal Water District; 2) Three Valleys Municipal Water District; and 3) Upper San Gabriel Valley Municipal Water District.

The WQA allocates certain federal matching grant funds to groundwater remediation projects and has an administrative role in approving payment of construction costs and operation and maintenance costs that are eligible for matching funds.

#### **1.6.12 Third Party Agreement: Operator Agreement**

A qualified entity will be contracted to operate the SZ-South treatment plant. La Puente Valley County Water District will operate the IZ Interim Remedy treatment plant on behalf of Northrop Grumman and will also operate the SZ-South Interim Remedy treatment plant. Both treatment plants will be located on the property at 111 Hudson Avenue and will be physically isolated from one another. An agreement between Northrop Grumman and LPVCWD is being developed and will be executed for the operation of the plant.





**PROJECT DESCRIPTION**

## **2.0 PROJECT DESCRIPTION**

### **2.1 PROJECT TITLE**

Puente Valley Operable Unit, Shallow Zone-South Interim Remedy Project (Project)

### **2.2 LEAD AGENCY**

La Puente Valley County Water District (LPVCWD).

### **2.3 PROJECT COMPONENTS**

This section provides a description of each of the following proposed Project components:

- Groundwater extraction system;
- Water conveyance system;
- Water treatment plant;
- Influent characterization;
- End-use of the treated water;
- Performance criteria; and
- Groundwater monitoring system.

#### **2.3.1 Groundwater Extraction System**

Figure 2 presents plan views of existing and proposed SZ-South Interim Remedy components. To meet the Performance Criteria set forth in the IROD and ESD, Northrop Grumman installed two extraction wells (EW-C and EW-N), screened across both SZ1 and SZ2, so that the well system would be capable of extracting water and providing hydraulic containment for both SZ1 and SZ2. The two extraction wells will be operated to accommodate fluctuating water levels observed in the MOV.

The extraction wells were installed in existing rights-of-way in the City of La Puente by a California-licensed drilling contractor, in accordance with California Well Standards, published by the California Department of Water Resources (DWR, 1990). Groundwater flow model simulations indicated that the two extraction wells have the ability to capture groundwater from both SZ1 and SZ2 for the SZ-South COCs that exceed 10 times the Containment Levels (Geosyntec, 2019a,b).

The extraction wells will have submersible pumps installed to extract and transfer groundwater to the treatment plant via the groundwater conveyance system. The extraction well pumps are anticipated to be a 4-inch-diameter, 10-horsepower, stainless steel pump and a 4-inch-diameter, 3-horsepower, stainless steel pump for EW-C and EW-N, respectively. A 10% to 20% design factor is applied to the flow rate range used in design of the groundwater extraction pumps, hydraulic calculations, and conveyance pipe sizing. Variable frequency drives (VFDs), that can be adjusted at the treatment plant central control panel and the pump control panels located near each extraction wellhead, will be included for the pump motors.



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## PROJECT DESCRIPTION

The VFDs will allow for optimization of groundwater extraction rates and plume capture while reducing electrical consumption.

### 2.3.2 Water Conveyance System

The Project proposes new groundwater conveyance pipelines to connect the two extraction wells to the SZ-South Interim Remedy treatment plant, the treatment plant discharge point to a storm drain outfall, and the effluent storage tank to the wastewater discharge tank.

Existing utilities anticipated to be encountered during pipeline installation include: storm drains, industrial sewer lines, telecommunications, gas lines, traffic signal conduits, underground power transmission and distribution lines, and water lines. Utility surveys and Underground Service Alert requests will be performed for the proposed pipeline routes prior to installation. As-built utility maps will also be requested from City of Industry, City of La Puente, and the County of Los Angeles. A potable waterline owned by Suburban Water Systems adjacent to EW-N on Nelson Avenue and a Southern California Gas Company natural gas line located near EW-C on Cadbrook Drive, which were identified during the design surveys, will need to be relocated. Arrangements to relocate these lines are currently in progress with the respective utility companies.

#### **Conveyance to the Water Treatment Plant**

The following three conveyance pipelines will be constructed to connect extraction wells EW-N and EW-C to the water treatment plant; dual walled high-density polyethylene (HDPE) pipe will be used for conveyance of untreated water to the treatment plant:

- An approximately 1,000 foot-long, 3-inch inner diameter HDPE untreated water pipeline along Cadbrook Drive to connect EW-C to the combined conveyance pipeline to be installed along Nelson Avenue; this segment may be installed prior to the rest of the treatment plant construction in advance of anticipated Cadbrook Drive street improvements, planned to be performed by City of La Puente;
- An approximately 35 foot-long, 2-inch inner diameter HDPE untreated water pipeline at Cadbrook Drive/Nelson Avenue intersection Drive to connect EW-N to the combined conveyance pipeline to be installed along Nelson Avenue; this segment may be installed prior to the rest of the treatment plant construction in advance of anticipated Cadbrook Drive street improvements, planned to be performed by City of La Puente; and
- An approximately 3,200-foot-long, 4-inch inner diameter HDPE untreated water combined conveyance pipeline from the Cadbrook Drive/Nelson Avenue intersection to the water treatment plant on Hudson Avenue along Nelson Avenue, Unruh Avenue, and Stafford Street. This section will be installed prior to the rest of the treatment plant construction as part of the IZ Interim Remedy construction; impacts associated with this section of pipeline were considered as part of the IZ CEQA analysis.



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## PROJECT DESCRIPTION

### Conveyance from the Water Treatment Plant

#### Treated Water Conveyance

An approximately 80 foot-long, 4-inch diameter steel pipeline will be constructed to convey the treated water from the treatment plant to a storm drain outfall for ultimate discharge of treated effluent to San Jose Creek (Section 2.3.5).

#### Wastewater Conveyance

An approximately 100-foot-long, 6-inch inner diameter steel pipeline will be constructed to convey wastewater to the wastewater tank, which will be shared with the IZ Interim Remedy and installed prior to the rest of the SZ-South treatment plant construction as part of the IZ Interim Remedy construction.

### 2.3.3 Water Treatment Plant

The SZ-South Interim Remedy groundwater treatment plant will be located at 111 Hudson Avenue in the City of Industry. The two extraction wells will be operated to accommodate fluctuating water levels observed in the MOV. Based on results of groundwater modeling and hydraulic testing during August 2018 extraction wells installation, the flow rate of extracted groundwater from the two extraction wells to the treatment plant is estimated to range from approximately 50 to 125 gpm at low groundwater elevations and up to 220 gpm at historical high groundwater elevations. (Geosyntec, 2019b). To account for potential uncertainties during the system's operational life and to provide operational flexibility, the treatment plant is designed to accommodate system upgrades that will treat up to 300 gpm (Geosyntec, 2019b). Each treatment process is designed to treat target constituents to applicable regulatory standards for surface water discharge.

The primary treatment processes include the following:

- Ultraviolet light and hydrogen peroxide (UV/Ox) for removal of 1,4-dioxane, bis(2-Ethylhexyl) phthalate (DEHP), and VOCs;
- LGAC for removal of VOCs not adequately removed by UV/Ox; and
- RO for removal of perchlorate, copper, lead, mercury, nickel, selenium, TDS, and nitrate.

A portion of the extracted groundwater will be lost as a waste-concentrate stream due to the operation of the RO system. The waste-concentrate stream will be discharged to an industrial sewer operated by LACSD.

In addition to the above primary treatment processes, the treatment plant design includes sulfuric acid addition to provide scale and pH control, multimedia filters to remove fines prior to the advanced oxidation system, bag filters to remove LGAC fines upstream of the RO system membranes, and sodium hydroxide addition to adjust the pH and Langelier Saturation Index (LSI) following RO treatment.





# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

## PROJECT DESCRIPTION

Northrop Grumman will be responsible, in consultation with the plant operator, for design and construction of the water treatment plant. The design information of the treatment plant, pre-final design drawings, capital and O&M cost estimate, and technical specifications were submitted to USEPA on April 19, 2019, in the Pre-Final Design Report (PFDR) (Geosyntec, 2019b) and conditionally approved by USEPA on September 26, 2019. Once constructed, the plant operator will operate the water treatment plant.

### 2.3.4 Influent Characterization

Average treatment plant influent concentrations were estimated using the flow-weighted average of average concentrations detected in water samples collected between January 2011 and April 2017 from wells screened in SZ-South within the limits of the capture zone (as evaluated with the groundwater flow model). The average treatment plant influent concentrations are being used to evaluate O&M requirements for the treatment system components.

Maximum treatment plant influent concentrations were similarly estimated using the flow-weighted average of maximum concentrations detected in water samples collected between January 2011 and April 2017 from wells screened in SZ-South within the limits of the capture zone. The maximum treatment plant influent concentrations are being used to size treatment capability of system components.

The average and maximum flow-weighted influent concentrations were compared to the ESD ARARs for discharge to surface water and potential ARARs for surface water discharge provided by RWQCB (RWQCB, 2017). Constituents with an estimated weighted average or weighted maximum concentration exceeding the ARARs anticipated for surface water discharge and COCs requiring hydraulic containment will require treatment prior to discharge to surface water.

### 2.3.5 Treated Water End-Use

The planned end-use option for the treated water of the SZ-South Interim Remedy is surface water discharge to San Jose Creek, which is a RCC channel with 100-foot bottom width. Within San Jose Creek water will flow northwesterly for approximately 3,500 feet to the confluence with Puente Creek. San Jose Creek continues downstream in a northwesterly direction for approximately 8,000 feet as a lined RCC channel, ranging in bottom width between 100 feet and 140 feet. San Jose Creek then transitions to a soft-bottom channel for 6,900 feet, with bottom width ranging from 140 to 170 feet. The soft-bottom channel has six separate riprap grade controls **maintained by the U.S. Army Corps of Engineers (USACE)** that span the creek bed as it runs in a northwesterly direction. San Jose Creek then confluences with the San Gabriel River, just north of the Interstate 605 and California 60 freeway interchange. Water will then flow through the San Gabriel River spreading grounds for approximately 5,500 feet in a southwesterly direction. Within this portion of the San Gabriel River the soft-bottom dirt channel is 500 feet wide and contains four drop structures to promote inundation and infiltration of surface water. Beyond the last drop structure, the San Gabriel River is a dirt channel with bottom width ranging between 150 feet and 550 feet that flows 6,000 feet to the southwest until Whittier Narrows Dam. Under normal, low-flow conditions the dam is operated to allow surface water to continue downstream through its gates.



## NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

### PROJECT DESCRIPTION

During operation (including system start-up, commissioning testing, routine system operation, and periodic maintenance), treated groundwater will be discharged via a 4-inch-diameter conveyance pipeline to the on-site BI 4301 Unit 2 storm drain for ultimate discharge to San Jose Creek. Surface water discharge approval will be obtained from RWQCB and City of Industry. Discharge flow rates (41 gpm to 103 gpm) will be consistent with the current treatment plant design influent flow rates (50 gpm to 125 gpm) minus the RO concentrate waste. The treated discharge conveyance pipeline will also be able to accommodate the maximum expanded design influent flow rate of 300 gpm.

#### 2.3.6 Performance Criteria under the IROD and ESD

The two performance criteria for the SZ-South Interim Remedy are defined in Attachment 1 of the ESD (USEPA, 2005). In accordance with the ESD and CD, the selected RA must prevent groundwater in the SZ in the MOV area with concentrations greater than or equal to ten-times the Containment Levels from: 1) migrating beyond its lateral extent as measured at the time the SZ RA containment system is Operational and Functional, and; 2) migrating vertically into the IZ. Table 2 of Attachment 1 of the ESD lists the Containment Levels for COPCs.

Table 2 of the ESD includes VOCs, total petroleum hydrocarbons (TPH), and 1,4-dioxane. According to the ESD, the treatment technologies used in the PVOU remedy “will have to be capable of effectively and reliably removing VOCs, 1,4-dioxane, and possibly perchlorate, if treatment is necessary.” For surface water discharge, the ESD specifies that perchlorate must be treated if concentrations exceed the ARAR, which was selected to be consistent with the contemporary California Public Health Goals (PHG) of 6 µg/L in 2005.

The ESD specifies that compliance with the performance criteria for the RA containment system requires monitoring of the lateral and vertical migration of COPCs in the SZ in compliance monitoring wells. The ESD requires sentinel wells be installed laterally and vertically up-gradient of the RA containment system to provide advance warning of varying conditions that could adversely impact the containment system and/or treatment plant. Examples of conditions to be detected by sentinel well monitoring include concentrations that are likely to cause the influent water to exceed the design limits of the treatment plant or the presence of previously undetected chemicals that could not be adequately treated by the constructed treatment plant.

The data collected from monitoring and extraction wells will be analyzed in conjunction with other parameters (e.g., capture zone analysis, groundwater flow directions, hydrogeology, and treatment plant influent concentrations) to evaluate whether the RA containment system meets the Performance Criteria, and whether applicable discharge ARARs for the treated groundwater are more likely than not to be exceeded. A groundwater model is to be used to support these analyses as appropriate (Unilateral Administrative Order [UAO], 2011).

Response actions or additional remedial actions may be required under the following circumstances (UAO, 2011; ESD, 2005):



# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

## PROJECT DESCRIPTION

- Chemicals are detected above ten times the Containment Levels in a compliance monitoring well with initial concentrations less than the Containment Levels;
- An increasing concentration trend, as defined by Attachment 1 to the ESD, is observed in a compliance monitoring well with initial concentrations greater than ten times the Containment Levels;
- USEPA determines that groundwater concentrations in compliance, sentinel, or other monitoring wells indicate that it is more likely than not that the Performance Criteria, or the treatment plant discharge ARARs, will be exceeded; or
- USEPA determines that groundwater concentrations in compliance, sentinel, or other monitoring wells, in conjunction with other parameters such as capture zone analysis, hydrogeological interpretations, etc., indicate that it is more likely than not that the Performance Criteria will not be achieved or maintained.

### 2.3.7 Groundwater Monitoring System

Existing groundwater monitoring well locations for the SZ-South Interim Remedy are described in the Remedial Design Investigation (RDI) Report (Orion Environmental, Inc., 2015). Monitoring wells will be monitored under oversight of USEPA to ensure containment to meet the performance criteria of the ESD.

In accordance with ESD requirements, selected sentinel monitoring wells will be located up-gradient of the RA containment system extraction wells.

Potential compliance and sentinel monitoring wells for the RA containment system extraction wells (EW-C and EW-N) are currently being evaluated by Northrop Grumman to meet the Performance Criteria included in the ESD (USEPA, 2005). Selections for compliance and sentinel monitoring wells will be presented to USEPA in the Compliance/General Monitoring Plan (C/GMP).



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.0 DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**Environmental Facts Potentially Affected**

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared in compliance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code (PRC) Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. This Project is evaluated based upon its effect on seventeen major categories of environmental factors.

LPVCWD has not received requests from any native American tribes to be notified of projects undergoing CEQA review with LPVCWD as Lead Agency. As a result, the native American tribal notification requirements pursuant to Assembly Bill 52 are not applicable to the Project. LPVCWD has fulfilled its Lead Agency obligations under Assembly Bill 52 and tribal cultural resources are not evaluated further as part of the IS/MND.

The environmental factors checked below would be potentially affected by the proposed Project in that at least one impact that is a “Potentially Significant” as indicated by the resource checklists of this IS/MND.

- |  |   |
|--|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Land Use and Planning                    |
| <input type="checkbox"/> Agriculture and Forest Services | <input type="checkbox"/> Mineral Resources                        |
| <input type="checkbox"/> Air Quality                     | <input type="checkbox"/> Noise                                    |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Population and Housing                   |
| <input type="checkbox"/> Cultural Resources              | <input type="checkbox"/> Public Services                          |
| <input type="checkbox"/> Energy                          | <input type="checkbox"/> Recreation                               |
| <input type="checkbox"/> Geology and Soils               | <input type="checkbox"/> Transportation and Traffic               |
| <input type="checkbox"/> Greenhouse Gas Emissions        | <input checked="" type="checkbox"/> Utilities and Service Systems |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Wildfire                                 |
| <input type="checkbox"/> Hydrology and Water Quality     |   |



## NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

### DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

The IS/MND fully addresses potential impacts to the environment, as described by CEQA, as “the physical conditions which exist within the area which will be affected by a proposed Project including land, air, water, flora, fauna, noise, objects of historic or aesthetic significance.” A detailed analysis of environmental impacts will be presented for each resource area (listed above) utilizing the model Environmental Checklist Form found in Appendix G of the CEQA Guidelines Section 15063(f). Impacts to the environment for construction and operation of the Project will be assessed and described, and the level of significance of impacts will be measured against criteria that have been established by regulation, accepted standards, or other definable criteria. The use of an MND is only permissible if all potentially significant environmental impacts assessed in the IS are rendered less than significant with incorporation of mitigation measures.

Each environmental resource area is reviewed by analyzing a series of questions (i.e., Initial Study Checklist) regarding level of impact posed by the Project. Substantiation is provided to justify each determination. One of four following conclusions is then provided as a determination of the analysis for each of the major environmental factors.

**No Impact.** A finding of no impact is made when it is clear from the analysis that the project would not affect the environment.

**Less than Significant Impact.** A finding of a less than significant impact is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment and no mitigation is required.

**Less than Significant Impact with Mitigation Incorporated.** A finding of a less than significant impact with mitigation incorporated is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment when mitigation measures are successfully implemented by the project proponent. In this case, LPVCWD is the Project proponent and would be responsible for implementing measures identified in a Mitigation Monitoring Program.

**Potentially Significant Impact.** A finding of a potentially significant impact is made when the analysis concludes that the proposed project could cause a substantial adverse change in the environment for one or more of the environmental resources assessed in the checklist. In this case, typically preparation of an Environmental Impact Report (EIR) would be required.



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.1 AESTHETICS**

**3.1.1 Setting**

The proposed Project is situated in an industrial, commercial and residential (north of E Nelson Avenue) setting within an urbanized area. The dominant view in the general area includes the Puente Hills to the south, Legg Lake to the west, the San Jose Hills to the northeast, and the San Gabriel Mountains located as a backdrop to the north of the proposed Project. Two small parks are located within 0.35 miles of the proposed Project. The western end of the proposed Project is located near Basset County Park and the eastern end of the proposed Project is located near La Puente Park. Dominant views to the immediate south of the proposed Project include one and two-story buildings surrounded by asphalt with some tall ornamental trees. Dominant views to the immediate north of the proposed Project include primarily one-story residential homes with tall, ornamental trees.

According to California’s Scenic Highway Program, no officially designated-scenic routes, eligible scenic routes, or scenic vistas occur in the immediate vicinity of the proposed Project. The nearest eligible route is California State Route (SR) 57 located approximately seven miles southeast of the proposed Project between SR 90 and SR 60 near the City of Industry.

**3.1.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality public views of the site and its surroundings? (Public views are those that are experience from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

## DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

a) *Have a substantial adverse effect on a scenic vista?*

### **No impact.**

The proposed Project is not located in an area with a designated scenic vista. The visual quality of the areas surrounding the proposed Project site consists predominately of employment development with some commercial and public facility developments (i.e., police station and the City of Industry Civic Financial Center). Therefore, the proposed Project will have no impact on a scenic vista.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

### **No Impact.**

The proposed Project is not located within an officially designated State Scenic Highway. The nearest officially designated State Scenic Highway to the proposed Project is SR 2, which is approximately 18 miles northwest of the proposed Project. The nearest eligible state scenic highway route is SR 57, located approximately seven miles southeast of the proposed Project. Therefore, no impact to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway would occur as a result of the proposed Project.

c) *In non-urbanized areas, substantially degrade the existing visual character or quality of public views the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

### **Less than Significant Impact.**

The proposed Project would involve the installation of conveyance pipes to connect the existing extraction wells, which are located within existing rights-of-way within the City of La Puente, conveyance pipeline to the new treatment plant, and a new treatment plant for the shallow zone, to be located on the 111 Hudson Avenue property within the City of Industry. Visual impacts to the surrounding community would occur temporarily during the construction phase. Although construction of the new treatment plant would introduce a new structure, this would not significantly impact the surrounding area as the current area is zoned as “employment” which includes a variety of business and employment uses including industrial manufacturing, assembly, printing, machining, milling, welding, etc. (City of Industry 2014a). The area surrounding the proposed treatment plant consists of institutional, commercial, and employment development. All of the proposed Project elements are structures common to the urban environment and are not anticipated to significantly impact the visual character of the surrounding community. Therefore, impacts to the existing visual character or quality of the site and its surroundings would be less than significant.



# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

## DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

### **Less than Significant Impact.**

The proposed Project would be located within the existing public rights-of-way within the City of La Puente for installation of the conveyance pipes connecting the existing extraction wells, a conveyance pipeline to the new treatment plant, and a new treatment plant for the shallow zone, to be located on 111 Hudson Avenue, zoned as “employment” under the City of Industry General Plan (City of Industry 2014b). These areas are surrounded by institutional, commercial, and employment development. During the construction phase, activities would occur during daylight hours. Operation of the extraction wells would occur below ground and therefore would not create a new source of substantial light or glare. Operation of the treatment plant would provide a new source of light and glare; however, it would be general lighting within the property boundary and would correspond with the existing industrial lighting and use of the area. The lighting would all be downward and inward oriented as is required by the City of Industry. As a result, there would be less than significant impact on light-sensitive receptors.







**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.2 AGRICULTURE AND FORESTRY RESOURCES**

**3.2.1 Setting**

The proposed Project site and surrounding areas occur within an urban context which does not support agricultural land uses or forestry resources. There are no agricultural or forestry resources within the City of Industry or the City of La Puente. Additionally, there are no areas set aside solely for agricultural purposes or defined as forestry lands on or adjacent to the proposed Project site.

**3.2.2 Impact Analysis**

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>AGRICULTURE AND FORESTRY RESOURCES: Would the project:</b>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

**No Impact.**

See impact discussion e) below.



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact.**

See impact discussion e) below.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?*

**No Impact.**

See impact discussion e) below.

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

**No Impact.**

See impact discussion e) below.

e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?*

**No Impact.**

The proposed Project is located within an urbanized area with no agricultural land use designations or forestry land use designations or operations in the vicinity of the proposed Project area. Construction and operations of the proposed Project would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance; conflict with existing zoning for agricultural use, or a Williamson Act contract; conflict with existing zoning of forest land, timberland or timberland zoned Timberland Protection; or involve other changes in the existing environment which could result in the conversion of Farmland, to non-agricultural use. Therefore, no impacts related to agriculture and forestry resources would occur from the construction and operation of the proposed Project.



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.3 AIR QUALITY**

**3.3.1 Setting**

The proposed Project site is located in the South San Gabriel Valley region of the southeast Los Angeles County. The proposed Project area is within the South Coast Air Basin (SCAB) which is under the jurisdiction of South Coast Air Quality Management District (SCAQMD). The proposed Project components, including the water treatment plant, conveyance pipelines to connect existing wells, and water conveyance pipelines to the treatment plant are located in commercial/industrial and residential areas. The nearest sensitive receptors to the proposed water treatment plant are residences located more than 700 feet to the northeast, along Nelson Avenue.

Regulatory oversight authority regarding air quality at the local, state, and federal levels rests with the SCAQMD, California Air Resources Board (CARB), and United States Environmental Protection Agency (USEPA), respectively.

Ambient air quality is determined by comparing pollutant levels in ambient air samples to national and state standards. These standards are established by the USEPA and CARB at levels determined to be protective of public health and welfare, with an adequate margin of safety. California Ambient Air Quality Standards (CAAQS) were established in 1967, whereas National Ambient Air Quality Standards (NAAQS) were first established by the federal Clean Air Act of 1970. California standards are generally more stringent than national standards.

Air quality standards specify the upper limits of pollutant concentrations, over defined durations, in ambient air, consistent with the management goal of preventing specific harmful effects. There are national and state standards for the “criteria pollutants” ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), fine particulate matter with an aerodynamic diameter of less than 2.5 microns (PM<sub>2.5</sub>), airborne respirable particulate matter with an aerodynamic diameter of less than 10 microns (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Federal/National and State Ambient Air Quality Standards are presented in Table 1.



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**Table 1 National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>a,c</sup>	National Standards <sup>b,c</sup>	
			Primary	Secondary
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	—	—
	8 Hour	0.07 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> )	Same as Primary
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as Primary
	Annual Mean	20 µg/m <sup>3</sup>	—	
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	No Separate State Standard	35 µg/m <sup>3</sup>	Same as Primary
	Annual Mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	—
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	—
Nitrogen Dioxide (NO <sub>2</sub> )	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	100 ppb (188 µg/m <sup>3</sup> )	—
	Annual Mean	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary
Sulfur Dioxide (SO <sub>2</sub> )	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	75 ppb (196 µg/m <sup>3</sup> )	—
	3 Hour	—	—	0.5 ppm (1,300 µg/m <sup>3</sup> )
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> ) (for certain areas)	—
	Annual Mean	—	0.030 ppm (80 µg/m <sup>3</sup> )	—
Lead (Pb)	30-Day Average	1.5 µg/m <sup>3</sup>	—	—
	Calendar Quarter	—	1.5 µg/m <sup>3</sup> (for certain areas)	Same as Primary
	Rolling 3-Month	—	0.15 µg/m <sup>3</sup>	
Visibility-Reducing Particles	8 Hour	10-mile visibility standard, extinction of 0.23 per kilometer	No National Standards	
Sulfates	24 Hour	25 µg/m <sup>3</sup>		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )		

Notes:

<sup>a</sup> California standards for O<sub>3</sub>, CO (except Lake Tahoe), SO<sub>2</sub> (1 and 24 hour), NO<sub>2</sub>, suspended particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility-reducing particles) are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>b</sup> National standards (other than O<sub>3</sub>, PM, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O<sub>3</sub> standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

<sup>c</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to these reference conditions; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

mg/m<sup>3</sup> = milligrams per cubic meter; µg/m<sup>3</sup> = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion

Source: CARB, 2016a.



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

The USEPA and CARB determine the air quality attainment status of designated areas by comparing local ambient air quality measurements from state or local ambient air monitoring stations with the CAAQS and NAAQS. These attainment designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable designation is treated as an attainment designation. Table 2 presents the federal and state attainment status for the SCAB.

**Table 2 Attainment Status of South Coast Air Basin**

<b>Pollutant</b>	<b>State Designation</b>	<b>Federal Designation</b>
Ozone (O <sub>3</sub> )	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter (PM <sub>10</sub> )	Non-Attainment	Attainment
Particulate Matter (PM <sub>2.5</sub> )	Non-Attainment	Non-Attainment (Serious)
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment/Maintenance
Nitrogen Dioxide (NO <sub>2</sub> )	Unclassified/Attainment	Attainment/ Unclassifiable
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment
Lead (Pb)	Attainment	Partial Nonattainment (Los Angeles County only)
Hydrogen Sulfide (H <sub>2</sub> S)	Unclassified	*
Sulfates	Attainment	*
Visibility Reducing Particles	Unclassified	*
Source: CARB, 2017 and EPA, 2018		
Notes: (*) = Not Applicable/ No Federal Standards		

As shown in Table 2, the proposed Project area is designated as nonattainment for both, federal and state standards for O<sub>3</sub> and PM<sub>2.5</sub>, federal standard for lead (rolling 3 months), and state standard for PM<sub>10</sub>. Because the SCAB currently exceeds several state and federal ambient air quality standards, the SCAQMD is required to implement strategies to reduce pollutant levels to recognized acceptable standards.

The SCAQMD in conjunction with the Southern California Association of Governments (SCAG), CARB, USEPA, and a number of other stakeholders, prepared the 2016 Air Quality Management Plan (AQMP) (SCAQMD, 2017). The purpose of the 2016 AQMP is to provide a comprehensive and integrated program to lead the SCAB into compliance with the national 24-hour and annual PM<sub>2.5</sub> AAQS. In addition, the 2016 AQMP outlines the plan toward meeting the national 1-hour and 8-hour ozone standards.

The 2016 AQMP accounts for projected population growth, predicted future emissions in energy and transportation demand, and determined control strategies for the eventual achievement of AAQS attainment designation. These control strategies involve a combination of regulatory and incentive approaches via partnerships at all levels of government.

The 2016 AQMP includes policies that are consistent with the SCAQMD and specify review according to the recommendations of SCAQMD guidelines. Other policies are aimed at reducing transportation emissions and emissions from major stationary sources.



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

The proposed Project would be subject to the following general SCAQMD rules and regulations:

- Regulation IV - Prohibitions
  - Rule 401 – Visible Emissions
  - Rule 402 – Nuisance
  - Rule 403 – Fugitive Dust

**3.3.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>AIR QUALITY: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The SCAQMD has adopted regional and localized significance thresholds (LSTs) to determine the significance of a project’s potential air quality impacts. The thresholds of significance are adopted for the construction and operation phases of projects. The LSTs were developed by the SCAQMD to assist lead agencies in analyzing localized air quality impacts from projects. LST look-up tables for one, two, and five acre proposed projects emitting CO, nitrogen oxides (NO<sub>x</sub>), PM<sub>2.5</sub> or PM<sub>10</sub> were prepared for easy reference according to source receptor area. The LST methodology and associated mass rates are not applicable to mobile sources travelling over the roadways. It should be noted that SCAQMD does not require compliance with LSTs for new construction projects; more importantly, LSTs are a voluntary approach to be implemented at the discretion of local agencies (SCAQMD, 2008).

Table 3 below presents the regional and localized significance thresholds applicable to the proposed Project that are used for purposes of impact analysis. Because installation of the water conveyance pipelines mainly involves mobile sources operating along roadways, LSTs have only been applied to the water treatment plant site for purposes of this analysis. These LSTs are based on a one-acre site with a 200-meter receptor distance.



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**Table 3 SCAQMD Air Quality Significance Thresholds (Mass Daily Thresholds)**

<b>Regional Thresholds (lbs/day)</b>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>Lead (Pb)</b>
Construction	75	100	150	550	150	55	3
Operation	55	55	150	550	150	55	3
<b>Localized Thresholds (lbs/day)<sup>1</sup></b>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>Lead (Pb)</b>
Construction	n/a	123	n/a	2,110	60	20	n/a
Operation	n/a	123	n/a	2,110	15	5	n/a
SOURCE: SCAQMD Air Quality Significance (Mass Daily) Thresholds, 2015 SCAQMD Mass Rate LST Lookup Tables, Appendix C, 2009							
Notes:							
1. Localized significance thresholds are from the SCAQMD lookup tables for Source Area 11 assuming a one acre project site and a distance to the nearest sensitive receptor of 200 meters.							

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

**Less than Significant Impact.**

Projects with daily emissions below the significance thresholds established by the SCAQMD (presented in Table 3), would be in line with the goals of achieving attainment with ambient air quality standards as outlined in the latest air quality plan (2016 AQMP), and would not conflict with or obstruct implementation of the applicable plans. Emissions from proposed Project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (CARB, 2016b).

CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planning, and environmental professionals to quantify potential criteria air pollutant emissions associated with both construction and operation from a variety of land use projects. The model quantifies direct emissions from construction and operation including vehicle use, off-road equipment, fugitive dust, off-gas from asphalt and landscaping maintenance. Default data (i.e., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California.

The Project would result in emissions of criteria air pollutants during construction primarily from off-road equipment and on-road vehicle exhaust, fugitive dust from grading/soil disturbing activities, and off-gas from re-paving streets after pipeline installation. Operation phase emissions of criteria air pollutants are limited to vehicle exhaust from workers commute, and emissions associated with operation and maintenance of the treatment plant.

Emissions from the treatment plant operation are limited as a majority of equipment will be electrically powered and the treatment/remediation process is a closed system. Estimated Project construction and operation emissions are summarized below in Tables 4 and 5, respectively. Detailed emissions estimates and assumptions are provided in Appendix A (Project Emissions Estimates).





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**Table 4 Project Construction Emissions in Comparison with SCAQMD Significance Thresholds**

Component	Pollutant Emissions (lbs/day) <sup>1</sup>						
	VOC	NOx	CO	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>	Pb
Pipeline Installation and Re-paving	3.27	28.00	23.83	0.05	2.68	1.68	--
Water Treatment Plant	2.49	19.51	15.48	0.03	6.77	3.79	--
Peak Day Regional Emissions <sup>2</sup>	5.76	47.51	39.30	0.08	9.45	5.47	--
Regional Significance Thresholds	75	100	550	150	150	55	3
Exceed Thresholds?	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>n/a</b>
Peak Day Onsite Emissions <sup>3</sup>	2.27	19.48	13.49	0.02	6.68	3.77	--
Localized Significance Thresholds	n/a	123	2,110	n/a	60	20	n/a
Exceed Thresholds?	--	<b>No</b>	<b>No</b>	--	<b>No</b>	<b>No</b>	--

Notes: n/a = not applicable, no thresholds adopted

1. Emission estimated using CalEEMod Version 2016.3.2. Results of model runs are provided in Appendix A.
2. Peak regional emissions estimated using maximum on-site and offsite daily emissions from construction activities that occur simultaneously (installation of conveyance pipelines and construction of the water treatment plant based on construction schedule).
3. Peak onsite emissions are associated with construction of water treatment plant and compared with the localized significance thresholds.

**Table 5 Project Operation Emissions in Comparison to SCAQMD Significance Criteria**

Component	Emissions (lbs/day) <sup>1</sup>						
	VOC	NOx	CO	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>	Lead (Pb)
Project Operation Emissions <sup>2</sup>	0.43	0.09	0.16	<0.01	0.03	0.01	--
Regional Thresholds Operation	55	55	550	150	150	55	3
Localized Thresholds Operation	n/a	123	2,110	n/a	15	5	n/a
<b>Exceeds Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>n/a</b>

Notes:

1. Emission estimated using CalEEMod Version 2016.3.2. Results of model runs are provided in Appendix A.
2. Operational emissions assumed to be limited to the water treatment plant. Assumes no measurable criteria air pollutant emissions from operation of water conveyance pipelines.

As shown in Tables 4 and 5, proposed Project construction and operation emissions are below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Considering Project mass emissions are below the thresholds of significance, the Project would not conflict with or obstruct implementation of the 2016 AQMP and impacts would be less than significant.



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*b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

**Less than Significant Impact.**

By its very nature, air pollution is largely a cumulative impact. The SCAQMD's application of thresholds of significance for criteria air pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. If a project's emissions are less than the thresholds of significance for criteria air pollutants the project would not be expected to result in a cumulatively considerable air quality impact. As shown in Tables 4 and 5, Project construction and operation emissions are below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Considering Project mass emissions are below the thresholds of significance, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard and impacts would be less than significant.

*c) Expose sensitive receptors to substantial pollutant concentrations?*

**Less than Significant Impact.**

As shown in Tables 4 and 5, Project construction and operation emissions are below the applicable SCAQMD localized mass emissions thresholds of significance. Considering localized Project mass emissions are below the thresholds of significance, the Project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

*d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?*

**Less than Significant Impact.**

Construction of the proposed Project does not include any source of potentially objectionable odors that could affect a substantial number of people. There is a potential for odors to be created as a result of operating the water treatment plant. However, the proposed treatment system is a closed system. The treated water would have no odor. The treatment plant would require infrequent change out of the liquid-phase granular activated carbon which is limited to a very short duration (e.g., three to four hours monthly). This would not cause odor. As granular activated carbon is removed, it will be placed into sealed containers for transport to an appropriate receiving facility for disposal. Considering the short-term duration and distance of over 700 feet to the nearest sensitive receptors, potential odors from operating the water treatment plant would be negligible. As such, the proposed Project would not create objectionable odors affecting a substantial number of people and potential impacts would be less than significant.





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3.4 BIOLOGICAL RESOURCES

3.4.1 Setting

The proposed Project will be constructed within previously disturbed lands that lack native vegetation. The existing extraction wells, proposed conveyance pipelines, and the proposed treatment plant in the shallow zone are located within developed (i.e., street rights-of-way, residential, industrial, and institutional areas) and/or previously disturbed areas with non-native annual grassland (i.e., proposed treatment plant located within an empty lot). Ornamental trees and shrubs are interspersed throughout the proposed Project area.

3.4.2 Impact Analysis

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>BIOLOGICAL RESOURCES: Would the Project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

### **Less than Significant Impact with Mitigation Incorporated.**

The United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), list species as threatened or endangered under the Federal and State Endangered Species Acts (FESA and CESA, respectively). A literature review was conducted to assist in determining the existence or potential occurrence of special-status plants and wildlife within the proposed Project limits and in the proposed Project vicinity. According to the literature review, no occurrence records for plant or wildlife species listed by the State and/or Federal government as endangered or threatened were identified within the Project limits. In addition, a review of the California Natural Diversity Database or “CNDDDB” (CDFW 2019) indicated no recent records (i.e., occurrences within one mile of the proposed Project over the past 30 years) of any special status species within one mile of the proposed Project site. However, the literature review indicated that the proposed Project site is located approximately three miles southwest of designated critical habitat for the Coastal California Gnatcatcher (CAGN). No suitable habitat for CAGN occurs within the proposed Project or within 500 feet of the proposed Project. As mentioned earlier, the proposed Project site and adjacent areas do not contain habitat suitable to support special-status species and the proposed Project site is not within a known migratory corridor for any special-status species. Therefore, the implementation of the proposed Project is not expected to result in impacts to threatened, endangered or other special-status species.

Treated water from the SZ-South Interim Remedy treatment plant will be discharged to San Jose Creek located south of the proposed Project. This reach of San Jose Creek is channelized (reinforced cement concrete) and does not contain suitable habitat for special status species. San Jose Creek transitions to a soft bottom creek approximately two miles downstream of the proposed discharge point. The soft bottom channel extends for 6,900 feet and contains six installed separate riprap grade controls that span the creek bed as it runs in a northwesterly direction. San Jose Creek is located within hydrological unit 405.41 of the Los Angeles County Regional Water Quality Control Board (LARWQCB) Water Quality Control Plan or “Basin Plan”, (LARWQCB 1995). San Jose Creek is identified in the Basin Plan as having intermittent beneficial uses for warm freshwater habitat (“WARM”) and existing beneficial uses for wildlife habitat (“WILD”). The WARM designation means that the creek may intermittently support warm water ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife (including invertebrates). The WILD designation means that the creek supports wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.

The Project would discharge an expected 103 gpm and a maximum of 245 gpm of treated water through connection with an existing storm drain to San Jose Creek. San Jose Creek is comprised of a reinforced cement concrete channel in this area and does not include soft-bottom channel (Figure 4). The nearest soft-bottom channel segment begins approximately 8,000 feet downstream San Jose Creek from the treated water discharge point and continues beyond San Jose Creek’s confluence with the San Gabriel River. USACE maintains rock rip rap grade controls, drop structures, spreading grounds, and other best



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management practices along this stretch of San Jose Creek and San Gabriel River that serve to reduce the potential for erosion and promote infiltration of surface waters. The Project Applicant or LPVCWD do not propose to install or maintain any erosion control measures in San Jose Creek as part of the Project.

Daily flow rates measured between October 2004 and September 2018 at Gage F312B located at Workan Mill Road (Figure 4), downstream of the transition to soft-bottom channel and upstream of the discharge point of the San Jose Creek Water Reclamation Plant indicate that approximately 550,000-acre feet of water flowed this segment of San Jose Creek. The proposed Project discharge is 1.0% of historical San Jose Creek runoff<sup>1</sup>. The proposed Project discharge to San Jose Creek is estimated to increase the long-term effective work done on the channel bed by less than 0.5%. Based on the state of the science to date (Hawley and Bledsoe, 2013), the threshold increase in long-term effective work, or sediment transport, corresponding to significant in-stream erosion impacts is approximately 5% for the most sensitive bed material (i.e., sand). The incremental increase in long-term erosive work associated with the Project discharge is less than an order of magnitude of this threshold. Thus, the Project discharge would have a negligible erosive impact to San Jose Creek, regardless of the presence of existing grade controls in the creek. Considering the above, the proposed effluent discharge would not substantially alter the quality in the soft-bottom natural area of the channel, increase sedimentation/erosion, substantially alter the hydrograph of the stream, or substantially modify existing geomorphic processes.

Prior to discharge to San Jose Creek, water will be treated using UV/Ox, LGAC, and RO processes. These processes are effective in removing the COCs in the untreated water including 1,4-dioxane, DEHP, VOCs, perchlorate, copper, lead, mercury, nickel, selenium, TDS, and nitrate. The proposed water treatment system has been designed to treat water to meet all applicable water quality effluent limitations in the form of both concentration and load-based thresholds which are generally based on Los Angeles County Regional Water Quality Control Board Water Quality Control Plan or “Basin Plan” objectives. Additionally, LPVCWD will obtain and discharge the treated water to San Jose Creek in accordance with the requirements of an NPDES permit. Correspondingly, the treated effluent discharged to San Jose as a result of Project implementation would not result in substantial adverse water quality impacts or significantly impact fish and wildlife resources.

~~The discharge into San Jose Creek may result in some minor changes to water quantity and quality in the soft-bottom natural area of the channel. These changes may include turbidity in the water column as a result of re-suspension of sediments. Changes in the volume of water caused by the additional discharge may result in minor but temporary erosion. Impacts on downstream habitats result from this increase in discharge would be negligible. The potential fluctuation in the volume of water may temporarily impact aquatic biota such as macro-invertebrates, and temporarily impact aquatic vegetation associated with the creek. Common wildlife such as birds that may depend upon the creek for food and shelter may be temporarily affected by these impacts. However, the riprap grade controls set along the soft bottom~~

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<sup>1</sup> The Project would have contributed an estimated 2,300-acre feet at the anticipated discharge rate of 103 gallons per minute (0.29 cubic feet per second) or a maximum of 5,500-acre feet at 245 gallons per minute (0.55 cubic feet per second) of treated water to San Jose Creek.



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~~channel of the San Jose Creek may potentially aid in limiting the flow of water as well as the level of turbidity and erosion.~~

Based on the **estimated incremental 1% increase in stream flow that could occur as a result of the proposed effluent discharge to San Jose Creek**, ~~distance of the soft bottom natural area of the creek from the discharge point~~, and lack of occurrences of or habitat suitable to support special-status species in the proposed Project area (CDFW 2019), ~~maintenance of existing erosion control measures along the soft bottom channel~~, and the meeting of NPDES requirements for the discharge of the treated water, impacts to potential aquatic and wildlife species that may be associated with the San Jose Creek ecosystem is expected to be less than significant.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and Section 3503 of the California Fish and Game Code protects migratory nesting birds. The Project site supports non-native, ornamental trees that may be potentially used by birds for nesting activities. Construction activities that will occur in close proximity to the trees has the potential to adversely impact nesting birds, if present during construction. This is a potentially significant impact.

### Mitigation Measures

#### BIO-1: Nesting Bird Impacts Avoidance

This proposed Project does not propose vegetation removal; however, there is nesting bird potential in trees and shrubs adjacent to proposed construction activities (e.g. landscaping occurs primarily along sidewalks immediately adjacent to proposed pipelines in existing roads). The noise and level of human activity associated with construction activities within the Project footprint have the potential to result in direct impacts or indirect disturbance to nesting birds. Any activities that could potentially cause disturbance to active nests, eggs, and/or young of nesting birds, or cause nest abandonment, shall be minimized or avoided.

Prior to initial site disturbance, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist. If construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the proposed Project is complete. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all proposed Project activities.

If endangered or threatened species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. **The buffer shall be extended to 500 feet from active raptor nests.** The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted



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within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.

### **Residual Impacts**

With the implementation of Mitigation Measure BIO-1, the Project would have a less than significant impact with mitigation incorporated to candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?*

### **Less than Significant Impact.**

Riparian habitat refers to the trees, other vegetation, and physical features normally found on the banks and floodplains of rivers, streams, and other bodies of fresh water. This includes willows, mule fat, and other vegetation typically associated with the banks of a stream or lake shorelines and may be consistent with USACE and CDFW definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of the riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

The proposed Project site is predominantly developed with little to no vegetation. The proposed Project site and immediate surrounding areas do not support riparian or wetland vegetation. Treated water from the SZ-South Interim Remedy treatment plant is proposed to be discharged to San Jose Creek located immediately south of the proposed Project. This reach of San Jose Creek is channelized (reinforced cement concrete) and does not support riparian habitat or other sensitive or native natural communities. The natural areas of the creek occur approximately two miles downstream of the proposed area for treated water discharge, where San Jose Creek supports a soft bottom channel and associated riparian habitat. Potential indirect impacts to the aquatic ecosystem of the creek in this area from discharge of treated water have been discussed in Impacts Analysis a) above.

Based on the lack of riparian vegetation at the proposed Project site, distance between natural riparian areas of San Jose Creek and project site, indirect nature of disturbance to the creek from discharge of treated water, and the meeting of NPDES requirements for the discharge of the treated water, impacts to riparian habitat or other sensitive natural communities would be less than significant.





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- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

#### **Less than Significant Impact.**

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into “waters of the U.S.” under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. “Waters of the U.S.” is a broad term and can be divided into three categories: territorial seas, tidal waters, or non-tidal waters. This permitting authority applies to all “waters of the U.S.” where the material (1) replaces any portion of “waters of the U.S.” with dry land or (2) changes the bottom elevation of any portion of any “waters of the U.S.”

The USACE generally asserts jurisdiction over “waters of the U.S.” that are: traditional navigable waters (TNW), wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are relatively permanent waters (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (typically three months), and wetlands that abut such tributaries. For certain waters including non-navigable tributaries that are not RPWs, the USACE bases their jurisdictional assertion on a fact-specific analysis to determine if a ‘significant nexus’ exists with a TNW. A significant nexus analysis assesses the flow characteristics and function of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters. A significant nexus includes consideration of hydrologic and ecologic factors.

The CDFW has jurisdictional authority over riparian/wetland resources associated with rivers, streams, and lakes pursuant to the California Fish and Game Code (§1600–1616). Pursuant to Section 1602 of the California Fish and Game Code; CDFW regulates any work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. Because the CDFW includes streamside habitats (such as riparian vegetation) under its jurisdiction that, under the federal definition, may not qualify as wetlands on a particular project site, its jurisdiction may be broader than that of the USACE.

Under the jurisdictional criteria defined above, San Jose Creek is potentially subject to USACE, RWQCB, and CDFW jurisdiction. Although San Jose creek is not navigable, it is likely an RPW in most years. In addition, it is a tributary to navigable waters. San Jose creek flows into the San Gabriel River, which subsequently drains into the Pacific Ocean. However, the Project does not include the introduction of fill into the waters or any wetlands, nor would it affect either. Therefore, it is expected that USACE and CDFW would not claim jurisdiction.

The Project proposes to discharge treated water from the SZ aquifer through new groundwater conveyance pipelines from two existing extraction wells to the SZ-South Interim Remedy treatment plant, the treatment plant discharge point to a storm drain outfall, and the effluent storage tank to the



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wastewater discharge tank. The treated water released to a storm drain outfall will ultimately discharge the treated effluent to San Jose Creek. These pipeline structures will not be located within potential state and federal jurisdictional areas of the San Jose Creek. No major modification of creek bed, bank or riparian areas is proposed. The indirect and minor nature of impacts to San Jose Creek natural areas downstream of the Project have been discussed in responses to questions a) and b) above, but impacts will have no adverse effect on federally protected wetlands through direct removal, filling, hydrological interruption, or other means.

Therefore, the implementation of the proposed Project will not have a substantial adverse effect on federally protected wetlands as defined by Sections 404/401 of the Clean Water Act or CDFW jurisdictional waters and therefore, impacts would be less than significant.

d) *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?*

### **Less than Significant Impact.**

Wildlife corridors facilitate connectivity on a larger scale between areas of suitable habitat or on a smaller scale between habitat and resources that may otherwise be isolated. The proposed Project site is located in a predominantly industrial setting, surrounded by developed areas. The proposed Project actions are primarily proposed to occur in previously disturbed areas that lack habitat suitable for wildlife and native plants. Based on this environmental setting, it is highly unlikely that the proposed Project site is utilized as a wildlife movement corridor. While San Jose Creek may be utilized by common urban wildlife for movement, the portion of the channel adjacent to the Project site is channelized, which greatly limits its potential for wildlife movement. Wildlife movement up and down the channel by small urban wildlife may be accommodated when the flow in the channel is low. Wildlife species that use developed areas for foraging and breeding will have adequate similar habitat in adjacent areas not affected by the proposed actions of this Project. As identified earlier, the Basin Plan recognizes San Jose Creek as having intermittent beneficial uses as a freshwater habitat for fish and wildlife and may also be beneficially used as a wildlife habitat. These functions and values are likely restricted to the natural areas of the creek that support the soft bottom channel with riparian habitat, which occur approximately two miles downstream of the proposed Project site. As discussed in responses to Questions a) and b) earlier, the potential impacts from discharge of treated water into San Jose Creek are indirect and minor.

Therefore, based on the lack of native resident or migratory fish and native resident or migratory wildlife corridors within and near the proposed Project and the intermittent nature of San Jose Creek as a freshwater habitat for fish and wildlife, interference to 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 by the Project would be less than significant.



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*e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**No impact.**

The City of Industry's Municipal Code does not have any specific ordinances that provide special protection for trees, other plant or animal species, or natural habitat areas. However, the City of Industry has adopted a water conservation ordinance pursuant to Assembly Bill (AB) 1881. All new and rehabilitated landscaped areas are required to meet the provisions of Chapter 13.18 of the City's Municipal Code. Since all new development must follow these regulations, the Project would not cause conflicts with the existing ordinance (City of Industry 2014a). The City of La Puente does not have any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (City of La Puente 2004). In addition, the construction and operation of the proposed Project does not include the removal of landscaping, in particular, trees. Therefore, no impact would occur.

*f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?*

**No impact.**

The proposed Project site or Project area is not located within an area where there are draft or adopted Habitat Conservation Plans (HCP), Natural Community Conservation Plans (NCCP), or any other local, regional, or state habitat conservation plans in effect. Since no such conservation plans are in effect in the Project area, the Project site is not subject to the requirements of such plans and is therefore subject to regulation by local, State, and Federal laws on a case-by-case basis for biological resources. As there is no adopted HCP, NCCP, or other approved local, regional, or state HCP applicable to the Project, there would be no impact.



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### 3.5 CULTURAL RESOURCES

#### 3.5.1 Setting

The San Gabriel Basin, including areas surrounding the proposed Project, has a rich Native American history including the Tongva Indians, also known as the Gabrielinos because of their association with the Mission San Gabriel in the late eighteenth century (Welch 2006). By the late 1700s the Spanish established a set of missions throughout California, with Mission San Gabriel built in 1771. By the mid-1800s the La Puente Rancheria of Mission San Gabriel was parceled out to several Mexican citizens. By the early 1900s the La Puente Valley was known for its abundance of citrus, walnut, and avocado crops with a growing industry of oil, banking, and communications.

#### 3.5.2 Impact Analysis

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>CULTURAL RESOURCES: Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) *Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?*

**No Impact.**

The proposed Project would not cause any adverse change to aboveground historical resources (buildings or structures that are, or could be, eligible for the National Register of Historic Places or the California Register of Historical Resources). Construction of the new water treatment plant would be placed on a vacant lot and no structures would be demolished. Construction of the pipelines will be aligned within existing rights-of-way and would not impact any structures. Therefore, no impacts to historical structures are expected and no mitigation is required.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*



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### **Less than Significant Impact.**

A records search performed for a previously published Class III investigation showed that there have been eight previous archaeological investigations within one mile of the proposed Project area. The Class III field survey found no resources within the general vicinity of the proposed Project area. In the unlikely event archaeological resources are discovered during construction, work activities shall cease in accordance with applicable law until a qualified archaeologist can assess the potential significance of such finds; therefore, potential impacts to archaeological resources would be less than significant.

c) *Disturb any human remains, including those interred outside of formal cemeteries?*

### **Less than Significant Impact.**

The proposed Project would not impact any known cemeteries. Although unlikely, in the event human remains are discovered during construction, work activities shall cease until the Los Angeles County coroner is contacted and the age of the remains can be determined. If the remains are determined to be historical a qualified archaeologist can assess the potential significance of the remains in accordance with applicable law. If the remains are determined to be Native American, the appropriate Native Americans as identified by the Native American Heritage Commission as provided in California Public Resources Code SS5097.98 shall be notified. Therefore, potential disturbance to human remains, including those interred outside of formal cemeteries would be less than significant.



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**3.6 ENERGY**

**3.6.1 Setting**

Southern California Edison is the electrical service provider within both the City of Industry as well as the City of La Puente. SCE maintains a number of distribution and substation facilities in the vicinity of the proposed Project, which would be available to provide the energy necessary for the construction, operation, and maintenance of the proposed Project facilities. Discussed in greater detail above in Section 1.6.7 (Southern California Edison), the Applicant has submitted an application to SCE for a connection to support the SZ-South Remedy treatment plant.

SCE is required by the California Energy Commission to publish a power content label describing the percentage mix of SCE’s energy sources.

In 2017, SCE obtained power from the following sources:

- Renewable – 32 percent
- Large Hydroelectric – 8 percent
- Natural Gas – 20 percent
- Nuclear – 6 percent
- Unspecified Sources of Power<sup>2</sup> - 34 percent.

SCE’s renewable energy sources are further broken down as follows:

- Solar – 13 percent
- Wind – 10 percent
- Geothermal – 8 percent
- Eligible Hydroelectric – 1 percent.

**3.6.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>Energy: Would the Project:</b>				
a) Result in potentially significance environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction and operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>2</sup> “Unspecified sources of power” means electricity from transactions that are not traceable to specific generation sources.



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a) *Result in potentially significance environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction and operation?*

### **Less than Significant.**

Resources that would be consumed as a result of the proposed Project include water, electricity, and fossil fuels during construction and operation. Construction would require the manufacture of new materials, some of which may not be recyclable at the end of the proposed Project's lifetime. The energy required for the production of these materials would also result in an irretrievable commitment of natural resources. The anticipated equipment, vehicles, and materials required for construction of the proposed Project as detailed within Appendix A (CalEEMod Output). The amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources.

Construction activities associated with the proposed Project would result in the consumption of petroleum-based fuels. There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the State; therefore, it is expected that construction fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Minimal daily vehicular fuel consumption would occur during operation of the proposed Project, as the Project would be unstaffed during regular operations. As such, it would be expected that vehicular fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than for any other similar land use in the region.

Furthermore, to save materials and fuel for economic gain, it is to the advantage of the Applicant to implement energy efficiency and fuel use reduction strategies for all on-site equipment, and wherever possible during construction.

Compliance with all applicable building codes, state of California, County of Los Angeles, City of Industry, and City of La Puente regulations, ordinances, and policies would ensure that all natural resources are conserved to the maximum extent possible. Therefore, the proposed Project's consultation of energy resources would have a less than significant impact

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

### **No Impact.**

The California Renewable Portfolio Standard requires that 33 percent of electricity retail sales be provided by renewable energy sources by 2020. As discussed above in Section 1.6.7 (Southern California Edison), the Applicant has committed to obtaining electrical service for the proposed Project from SCE. This agreement would be issued in compliance with all applicable state and local plans for renewable energy and energy efficiency. Detailed above via the SCE Power Content Label, approximately 32 percent of SCE's energy supply currently comes from renewable sources. SCE also offers options for increased



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renewable energy mixtures. SCE is on track to meet the California Renewables Portfolio Standard (RPS) of 33 percent by 2020 mandate, and the proposed Project would not interfere with SCE's RPS goals.

As part of the State's Energy Plan and in compliance with California Code of Regulations Title 24 energy efficiency standards, the Applicant will be required to comply with the California Green Building Standards Code (CALGreen) nonresidential requirements for energy efficient buildings and appliances, where applicable. Construction and operation of the proposed Project would not obstruct or prevent the implementation of current or future state or local plans for renewable energy or energy efficiency. Compliance with existing regulations (including CALGreen) and purchasing of energy from SCE will further the state's plans for renewable energy and energy efficiency.

Neither the City of Industry nor the City of La Puente have an adopted plan for renewable energy or energy efficiency. The City of Industry General Plan does not contain any energy conservation or renewable energy goals. The City of La Puente General Plan requires energy conservation via compliance with the Title 24 energy efficiency standards discussed above.

The proposed Project would be constructed and operated in compliance with all state and local plans for renewable energy and energy efficiency and would include the Title 24 energy efficiency standards for nonresidential uses. The Project would utilize a mixture of renewable energy as available from the local provider and would not conflict or obstruct any state or local plans for renewable energy or energy efficiency.







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**3.7 GEOLOGY AND SOILS**

**3.7.1 Setting**

The Puente Valley is a tributary basin to the Main San Gabriel Basin bounded by the San Gabriel Mountains to the north, the Raymond Basin to the northwest, and a system of low hills to the south, southwest, and southeast divided by the Whittier Narrows. Within the Puente Valley, San Jose Creek subsurface sediments are dominated by alluvial sedimentary deposits derived from consolidated marine sedimentary rocks of the Puente and San Jose Hills. These deposits range in thickness from less than 25 feet in the eastern portion of Puente Valley to approximately 1,300 feet in the northwest and predominately contain fine-grained lenses inter-fingered with coarser-grained lenses. The underlying bedrock of Puente Valley is primarily of relatively impermeable consolidated marine sedimentary rocks.

The San Gabriel basin is bounded by the Sierra Madre-Duarte faults and the Raymond fault on the north, the East Montebello fault on the west, and the Puente Hills and San Jose Hills faults on the south and east (Yeats 2001). The margins of the San Gabriel Valley basin have been the site of five earthquakes between 1987 and 1991; the 1987 Whittier Narrow earthquake, the 1988 Pasadena earthquake along the Raymond fault, the 1991 Sierra Madre earthquake, and the 1988 and 1990 Upland earthquakes along a buried fault northeast of the San Jose Hills. However, the exact geometry and location of the fault systems are unclear as the basin is underlain by several subsurface faults (Caltrans 2009).

The proposed Project engineering designs will be developed to meet current California Building Standards Code, California Uniform Building Code and the California Government Code (Section 8875-8875.10) which includes multiple earthquake and ground shaking safety standards for both new and retrofit construction.

**3.7.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>GEOLOGY AND SOILS: Would the project:</b>				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving?*

- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

**Less than Significant Impact.**

The proposed Project is not located within the boundaries of a state-designated Alquist-Priolo Earthquake Fault Zone zone as designated by the California Department of Conservation Geological Survey (CGS, 2017). However, the area overlies the Little Puente Hill Fault and the Walnut Creek Fault. These faults, however, are not known to be active. As such, the proposed Project would not expose people or



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structures to potential substantial adverse effects, including the risk of loss, injury or death involving the rupture of a known earthquake fault. Therefore, the potential impact would be less than significant.

- ii) Strong seismic ground shaking?

**Less than Significant Impact.**

Seismic activity on area faults may result in ground shaking at the proposed Project site. Southern California is a seismically active area and the proposed Project site would not have a greater potential for seismic activity than other nearby locations. Additionally, proposed structures and associated elements will be designed and constructed to meet applicable state and local building code standards. Therefore, the proposed Project would have a less than significant impact in exposing people or structures to potential adverse effects from strong seismic ground shaking.

- iii) Seismic-related ground failure, including liquefaction?

**Less than Significant Impact.**

Seismic-related ground failure, including liquefaction, occurs when saturated, granular deposits of low relative density are subject to extreme shaking and, as a result, lose strength or stiffness due to increased pore water pressure. The consequences of liquefaction may include settlement or uplift of structures, and an increase in lateral pressure on buried structures. The majority of the proposed Project is within a liquefaction seismic hazard zone as designated by the California Department of Conservation Geological Survey (CGS, 2017). As defined in California Public Resources Code Section 2693(c) the proposed Project is in an area where historic occurrences of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements under certain high groundwater table conditions.

The proposed Project design will be conducted in accordance with applicable local and state building codes and will include mitigations for this potential liquefaction in the form of appropriate foundation design consistent with the design seismic event. Therefore, the potential impact from ground failure including liquefaction would be reduced to less than significant by employing these standards.

- iv) Landslides?

**No Impact.**

The proposed Project is located within an area of relatively flat terrain not adjacent to a designated hillside area. Therefore, the proposed Project is not located in an area susceptible to landslides and no impact would occur.

- b) *Result in substantial soil erosion or the loss of topsoil?*

**Less than Significant Impact.**



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The construction and operation of the proposed Project would occur along existing paved streets and previously disturbed areas. The proposed treatment plant would be built on a vacant lot that is relatively flat and will be designed to meet the City of Industry's stormwater management standards. During construction activities, erosion impacts could occur as a result of grading, excavation or building construction. Procurement of a Construction General Permit and development of an associated Stormwater Pollution Prevention Plan (SWPPP) would occur prior to construction to reduce the potential for soil erosion impacts during construction.

Therefore, potential impacts that would result from substantial soil erosion would be reduced to less than significant employing existing standards. No new mitigation would be required.

- c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

### **Less than Significant Impact.**

As discussed above, the proposed Project is characterized by relatively flat topography with no landslide hazards. While the proposed Project site may experience liquefaction in the design event, this hazard will be addressed in the design as described in detail above. Additionally, remedial grading will be required at the site to prepare the subgrade soils to accommodate foundations for the proposed structures. Therefore, the application of state and local building codes will reduce the potential impact of construction and operation of the proposed Project relative to these concerns to less than significant.

- d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating direct or indirect risks to life or property?*

### **Less than Significant Impact.**

The term expansive soils refers to soils which exhibit volumetric expansion when water content is increased and volumetric contraction when water content is decreased, potentially causing damage to foundations. During the site-specific investigations (Geosyntec, 2017a) laboratory testing indicated that near surface soils have a medium expansion potential. Expansive soils could result in a vertical movement of lightly loaded foundations or pavements. For lightly loaded foundations, the foundation design will consider the potential for soil expansion as required by state and local building codes. Therefore, the proposed Project would have a less than significant impact relative to creating substantial risks to life or property as a result of expansive soils.

- e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

### **No Impact.**

The proposed Project area does not contain soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. The proposed Project does not include the use of



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septic tanks. Construction and operation of the proposed Project would not affect any existing, or hinder further use of, septic tanks or alternative wastewater disposal systems, or the soils that would adequately support those systems. Therefore, no impacts related to soil compatibility with septic or other alternative wastewater systems would occur.

f) *Directly or indirectly destroy a unique or paleontological resource or site or unique geologic feature?*

#### **No Impact.**

The underlying geologic formations generally consist of Younger (Holocene) undivided alluvial fan and valley deposits overlaying Lower Fernando Formation (Pliocene) found at depths of 100 to 200 feet. The surficial sediments underlying the proposed Project area are not anticipated to have high paleontological sensitivity or contain scientifically significant paleontological resources. There are no known unique geologic features within the proposed Project area and none are anticipated to be present; therefore, there would be no impacts to unique paleontological resource or site or unique geologic feature.





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**3.8 GREENHOUSE GAS EMISSIONS**

**3.8.1 Setting**

Greenhouse Gases (GHGs) are defined as any gas that absorbs infrared radiation in the atmosphere. Common GHGs include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), ozone (O<sub>3</sub>), and aerosols. GHGs are emitted by both natural processes and human activities, and lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the "Greenhouse Effect." There is increasing evidence that GHGs and the Greenhouse Effect are leading to global warming and climate change (USEPA, 2015).

Climate change refers to any significant change in measures of climate (e.g., temperature or precipitation) lasting for an extended period of time (decades or longer). Climate change may result from natural processes, such as changes in the sun's intensity; natural processes within the climate system (such as changes in ocean circulation); human activities that change the atmosphere's composition (such as burning fossil fuels) and the land surface (such as urbanization). "The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the State from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems." (California Health & Safety Code, Division 25.5, Part 1).

In September 2006, the Global Warming Solutions Act of 2006 (AB 32) was signed into law by former Governor Arnold Schwarzenegger. AB 32 and subsequent Statutes establish a statewide GHG emission reduction target of require that statewide GHG emissions be reduced to 1990 levels by the year 2020 and 40 percent below 1990 levels by 2030. The law requires this reduction to be accomplished through a variety of measures, including an enforceable statewide cap on greenhouse gas emissions that has been phased-in since 2013. AB 32 directs California Air Resources Board (CARB) to develop and implement regulations to reduce statewide greenhouse gas emissions from stationary sources.

CARB adopted the AB 32 Scoping Plan on December 12, 2008. The Scoping Plan provides the outline for future actions to reduce California's GHG emissions and establishes a schedule for CARB and other state agencies to adopt implementing regulations and other initiatives to reduce GHG emissions.

One of the most significant measures called for in the Scoping Plan is the statewide cap on emissions from the largest sources of GHG emissions. The cap-and-trade regulation was approved by CARB on December 16, 2010, following public review and comment. This regulation calls for a phased program starting in 2012, which includes electricity producers, electricity imports, and large industrial facilities (those with greater than 25,000 metric tons carbon dioxide per year). Starting in 2015, distributors of transportation fuels, natural gas, and other fuels will be included in the cap-and-trade program. The plan is expected to be updated in 2016.





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Facilities covered in the cap-and-trade program are not given a specific limit on their GHG emissions but must supply a sufficient number of allowances (each covering the equivalent of one metric of carbon dioxide equivalent [CO<sub>2</sub>e]) to cover their annual emissions. Each year, the total number of allowances issued in the state drops, requiring covered facilities to find the most cost-effective and efficient approaches to reducing their emissions. Facilities without sufficient allowances to cover their annual emissions must acquire additional allowances or offsets. By the end of the program in 2020, there will be a reduction in GHG emissions sufficient to reach the same level of emissions as the state experienced in 1990, as required under AB 32. Originally slated to expire in 2020, Governor Jerry Brown signed legislation on July 25, 2017 to extend the cap and trade regulation until 2030.

City of Industry has not adopted a GHG reduction plan or climate action plan.

**3.8.2 Impact Analysis**

The SCAQMD applies a significance threshold of 10,000 metric tons of CO<sub>2</sub>e emissions per year for industrial land uses to characterize greenhouse gas/climate change impacts. To determine a project's total emissions per year, the proposed Project's construction emissions are divided by its anticipated lifetime and added to the project's annual operating emissions per SCAQMD guidance for industrial projects (SCAQMD, 2015).

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>GREENHOUSE GASES: Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Less than Significant Impact.**

Construction activities associated with the proposed Project would require the operation of on-road vehicles and conventional off-road construction equipment that would emit GHG emissions from engine exhaust. In the operation phase, GHG emissions would primarily result from site worker operation of on-road vehicles and from indirect electrical consumption to operate the water treatment plant. GHG emissions for the proposed Project have been estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (CalEEMod, 2016). Detailed GHG emissions estimates for the proposed



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Project are included in Appendix A (Project Emissions Estimates). Table 6, below, presents a summary of the estimated total GHG emissions as a result of implementing the proposed Project.

**Table 6 Total Estimated Project GHG Emissions**

Project Phase	Total Metric Tons			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Construction Emissions <sup>1</sup>	385.17	0.07	0.00	386.95
Operation Emissions	157.06	1.78	0.02	206.22
<b>Total Project Emissions</b>	<b>542.23</b>	<b>1.85</b>	<b>0.02</b>	<b>593.17</b>
Draft SCAQMD Threshold				10,000
<b>Project Emissions Exceed SCAQMD Threshold?</b>				<b>No</b>
Notes: 1. Total construction emissions were added to operation phase emissions without amortizing them over 30 years pursuant to SCAQMD guidelines to provide a conservative analysis.				

As shown above in Table 6, the proposed Project’s estimated 593.17 metric tons of CO<sub>2</sub>e emissions is well below the 10,000 metric tons CO<sub>2</sub>e significance threshold. As such, the proposed Project would not generate greenhouse gas emissions, (total direct and indirect GHG emissions), that would have a substantial adverse effect on the environment and potential impacts would be less than significant.

*b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**Less than Significant Impact.**

Large industrial facilities (those with emissions greater than 25,000 metric tons CO<sub>2</sub> per year) are subject to compliance with AB 32’s cap-and-trade program. Because the proposed Project would emit less than 25,000 metric tons CO<sub>2</sub> per year, it is not subject to compliance with AB 32’s cap-and-trade program. In addition, City of Industry has not adopted a Climate Action Plan. The proposed Project would not conflict with measures identified by the California Air Pollution Control Officer’s Association to reduce GHG emissions nor would it conflict with policies in the City of Industry’s 2014 General Plan (City of Industry, 2014c) for the purposes of reducing GHG emissions. Therefore, the proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases and potential impacts would be less than significant.





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## 3.9 HAZARDS AND HAZARDOUS MATERIALS

### 3.9.1 Setting

There are various federal, state and local programs that regulate the use, storage, transportation, and disposal of hazardous materials and hazardous wastes. These programs can reduce the risk that hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

#### Federal and State

##### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law that regulates the generation, management, transportation and disposal of hazardous waste. Hazardous waste management includes the treatment, storage, and disposal of hazardous waste. Treatment is any process that changes the physical, chemical, or biological character of the waste to reduce its potential as an environmental threat. Treatment can include neutralizing the waste, recovering energy or material resources from the waste, rendering the waste less hazardous, or making the waste safer to transport, dispose of, or store.

RCRA gave the USEPA the authority to control hazardous waste from “cradle to grave,” that is, from generation to ultimate disposal. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. It should be noted that RCRA focuses only on active and future facilities and does not address abandoned or historical sites.

##### Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as Superfund, was enacted to protect water, air, and land resources from the risks created by past chemical disposal practices such as abandoned and historical hazardous wastes sites. Through the act, USEPA was given power to seek out those parties responsible for any release and to compel appropriate cleanup activities. This federal law created a tax on the chemical and petroleum industries that went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priority List (NPL) of sites, which are known as Superfund sites.

##### Superfund Amendments and Reauthorization Act

CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986. Title 5 of this regulation requires that each community establish a local emergency planning committee to develop an emergency plan to prepare for and respond to a chemical emergency. The emergency plan is



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reviewed by the State Emergency Response Commission and publicized throughout the community. The Certified Unified Program Agency (CUPA) is responsible for coordinating hazardous material and disaster preparedness planning and appropriate response efforts with city departments as well as local and state agencies. The CUPA with responsibility for the project site is the Los Angeles County Fire Department (LACFD). The goal is to improve public- and private-sector readiness and to mitigate local impacts resulting from natural or man-made emergencies.

#### Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law helps local communities protect public health, safety, and the environment from chemical hazards. The primary purpose of EPCRA is to inform communities and citizens of chemical hazards in their areas by requiring businesses to report the locations and quantities of chemicals stored onsite to state and local agencies. These reports help communities prepare to respond to chemical spills and similar emergencies. Section 3131 of EPCRA requires manufacturers to report releases to the environment (air, soil, and water) of more than 600 designated toxic chemicals; report offsite transfers of waste for treatment or disposal at separate facilities; pollution prevention measures and activities; and participate in chemical recycling. These annual reports are submitted to the USEPA and state agencies. The USEPA maintains and publishes a database that contains information on toxic chemical releases and other waste management activities by certain industry groups and federal facilities. This online, publicly available, national digital database is called the Toxics Release Inventory, and was expanded by the Pollution Prevention Act of 1990.

#### Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 was enacted by Congress to give USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. Under TSCA, USEPA screens these chemicals and can require reporting or testing of any that may pose an environmental or human health hazard. It can ban the manufacture and import of chemicals that pose an unreasonable risk. Also, USEPA has mechanisms in place to track the thousands of new chemicals that industry develops each year with either unknown or dangerous characteristics. It then can control these chemicals as necessary to protect human health and the environment. The act supplements other federal statutes, including the Clean Air Act and the Toxic Release Inventory under EPCRA.

#### Occupational Safety and Health Administration Regulation 29 CFR Standard 1926.62

The Occupational Safety and Health Administration (OSHA) Regulation 29 Code of Federal Regulations (CFR) Standard 1926.62 regulates the demolition, renovation, or construction of buildings involving lead materials. It includes requirements for the safe removal and disposal of lead and the safe demolition of buildings containing lead-based paint or other lead materials.



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### Responsible agencies that regulate hazardous materials and waste include:

#### United States Environmental Protection Agency

USEPA is the primary federal agency that regulates hazardous materials and waste. In general, USEPA works to develop and enforce regulations that implement environmental laws enacted by congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the RCRA and in cooperation with state and tribal partners, the Waste Management Division manages a hazardous waste program, an underground storage tank program, and a solid waste program that includes development of waste reduction strategies such as recycling.

#### California Environmental Protection Agency

Cal/EPA was created in 1991 by Governor's Executive Order. The six boards, departments, and offices were placed under the Cal/USEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources. Cal/EPA oversees hazardous materials and hazardous waste compliance throughout California.

#### California Department of Toxic Substances Control

California Department of Toxic Substances Control is a department of Cal/EPA, which carries out the RCRA and CERCLA programs in California to protect people from exposure to hazardous substances and wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations, Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

### Local

#### City of Industry

As a major industrial center, the City of Industry contains business that store and use hazardous materials. Additionally, the City functions as a transportation corridor with major rail lines and numerous freeways carrying high volumes of truck and train traffic, which can pose real threats in the event of a spill or unauthorized release.

The Health Hazardous Materials Division of the LACFD oversees, plans, and responds to issues related to hazardous materials and waste for the City.



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The storage and use of hazardous materials for the proposed Project are governed by federal, state, and local laws. Applicable laws and regulations address the use and storage of hazardous materials to protect the environment from contamination as well as to protect workers and the surrounding community from exposure to hazardous materials.

**3.9.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>HAZARDS AND HAZARDOUS MATERIALS: Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the Project Area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

**Less than Significant Impact.**



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Construction of the proposed Project would involve the use of hazardous materials typical of construction projects such as fuel and lubricants. Operation of the proposed Project would involve extraction and conveyance of non-hazardous classified contaminated groundwater, with the water being treated in the water treatment plant. The water treatment system would utilize sulfuric acid, hydrogen peroxide, sodium bisulfite, sodium hydroxide, sodium hypochlorite, anti-scalant, acid and caustic cleaners. Associated brine waste would not be considered a hazardous material.

Transport, use, or disposal of these hazardous substances during construction and operation would occur in accordance with applicable regulations designed to protect the public and environment, therefore, no significant impacts to the public or environment through the routine transport, use or disposal of hazardous waste and/or materials is anticipated. There would be a less than significant impact complying with existing standards and regulations. No new mitigation would be required.

*b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

#### **Less than Significant Impact.**

Construction of the water conveyance pipelines connecting the existing extraction wells will occur within public road right-of-ways which may also contain other utility pipelines. Disturbing existing utility lines, such a natural gas or crude oil during pipeline installation has the potential to result in a release of hazardous materials that could create a hazard to the public or environment. To minimize potential damage to any existing utilities, the contractor would not be allowed to excavate until all utility owners are notified, all substructures are clearly identified, and all permits have been secured (USA Dig Alert, encroachment permits, building permits, etc.).

As described in the response to impact a) above, operation of the water treatment plant would involve the use of some chemicals. A release of any of these materials could create a hazard to the public or the environment. In addition to transporting, storing, and handling these materials in accordance with applicable safety regulations, LPVCWD would be required to prepare a Hazardous Materials Business Plan. LACFD also conducts Uniform Fire Code inspections and assists in reducing risks associated with the use of hazardous materials in the community.

LACFD also has a dedicated hazardous materials response team. The hazardous materials control and safety programs and available emergency response resources of LACFD, along with LACFD periodic inspections to ensure regulatory compliance, would reduce any potential risk associated with a release within the city (City of Industry General Plan 2014c).

The nearest residences to the water treatment plant site are located more than 700 feet northeast. Although the proposed Project does include the use of some hazardous materials, compliance with existing rules and regulations and distance to sensitive receptors would reduce the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Potential impacts would be less than significant. No new mitigation would be required.





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- c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

**No Impact.**

No portion of the proposed Project is located within a quarter-mile of a school. Therefore, the proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact would occur.

- d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

**No Impact.**

While the groundwater aquifer below the Project site is listed on the hazardous materials sites compiled pursuant to Government Code Section 65962.5, the land on which the Project will be built and operated is not identified on that list. Therefore, no impact would occur.

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the Project Area?*

**No Impact.**

The proposed Project is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would not result in a safety hazard for people residing or working in the Project area; therefore, construction and operation of the proposed Project will have no impact.

- f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

**Less than Significant Impact.**

The proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As discussed previously, LACFD has a dedicated hazardous materials response team. The hazardous materials control and safety programs and available emergency response resources of LACFD, along with LACFD periodic inspections to ensure regulatory compliance, would reduce any potential risk associated with commercial and industrial businesses within the city. The proposed Project is located within the employment/ industrial business sector of the city and therefore would be consistent with this program. Pipeline installation would occur in compliance with an encroachment permit and related conditions to ensure emergency access along roadways is maintained during construction. Potential impacts would be less than significant.



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*g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

**No Impact.**

The proposed Project site is not located in an area classified as a “Wildland Area That May Contain Substantial Forest Fire Risks and Hazards” or a “Very High Fire Hazard Severity Zone” by the California Department of Forestry and Fire Protection (CAL FIRE 2011). Therefore, construction and operation of the proposed Project will have no impact to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands.





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**3.10 HYDROLOGY AND WATER QUALITY**

**3.10.1 Setting**

Water supply to the City of Industry is provided by six separate water agencies: LPVCWD, Rowland Water District, San Gabriel Valley Water Company, Suburban Water Systems, Walnut Valley Water District, and City of Industry Waterworks System. The City of Industry also uses reclaimed water from the San Jose Creek Water Reclamation Plant, which is located on the western boundary of the City. Water supply to the City of La Puente is provided by three separate water agencies: Suburban Water Systems, La Puente Valley County Water District, and the San Gabriel Valley Water Company.

The City of Industry and the City of La Puente both lie within the San Gabriel River Watershed, which drains to the Pacific Ocean through the San Gabriel River, including numerous storm drainage structures and the Walnut and San Jose Creeks in or near both La Puente and Industry. The watershed in Los Angeles County is under the authority of the Los Angeles RWQCB. The County of Los Angeles Department of Public Works leads the planning and implementation of the San Gabriel River Watershed Plan.

The NPDES regulations require permits for certain municipal storm sewer system (MS4 Permit) discharges and industrial (including construction) stormwater discharges to surface water. NPDES stormwater permits are required for most municipalities, certain industrial facilities, and construction activities that result in a land disturbance of one acre or more. In California, the State Water Resources Control Board (SWRCB) and local RWQCBs have assumed the responsibility of implementing the NPDES permit program.

As noted above, USEPA has incorporated the substantive NPDES requirements into ARARs for surface water discharge. These ARARs are published in the ESD (ESD, 2005). The ESD notes that, consistent with CERCLA, an on-site discharge to surface waters must meet the substantive NPDES requirements but need not obtain an NPDES permit nor comply with the administrative requirements of the permitting process. The IROD clarifies that discharge to surface water is considered an on-site activity under the IROD. Though a NPDES permit is not required under the IROD, the Project may apply for a NPDES permit to coordinate the discharge with the RWQCB and to demonstrate compliance with NPDES requirements.

The Sanitation Districts' Wastewater Ordinance requires any business that desires to discharge industrial wastewater to the Districts' sewage system to first obtain an industrial wastewater discharge permit.



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**3.10.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>HYDROLOGY AND WATER QUALITY: Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede substantial groundwater management of the basin.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

**Less than Significant Impact.**

The proposed Project would result in a disturbance greater than one acre therefore, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared to address any potential discharge requirements



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during construction. The water generated during the operation of the proposed Project would be treated and discharged to surface water (San Jose Creek) via the storm drain.

Generally, discharges to surface waters are regulated by the RWQCB through the issuance of NPDES permits. As part of the proposed Project, the USEPA has incorporated the substantive NPDES requirements into ARARs for surface water discharge. These ARARs are published in the ESD (ESD, 2005). The ESD notes that, consistent with CERCLA, an on-site discharge to surface water must meet the substantive NPDES requirements, but the Project would not need to secure an NPDES permit nor comply with the administrative requirements of the permitting process. The IROD clarifies that discharge to surface water is considered an on-site activity under the IROD.

Though a NPDES permit is not required under the IROD, Northrop Grumman may apply for a NPDES permit to coordinate the discharge with the RWQCB and to demonstrate compliance with NPDES requirements. The NPDES permit requirements include a monitoring and reporting program and Waste Discharge Requirements that specify effluent limitations for flow and water quality. Water quality effluent limitations take the form of both concentration and load-based thresholds and are generally based on Water Quality Control Plan –Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) Objectives. They are occasionally adjusted to allow for dilution credits, site-specific objectives, and/or Total Maximum Daily Load (TMDL) waste-load allocations.

The treated water discharged to San Jose Creek would meet all applicable water quality rules, regulations and standards by complying with the existing laws, regulations, and permit requirements outlined in Section 1.6 (Permits, Approvals, and Agreements). The proposed Project would not violate any water quality standards or waste discharge requirements and would have a less than significant impact.

*b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede substantial groundwater management of the basin)?*

### **Less than Significant Impact.**

The intent of the proposed Project includes removal, treatment, and protection of groundwater supplies in the San Gabriel Valley through remediation of existing groundwater contamination and limiting vertical and lateral migration of contaminated groundwater within the PVOU portion of the San Gabriel Basin. The proposed Project would extract contaminated groundwater, treat the water to applicable water quality standards, and discharge the treated water to San Jose Creek. Between 50 and 220 gallons per minute of contaminated groundwater would be extracted, treated, and discharged as part of the proposed Project.

### **Pumping Patterns and Groundwater Levels**

The proposed Project is intended to extract water within a limited area of the Basin, with extraction rates limited to what is necessary to control the vertical and lateral migration of contaminants within the SZ-South. Existing production wells in the geographic vicinity primarily draw water from the DZ, with only a small portion of their water from the IZ. Upon operation of the IZ Interim Remedy Project, the San Gabriel VWC's well drawing from the IZ will be shut down, and all of San Gabriel VWC's water production within



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the vicinity of the PVOU will be from the deeper aquifers. The deep aquifers are relatively unaffected by the production of water in the IZ and SZ; the recharge and water supply for these aquifers are influenced more by water recharge operations in the main part of the Basin.

The Watermaster manages groundwater in the Main San Gabriel Basin. The Watermaster administers and enforces the provisions of the Judgment and the responsibility for efficient management of the quantity and quality of the Basin's groundwater. Northrop Grumman will obtain a Water Production Agreement (WPA) from the Watermaster for the operation of the extraction wells, the treatment plant, and the surface water discharge to San Jose Creek.

Compliance with the Watermaster's regulations will further ensure that the Project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

#### **Regional Water Supply**

The supply of groundwater in the Basin is affected by two different court judgments. With respect to the Main San Gabriel Basin, the water supplies within the Main Basin are sustained as necessary with replenishment of "supplemental water." Pursuant to the terms of the Judgment, the Watermaster determines annually the "operating safe yield" of the Basin, which is the amount of water that may be pumped from the Basin each year without creating a replacement water obligation. Production in excess of this amount is replaced with water purchased from "Responsible Agencies," which supply supplemental water from either imported sources or recycled water sources. The Responsible Agencies are Upper San Gabriel Valley Municipal Water District (USGVMWD), San Gabriel Valley Municipal Water District and Three Valleys Municipal Water District.

The second Judgment concerns the San Gabriel River. The waters of the San Gabriel River are apportioned between the Main San Gabriel Basin (referred to as the Upper Basin) and the Central Basin (referred to as the Lower Basin) pursuant to the terms of the judgment in *City of Long Beach vs. San Gabriel Valley Water Company, et al.* (Los Angeles County Superior Court, 1964). Pursuant to that Judgment, the Upper Basin must provide on average a usable flow of 98,300 acre-feet per year to the Lower Basin. Usable flow is delivered as 1) supply on municipal systems in the Lower Basin from water pumped in the Upper Basin, 2) Surface flow across the Whittier Narrows that is recharged in the Central Basin, or 3) underground flow across the Whittier Narrows. If the flow from these sources is inadequate, then supplemental water either in the form of recycled water or as imported water is purchased by the Upper Basin for delivery to the Lower Basin.

Whether the production of contaminated groundwater by the SZ-South Interim Remedy Project would significantly impact the supply of groundwater in the Basin can also be determined by evaluating the end use of the treated groundwater produced by the Project. Treated water would be discharged to San Jose Creek with a vast majority of that discharged water recharging either the Main San Gabriel Basin or the lower Central Basin.

If water is recharged within the Main San Gabriel Basin, it effectively replaces the contaminated groundwater produced from the Basin by the SZ-South Interim Remedy Project. If the water recharges downstream in the lower Central Basin, it constitutes "usable flow" and satisfies a part of the adjudicated



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obligation of the Upper Area (e.g., the Main Basin) to the Lower Area. If under rare circumstances a small portion of such discharged water does not recharge into either basin, that water must be replaced by a Responsible Agency under the Main San Gabriel Judgment.

Regardless of the end use of the treated groundwater, the SZ Interim Remedy Project will produce waste concentrate (“brine”). The groundwater flow intercepted by the Project has inorganic constituents in excess of the Basin plan and the aesthetic criteria for municipal water supplies. This high TDS water would, absent the Project, flow into the larger body of water in the central part of the Main Basin and blend with the lower TDS water. However, when intercepted in this manner, the high TDS of the pumped groundwater must be reduced prior to discharge, which will result in a waste concentrate stream from the RO treatment process (i.e., brine). It is estimated that 20% of the feed water will be discharged as concentrate waste. At an influent flow rate of 85 gpm, the concentrated flow is anticipated to be approximately 15-16 gpm, per the Pre-Final Design Report (Geosyntec, 2019b). Replenishment of that amount of water is discussed below.

#### **Significance of Potential Impact on Water Supplies**

Water that is lost during surface water discharge and water that is discharged to the sewer from the RO treatment process will create a new regional demand on groundwater supply. The total increased use would be up to 70 acre-feet per year plus incidental losses during surface discharge, if applicable. The Applicant would pay the main San Gabriel Basin Watermaster Replacement Water Assessments as detailed in the Pre-Final Design Report. Each of the Agencies prepares an Urban Water Management Plan detailing its ability to meet existing obligations and future water demands. Those plans demonstrate that each of the agencies have adequate water supplies to meet future water demands, such as the future water demand of the Project. Further, the Judgment and the Watermaster Rules provide a legal framework aimed at assuring an adequate supply of water in the Basin. Based on compliance with that framework and the above technical analysis, the SZ-South Interim Remedy Project would not significantly impact the supply of water in the Basin.

In addition, the proposed Project would benefit the current groundwater supplies and recharge efforts by treating the contaminated groundwater and limiting migration of groundwater contamination in the PVOU. Potential impacts to groundwater supply or recharge would be less than significant.

*c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i) result in substantial erosion or siltation on- or off-site?

#### **No Impact.**

Pipelines would be constructed along public streets and rights-of-way and the treatment facility within a zoned industrial parcel and would not permanently alter the drainage pattern of the area. The pipelines would be buried during construction and remain buried underground during operations. Construction of the proposed Project would not alter the course of a stream or river; additionally, an erosion control plan





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would be developed and implemented for all the Project components, to minimize the potential for erosion or siltation on- or off-site. None of the proposed construction methods are anticipated to substantially increase the rate or amount of surface runoff or result in flooding on- or off-site. Operation of the proposed Project would not affect the course of a stream or river. The proposed Project site is currently covered in impervious surfaces, and the proposed Project would not increase the amount of impervious surfaces above existing conditions. Therefore, no impact is anticipated.

- ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

### **No Impact.**

See impact discussion for i) above.

- iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

### **Less than Significant Impact.**

Operation of the proposed Project includes the treatment of groundwater to applicable water quality standards prior to discharge to San Jose Creek. Additional sources of polluted runoff are not anticipated to occur. The proposed additions to the existing treatment facility would be built on a mostly paved lot currently utilized for water treatment. During construction activities, erosion impacts could occur as a result of minor grading, excavation, or building construction. Procurement of a Construction General Permit and development of an associated Stormwater Pollution Prevention Plan (SWPPP) would occur prior to construction to reduce the potential for soil erosion impacts or loss of topsoil and to develop preferential pathways for stormwater during construction.

Therefore, potential impacts to stormwater systems from increased runoff volumes or polluted runoff due to construction and operation of the proposed Project would be less than significant.

- iv) Impede or redirect flood flows?

### **No Impact.**

As noted above, the proposed Project components are located outside of the 100-year and 500-year floodplains. Proposed Project components are also located outside of dam inundation areas. The proposed wells and portions of the water conveyance pipeline near the northwestern project extents are located near, but outside the Puddingstone Dam Inundation Area. Project facilities would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact would occur.

- d) *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

### **No Impact.**



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### DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

The proposed Project area is not subject to flood hazard, seiche, or tsunami-related inundation, as it is not located within the range of a seiche hazard zone or tsunami hazard zone. As the proposed Project is not at risk of these events, the risk release of pollutants due to these events is not anticipated. Therefore, there would be no impact from construction and operation of the proposed Project.

e) *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

#### **No Impact.**

As discussed above, the proposed Project is being constructed to protect existing groundwater supplies in the San Gabriel Valley through remediation of existing groundwater contamination and limiting the vertical and lateral migration to contaminated groundwater within the PVOU portion of the San Gabriel Basin. Construction, operation and maintenance of the proposed Project would not conflict or obstruct the implementation of water quality control plans or sustainable groundwater management plans, as the Project is being constructed to achieve compliance with such plans and other regulatory requirements. No impact would occur.





**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.11 LAND USE AND PLANNING**

**3.11.1 Setting**

The Project is mainly located within area governed by the City of Industry’s General Plan, although portions of the Project lie within La Puente and unincorporated Los Angeles County (City of Industry General Plan 2014, City of La Puente 2004). With respect to the City of Industry’s planning documents, the Project is located within the “Employment” land use designation of the City’s General Plan and the City’s Industrial (I) zone. Based in the Letter dated June 23, 2015, signed by Brian James, Planning Director of the City of Industry on June 24, 2015, the proposed Project would be consistent with those land use designation and zoning in the City of Industry. The letter also indicates that the Project as proposed would not require a Conditional Use Permit.

In general, the Project is located near commercial, industrial, and institutional areas to the east, west and south, with residential areas to the north.

**3.11.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>LAND USE AND PLANNING: Would the project:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) *Physically divide an established community?*

**No Impact.**

The proposed installation of conveyance pipes to connect the existing extraction wells, a conveyance pipeline to the new treatment plant, and a water treatment plant for the shallow zone would not be in residential areas, with the exception of the proposed pipeline work along Cadbrook Drive. However, construction activities will be contained within the right-of-way of the street and will not physically divide an established community. The proposed treatment plant would be located within an Industrial zone. All construction activities will be temporary in nature and will not permanently divide the community. Therefore, the proposed Project would have no impact on an established community.



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*b) Cause a significant environmental impact to due a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

**Less than Significant Impact.**

The proposed Project would be compatible with the goals and policies of the City of Industry and La Puente General Plans (City of Industry 2014c; City of La Puente 2004). Based on the letter dated June 23, 2015, signed by Brian James, Planning Director of the City of Industry, the proposed Project has been found to be consistent with the City's applicable land use designation and zoning and does not require the approval of a Conditional Use Permit.

The City of Industry General Plan is intended to continue to be a business and employment hub accommodating uses such as manufacturing, assembly, machining, distribution, warehousing, retail, and offices. Institutional uses are also encouraged as needed to further accommodate the employment uses. The City of La Puente General Plan is intended to create opportunities for new commercial business growth, preserve and enhance the quality of residential neighborhoods and infrastructure, and accommodate and attract industrial businesses.

The proposed installation of conveyance pipelines to the existing extraction wells, conveyance pipeline to the new treatment plant, and a water treatment plant for the shallow zone will not impact business growth or reduce the quality of residential areas as these are proposed for underground installation along existing roads. The proposed installations will not impact business growth as the conveyance pipelines and new treatment plant will be installed in an existing developed area that will not significantly reduce the acreage available for development. The proposed treatment plant would be located within an Industrial zone and meets the overall goals and policies for uses within industrial zones for the City of Industry General Plan. Therefore, the proposed Project will result in a less than significant impact to any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project.



DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

3.12 MINERAL RESOURCES

3.12.1 Setting

There are currently no ordinances or plans governing mineral use within the City of Industry or the City of La Puente.

3.12.2 Impact Analysis

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>MINERAL RESOURCES: Would the project:</b>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

**No Impact.**

The proposed Project is not located within the vicinity of a known Mineral Resource Zone as designated by the County of Los Angeles and no Mineral Resource Zones are identified within the City of La Puente or City of Industry General Plans (City of Industry General Plan 2014c). Neither the construction nor operation of the proposed Project would result in a loss of availability of a known mineral source. Therefore, there are no impacts to known mineral resources from construction and operation of the proposed Project.

b) *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

**No Impact.**

As stated above, the proposed Project is not located in an area of known Mineral Resource Zone containing locally important mineral resources as designated by the County or Cities. Therefore, there are no impacts from the construction and operation of the proposed Project that would result in a loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.





**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.13 NOISE**

**3.13.1 Setting**

Noise is defined as unwanted sounds, and it is known to have several adverse effects on people, including hearing loss, speech and sleep interference, psychological responses, and annoyance. As a result, the federal government, the State of California, and local jurisdictions have established noise criteria to control noise and protect public health and safety.

The decibel (dB) is the preferred unit used to measure sound levels utilizing a logarithmic scale to account for large ranges in audible sound intensities. A general rule for the decibel scale is that a ten dB increase in sound is perceived as a doubling of loudness by the human ear. Environmental noise levels are typically stated in terms of decibels on the A-weighted scale (dBA). The A-weighted decibel (dBA) is a method of sound measurement which assigns weighted values to selected frequency bands in an attempt to reflect how the human ear responds to sound. The range of human hearing is from zero dBA (the threshold of hearing) to about 140 dBA which is the threshold of pain.

Existing Noise Sources

The City of Industry is devoted to industrial commercial uses, which are less sensitive to noise than other land uses. Existing sources of noise in the proposed Project area primarily originate from roadways and commercial or industrial land uses as well as the nearby rail line and helicopter pad on an intermittent basis. Traffic and truck noise are generated on regional and local roadways within the City of Industry. Stationary sources of noise include commercial and industrial equipment and activities. Industrial and warehousing operations are major noise sources in the City of Industry. In addition to onsite mechanical equipment, which generates noise, warehousing and industrial land uses generate substantial truck traffic, which results in additional noise on local roadways in the vicinity of industrial operations.

Nearby Sensitive Noise Receptors

The nearest sensitive receptors to the proposed water treatment plant site are residences located approximately 700 feet to the northeast. There are residences located north of and parallel to East Nelson Avenue adjacent to the proposed water conveyance pipelines. One of the two existing booster pump stations proposed to be upgraded with a replacement pump is located adjacent to residential land uses.

**Noise Regulations**

**State of California Building Code.** California's noise insulation standards are codified in the California Building Code and apply to new construction for the purpose of ensuring compatibility between interior and exterior noise sources.

**State of California Land Use Compatibility Criteria.** Provides a tool to gauge the compatibility of new land uses relative to noise levels; identifies normally acceptable, conditionally acceptable designation acceptable and clearly unacceptable noise levels for various land uses.





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### City of Industry

**City of Industry Municipal Code.** The City of Industry regulates noise nuisances under Chapter 1.30, which addresses public nuisances; and under Chapter 17.12, which addresses noise from entertainment uses. The City does not have a Noise Ordinance prescribing maximum permissible noise levels. For CEQA analyses and corresponding mitigation recommendations, the City defers to the County of Los Angeles's Noise Ordinance.

**City of Industry General Plan.** The City incorporates the state mandated noise element into the Safety Element of the 2014 General Plan. The Safety Element includes the following goal and policies related to noise.

#### Goal

S6 An environment where noise does not adversely affect sensitive land uses.

#### Policies

- S6-1 Coordinate with Caltrans, San Gabriel Valley Council of Governments, Southern California Association of Governments, neighboring jurisdictions, and other transportation providers in the preparation and maintenance of transportation and land use plans to minimize noise impacts and provide appropriate mitigation measures.
- S6-2 Address noise impacts through the effective enforcement of the noise ordinance, project and environmental review, and compliance with state and federal noise standards.
- S6-3 Consider the noise levels likely to be produced by any new businesses or substantially expanded business activities locating near existing noise-sensitive uses such as schools, community facilities, and residences, as well as adjacent to established businesses involving vibration-sensitive activities.

### Los Angeles County

#### County of Los Angeles Code

The County of Los Angeles regulates noise through the County Code, Title 12, Chapter 12.08 (Noise Control). Pursuant to the County Code, the county restricts noise levels generated at a property from exceeding certain noise levels for extended periods of time.

#### Exterior Noise Standards

The county applies the Noise Control Ordinance standards summarized in the table below to non-transportation fans, blowers, pumps, turbines, saws, engines, and other like machinery. These standards do not gauge the compatibility of developments in the noise environment but provide restrictions on the amount and duration of noise generated at a property, as measured at the property line of the noise receptor. The county's noise ordinance is designed to protect people from objectionable non-



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transportation noise sources such as music, construction activity, machinery, pumps, and air conditioners. The noise standards in Table 7 below, unless otherwise indicated, apply to all property within a designated noise zone.

**Table 7 County of Los Angeles Exterior Noise Standards**

Noise Zone	Time Period	Maximum Permissible Noise Level (dBA) <sup>1,2</sup>				
		L <sub>50</sub>	L <sub>25</sub>	L <sub>08</sub>	L <sub>02</sub>	L <sub>max</sub>
Noise-Sensitive Area	Anytime	45	50	55	60	65
Residential Properties	10pm to 7am	45	50	55	60	65
	7am to 10pm	50	55	60	65	70
Commercial Properties	10pm to 7am	55	60	65	70	75
	7am to 10pm	60	65	70	75	80
Industrial Properties	Anytime	70	75	80	85	90

Source: County of Los Angeles Municipal Code, Section 12.08.390.

Notes:

1. L<sub>50</sub>, L<sub>25</sub>, L<sub>08</sub>, L<sub>02</sub> = the A-weighted noise levels that are exceeded 50 %, 25 %, 8 %, and 2 % of the time during the measurement period. L<sub>max</sub> = the A-weighted maximum noise level during the measurement period.
2. According to Section 12.08.390, if the ambient noise levels exceed the exterior noise standards in the above table, then the ambient noise level becomes the noise standard. If the source of noise emits a pure tone or impulsive noise, the exterior noise levels limits shall be reduced by five decibels.
3. If the measurement location is on a boundary property between two different zones, the noise limit shall be the arithmetic mean of the maximum permissible noise level limits of the subject zones; except when an intruding noise source originates on an industrial property and is impacting another noise zone, the applicable exterior noise level shall be the daytime exterior noise level for the subject receptor property.

**Construction Noise**

The County prohibits the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7 PM and 7 AM, or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance. Table 8 summarizes the County’s maximum noise levels that may not be exceeded during construction activities.



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**Table 8 County of Los Angeles Construction Noise Limits**

	<b>Single-Family Residential</b>	<b>Multi-Family Residential</b>	<b>Semi-Residential/ Commercial</b>
Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment			
Daily, except Sundays and legal holidays, 7 AM to 8 PM	75 dbA	80 dbA	85 dbA
Daily, 8 PM to 7 AM and all day Sunday and legal holidays	60 dbA	64 dbA	70 dbA
Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment			
Daily, except Sundays and legal holidays, 7 AM to 8 PM	60 dBA	65 dBA	70 dBA
Daily, 8 PM to 7 AM and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA
Source: County of Los Angeles Municipal Code, Section 12.08.440.			

**3.13.2 Impact Analysis**

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less than Significant Impact with Mitigation Incorporated</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
<b>NOISE: Would the project result in:</b>				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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- a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

**Less than Significant Impact.**

Noise would be generated during proposed Project construction primarily from operating conventional construction equipment associated with well drilling, pipeline installation, and water treatment plant installation. Only pipeline installation and well drilling would occur in close proximity to sensitive receptors. Construction activities would occur between the hours of 7 AM to 7 PM, unless otherwise approved through variance or as an encroachment permit condition. Pipeline installation would progress in a linear manner with construction activities taking place at one location for short time periods. However, some portions of the pipe may be installed in sections that are not consistently linear. This would allow for installation at times when construction is already taking place within the City of industry and provides an opportunity of installation.

Operation phase noise would include activities associated with the water treatment plant. The pipelines would be installed in the subsurface and will not generate any noise during operation. As noted above, the water treatment plant site is located within an industrial area removed from nearby sensitive noise receptors.

Considering the above, the proposed Project would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Potential impacts would be less than significant.

- b) *Generation of excessive ground borne vibration or ground borne noise levels?*

**Less than Significant Impact.**

As discussed above in response to impact discussion a), only pipeline installation and well drilling would occur in close proximity to sensitive receptors. This activity does not involve sources of substantial ground borne vibration such as the use of impact devices or a substantial number of tracked off-road equipment. Project operation does not include any source of excessive ground borne vibration. Therefore, exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels would have a less than significant impact.

- c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels?*

**No Impact.**

The proposed Project is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would not expose people residing or



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working in the Project area to excessive noise levels; therefore, no impact would occur as a result of construction or operation of the proposed Project.



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.14 POPULATION AND HOUSING**

**3.14.1 Setting**

According to the City of Industry Population and Housing Section of the General Plan EIR, the Southern California Association of Governments reports a population of less than 500 (219) residents in 2010 for the City (City of Industry, 2014c). The City of Industry was founded with the intent of providing an environment for industry and commerce to thrive without conflicting with sensitive land uses, such as residential. The City’s General Plan and Zoning Code do not designate any land for residential use: only 57 dwelling units and two group homes currently exist within the City, and these are considered legal nonconforming uses (City of Industry, 2014c). Demographic statistics for the City of La Puente report a population of 40,435 in 2018 (City of La Puente, 2018).

**3.14.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>POPULATION AND HOUSING: Would the project:</b>				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

**Less than Significant Impact.**

The proposed Project includes the installation of conveyance pipes connecting to existing extraction wells, a conveyance pipe to the new treatment plant, and a water treatment plant for the shallow zone. The Project does not include new construction, including but not limited to, residential, commercial, or manufacturing uses, that would have the potential to induce population growth in the area. It is anticipated that the work force needed to support construction and operation of the proposed Project would primarily come from the region and not substantially increase the population of the area. Therefore, the Project would have a less than significant impact on population growth in the area.



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- b) *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact.**

The proposed Project does not include any components that would cause the displacement of substantial numbers of existing housing or necessitate the construction of replacement housing. Therefore, no impact to existing housing would occur as a result of the proposed Project.



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.15 PUBLIC SERVICES**

**3.15.1 Setting**

Growth and development can directly impact the delivery of critical city services to residents, visitors and workers. Public Services throughout the Cities of Industry and La Puente include law enforcement, fire protection, schools and medical facilities.

The County of Los Angeles Fire Department and Los Angeles County Sheriff’s Department cover both the City of Industry and La Puente for law enforcement and fire protection, respectively.

The City of Industry has one High School and one middle School within the City limits. William Workman High School, located at 16030 East Temple Avenue, and Torch Middle School, located at 751 North Vineland Avenue.

The City of Industry maintains two 18-hole golf courses. The City of La Puente maintains two parks; La Puente Park and the Puente Creek Nature Education Center.

**3.15.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>PUBLIC SERVICES: Would the project:</b>				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>





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- a) *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*
- i) Fire protection?
  - ii) Police protection?
  - iii) Schools?
  - iv) Parks?
  - v) Other public facilities?

#### **No Impact.**

The proposed Project would not induce an increase in population or create structures that would result in an increased need for any of the public services listed above (i.e., fire protection, public, schools, parks, or other public facilities). Installation of conveyance pipes connecting to existing extraction wells, a conveyance pipe to the new treatment plant, and a water treatment plant for the shallow zone will require construction workers that may require public services while staying in the area; however, this increase would be minimal and temporary. Current emergency services would be sufficient to cover an incremental increase in demand for emergency, criminal and firefighting services associated with the proposed Project without then need to alter existing or construct new public service facilities. Since the Project would not permanently increase the population of the surrounding area there would be no impacts associated with an increased need for schools in the area. The proposed Project would not conflict with any policies and goals set for in the City of Industry and City of La Puente General Plans. As the proposed Project would not require the provision of new or physically altered governmental facilities, no impact would occur.



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.16 RECREATION**

**3.16.1 Setting**

As a largely developed, business-oriented City with a limited population, the City of Industry does not serve the recreational needs of a residential base. The City does not have a department devoted exclusively to recreation and does not maintain developed “parks” in a traditional sense. However, this does not mean that the City is void of recreational or green areas. The City of Industry has approximately 790 acres of land designated for recreation and open space, including two private golf courses, the Pacific Palms Resort, a former Duck Farm property, and a privately held open area for the Wildwood Mobile Home Park (City of Industry, 2014b).

The primary recreational facility in the City of La Puente is La Puente Park. The park is approximately 22 acres and is bordered by Glendora, Temple Avenue and Hacienda Boulevard. The City has approximately 0.57 acres of park space for every 1,000 residents (City of La Puente, 2004).

The proposed Project does not fall within any areas designated by a General Plan as recreational or open space.

**3.16.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>RECREATION: Would the project:</b>				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

**No Impact.**

The proposed Project does not involve any component that would increase the use of parks or recreation facilities. No Impacts associated with the increased use or substantial physical deterioration of existing neighborhoods, regional parks or other recreational facilities would occur as a result of the proposed Project.



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*b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

**No Impact.**

The proposed Project does not include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment. No impacts would occur.



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**3.17 TRANSPORTATION**

**3.17.1 Setting**

For purposes of this section, the public roadway network surrounding the proposed Project is referred to as the Project area. The Project area is served by an extensive transportation system, including major freeways, highways, airport, and rail facilities. The Project area is not located within an airport land use plan or within two miles of a private airstrip or public use airport.

The Metropolitan Transportation Authority (Metro) serves as the Congestion Management Agency (CMA) for Los Angeles County. State statute requires that a congestion management program be developed, adopted and updated biennially for every county that includes an urbanized area and shall include every city and the county government within that county. The CMA is responsible for developing, adopting, and updating the Congestion Management Program (CMP).

The CMP became effective with the passage of Proposition 111 in 1990 and it addresses the impact of local growth on the regional transportation system. The first CMP for Los Angeles County was adopted in 1992. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program and local conformance for all the county's jurisdictions.

On October 28, 2010, the Metro Board adopted the 2010 CMP for Los Angeles County. The 2010 CMP summarizes the results of 18 years of CMP highway and transit monitoring and 15 years of monitoring local growth. CMP implementation guidelines for local jurisdictions are also contained in the 2010 CMP.

The Regional Transportation Plan (RTP) is a component of the Regional Comprehensive Plan and Guide prepared by SCAG to address regional issues, goals, objectives, and policies for the Southern California region. The RTP sets broad goals for the region and provides strategies to reduce issues related to congestion and mobility. The RTP program helps to implement the Circulation Element of the City of Industry's General Plan.

The Circulation Element of the City of Industry General Plan (City of Industry, 2014c) governs circulation, infrastructure, and maintenance of roadway levels of service. The standard measure used to gauge traffic congestion is Level of Service (LOS). LOS uses field data (volume-to-capacity [V/C] ratios) to report the flow and mobility of vehicles along road segments and delays at intersections. LOS is then rated from "A", indicating free-flow traffic and minimal delays, to "F", indicating traffic exceeding capacity, with stop-and-go gridlock. The City of Industry's Circulation Element Policy C1-2 is to "Maintain a peak-hour LOS D at intersections identified on the Roadway Classification Plan." State maintained roadways within the project area are within the California Department of Transportation (Caltrans) District 7 jurisdiction. The Circulation element identifies that any modifications to the State maintained roadways will require approval from Caltrans. The City of Industry does not have established truck routes within the City.



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**3.17.2 Impact Analysis**

The following roadways have the potential to be impacted by the proposed Project:

1. Stafford Street;
2. Hudson Avenue;
3. Nelson Avenue;
4. North Unruh Avenue; and
5. Cadbrook Drive.

The construction period of the proposed Project is short-term (approximately 12 months) which would have temporary minor alterations to the current traffic patterns. The proposed Project includes the installation of pipeline conveyance within the public road right-of-way alignment. Encroachment permits are required for access within the public road right-of-way. They will be processed through the City of Industry and the City of La Puente as appropriate.

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>TRANSPORTATION: Would the project:</b>				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

- a) *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?*

**Less than Significant Impact.**

The construction period of the proposed Project is short-term (approximately 12 months) which would have temporary minor alterations to the current traffic patterns. The proposed Project includes the installation of pipeline conveyance within the public road right-of-way alignment. Encroachment permits are required for access within the public road right-of-way. The encroachment permits will stipulate road or lane closure requirements, work hours, and roadway accessibility. The construction work area associated with the installation of the pipelines would consist of an area approximately one to two traffic lanes in width within a short street block length. A section of the roadway would be temporarily blocked (per the Work Area Traffic Control Handbook (WATCH Manual) and the encroachment permit) as the installation of the pipeline progresses along the public road right-of-way. After the pipeline is installed and the open hole or trench is backfilled and paved, the section of roadway would reopen. The size of the work area would be limited to maintain through traffic in accordance with the stipulations dictated in the encroachment permits.

The changes to traffic patterns and service during the construction phase would be temporary and limited to the immediate area in which construction activities are occurring and are therefore not expected to significantly affect traffic flow. All physical changes to traffic patterns, (i.e., lane closures) would be coordinated with local jurisdictions and /or METRO, as appropriate, to minimize impacts to motorists, public transportation patrons, and pedestrians.

Installation of the conveyance pipelines and construction of the treatment plant, if implemented at the same time, could result in approximately 36 construction related vehicles (e.g., equipment, worker vehicles, and haul trucks) to be added to the street system throughout a day. The addition of approximately 36 vehicles throughout a day, during a worst-case construction scenario, is not anticipated to result in a substantial increase in traffic that would result in congestion with the affected street system.

Operation of the proposed Project would generate up to 16 additional daily vehicle trips (e.g., worker vehicles) to be added to the street system throughout a day.

No significant adverse environmental impacts associated with traffic load or congestion is anticipated to result from construction and operation of the Proposed Project. Therefore, impacts are considered to be less than significant.

- b) *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (B)?*

**Less than Significant Impact.**

The CMP was created statewide as a result of Proposition 111 and has been implemented locally by the Metropolitan Transportation Authority (Metro). The latest CMP was reviewed to determine whether any of the roadways within the Project area are part of the facilities designated within the CMP highways and roadway system. None of the roadways within the vicinity of the proposed Project were found to be



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included with the CMP system. During construction, haul routes would include surrounding highways, all of which are within the CMP. However, construction activities would not add enough peak-hour trips to the existing CMP system to trigger further analysis as set forth by the CMP. Therefore, potential impacts would be less than significant.

*c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Construction of the proposed Project would temporarily alter existing street/traffic patterns within sections of roadway within the Project area. These temporary changes to traffic patterns and service during the construction phase would be temporary and limited to the immediate area in which construction activities are occurring. All physical changes to traffic patterns (i.e., lane closures) would be coordinated with local jurisdictions and/or Metro, as appropriate, to minimize impacts to motorists, public transportation patrons, and pedestrians. No design features (e.g. sharp curves or dangerous intersections) or incompatible uses are proposed as part of the operation of the proposed Project. The proposed project includes the use of heavy duty trucks during construction and periodically during operation (primarily for equipment/materials deliveries and periodic waste disposal activities). The City of Industry does not have any roadway restrictions for trucks operating in the City.

No significant adverse environmental impacts associated with an increase of hazards due to a design feature are anticipated to result from construction and operation of the proposed Project. Therefore, there would be no impact.

*d) Result in inadequate emergency access?*

### **Less than Significant Impact.**

The proposed Project does not include any component that would result in inadequate emergency access to the site or surrounding areas. All physical changes to traffic patterns, (i.e., lane closures) would be coordinated with local jurisdictions and/or Metro, as appropriate, to minimize impacts to motorists, public transportation patrons, and pedestrians. In addition, construction activities performed within public streets would be coordinated with local police and fire protection services and carried out in accordance with all applicable local emergency access standards, such that any temporary lane closures would not significantly impact emergency services.

No significant adverse environmental impacts associated with inadequate emergency access are anticipated to result from construction and operation of the proposed Project. Therefore, impacts would be less than significant.



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**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.18 UTILITIES AND SERVICE SYSTEMS**

**3.18.1 Setting**

The proposed Project, located within the Cities of Industry and La Puente, is based on an Interim Record of Decision by the USEPA to contain and treat chemicals of potential concern (COPCs) within the groundwater of the Puente Basin. Therefore, the entire proposed Project is based on extraction, treatment, and surface water discharge within the requirements of the USEPA, other regulatory agencies, and regional ordinances and general plans.

**3.18.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>UTILITIES AND SERVICE SYSTEMS: Would the project:</b>				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**Less than Significant with Mitigation Incorporated.**





## NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

### DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Detailed above in Section 1.4 (Project Objectives), one of the purposes of the proposed Project is the construction and expansion of new water treatment and drainage facilities. The potential environmental impacts associated with these project components have been analyzed through Section 3.0 (Discussion of Environmental Setting, Impacts, and Mitigation Measures). Where a potentially significant environmental effect could occur, mitigation measures have been incorporated to reduce these effects to a less-than-significant level. The proposed Project would implement the following Mitigation Measures BIO-1.

The proposed Project would result in the discharge of concentrate into an existing LACSD facility for treatment, and the volume which would be generated by the operation of the proposed Project would be accommodated within existing treatment capacity. As the project would result in the construction of new and expanded water treatment facilities and would implement mitigation measures to address otherwise potentially significant impacts, implementation of these mitigation measures would serve to reduce these impacts to a less than significant level. No additional mitigation measures, other than those outlined above, are needed to further reduce these potential impacts.

*b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

#### **No Impact.**

As discussed above in Section 3.10 (Hydrology and Water Quality), the proposed Project would not result in a significant impact on water supplies and would have sufficient water supplies available to serve the project via the Project's purchase agreements with the Watermaster. As such, no impact would occur.

*c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

#### **No Impact.**

As detailed above in Section 2.0 (Project Description), the proposed Project would generate concentrate waste as part of the water treatment process. As part of the permits required for the proposed Project, the Applicant would ensure that the treatment volumes which are conveyed to an existing LACSD for treatment would be accommodated by existing systems.

*d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

#### **No Impact.**

Construction and operation of the proposed Project would result in the installation of pipelines, and the decontamination of regional groundwater. None of the activities proposed would generate quantities of solid waste in excess of state or local standards, and the incidental waste generated during construction



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and operation (such as spent treatment media or packaging) would be easily accommodated by local infrastructure. No impact would occur.

e) *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

**No Impact.**

As discussed above in d), construction and operation of the proposed Project would not result in the generation of large amounts of solid wastes. The incidental waste generated during construction and operation (such as spent treatment media or packaging) would be handled in accordance with all applicable regulatory requirements. These existing requirements would ensure compliance with federal, state and local management and reduction statutes. Therefore, no impact would occur.





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**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.19 WILDFIRE**

**3.19.1 Setting**

The proposed Project is located within the Cities of Adelanto and La Puente. The site is mapped by the California Department of Forestry and Fire Protection (CALFIRE) as a Local Responsibility Area (LRA). Neither City of Industry nor City of La Puente maintain individual fire departments. Fire protection and response within and near the proposed Project site is provided by the County of Los Angeles Fire Department. The proposed Project site is an urbanized area not classified as a Very High Fire Hazard Severity Zone (VHFHSZ). The lands immediately adjacent to the proposed Project are also mapped as LRA and are not mapped as a VHFHSZ. The nearest mapped VHFHSZ is approximately 0.5 mile to the south of the proposed Project and is separated from the proposed Project site by State Route 60.

**3.19.2 Impact Analysis**

Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</b>				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significance risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion of Impacts**

The proposed Project does not meet the criteria for impact analysis under the above significance criteria.

Projects are only subject to wildfire analysis when one of four conditions is fulfilled.

1. The Project is located in a State Responsibility Area.
2. The Project is located near a State Responsibility Area
3. The Project is located on lands classified as VHFHSZ.



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**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

4. The Project is located near lands classified as VHFHSZ.

The proposed Project does not fulfil any of these four conditions. The proposed Project is located wholly within the borders of the Cities of Industry and La Puente, in an area mapped as an LRA by CALFIRE. The lands surrounding the Project are also mapped as LRA. Additionally, the proposed Project is not located in lands mapped as VHFHSZ. The nearest mapped VHFHSZ is approximately 0.5 mile to the southwest of the proposed Project and separated from the proposed Project by numerous barriers including San Jose Creek and California State Route 60. As such, the proposed Project is not subject to wildfire analysis and no impact would occur.

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

**No Impact.**

See Discussion of Impacts (above); no impact.

b) *Due to slope, prevailing winds, or other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

**No Impact.**

See Discussion of Impacts (above); no impact.

c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

**No Impact.**

See Discussion of Impacts (above); no impact.

d) *Expose people or structures to significance risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes?*

**No Impact.**

See Discussion of Impacts (above); no impact.



**DISCUSSION OF ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

**3.20 MANDATORY FINDINGS OF SIGNIFICANCE**

- a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*

The proposed Project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

There are no past projects, the effects of current projects or the effects of probable future projects that when considered with this Project would be cumulatively considerable.

- c) *Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?*

The Project does not have any environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly.





**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**ENVIRONMENTAL DETERMINATION**

**4.0 ENVIRONMENTAL DETERMINATION**

<b>ENVIRONMENTAL DETERMINATION</b>	
<p>On the basis of this initial evaluation:</p> <p>I find that the proposed Puente Valley Operable Unit, Shallow Zone South Interim Remedy Project <b>COULD NOT</b> have a significant effect on the environment, and a <b>NEGATIVE DECLARATION</b> will be prepared.</p>	<input type="checkbox"/>
<p>I find that although the proposed Puente Valley Operable Unit, Shallow Zone South Interim Remedy Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A <b>MITIGATED NEGATIVE DECLARATION</b> will be prepared. Attached Mitigation Measures and Monitoring Program.</p>	<input checked="" type="checkbox"/>
<p>I find that the proposed Puente Valley Operable Unit, Shallow Zone South Interim Remedy Project <b>MAY</b> have a significant effect on the environment, and an <b>ENVIRONMENTAL IMPACT REPORT</b> is required.</p>	<input type="checkbox"/>
<p>I find that the proposed Puente Valley Operable Unit, Shallow Zone South Interim Remedy Project <b>MAY</b> have a significant effect on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a “potentially significant impact” or “potentially significant unless mitigated.” An <b>ENVIRONMENTAL IMPACT REPORT</b> is required, but it must analyze only the effects that remain to be addressed.</p>	<input type="checkbox"/>
<p>I find that although the proposed Puente Valley Operable Unit, Shallow Zone South Interim Remedy Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier <b>EIR</b> or <b>NEGATIVE DECLARATION</b> pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier <b>EIR</b> or <b>NEGATIVE DECLARATION</b>, nothing further is required.</p>	<input type="checkbox"/>
<p>_____</p> <p>_____</p> <p>Signature: _____ Date: _____</p>	







**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT**

**LIST OF PREPARERS**

**5.0 LIST OF PREPARERS**

Lead Agency	La Puente Valley County Water District	
Project Manager	StephAnnie Roberts	Stantec Consulting Services Inc.
Graphics Design	Daniel Law	Stantec Consulting Services Inc.
Project Description	StephAnnie Roberts Julie Chambon	Stantec Consulting Services Inc. Geosyntec
Aesthetics	Lindsay McDonough	Stantec Consulting Services Inc.
Agriculture and Forestry Resources	Lindsay McDonough	Stantec Consulting Services Inc.
Air Quality	Michael Weber/ Nasrin Behmanesh	Stantec Consulting Services Inc.
Biological Resources	Priya Pratap/ Jared Varonin	Stantec Consulting Services Inc.
Cultural Resources	StephAnnie Roberts	Stantec Consulting Services Inc.
Energy	Patrick Meddaugh	
Geology and Soils	Lindsay McDonough	Stantec Consulting Services Inc.
Greenhouse Gas Emissions	Michael Weber/ Nasrin Behmanesh	Stantec Consulting Services Inc.
Hazards and Hazardous Materials	Lindsay McDonough	Stantec Consulting Services Inc.
Hydrology and Water Quality	Michael Weber/ Nasrin Behmanesh	Stantec Consulting Services Inc.
Land Use and Planning	David Christie/ Lindsay McDonough	Stantec Consulting Services Inc.
Mineral Resources	StephAnnie Roberts	Stantec Consulting Services Inc.
Noise	Michael Weber/ Nasrin Behmanesh	Stantec Consulting Services Inc.
Population and Housing	Colleen Hulbert	Stantec Consulting Services Inc.
Public Services	Colleen Hulbert	Stantec Consulting Services Inc.
Recreation	StephAnnie Roberts	Stantec Consulting Services Inc.
Transportation and Traffic	Michael Weber/ Nasrin Behmanesh	Stantec Consulting Services Inc.
Tribal Cultural Resources	StephAnnie Roberts	Stantec Consulting Services Inc.
Utilities and Service System	Patrick Meddaugh	Stantec Consulting Services Inc.
Wildfire	Patrick Meddaugh	Stantec Consulting Services Inc.
Mandatory Findings of Significance	StephAnnie Roberts	Stantec Consulting Services Inc.





# NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

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RESPONSE TO COMMENTS

## 7.0 RESPONSE TO COMMENTS

### 7.1 SUMMARY WRITTEN COMMENTS RECEIVED DURING THE PUBLIC REVIEW PROCESS FOR THE DRAFT IS/MND

Written comment on the Draft IS/MND received during the public review period are included in this section. Comments were received on the proposed Draft IS/MND and they were reviewed to determine whether there is substantial disagreement about the potential significance of impacts. Any issues raised concerning potentially significant impacts were reviewed, addressed, and clarified.

Written comments received from State Agencies:

1

**Table 9 Comment Letters**

Name of Commenter	Date of Comment	Comment Letter No.
Erinn Wilson, Environmental Program Manager I California Department of Fish and Wildlife	12/20/2019	1









State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
South Coast Region  
3883 Ruffin Road  
San Diego, CA 82123  
(858) 467-4201  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*GAVIN NEWSOM, Governor*  
*CHARLTON H. BONHAM, Director*



December 20, 2019

Greg Galindo  
La Puente Valley County Water District  
112 North 1<sup>st</sup> Street  
La Puente, CA 91744  
[ggalindo@lapuentewater.com](mailto:ggalindo@lapuentewater.com)

**Subject: Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project, La Puente Valley County Water District, SCH # 2019119080, Los Angeles County**

Dear Mr. Galindo:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project (Project). The Project's supporting documentation includes a Draft Initial Study/Mitigated Negative Declaration (Initial Study). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

### **CDFW's Role**

CDFW is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & Game Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by state law, of any species protected under the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 et seq.), or state-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & Game Code, § 1900 et seq.) authorization as provided by the applicable Fish and Game Code will be required.

## **Project Description and Summary**

**Objective:** The purpose of the proposed Project is the hydraulic containment of the shallow zone south of Puente Creek (SZ-South) via groundwater extraction, treatment of extracted groundwater, and planned end-use as surface water discharge to San Jose Creek. The Project consists of two existing groundwater extraction wells (EW-Cadbrook (EW-C) and EW-Nelson (EW-N)), a proposed treatment plant, numerous existing compliance monitoring wells and piezometers, and proposed conveyance piping.

**Location:** The Project site is located in the City of Industry and City of La Puente. Contaminated groundwater from the SZ (shallow zone) aquifer will be extracted by extraction wells and conveyed via piping system from the wells to a water treatment plant located at 111 Hudson Avenue in the City of Industry, California. Extraction wells are located on Cadbrook Drive. Piping system will be located along Cadbrook Drive, east on Nelson Avenue E, south on N Unruh Avenue, and east on Stafford Street to the treatment plant.

## **Comments and Recommendations**

CDFW offers the comments and recommendations below to assist the La Puente Valley County Water District (LPVCWD) in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. CDFW recommends the measures or revisions below be included in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring and reporting program (Public Resources Code, § 21081.6 and CEQA Guidelines, § 15097).

## **Project Description and Related Impact Shortcoming**

### **Comment #1: Impacts to Streams**

**Issue #1:** The Initial Study states, "The discharge into San Jose Creek may result in some minor changes to water quantity and quality in the soft-bottom natural area of the channel." Project activities may result in the deposition or disposal of materials into San Jose Creek, thereby impacting fish and wildlife resources. The Project, therefore, may be subject to notification under Fish and Game code section 1600 *et seq.*

**Issue #2:** The Initial Study states, "maintenance of existing erosion control measures along the soft bottom channel" amongst other measures will make impacts to potential aquatic and wildlife species less than significant. The Project will require maintenance activities within the streambed, which may also be subject to notification under Fish and Game code section 1600 *et seq.*

**Specific impacts:** The Project has potential to result in the loss of San Jose Creek function and biological diversity. Especially downstream, where San Jose Creek transitions to a soft bottomed channel, the Initial Study points out potential for changes in water quality, quantity, and turbidity. These impacts may also affect habitats further downstream where the confluence of San Jose Creek and San Gabriel River is located, and where "[c]ommon wildlife such as birds that may depend upon the creek for food and shelter may be temporarily affected by these impacts." In addition, review of the Natural Communities Commonly Associated with

Groundwater (NCCAG) Dataset identifies Palustrine and scrub-shrub wetland communities (USFWS 2016) three miles directly downstream of the Project site.

**Why impacts would occur:** Groundwater discharge and potential dewatering would alter existing streams or their function and associated habitat. Downstream streams and associated biological resources beyond the Project development footprint may also be impacted by Project related releases of sediment and altered watershed effects resulting from Project activities.

Additionally, discharge to streams may create sediment and erosion issues downstream, as well as change the hydrograph of the stream, altering geomorphic processes and the biological species that depend on them.

**Evidence impacts would be significant:** The Project may substantially adversely affect the existing stream pattern of San Jose Creek through discharge activities to a stream, which absent specific mitigation, could result in substantial erosion or siltation on site or off site of the Project. Sediment in streams can also make the water cloudy which decreases the ability of organisms to photosynthesize (Mallery 2010). Which may substantially adversely affect the existing wetlands downstream and associated habitats from the Project site.

**Recommended Potentially Feasible Mitigation Measure(s):**

**Mitigation Measure #1:** The Project may result in the alteration of streams. In addition, the Project will require maintenance activities within the streambed. For any such activities, the Project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 *et seq.* of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a Lake and Streambed Alteration Agreement (LSA) with the applicant is required prior to conducting the proposed activities. A notification package for a LSA may be obtained by accessing CDFW's web site at [www.wildlife.ca.gov/habcon/1600](http://www.wildlife.ca.gov/habcon/1600).

CDFW's issuance of an LSA for a Project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document of the Lead Agency for the Project. However, the Project does not meet CDFW's standard at this time. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.

**Mitigation Measure #2:** Any LSA Agreement issued for the Project by CDFW may include additional measures protective of streambeds on and downstream of the Project. The LSA may include further erosion and pollution control measures. To compensate for any on-site and off-site impacts to riparian resources, additional mitigation conditioned in any LSA may include the following: avoidance of resources, on-site or off-site creation, enhancement or restoration, and/or protection and management of mitigation lands in perpetuity.

**Mitigation Measure #3:** CDFW recommends the Project proponent actively implement Best Management Practices (BMPs) to prevent erosion and the discharge of sediment and pollutants into San Jose Creek during Project activities. BMPs should be monitored and repaired if necessary, to ensure maximum erosion, sediment, and pollution control. The Project proponent should prohibit the use of erosion control materials potentially harmful to fish and wildlife

species, such as mono-filament netting (erosion control matting) or similar material, within stream areas. All fiber rolls, straw wattles, and/or hay bales utilized within and adjacent to the project site should be free of nonnative plant materials. Fiber rolls or erosion control mesh should be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

**Mitigation Measure #4:** CDFW recommends a hydrogeomorphology study be conducted to evaluate the impacts of elevated flows of water and sediment through the soft-bottom portion of San Jose Creek.

#### **Comment #2: Impacts to nesting birds**

**Issue:** The Initial Study states, “there is nesting bird potential in trees and shrubs adjacent to proposed construction activities... The noise and level of human activity associated with construction activities within the Project footprint have the potential to result in direct impacts or indirect disturbance to nesting birds.”

**Specific impacts:** Construction during the breeding season of nesting birds could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment in trees directly adjacent to the Project boundary. The Project could also lead to the loss of foraging habitat for sensitive bird species.

**Why impact would occur:** Impacts to nesting birds could result from vegetation clearing and other ground disturbing activities. Project disturbance activities could result in mortality or injury to nestlings, as well temporary or long-term loss of suitable foraging habitats. Construction during the breeding season of nesting birds could result in the incidental loss of breeding success or otherwise lead to nest abandonment.

**Evidence impact would be significant:** The loss of occupied habitat or reductions in the number of rare bird species, either directly or indirectly through nest abandonment or reproductive suppression, would constitute a significant impact absent appropriate mitigation. Furthermore, nests of all native bird species are protected under state laws and regulations, including Fish and Game Code sections 3503 and 3503.5.

#### **Recommended Potentially Feasible Mitigation Measure(s):**

**Mitigation Measure #1:** To protect nesting birds that may occur on-site, CDFW recommends that the final environmental document include a measure that no construction shall occur from February 15 through August 31. If construction during this period must occur, a qualified biologist shall complete a survey for nesting bird activity within a 500-foot radius of the construction site. The nesting bird surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites. If any nests of birds of prey are observed, they shall be designated an ecologically sensitive area and protected (while occupied) by a minimum 500-foot radius during Project construction.

## Filing Fees

The Project, as proposed, could have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & Game Code, § 711.4; Pub. Resources Code, § 21089).

## Conclusion

We appreciate the opportunity to comment on the Project to assist the LPVCWD in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any response that the LPVCWD has to our comments and to receive notification of any forthcoming hearing date(s) for the Project. Questions regarding this letter and further coordination on these issues should be directed to Felicia Silva, Environmental Scientist, at [Felicia.Silva@wildlife.ca.gov](mailto:Felicia.Silva@wildlife.ca.gov) or (562) 430-0098.

Sincerely,



Erinn Wilson  
Environmental Program Manager I

ec: CDFW

Victoria Tang – Los Alamitos  
Felicia Silva – Los Alamitos  
Andrew Valand – Los Alamitos  
Kelly Schmoker – Glendora  
Audrey Kelly – Los Alamitos  
Dolores Duarte – San Diego

Scott Morgan (State Clearinghouse)

## References:

Mallery, M. 2010. Marijuana National Forest: Encroachment on California public lands for cannabis cultivation. Berkeley Undergraduate Journal 23:1-17  
US Fish and Wildlife Service. 2016. National Wetlands Inventory, v2, California Wetlands. Accessed May 2016.





Stantec Consulting Services Inc.  
290 Conejo Ridge Avenue  
Thousand Oaks, California 91361

February 13, 2020  
File: 185804160

**Attention: Felicia Silva**  
**California Department of Fish and Wildlife**  
3833 Ruffin Road  
San Diego, CA 82123

Dear Ms. Silva,

**Reference: Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project, La Puente Valley County Water District, SCH #2019119080, Los Angeles County**

Stantec Consulting Services Inc. (Stantec) is supporting La Puente Valley County Water District (LPVCWD) with California Environmental Quality Act (CEQA) consulting services for the above referenced project. LPVCWD appreciates California Department of Fish and Wildlife (CDFW) reviewing and providing comments to LPVCWD on the Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) through a letter dated December 20, 2019. On behalf of LPVCWD, Stantec provides the below information and clarification responsive to CDFW's comments. CDFW's comments are noted in italicized text with LPVCWD's response in non-italicized text directly below each CDFW comment.

**CDFW Comment #1: Impacts to Streams**

*CDFW Issue #1: The Initial Study states, "The discharge into San Jose Creek may result in some minor changes to water quantity and quality in the soft-bottom natural area of the channel." Project activities may result in the deposition or disposal of materials into San Jose Creek, thereby impacting fish and wildlife resources. The Project, therefore, may be subject to notification under Fish and Game code section 1600 et seq.*

*CDFW Issue #2. The Initial Study states, "maintenance of existing erosion control measures along the soft bottom channel" amongst other measures will make impacts to potential aquatic and wildlife species less than significant. The Project will require maintenance activities within the streambed, which may also be subject to notification under Fish and Game code section 1600 et seq.*

CDFW Recommended Potentially Feasible Mitigation Measure(s):

CDFW Recommended Mitigation Measure #1

*The Project may result in the alteration of streams. In addition, the Project will require maintenance activities within the streambed. For any such activities, the Project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a Lake and Streambed Alteration Agreement (LSA) with the applicant is required prior to conducting the proposed activities. A notification package for an LSA may be obtained by accessing CDFW's web site at [www.wildlife.ca.gov/habcon/1600](http://www.wildlife.ca.gov/habcon/1600).*



**Reference:** Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project, La Puente Valley County Water District, SCH #2019119080, Los Angeles County

*CDFW's issuance of an LSA for a Project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document of the Lead Agency for the Project. However, the Project does not meet CDFW's standard at this time. To minimize additional requirements by CDFW pursuant to section 1600 et seq. and/or under CEQA, the CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.*

#### CDFW Recommended Mitigation Measure #2

*Any LSA Agreement issued for the Project by CDFW may include additional measures protective of streambeds on and downstream of the Project. The LSA may include further erosion and pollution control measures. To compensate for any on-site and off-site impacts to riparian resources, additional mitigation conditioned in any LSA may include the following: avoidance of resources, on-site or off-site creation, enhancement or restoration, and/or protection and management of mitigation lands in perpetuity.*

#### CDFW Recommended Mitigation Measure #3

*CDFW recommends the Project proponent actively implement Best Management Practices (BMPs) to prevent erosion and the discharge of sediment and pollutants into San Jose Creek during Project activities. BMPs should be monitored and repaired if necessary, to ensure maximum erosion, sediment, and pollution control. The Project proponent should prohibit the use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material, within stream areas. All fiber rolls, straw wattles, and/or hay bales utilized within and adjacent to the project site should be free of nonnative plant materials. Fiber rolls or erosion control mesh should be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.*

#### CDFW Recommended Mitigation Measure #4

*CDFW recommends a hydrogeomorphology study be conducted to evaluate the impacts of elevated flows of water and sediment through the soft-bottom portion of San Jose Creek.*

#### LPVCWD Response to CDFW Comment #1 & Recommended Mitigation Measures

The Project would discharge an expected 103 gallons per minute (gpm) and a maximum of 245 gpm of treated water through connection with an existing storm drain to San Jose Creek. San Jose Creek is comprised of a reinforced cement concrete channel in this area and does not include soft-bottom channel (Figure 1). The nearest soft-bottom channel segment begins approximately 8,000 feet downstream San Jose Creek from the treated water discharge point and continues beyond San Jose Creek's confluence with the San Gabriel River. The U.S. Army Corps of Engineers maintains rock rip rap grade controls, drop structures, spreading grounds, and other best management practices along this stretch of San Jose Creek and San Gabriel River that serve to reduce the potential for erosion and promote infiltration of surface waters. The Project Applicant or LPVCWD do not propose to install or maintain any erosion control measures in San Jose Creek as part of the Project.

**Reference: Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project, La Puente Valley County Water District, SCH #2019119080, Los Angeles County**

The proposed Project discharge is less than 1% of historical San Jose Creek runoff, and this discharge would have a negligible erosive impact to San Jose Creek, regardless of the presence of existing grade controls in the creek.<sup>1</sup> Therefore, LPVCWD does not believe a hydrogeomorphology study is warranted to evaluate the impacts of elevated flows of water and sediment through the soft-bottom portion of San Jose Creek.

Prior to discharge to San Jose Creek, water will be treated using ultraviolet light and hydrogen peroxide, liquid-phase granular activated carbon, and reverse osmosis processes. These processes are effective in removing the constituents of concern in the untreated water including 1,4-dioxane, bis(2-Ethylhexyl) phthalate (DEHP), volatile organic compounds, perchlorate, copper, lead, mercury, nickel, selenium, total dissolved solids, and nitrate. In September 1998, USEPA issued an Interim Record of Decision setting forth the means by which groundwater contamination in the Puente Valley Operable Unit would be addressed. The Interim Record of Decision sets forth Applicable or Relevant and Appropriate Requirements for discharge to surface water. For the Puente Valley Operable Unit, an on-site discharge to surface water must meet substantive National Pollutant Discharge Elimination System (NPDES) requirements of an NPDES permit. The proposed water treatment system has been designed to treat water to meet all applicable water quality effluent limitations in the form of both concentration and load-based thresholds which are generally based on Los Angeles County Regional Water Quality Control Board Water Quality Control Plan or “Basin Plan” objectives. Additionally, LPVCWD will obtain and discharge the treated water to San Jose Creek in accordance with the requirements of an NPDES permit. Correspondingly, the treated water discharged to San Jose as a result of Project implementation would not violate a water quality standard or impair water quality that could have an adverse effect on biological resources.

Because the Project would not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, and the project would not result in significant impacts to special-status plant or wildlife species, LPVCWD does not believe that Section 1602 of the California Fish and Game Code requiring a Lake or Streambed Alteration Agreement applies to the Project.

The Draft IS/MND has been revised to include the proposed discharge’s estimated work done on the channel bed and to clarify that the Project does not include maintenance of existing erosion

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<sup>1</sup> Daily flow rates measured between October 2004 and September 2018 at Gage F312B located at Workman Mill Road (Figure 1), downstream of the transition to soft-bottom channel and upstream of the discharge point of the San Jose Creek Water Reclamation Plant indicate that approximately 550,000-acre feet of water flowed this segment of San Jose Creek. The proposed Project discharge is 1.0% of historical San Jose Creek runoff. The proposed Project discharge to San Jose Creek is estimated to increase the long-term effective work done on the channel bed by less than 0.5%. Based on the state of the science to date (Hawley and Bledsoe, 2013\*), the threshold increase in long-term effective work, or sediment transport, corresponding to significant in-stream erosion impacts is approximately 5% for the most sensitive bed material (i.e., sand). The incremental increase in long-term erosive work associated with the Project discharge is less than an order of magnitude of this threshold.

\*Hawley, R.J., and Bledsoe, B.P. 2013. “Channel enlargement in semiarid suburbanizing watersheds: A southern California case study,” *Journal of Hydrology, Elsevier, Vol 496, pp 17-30.*

Reference: Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project, La Puente Valley County Water District, SCH #2019119080, Los Angeles County

control measures along the soft bottom channel which are the responsibility of the U.S. Army Corps of Engineers.

### **CDFW Comment #2: Impacts to Nesting Birds**

*CDFW Issue: The Initial Study states, "there is nesting bird potential in trees and shrubs adjacent to proposed construction activities... The noise and level of human activity associated with construction activities within the Project footprint have the potential to result in direct impacts or indirect disturbance to nesting birds."*

#### CDFW Recommended Potentially Feasible Mitigation Measure(s)

##### CDFW Recommended Mitigation Measure #1

*Mitigation Measure #1: To protect nesting birds that may occur on-site, CDFW recommends that the final environmental document include a measure that no construction shall occur from February 15 through August 31. If construction during this period must occur, a qualified biologist shall complete a survey for nesting bird activity within a 500-foot radius of the construction site. The nesting bird surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites. If any nests of birds of prey are observed, they shall be designated an ecologically sensitive area and protected (while occupied) by a minimum 500-foot radius during Project construction.*

#### LPVCWD Response to CDFW Comment #2 & Recommended Mitigation Measure

LPVCWD concurs with the above statement included in the Draft IS/MND. The Draft IS/MND on page 3.18 further states "The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and Section 3503 of the California Fish and Game Code protects migratory nesting birds. The Project site supports non-native, ornamental trees that may be potentially used by birds for nesting activities. Construction activities that will occur in close proximity to the trees has the potential to adversely impact nesting birds, if present during construction. This is a potentially significant impact." LPVCWD identified Mitigation Measure BIO-1: Nesting Bird Impacts Avoidance on page 3.18 of the Draft IS/MND to mitigate this potential impact to less than significant. Mitigation Measure BIO-1 states the following:

This proposed Project does not propose vegetation removal; however, there is nesting bird potential in trees and shrubs adjacent to proposed construction activities (e.g. landscaping occurs primarily along sidewalks immediately adjacent to proposed pipelines in existing roads). The noise and level of human activity associated with construction activities within the Project footprint have the potential to result in direct impacts or indirect disturbance to nesting birds. Any activities that could potentially cause disturbance to active nests, eggs, and/or young of nesting birds, or cause nest abandonment, shall be minimized or avoided.

Prior to initial site disturbance, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist. If construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the proposed Project is complete. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th);

February 13, 2020

Felicia Silva California Department of Fish and Wildlife

Page 5 of 5

**Reference: Puente Valley Operable Unit, Shallow Zone – South Interim Remedy Project, La Puente Valley County Water District, SCH #2019119080, Los Angeles County**

surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all proposed Project activities.

If endangered or threatened species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.

LPVCWD has revised Mitigation Measure BIO-1 to include a 500-foot buffer around the nest for raptors (birds of prey) and a 300-foot buffer around the nest for passerine species to be consistent with the mitigation measure recommended by CDFW.

#### Closing

LPVCWD appreciates CDFW's consideration of these responses to comments and the revisions we have made to the Draft IS/MND to specifically address them. Please contact the undersigned should you have any questions related to these responses to comments. Pursuant with your request, LPVCWD will notify CDFW of any forthcoming hearing dates for the Project.

Regards,



**StephAnnie Roberts**

Senior Project Manager/National Account Manager

Phone: 805-719-9332

Fax: 805-230-1277

StephAnnie.Roberts@stantec.com

Attachment: Flow Path of Proposed Site Discharge to Surface Water

c. James L'Esperance, Northrop Grumman Corporation  
Greg Galindo, La Puente Valley County Water District

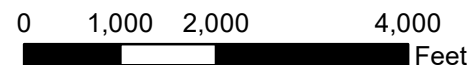




**Legend**

- Whittier Narrows Dam
- 24 Inch Diameter RCP to New Stormdrain Connection
- Reinforced Concrete Channel (100 foot width)
- 48-75 Inch Diameter Reinforced Concrete Pipe
- Soft Bottom Dirt Channel (500 foot width)
- Soft Bottom Channel (140-170 foot width)
- City Boundaries
- Gage F312B (Approximate Location)
- Treatment Plant
- Flow Direction

Notes:  
 Flow Path & Pipe Diameter Source: Los Angeles Department of Public Works  
 Open Channel Bed and Bank Material Source: Los Angeles Department of Public Works and Aerial Photography



**Flow Path of Proposed Site Discharge to Surface Water**

Puente Valley Operable Unit  
 Puente Valley, California

**Geosyntec**  
 consultants

WR1585

January 2020

**Figure**

**1**



**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM  
REMEDY PROJECT**

**MITIGATION MONITORING AND REPORTING PLAN**

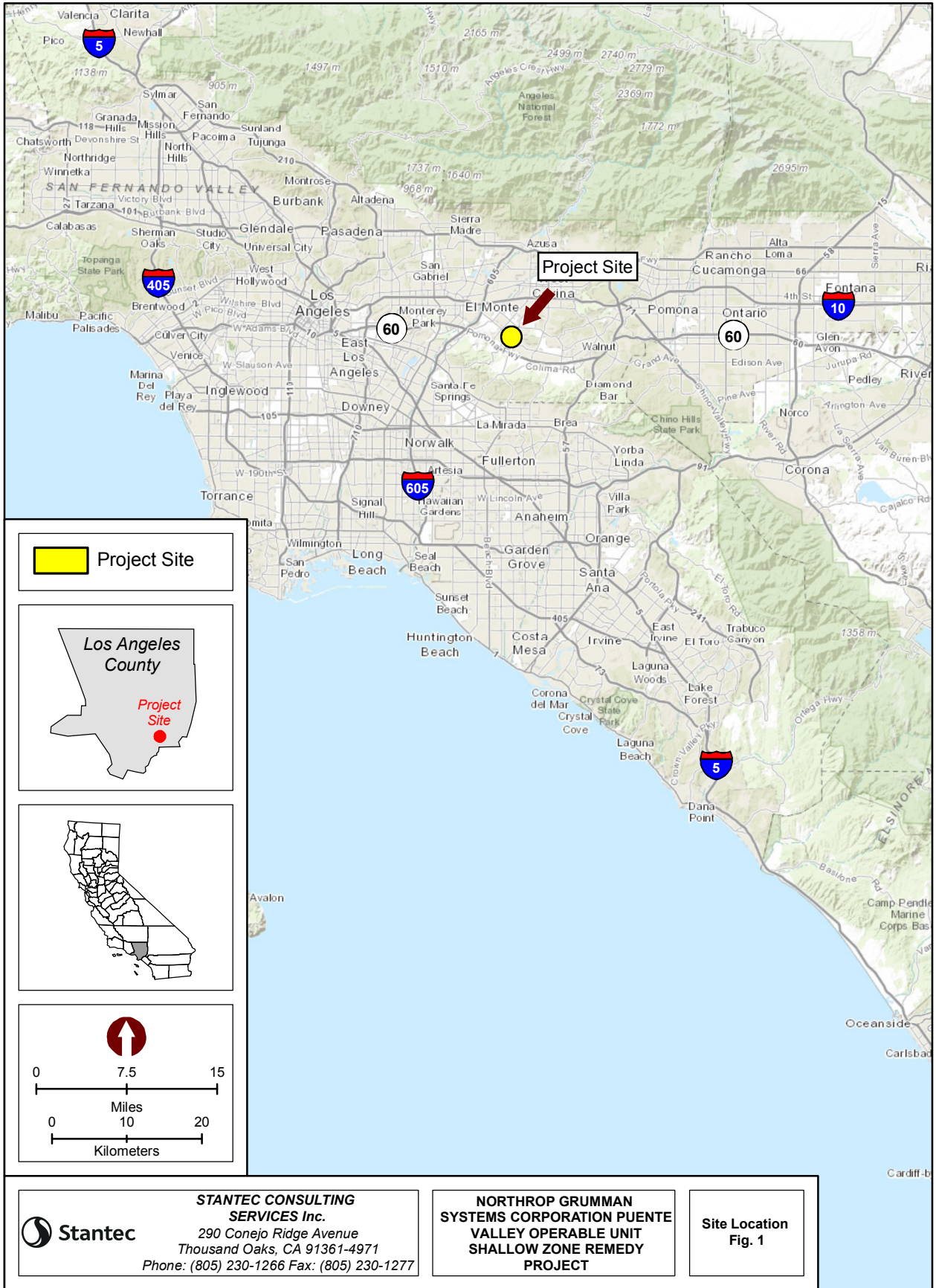
**8.0 MITIGATION MONITORING AND REPORTING PLAN**

Mitigation Measure	Lead Agency Department	Action(s) Required	Required Time of Compliance	Action Taken	Verified By/Dept.	Date	Further Action Needed
<b>BIOLOGICAL RESOURCES and UTILITIES AND SERVICE SYSTEMS</b>							
<p><b>BIO-1: Nesting Bird Impacts Avoidance:</b> This proposed Project does not propose vegetation removal; however, there is nesting bird potential in trees and shrubs adjacent to proposed construction activities (e.g. landscaping occurs primarily along sidewalks immediately adjacent to proposed pipelines in existing roads). The noise and level of human activity associated with construction activities within the Project footprint have the potential to result in direct impacts or indirect disturbance to nesting birds. Any activities that could potentially cause disturbance to active nests, eggs, and/or young of nesting birds, or cause nest abandonment, shall be minimized or avoided. Prior to initial site disturbance, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist. If construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the proposed Project is complete. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all proposed Project activities.</p> <p>If endangered or threatened species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The buffer shall be extended to 500 feet from active raptor nests. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.</p>	La Puente Valley County Water District	Conduct nesting bird surveys, shall be conducted by a qualified biologist	<p>No more than 3 days prior to start of ground disturbance</p> <p>Annually, if construction carries over into a second nesting season(s)</p>				



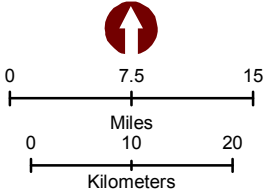






 Project Site

*Los Angeles County*  
 Project Site

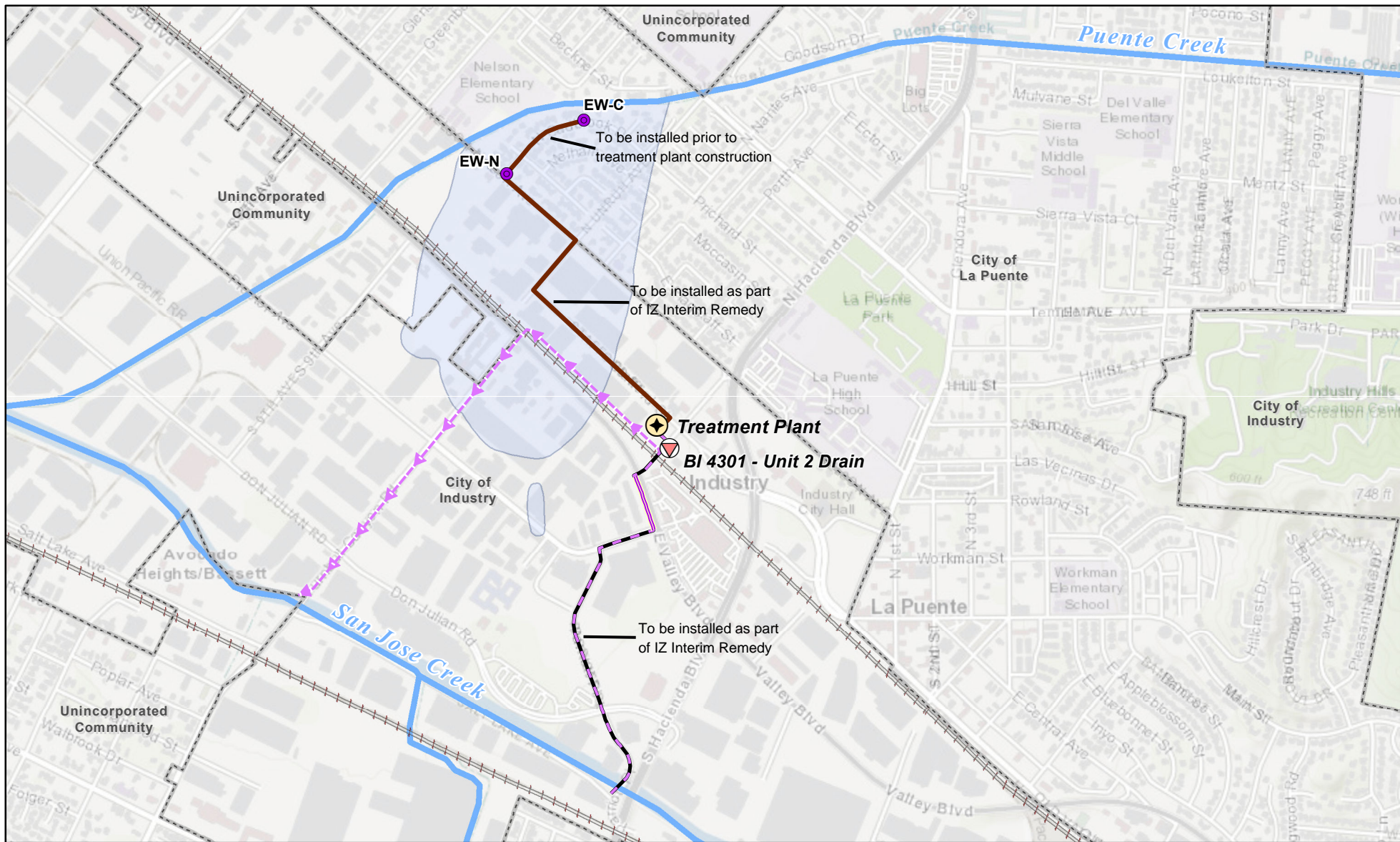


**Stantec**  
 STANTEC CONSULTING SERVICES Inc.  
 290 Conejo Ridge Avenue  
 Thousand Oaks, CA 91361-4971  
 Phone: (805) 230-1266 Fax: (805) 230-1277

**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT SHALLOW ZONE REMEDIATION PROJECT**

**Site Location Fig. 1**





**Legend**

- SZ-South Extraction Well
- Proposed Conveyance Pipeline for Extracted Groundwater (from Extraction Wells to Treatment Plant)
- Proposed Surface Water Discharge Route via Existing Storm Drain to San Jose Creek
- Wastewater Pipeline
- Existing Wastewater Pipeline
- Proposed Potential Drain for Surface Water Discharge (Location Approximate)
- ⊕ Treatment Plant (111 Hudson Avenue)

- Rivers & Creeks
- SZ 10X MCL Contour South of Puente Creek (Composite Contours 2014-2017)
- City Boundaries
- California Rail Network (Caltrans, 2013)



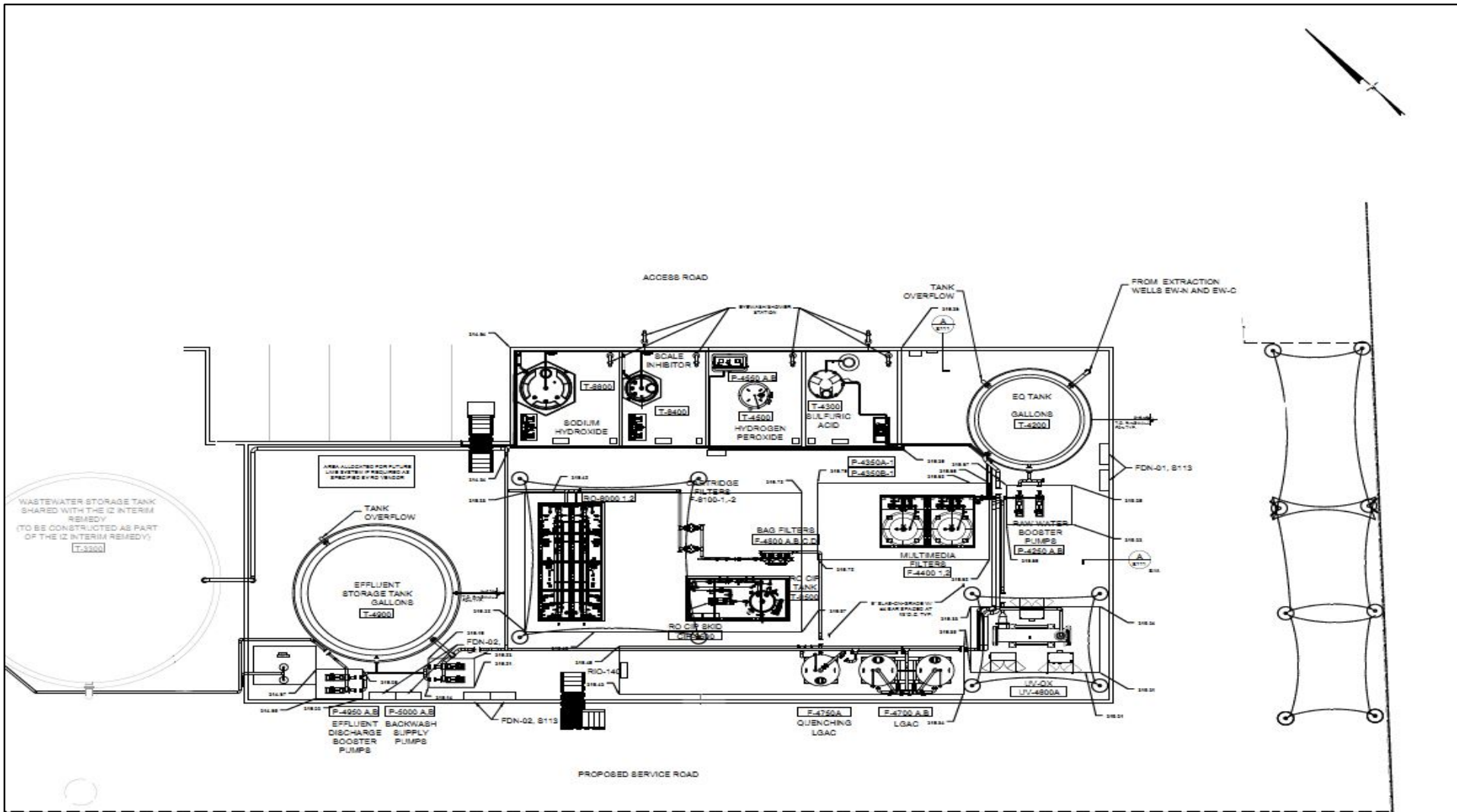
Notes:  
 - The composite contour lines represent the lateral extent of PCE, TCE, 1,1-DCE, 1,1-DCA, and 1,4-dioxane relative to 10x the California Maximum Contaminant Level (MCL) or California Department of Drinking Water Notification Level (NL) in the Shallow Zone (SZ).

**Stantec**  
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**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT SHALLOW ZONE REMEDY PROJECT**

**Shallow Zone Remedy Infrastructure Map**  
 Fig. 2





Note:  
 1. **NOT TO SCALE**  
 2. Geosyntec, 2019. Pre-Final Design Report. 19 April



**STANTEC CONSULTING SERVICES Inc.**  
 290 Conejo Ridge Avenue  
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**NORTHROP GRUMMAN SYSTEMS CORPORATION**  
**PUENTE VALLEY OPERABLE UNIT**  
**SHALLOW ZONE- SOUTH INTERIM**  
**REMIEDIATION SYSTEM**

**SZ Treatment Facility Foundation Plan**  
**Fig. 3**

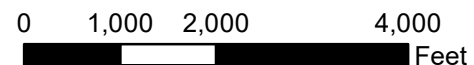




**Legend**

- Whittier Narrows Dam
- 24 Inch Diameter RCP to New Stormdrain Connection
- Reinforced Concrete Channel (100 foot width)
- 48-75 Inch Diameter Reinforced Concrete Pipe
- Soft Bottom Dirt Channel (500 foot width)
- Soft Bottom Channel (140-170 foot width)
- City Boundaries
- Gage F312B (Approximate Location)
- Treatment Plant
- Flow Direction

Notes:  
 Flow Path & Pipe Diameter Source: Los Angeles Department of Public Works  
 Open Channel Bed and Bank Material Source: Los Angeles Department of Public Works and Aerial Photography



**Flow Path of Proposed Site Discharge to Surface Water**

Puente Valley Operable Unit  
 Puente Valley, California

**Geosyntec**  
 consultants

WR1585

January 2020

**Figure**

**4**





**NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW  
ZONE – SOUTH INTERIM REMEDY PROJECT**

Appendix A PROJECT EMISSIONS ESTIMATES

**APPENDIX A PROJECT EMISSIONS ESTIMATES**





PVOU SZ-South Interim Remedy - Pipeline Installation - Los Angeles-South Coast County, Annual

**PVOU SZ-South - Interim Remedy - Pipeline Installation  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	8.75	1000sqft	0.20	8,750.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	9			<b>Operational Year</b>	2020
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

- Project Characteristics - pipeline installation
- Land Use - Conservatively assumes 8.750 square feet of pipeline installation (up to 4,191 linear feet of pipeline with average 2 foot trench width).
- Construction Phase - Per workplan schedule
- Off-road Equipment - Component-specific equipment assumptions
- Off-road Equipment - component-specific equipment assumptions
- Off-road Equipment - Component-specific equipment assumptions
- Trips and VMT -
- Vehicle Trips -
- Area Coating -
- Energy Use -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	525	1800
tblConstructionPhase	NumDays	5.00	62.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

## 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					
2019	0.1008	0.8681	0.7399	1.4400e-003	0.0370	0.0454	0.0823	9.3200e-003	0.0426	0.0520	0.0000	125.8657	125.8657	0.0306	0.0000	126.6301
<b>Maximum</b>	<b>0.1008</b>	<b>0.8681</b>	<b>0.7399</b>	<b>1.4400e-003</b>	<b>0.0370</b>	<b>0.0454</b>	<b>0.0823</b>	<b>9.3200e-003</b>	<b>0.0426</b>	<b>0.0520</b>	<b>0.0000</b>	<b>125.8657</b>	<b>125.8657</b>	<b>0.0306</b>	<b>0.0000</b>	<b>126.6301</b>

#### 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					
2019	0.1008	0.8681	0.7399	1.4400e-003	0.0370	0.0454	0.0823	9.3200e-003	0.0426	0.0520	0.0000	125.8656	125.8656	0.0306	0.0000	126.6300
<b>Maximum</b>	<b>0.1008</b>	<b>0.8681</b>	<b>0.7399</b>	<b>1.4400e-003</b>	<b>0.0370</b>	<b>0.0454</b>	<b>0.0823</b>	<b>9.3200e-003</b>	<b>0.0426</b>	<b>0.0520</b>	<b>0.0000</b>	<b>125.8656</b>	<b>125.8656</b>	<b>0.0306</b>	<b>0.0000</b>	<b>126.6300</b>

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-2-2019	9-30-2019	0.0558	0.0558
		Highest	0.0558	0.0558

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Pipeline Installation	Trenching	9/26/2019	12/22/2019	5	62	
2	Re-paving	Paving	9/26/2019	12/22/2019	5	62	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipeline Installation	Concrete/Industrial Saws	1	8.00	81	0.73
Pipeline Installation	Cranes	1	4.00	231	0.29
Pipeline Installation	Off-Highway Trucks	2	4.00	402	0.38
Pipeline Installation	Signal Boards	4	8.00	6	0.82
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Pipeline Installation	Welders	1	6.00	46	0.45
Re-paving	Cement and Mortar Mixers	0	6.00	9	0.56
Re-paving	Pavers	1	7.00	130	0.42
Re-paving	Rollers	1	7.00	80	0.38



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	4.3500e-003	3.6200e-003	0.0394	1.0000e-004	0.0342	8.0000e-005	0.0343	8.6000e-003	8.0000e-005	8.6700e-003	0.0000	9.1431	9.1431	3.1000e-004	0.0000	9.1510
<b>Total</b>	<b>4.3500e-003</b>	<b>3.6200e-003</b>	<b>0.0394</b>	<b>1.0000e-004</b>	<b>0.0342</b>	<b>8.0000e-005</b>	<b>0.0343</b>	<b>8.6000e-003</b>	<b>8.0000e-005</b>	<b>8.6700e-003</b>	<b>0.0000</b>	<b>9.1431</b>	<b>9.1431</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>9.1510</b>

**Mitigated Construction On-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					
Off-Road	0.0746	0.6545	0.4963	1.0300e-003		0.0329	0.0329		0.0312	0.0312	0.0000	88.6975	88.6975	0.0221	0.0000	89.2508
<b>Total</b>	<b>0.0746</b>	<b>0.6545</b>	<b>0.4963</b>	<b>1.0300e-003</b>		<b>0.0329</b>	<b>0.0329</b>		<b>0.0312</b>	<b>0.0312</b>	<b>0.0000</b>	<b>88.6975</b>	<b>88.6975</b>	<b>0.0221</b>	<b>0.0000</b>	<b>89.2508</b>

**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	4.3500e-003	3.6200e-003	0.0394	1.0000e-004	0.0342	8.0000e-005	0.0343	8.6000e-003	8.0000e-005	8.6700e-003	0.0000	9.1431	9.1431	3.1000e-004	0.0000	9.1510
<b>Total</b>	<b>4.3500e-003</b>	<b>3.6200e-003</b>	<b>0.0394</b>	<b>1.0000e-004</b>	<b>0.0342</b>	<b>8.0000e-005</b>	<b>0.0343</b>	<b>8.6000e-003</b>	<b>8.0000e-005</b>	<b>8.6700e-003</b>	<b>0.0000</b>	<b>9.1431</b>	<b>9.1431</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>9.1510</b>

**3.3 Re-paving - 2019**

**Unmitigated Construction On-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					
Off-Road	0.0203	0.2089	0.1929	2.8000e-004		0.0124	0.0124		0.0114	0.0114	0.0000	25.4126	25.4126	8.0400e-003	0.0000	25.6136
Paving	2.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0205</b>	<b>0.2089</b>	<b>0.1929</b>	<b>2.8000e-004</b>		<b>0.0124</b>	<b>0.0124</b>		<b>0.0114</b>	<b>0.0114</b>	<b>0.0000</b>	<b>25.4126</b>	<b>25.4126</b>	<b>8.0400e-003</b>	<b>0.0000</b>	<b>25.6136</b>

**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	1.2400e-003	1.0400e-003	0.0113	3.0000e-005	2.7200e-003	2.0000e-005	2.7400e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.6123	2.6123	9.0000e-005	0.0000	2.6146
<b>Total</b>	<b>1.2400e-003</b>	<b>1.0400e-003</b>	<b>0.0113</b>	<b>3.0000e-005</b>	<b>2.7200e-003</b>	<b>2.0000e-005</b>	<b>2.7400e-003</b>	<b>7.2000e-004</b>	<b>2.0000e-005</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>2.6123</b>	<b>2.6123</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>2.6146</b>

**Mitigated Construction On-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					
Off-Road	0.0203	0.2089	0.1929	2.8000e-004		0.0124	0.0124		0.0114	0.0114	0.0000	25.4126	25.4126	8.0400e-003	0.0000	25.6136

Paving	2.6000e-004					0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
<b>Total</b>	<b>0.0205</b>	<b>0.2089</b>	<b>0.1929</b>	<b>2.8000e-004</b>		<b>0.0124</b>	<b>0.0124</b>			<b>0.0114</b>	<b>0.0114</b>	<b>0.0000</b>	<b>25.4126</b>	<b>25.4126</b>	<b>8.0400e-003</b>	<b>0.0000</b>	<b>25.6136</b>

**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	1.2400e-003	1.0400e-003	0.0113	3.0000e-005	2.7200e-003	2.0000e-005	2.7400e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.6123	2.6123	9.0000e-005	0.0000	2.6146
<b>Total</b>	<b>1.2400e-003</b>	<b>1.0400e-003</b>	<b>0.0113</b>	<b>3.0000e-005</b>	<b>2.7200e-003</b>	<b>2.0000e-005</b>	<b>2.7400e-003</b>	<b>7.2000e-004</b>	<b>2.0000e-005</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>2.6123</b>	<b>2.6123</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>2.6146</b>

PVOU SZ-South Interim Remedy - Pipeline Installation - Los Angeles-South Coast County, Winter

**PVOU SZ-South Interim Remedy - Pipeline Installation  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	8.75	1000sqft	0.20	8,750.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	9			<b>Operational Year</b>	2020
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - pipeline installation

Land Use - Conservatively assumes 8,750 square feet of pipeline installation (up to 4,191 linear feet of pipeline with average 2 foot trench width).

Construction Phase - Per workplan schedule

Off-road Equipment - Component-specific equipment assumptions

Off-road Equipment - component-specific equipment assumptions

Off-road Equipment - Component-specific equipment assumptions

Trips and VMT -

Vehicle Trips -

Area Coating -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	525	1800
tblConstructionPhase	NumDays	5.00	62.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### 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	lb/day										lb/day					
2019	3.2693	27.9986	23.8263	0.0465	1.2187	1.4637	2.6824	0.3071	1.3754	1.6825	0.0000	4,468.749 1	4,468.749 1	1.0870	0.0000	4,495.923 4
<b>Maximum</b>	<b>3.2693</b>	<b>27.9986</b>	<b>23.8263</b>	<b>0.0465</b>	<b>1.2187</b>	<b>1.4637</b>	<b>2.6824</b>	<b>0.3071</b>	<b>1.3754</b>	<b>1.6825</b>	<b>0.0000</b>	<b>4,468.749 1</b>	<b>4,468.749 1</b>	<b>1.0870</b>	<b>0.0000</b>	<b>4,495.923 4</b>

#### 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	lb/day										lb/day					
2019	3.2693	27.9986	23.8263	0.0465	1.2187	1.4637	2.6824	0.3071	1.3754	1.6825	0.0000	4,468.749 1	4,468.749 1	1.0870	0.0000	4,495.923 4
<b>Maximum</b>	<b>3.2693</b>	<b>27.9986</b>	<b>23.8263</b>	<b>0.0465</b>	<b>1.2187</b>	<b>1.4637</b>	<b>2.6824</b>	<b>0.3071</b>	<b>1.3754</b>	<b>1.6825</b>	<b>0.0000</b>	<b>4,468.749 1</b>	<b>4,468.749 1</b>	<b>1.0870</b>	<b>0.0000</b>	<b>4,495.923 4</b>

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Pipeline Installation	Trenching	9/26/2019	12/22/2019	5	62	
2	Re-paving	Paving	9/26/2019	12/22/2019	5	62	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipeline Installation	Concrete/Industrial Saws	1	8.00	81	0.73
Pipeline Installation	Cranes	1	4.00	231	0.29
Pipeline Installation	Off-Highway Trucks	2	4.00	402	0.38
Pipeline Installation	Signal Boards	4	8.00	6	0.82
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Pipeline Installation	Welders	1	6.00	46	0.45
Re-paving	Cement and Mortar Mixers	0	6.00	9	0.56
Re-paving	Pavers	1	7.00	130	0.42
Re-paving	Rollers	1	7.00	80	0.38
Re-paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

#### 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
Pipeline Installation	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Re-paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Pipeline Installation - 2019

#### Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	2.4078	21.1122	16.0107	0.0333		1.0609	1.0609		1.0048	1.0048		3,153.9487	3,153.9487	0.7869		3,173.6219
<b>Total</b>	<b>2.4078</b>	<b>21.1122</b>	<b>16.0107</b>	<b>0.0333</b>		<b>1.0609</b>	<b>1.0609</b>		<b>1.0048</b>	<b>1.0048</b>		<b>3,153.9487</b>	<b>3,153.9487</b>	<b>0.7869</b>		<b>3,173.6219</b>

#### 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	lb/day										lb/day					
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
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
Worker	0.1551	0.1138	1.2389	3.2100e-003	1.1293	2.7000e-003	1.1319	0.2834	2.4900e-003	0.2859		319.7966	319.7966	0.0110		320.0717
<b>Total</b>	<b>0.1551</b>	<b>0.1138</b>	<b>1.2389</b>	<b>3.2100e-003</b>	<b>1.1293</b>	<b>2.7000e-003</b>	<b>1.1319</b>	<b>0.2834</b>	<b>2.4900e-003</b>	<b>0.2859</b>		<b>319.7966</b>	<b>319.7966</b>	<b>0.0110</b>		<b>320.0717</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	2.4078	21.1122	16.0107	0.0333		1.0609	1.0609		1.0048	1.0048	0.0000	3,153.948	3,153.948	0.7869		3,173.621
												7	7			9
<b>Total</b>	<b>2.4078</b>	<b>21.1122</b>	<b>16.0107</b>	<b>0.0333</b>		<b>1.0609</b>	<b>1.0609</b>		<b>1.0048</b>	<b>1.0048</b>	<b>0.0000</b>	<b>3,153.948</b>	<b>3,153.948</b>	<b>0.7869</b>		<b>3,173.621</b>
												7	7			9

**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	lb/day										lb/day					
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
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
Worker	0.1551	0.1138	1.2389	3.2100e-003	1.1293	2.7000e-003	1.1319	0.2834	2.4900e-003	0.2859		319.7966	319.7966	0.0110		320.0717
<b>Total</b>	<b>0.1551</b>	<b>0.1138</b>	<b>1.2389</b>	<b>3.2100e-003</b>	<b>1.1293</b>	<b>2.7000e-003</b>	<b>1.1319</b>	<b>0.2834</b>	<b>2.4900e-003</b>	<b>0.2859</b>		<b>319.7966</b>	<b>319.7966</b>	<b>0.0110</b>		<b>320.0717</b>

**3.3 Re-paving - 2019**

**Unmitigated Construction On-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
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Category	lb/day										lb/day					
Off-Road	0.6537	6.7400	6.2227	9.1300e-003		0.3993	0.3993		0.3674	0.3674		903.6333	903.6333	0.2859		910.7808
Paving	8.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6622</b>	<b>6.7400</b>	<b>6.2227</b>	<b>9.1300e-003</b>		<b>0.3993</b>	<b>0.3993</b>		<b>0.3674</b>	<b>0.3674</b>		<b>903.6333</b>	<b>903.6333</b>	<b>0.2859</b>		<b>910.7808</b>

**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	lb/day										lb/day					
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
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
<b>Total</b>	<b>0.0443</b>	<b>0.0325</b>	<b>0.3540</b>	<b>9.2000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>91.3705</b>	<b>91.3705</b>	<b>3.1400e-003</b>		<b>91.4491</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	0.6537	6.7400	6.2227	9.1300e-003		0.3993	0.3993		0.3674	0.3674	0.0000	903.6333	903.6333	0.2859		910.7808
Paving	8.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6622</b>	<b>6.7400</b>	<b>6.2227</b>	<b>9.1300e-003</b>		<b>0.3993</b>	<b>0.3993</b>		<b>0.3674</b>	<b>0.3674</b>	<b>0.0000</b>	<b>903.6333</b>	<b>903.6333</b>	<b>0.2859</b>		<b>910.7808</b>



**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	lb/day										lb/day					
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
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
<b>Total</b>	<b>0.0443</b>	<b>0.0325</b>	<b>0.3540</b>	<b>9.2000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>91.3705</b>	<b>91.3705</b>	<b>3.1400e-003</b>		<b>91.4491</b>

PVOU SZ-South Interim Remedy - Pipeline Installation - Los Angeles-South Coast County, Summer

**PVOU SZ-South Interim Remedy - Pipeline Installation  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	8.75	1000sqft	0.20	8,750.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	9			<b>Operational Year</b>	2020
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - pipeline installation

Land Use - Conservatively assumes 8,750 square feet of pipeline installation (up to 4,191 linear feet of pipeline with average 2 foot trench width).

Construction Phase - Per workplan schedule

Off-road Equipment - Component-specific equipment assumptions

Off-road Equipment - component-specific equipment assumptions

Off-road Equipment - Component-specific equipment assumptions

Trips and VMT -

Vehicle Trips -

Area Coating -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	525	1800
tblConstructionPhase	NumDays	5.00	62.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### 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	lb/day										lb/day					
2019	3.2498	27.9844	23.9691	0.0468	1.2187	1.4637	2.6824	0.3071	1.3754	1.6825	0.0000	4,494.245 1	4,494.245 1	1.0878	0.0000	4,521.440 7
<b>Maximum</b>	<b>3.2498</b>	<b>27.9844</b>	<b>23.9691</b>	<b>0.0468</b>	<b>1.2187</b>	<b>1.4637</b>	<b>2.6824</b>	<b>0.3071</b>	<b>1.3754</b>	<b>1.6825</b>	<b>0.0000</b>	<b>4,494.245 1</b>	<b>4,494.245 1</b>	<b>1.0878</b>	<b>0.0000</b>	<b>4,521.440 7</b>

#### 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	lb/day										lb/day					
2019	3.2498	27.9844	23.9691	0.0468	1.2187	1.4637	2.6824	0.3071	1.3754	1.6825	0.0000	4,494.245 1	4,494.245 1	1.0878	0.0000	4,521.440 7
<b>Maximum</b>	<b>3.2498</b>	<b>27.9844</b>	<b>23.9691</b>	<b>0.0468</b>	<b>1.2187</b>	<b>1.4637</b>	<b>2.6824</b>	<b>0.3071</b>	<b>1.3754</b>	<b>1.6825</b>	<b>0.0000</b>	<b>4,494.245 1</b>	<b>4,494.245 1</b>	<b>1.0878</b>	<b>0.0000</b>	<b>4,521.440 7</b>

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Pipeline Installation	Trenching	9/26/2019	12/22/2019	5	62	
2	Re-paving	Paving	9/26/2019	12/22/2019	5	62	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipeline Installation	Concrete/Industrial Saws	1	8.00	81	0.73
Pipeline Installation	Cranes	1	4.00	231	0.29
Pipeline Installation	Off-Highway Trucks	2	4.00	402	0.38
Pipeline Installation	Signal Boards	4	8.00	6	0.82
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Pipeline Installation	Welders	1	6.00	46	0.45
Re-paving	Cement and Mortar Mixers	0	6.00	9	0.56
Re-paving	Pavers	1	7.00	130	0.42
Re-paving	Rollers	1	7.00	80	0.38
Re-paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

#### 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
Pipeline Installation	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Re-paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Pipeline Installation - 2019

#### Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	2.4078	21.1122	16.0107	0.0333		1.0609	1.0609		1.0048	1.0048		3,153.9487	3,153.9487	0.7869		3,173.6219
<b>Total</b>	<b>2.4078</b>	<b>21.1122</b>	<b>16.0107</b>	<b>0.0333</b>		<b>1.0609</b>	<b>1.0609</b>		<b>1.0048</b>	<b>1.0048</b>		<b>3,153.9487</b>	<b>3,153.9487</b>	<b>0.7869</b>		<b>3,173.6219</b>

#### 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	lb/day										lb/day					
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
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
Worker	0.1399	0.1028	1.3501	3.4100e-003	1.1293	2.7000e-003	1.1319	0.2834	2.4900e-003	0.2859		339.6268	339.6268	0.0117		339.9185
<b>Total</b>	<b>0.1399</b>	<b>0.1028</b>	<b>1.3501</b>	<b>3.4100e-003</b>	<b>1.1293</b>	<b>2.7000e-003</b>	<b>1.1319</b>	<b>0.2834</b>	<b>2.4900e-003</b>	<b>0.2859</b>		<b>339.6268</b>	<b>339.6268</b>	<b>0.0117</b>		<b>339.9185</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	2.4078	21.1122	16.0107	0.0333		1.0609	1.0609		1.0048	1.0048	0.0000	3,153.948	3,153.948	0.7869		3,173.621
												7	7			9
<b>Total</b>	<b>2.4078</b>	<b>21.1122</b>	<b>16.0107</b>	<b>0.0333</b>		<b>1.0609</b>	<b>1.0609</b>		<b>1.0048</b>	<b>1.0048</b>	<b>0.0000</b>	<b>3,153.948</b>	<b>3,153.948</b>	<b>0.7869</b>		<b>3,173.621</b>
												7	7			9

**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	lb/day										lb/day					
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
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
Worker	0.1399	0.1028	1.3501	3.4100e-003	1.1293	2.7000e-003	1.1319	0.2834	2.4900e-003	0.2859		339.6268	339.6268	0.0117		339.9185
<b>Total</b>	<b>0.1399</b>	<b>0.1028</b>	<b>1.3501</b>	<b>3.4100e-003</b>	<b>1.1293</b>	<b>2.7000e-003</b>	<b>1.1319</b>	<b>0.2834</b>	<b>2.4900e-003</b>	<b>0.2859</b>		<b>339.6268</b>	<b>339.6268</b>	<b>0.0117</b>		<b>339.9185</b>

**3.3 Re-paving - 2019**

**Unmitigated Construction On-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
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Category	lb/day										lb/day					
Off-Road	0.6537	6.7400	6.2227	9.1300e-003		0.3993	0.3993		0.3674	0.3674		903.6333	903.6333	0.2859		910.7808
Paving	8.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6622</b>	<b>6.7400</b>	<b>6.2227</b>	<b>9.1300e-003</b>		<b>0.3993</b>	<b>0.3993</b>		<b>0.3674</b>	<b>0.3674</b>		<b>903.6333</b>	<b>903.6333</b>	<b>0.2859</b>		<b>910.7808</b>

**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	lb/day										lb/day					
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
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196
<b>Total</b>	<b>0.0400</b>	<b>0.0294</b>	<b>0.3857</b>	<b>9.7000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>97.0362</b>	<b>97.0362</b>	<b>3.3300e-003</b>		<b>97.1196</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	0.6537	6.7400	6.2227	9.1300e-003		0.3993	0.3993		0.3674	0.3674	0.0000	903.6333	903.6333	0.2859		910.7808
Paving	8.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6622</b>	<b>6.7400</b>	<b>6.2227</b>	<b>9.1300e-003</b>		<b>0.3993</b>	<b>0.3993</b>		<b>0.3674</b>	<b>0.3674</b>	<b>0.0000</b>	<b>903.6333</b>	<b>903.6333</b>	<b>0.2859</b>		<b>910.7808</b>

**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	lb/day										lb/day					
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
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196
<b>Total</b>	<b>0.0400</b>	<b>0.0294</b>	<b>0.3857</b>	<b>9.7000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>97.0362</b>	<b>97.0362</b>	<b>3.3300e-003</b>		<b>97.1196</b>



PVOU SZ-South Interim Remedy - Water Treatment Plant - Los Angeles-South Coast County, Annual

**PVOU SZ-South Interim Remedy - Water Treatment Plant**  
**Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.91	1000sqft	0.25	10,912.50	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	9	<b>Operational Year</b>	2020		
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Treatment plant = 0.25 acres

Construction Phase -

Vehicle Trips - estimated 60 labor hours per week for plant operation and maintenance. Analysis conservatively assumes up to 3 trips per day =  $3/10.91 = 0.275$

Area Coating -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	1.32	0.28
tblVehicleTrips	SU_TR	0.68	0.28



Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-26-2019	12-25-2019	0.6495	0.6495
2	12-26-2019	3-25-2020	0.6059	0.6059
3	3-26-2020	6-25-2020	0.6082	0.6082
4	6-26-2020	9-25-2020	0.1395	0.1395
		Highest	0.6495	0.6495

## 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	0.0762	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Energy	1.0700e-003	9.6800e-003	8.1300e-003	6.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	49.1344	49.1344	1.8000e-003	5.2000e-004	49.3351
Mobile	1.2700e-003	6.8600e-003	0.0193	6.0000e-005	5.1300e-003	7.0000e-005	5.2000e-003	1.3800e-003	6.0000e-005	1.4400e-003	0.0000	5.9623	5.9623	3.2000e-004	0.0000	5.9704
Waste						0.0000	0.0000		0.0000	0.0000	19.9804	0.0000	19.9804	1.1808	0.0000	49.5006
Water						0.0000	0.0000		0.0000	0.0000	5.8237	76.1574	81.9811	0.6013	0.0148	101.4162
<b>Total</b>	<b>0.0786</b>	<b>0.0165</b>	<b>0.0276</b>	<b>1.2000e-004</b>	<b>5.1300e-003</b>	<b>8.1000e-004</b>	<b>5.9400e-003</b>	<b>1.3800e-003</b>	<b>8.0000e-004</b>	<b>2.1800e-003</b>	<b>25.8041</b>	<b>131.2544</b>	<b>157.0585</b>	<b>1.7842</b>	<b>0.0153</b>	<b>206.2226</b>

### 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	0.0762	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Energy	1.0700e-003	9.6800e-003	8.1300e-003	6.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	49.1344	49.1344	1.8000e-003	5.2000e-004	49.3351
Mobile	1.2700e-003	6.8600e-003	0.0193	6.0000e-005	5.1300e-003	7.0000e-005	5.2000e-003	1.3800e-003	6.0000e-005	1.4400e-003	0.0000	5.9623	5.9623	3.2000e-004	0.0000	5.9704
Waste						0.0000	0.0000		0.0000	0.0000	19.9804	0.0000	19.9804	1.1808	0.0000	49.5006
Water						0.0000	0.0000		0.0000	0.0000	5.8237	76.1574	81.9811	0.6013	0.0148	101.4162
<b>Total</b>	<b>0.0786</b>	<b>0.0165</b>	<b>0.0276</b>	<b>1.2000e-004</b>	<b>5.1300e-003</b>	<b>8.1000e-004</b>	<b>5.9400e-003</b>	<b>1.3800e-003</b>	<b>8.0000e-004</b>	<b>2.1800e-003</b>	<b>25.8041</b>	<b>131.2544</b>	<b>157.0585</b>	<b>1.7842</b>	<b>0.0153</b>	<b>206.2226</b>

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 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	9/26/2019	9/27/2019	5	2	
2	Grading	Grading	9/28/2019	10/3/2019	5	4	
3	Building Construction	Building Construction	10/4/2019	7/9/2020	5	200	
4	Paving	Paving	7/10/2020	7/23/2020	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40



Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0195	7.8900e-003	2.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589
<b>Total</b>	<b>1.7100e-003</b>	<b>0.0195</b>	<b>7.8900e-003</b>	<b>2.0000e-005</b>	<b>5.8000e-003</b>	<b>8.8000e-004</b>	<b>6.6800e-003</b>	<b>2.9500e-003</b>	<b>8.1000e-004</b>	<b>3.7600e-003</b>	<b>0.0000</b>	<b>1.5467</b>	<b>1.5467</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>1.5589</b>

**Unmitigated Construction Off-Site**

Category	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	4.0000e-005	3.0000e-005	3.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0843	0.0843	0.0000	0.0000	0.0843
<b>Total</b>	<b>4.0000e-005</b>	<b>3.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0843</b>	<b>0.0843</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0843</b>

**Mitigated Construction On-Site**

Category	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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0195	7.8900e-003	2.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589

Total	1.7100e-003	0.0195	7.8900e-003	2.0000e-005	5.8000e-003	8.8000e-004	6.6800e-003	2.9500e-003	8.1000e-004	3.7600e-003	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589
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**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	4.0000e-005	3.0000e-005	3.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0843	0.0843	0.0000	0.0000	0.0843
<b>Total</b>	<b>4.0000e-005</b>	<b>3.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0843</b>	<b>0.0843</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0843</b>

**3.3 Grading - 2019**

**Unmitigated Construction On-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					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8400e-003	0.0321	0.0132	3.0000e-005		1.4700e-003	1.4700e-003		1.3600e-003	1.3600e-003	0.0000	2.5336	2.5336	8.0000e-004	0.0000	2.5536
<b>Total</b>	<b>2.8400e-003</b>	<b>0.0321</b>	<b>0.0132</b>	<b>3.0000e-005</b>	<b>9.8300e-003</b>	<b>1.4700e-003</b>	<b>0.0113</b>	<b>5.0500e-003</b>	<b>1.3600e-003</b>	<b>6.4100e-003</b>	<b>0.0000</b>	<b>2.5336</b>	<b>2.5336</b>	<b>8.0000e-004</b>	<b>0.0000</b>	<b>2.5536</b>

**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	8.0000e-005	7.0000e-005	7.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1685	0.1685	1.0000e-005	0.0000	0.1687
<b>Total</b>	<b>8.0000e-005</b>	<b>7.0000e-005</b>	<b>7.3000e-004</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.1685</b>	<b>0.1685</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.1687</b>

**Mitigated Construction On-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					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8400e-003	0.0321	0.0132	3.0000e-005		1.4700e-003	1.4700e-003		1.3600e-003	1.3600e-003	0.0000	2.5336	2.5336	8.0000e-004	0.0000	2.5536
<b>Total</b>	<b>2.8400e-003</b>	<b>0.0321</b>	<b>0.0132</b>	<b>3.0000e-005</b>	<b>9.8300e-003</b>	<b>1.4700e-003</b>	<b>0.0113</b>	<b>5.0500e-003</b>	<b>1.3600e-003</b>	<b>6.4100e-003</b>	<b>0.0000</b>	<b>2.5336</b>	<b>2.5336</b>	<b>8.0000e-004</b>	<b>0.0000</b>	<b>2.5536</b>

**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	8.0000e-005	7.0000e-005	7.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1685	0.1685	1.0000e-005	0.0000	0.1687
<b>Total</b>	<b>8.0000e-005</b>	<b>7.0000e-005</b>	<b>7.3000e-004</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.1685</b>	<b>0.1685</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.1687</b>

### 3.4 Building Construction - 2019

#### Unmitigated Construction On-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					
Off-Road	0.0716	0.5034	0.4248	6.9000e-004		0.0289	0.0289		0.0279	0.0279	0.0000	57.6677	57.6677	0.0111	0.0000	57.9448
<b>Total</b>	<b>0.0716</b>	<b>0.5034</b>	<b>0.4248</b>	<b>6.9000e-004</b>		<b>0.0289</b>	<b>0.0289</b>		<b>0.0279</b>	<b>0.0279</b>	<b>0.0000</b>	<b>57.6677</b>	<b>57.6677</b>	<b>0.0111</b>	<b>0.0000</b>	<b>57.9448</b>

#### 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	1.7300e-003	0.0484	0.0132	1.1000e-004	2.5800e-003	3.0000e-004	2.8800e-003	7.4000e-004	2.9000e-004	1.0400e-003	0.0000	10.2401	10.2401	6.8000e-004	0.0000	10.2572
Worker	5.2100e-003	4.3400e-003	0.0472	1.2000e-004	0.0114	1.0000e-004	0.0115	3.0300e-003	9.0000e-005	3.1200e-003	0.0000	10.9497	10.9497	3.8000e-004	0.0000	10.9591
<b>Total</b>	<b>6.9400e-003</b>	<b>0.0527</b>	<b>0.0604</b>	<b>2.3000e-004</b>	<b>0.0140</b>	<b>4.0000e-004</b>	<b>0.0144</b>	<b>3.7700e-003</b>	<b>3.8000e-004</b>	<b>4.1600e-003</b>	<b>0.0000</b>	<b>21.1898</b>	<b>21.1898</b>	<b>1.0600e-003</b>	<b>0.0000</b>	<b>21.2163</b>

**Mitigated Construction On-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					
Off-Road	0.0716	0.5034	0.4248	6.9000e-004		0.0289	0.0289		0.0279	0.0279	0.0000	57.6676	57.6676	0.0111	0.0000	57.9447
<b>Total</b>	<b>0.0716</b>	<b>0.5034</b>	<b>0.4248</b>	<b>6.9000e-004</b>		<b>0.0289</b>	<b>0.0289</b>		<b>0.0279</b>	<b>0.0279</b>	<b>0.0000</b>	<b>57.6676</b>	<b>57.6676</b>	<b>0.0111</b>	<b>0.0000</b>	<b>57.9447</b>

**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	1.7300e-003	0.0484	0.0132	1.1000e-004	2.5800e-003	3.0000e-004	2.8800e-003	7.4000e-004	2.9000e-004	1.0400e-003	0.0000	10.2401	10.2401	6.8000e-004	0.0000	10.2572
Worker	5.2100e-003	4.3400e-003	0.0472	1.2000e-004	0.0114	1.0000e-004	0.0115	3.0300e-003	9.0000e-005	3.1200e-003	0.0000	10.9497	10.9497	3.8000e-004	0.0000	10.9591
<b>Total</b>	<b>6.9400e-003</b>	<b>0.0527</b>	<b>0.0604</b>	<b>2.3000e-004</b>	<b>0.0140</b>	<b>4.0000e-004</b>	<b>0.0144</b>	<b>3.7700e-003</b>	<b>3.8000e-004</b>	<b>4.1600e-003</b>	<b>0.0000</b>	<b>21.1898</b>	<b>21.1898</b>	<b>1.0600e-003</b>	<b>0.0000</b>	<b>21.2163</b>

**3.4 Building Construction - 2020**

**Unmitigated Construction On-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					
Off-Road	0.1391	1.0130	0.9034	1.5100e-003		0.0545	0.0545		0.0527	0.0527	0.0000	124.3564	124.3564	0.0231	0.0000	124.9335
<b>Total</b>	<b>0.1391</b>	<b>1.0130</b>	<b>0.9034</b>	<b>1.5100e-003</b>		<b>0.0545</b>	<b>0.0545</b>		<b>0.0527</b>	<b>0.0527</b>	<b>0.0000</b>	<b>124.3564</b>	<b>124.3564</b>	<b>0.0231</b>	<b>0.0000</b>	<b>124.9335</b>

**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	3.2300e-003	0.0965	0.0261	2.3000e-004	5.6100e-003	4.5000e-004	6.0600e-003	1.6200e-003	4.3000e-004	2.0500e-003	0.0000	22.1224	22.1224	1.4100e-003	0.0000	22.1575
Worker	0.0104	8.4100e-003	0.0931	2.6000e-004	0.0248	2.1000e-004	0.0250	6.5800e-003	1.9000e-004	6.7700e-003	0.0000	23.0876	23.0876	7.3000e-004	0.0000	23.1058
<b>Total</b>	<b>0.0137</b>	<b>0.1049</b>	<b>0.1192</b>	<b>4.9000e-004</b>	<b>0.0304</b>	<b>6.6000e-004</b>	<b>0.0310</b>	<b>8.2000e-003</b>	<b>6.2000e-004</b>	<b>8.8200e-003</b>	<b>0.0000</b>	<b>45.2100</b>	<b>45.2100</b>	<b>2.1400e-003</b>	<b>0.0000</b>	<b>45.2633</b>

**Mitigated Construction On-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					
Off-Road	0.1391	1.0130	0.9034	1.5100e-003		0.0545	0.0545		0.0527	0.0527	0.0000	124.3562	124.3562	0.0231	0.0000	124.9333

<b>Total</b>	<b>0.1391</b>	<b>1.0130</b>	<b>0.9034</b>	<b>1.5100e-003</b>		<b>0.0545</b>	<b>0.0545</b>		<b>0.0527</b>	<b>0.0527</b>	<b>0.0000</b>	<b>124.3562</b>	<b>124.3562</b>	<b>0.0231</b>	<b>0.0000</b>	<b>124.9333</b>
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**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	3.2300e-003	0.0965	0.0261	2.3000e-004	5.6100e-003	4.5000e-004	6.0600e-003	1.6200e-003	4.3000e-004	2.0500e-003	0.0000	22.1224	22.1224	1.4100e-003	0.0000	22.1575
Worker	0.0104	8.4100e-003	0.0931	2.6000e-004	0.0248	2.1000e-004	0.0250	6.5800e-003	1.9000e-004	6.7700e-003	0.0000	23.0876	23.0876	7.3000e-004	0.0000	23.1058
<b>Total</b>	<b>0.0137</b>	<b>0.1049</b>	<b>0.1192</b>	<b>4.9000e-004</b>	<b>0.0304</b>	<b>6.6000e-004</b>	<b>0.0310</b>	<b>8.2000e-003</b>	<b>6.2000e-004</b>	<b>8.8200e-003</b>	<b>0.0000</b>	<b>45.2100</b>	<b>45.2100</b>	<b>2.1400e-003</b>	<b>0.0000</b>	<b>45.2633</b>

**3.5 Paving - 2020**

**Unmitigated Construction On-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					
Off-Road	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8829	5.8829	1.8600e-003	0.0000	5.9295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.2000e-003</b>	<b>0.0423</b>	<b>0.0444</b>	<b>7.0000e-005</b>		<b>2.3500e-003</b>	<b>2.3500e-003</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>0.0000</b>	<b>5.8829</b>	<b>5.8829</b>	<b>1.8600e-003</b>	<b>0.0000</b>	<b>5.9295</b>

**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	3.0000e-004	2.4000e-004	2.6800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6639	0.6639	2.0000e-005	0.0000	0.6644
<b>Total</b>	<b>3.0000e-004</b>	<b>2.4000e-004</b>	<b>2.6800e-003</b>	<b>1.0000e-005</b>	<b>7.1000e-004</b>	<b>1.0000e-005</b>	<b>7.2000e-004</b>	<b>1.9000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6639</b>	<b>0.6639</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.6644</b>

**Mitigated Construction On-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					
Off-Road	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8828	5.8828	1.8600e-003	0.0000	5.9295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.2000e-003</b>	<b>0.0423</b>	<b>0.0444</b>	<b>7.0000e-005</b>		<b>2.3500e-003</b>	<b>2.3500e-003</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>0.0000</b>	<b>5.8828</b>	<b>5.8828</b>	<b>1.8600e-003</b>	<b>0.0000</b>	<b>5.9295</b>

**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					





General Light Industry	197516	1.0700e-003	9.6800e-003	8.1300e-003	6.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	10.5402	10.5402	2.0000e-004	1.9000e-004	10.6029
<b>Total</b>		<b>1.0700e-003</b>	<b>9.6800e-003</b>	<b>8.1300e-003</b>	<b>6.0000e-005</b>		<b>7.4000e-004</b>	<b>7.4000e-004</b>		<b>7.4000e-004</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>10.5402</b>	<b>10.5402</b>	<b>2.0000e-004</b>	<b>1.9000e-004</b>	<b>10.6029</b>

**Mitigated**

	Natural Gas 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					
General Light Industry	197516	1.0700e-003	9.6800e-003	8.1300e-003	6.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	10.5402	10.5402	2.0000e-004	1.9000e-004	10.6029
<b>Total</b>		<b>1.0700e-003</b>	<b>9.6800e-003</b>	<b>8.1300e-003</b>	<b>6.0000e-005</b>		<b>7.4000e-004</b>	<b>7.4000e-004</b>		<b>7.4000e-004</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>10.5402</b>	<b>10.5402</b>	<b>2.0000e-004</b>	<b>1.9000e-004</b>	<b>10.6029</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	121129	38.5942	1.5900e-003	3.3000e-004	38.7323
<b>Total</b>		<b>38.5942</b>	<b>1.5900e-003</b>	<b>3.3000e-004</b>	<b>38.7323</b>



**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	121129	38.5942	1.5900e-003	3.3000e-004	38.7323
<b>Total</b>		<b>38.5942</b>	<b>1.5900e-003</b>	<b>3.3000e-004</b>	<b>38.7323</b>

**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	0.0762	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Unmitigated	0.0762	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004

**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	0.0368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0394					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
<b>Total</b>	<b>0.0762</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.9000e-004</b>

### 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	0.0368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0394					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
<b>Total</b>	<b>0.0762</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.9000e-004</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	81.9811	0.6013	0.0148	101.4162
Unmitigated	81.9811	0.6013	0.0148	101.4162

## 7.2 Water by Land Use

### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	18.3566 / 0	81.9811	0.6013	0.0148	101.4162
<b>Total</b>		<b>81.9811</b>	<b>0.6013</b>	<b>0.0148</b>	<b>101.4162</b>

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	18.3566 / 0	81.9811	0.6013	0.0148	101.4162
<b>Total</b>		<b>81.9811</b>	<b>0.6013</b>	<b>0.0148</b>	<b>101.4162</b>

## 8.0 Waste Detail

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### 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.9804	1.1808	0.0000	49.5006
Unmitigated	19.9804	1.1808	0.0000	49.5006

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	98.43	19.9804	1.1808	0.0000	49.5006
<b>Total</b>		<b>19.9804</b>	<b>1.1808</b>	<b>0.0000</b>	<b>49.5006</b>

#### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	98.43	19.9804	1.1808	0.0000	49.5006
<b>Total</b>		<b>19.9804</b>	<b>1.1808</b>	<b>0.0000</b>	<b>49.5006</b>

## 9.0 Operational Offroad

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

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### Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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### Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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### User Defined Equipment

Equipment Type	Number
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## 11.0 Vegetation

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PVOU SZ-South Interim Remedy - Water Treatment Plant - Los Angeles-South Coast County, Summer

**PVOU SZ-South Interim Remedy - Water Treatment Plant  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.91	1000sqft	0.25	10,912.50	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	9			<b>Operational Year</b>	2020
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Treatment plant = 0.25 acres

Construction Phase -

Vehicle Trips - estimated 60 labor hours per week for plant operation and maintenance. Analysis conservatively assumes up to 3 trips per day =  $3/10.91 = 0.275$

Area Coating -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	1.32	0.28
tblVehicleTrips	SU_TR	0.68	0.28







### 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	9/26/2019	9/27/2019	5	2	
2	Grading	Grading	9/28/2019	10/3/2019	5	4	
3	Building Construction	Building Construction	10/4/2019	7/9/2020	5	200	
4	Paving	Paving	7/10/2020	7/23/2020	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42

Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

### 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	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	33.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Site Preparation - 2019

#### Unmitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.7123	19.4821	7.8893	0.0172		0.8824	0.8824		0.8118	0.8118		1,704.9189	1,704.9189	0.5394		1,718.4044
Total	1.7123	19.4821	7.8893	0.0172	5.7996	0.8824	6.6819	2.9537	0.8118	3.7655		1,704.9189	1,704.9189	0.5394		1,718.4044

#### 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	lb/day										lb/day					
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
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196
<b>Total</b>	<b>0.0400</b>	<b>0.0294</b>	<b>0.3857</b>	<b>9.7000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>97.0362</b>	<b>97.0362</b>	<b>3.3300e-003</b>		<b>97.1196</b>

**Mitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.7123	19.4821	7.8893	0.0172		0.8824	0.8824		0.8118	0.8118	0.0000	1,704.9189	1,704.9189	0.5394		1,718.4044
<b>Total</b>	<b>1.7123</b>	<b>19.4821</b>	<b>7.8893</b>	<b>0.0172</b>	<b>5.7996</b>	<b>0.8824</b>	<b>6.6819</b>	<b>2.9537</b>	<b>0.8118</b>	<b>3.7655</b>	<b>0.0000</b>	<b>1,704.9189</b>	<b>1,704.9189</b>	<b>0.5394</b>		<b>1,718.4044</b>

**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	lb/day										lb/day					
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

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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003	97.1196
<b>Total</b>	<b>0.0400</b>	<b>0.0294</b>	<b>0.3857</b>	<b>9.7000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>97.0362</b>	<b>97.0362</b>	<b>3.3300e-003</b>	<b>97.1196</b>

### 3.3 Grading - 2019

#### Unmitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775		1,396.3909	1,396.3909	0.4418		1,407.4359
<b>Total</b>	<b>1.4197</b>	<b>16.0357</b>	<b>6.6065</b>	<b>0.0141</b>	<b>4.9143</b>	<b>0.7365</b>	<b>5.6507</b>	<b>2.5256</b>	<b>0.6775</b>	<b>3.2032</b>		<b>1,396.3909</b>	<b>1,396.3909</b>	<b>0.4418</b>		<b>1,407.4359</b>

#### 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	lb/day										lb/day					
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
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196
<b>Total</b>	<b>0.0400</b>	<b>0.0294</b>	<b>0.3857</b>	<b>9.7000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>97.0362</b>	<b>97.0362</b>	<b>3.3300e-003</b>		<b>97.1196</b>

### Mitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775	0.0000	1,396.3909	1,396.3909	0.4418		1,407.4359
<b>Total</b>	<b>1.4197</b>	<b>16.0357</b>	<b>6.6065</b>	<b>0.0141</b>	<b>4.9143</b>	<b>0.7365</b>	<b>5.6507</b>	<b>2.5256</b>	<b>0.6775</b>	<b>3.2032</b>	<b>0.0000</b>	<b>1,396.3909</b>	<b>1,396.3909</b>	<b>0.4418</b>		<b>1,407.4359</b>

### 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	lb/day										lb/day					
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
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196
<b>Total</b>	<b>0.0400</b>	<b>0.0294</b>	<b>0.3857</b>	<b>9.7000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>97.0362</b>	<b>97.0362</b>	<b>3.3300e-003</b>		<b>97.1196</b>

## 3.4 Building Construction - 2019

### Unmitigated Construction On-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
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Category	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846		2,018.0224	2,018.0224	0.3879		2,027.7210
<b>Total</b>	<b>2.2721</b>	<b>15.9802</b>	<b>13.4870</b>	<b>0.0220</b>		<b>0.9158</b>	<b>0.9158</b>		<b>0.8846</b>	<b>0.8846</b>		<b>2,018.0224</b>	<b>2,018.0224</b>	<b>0.3879</b>		<b>2,027.7210</b>

**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	lb/day										lb/day					
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
Vendor	0.0540	1.5045	0.3992	3.4000e-003	0.0832	9.5900e-003	0.0928	0.0240	9.1800e-003	0.0331		362.4590	362.4590	0.0232		363.0397
Worker	0.1649	0.1212	1.5911	4.0200e-003	0.3689	3.1800e-003	0.3720	0.0978	2.9300e-003	0.1008		400.2745	400.2745	0.0138		400.6182
<b>Total</b>	<b>0.2189</b>	<b>1.6256</b>	<b>1.9903</b>	<b>7.4200e-003</b>	<b>0.4521</b>	<b>0.0128</b>	<b>0.4649</b>	<b>0.1218</b>	<b>0.0121</b>	<b>0.1339</b>		<b>762.7335</b>	<b>762.7335</b>	<b>0.0370</b>		<b>763.6579</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846	0.0000	2,018.0224	2,018.0224	0.3879		2,027.7210
<b>Total</b>	<b>2.2721</b>	<b>15.9802</b>	<b>13.4870</b>	<b>0.0220</b>		<b>0.9158</b>	<b>0.9158</b>		<b>0.8846</b>	<b>0.8846</b>	<b>0.0000</b>	<b>2,018.0224</b>	<b>2,018.0224</b>	<b>0.3879</b>		<b>2,027.7210</b>

**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	lb/day										lb/day					
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
Vendor	0.0540	1.5045	0.3992	3.4000e-003	0.0832	9.5900e-003	0.0928	0.0240	9.1800e-003	0.0331		362.4590	362.4590	0.0232		363.0397
Worker	0.1649	0.1212	1.5911	4.0200e-003	0.3689	3.1800e-003	0.3720	0.0978	2.9300e-003	0.1008		400.2745	400.2745	0.0138		400.6182
<b>Total</b>	<b>0.2189</b>	<b>1.6256</b>	<b>1.9903</b>	<b>7.4200e-003</b>	<b>0.4521</b>	<b>0.0128</b>	<b>0.4649</b>	<b>0.1218</b>	<b>0.0121</b>	<b>0.1339</b>		<b>762.7335</b>	<b>762.7335</b>	<b>0.0370</b>		<b>763.6579</b>

**3.4 Building Construction - 2020**

**Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>		<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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	lb/day										lb/day					
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
Vendor	0.0462	1.3828	0.3623	3.3700e-003	0.0832	6.5100e-003	0.0897	0.0240	6.2300e-003	0.0302		360.1321	360.1321	0.0220		360.6815
Worker	0.1519	0.1080	1.4449	3.9000e-003	0.3689	3.0800e-003	0.3720	0.0978	2.8400e-003	0.1007		388.1173	388.1173	0.0122		388.4232
<b>Total</b>	<b>0.1981</b>	<b>1.4909</b>	<b>1.8072</b>	<b>7.2700e-003</b>	<b>0.4521</b>	<b>9.5900e-003</b>	<b>0.4617</b>	<b>0.1218</b>	<b>9.0700e-003</b>	<b>0.1309</b>		<b>748.2494</b>	<b>748.2494</b>	<b>0.0342</b>		<b>749.1047</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>	<b>0.0000</b>	<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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	lb/day										lb/day					



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	0.0462	1.3828	0.3623	3.3700e-003	0.0832	6.5100e-003	0.0897	0.0240	6.2300e-003	0.0302		360.1321	360.1321	0.0220		360.6815
Worker	0.1519	0.1080	1.4449	3.9000e-003	0.3689	3.0800e-003	0.3720	0.0978	2.8400e-003	0.1007		388.1173	388.1173	0.0122		388.4232
<b>Total</b>	<b>0.1981</b>	<b>1.4909</b>	<b>1.8072</b>	<b>7.2700e-003</b>	<b>0.4521</b>	<b>9.5900e-003</b>	<b>0.4617</b>	<b>0.1218</b>	<b>9.0700e-003</b>	<b>0.1309</b>		<b>748.2494</b>	<b>748.2494</b>	<b>0.0342</b>		<b>749.1047</b>

### 3.5 Paving - 2020

#### Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8402</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>		<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

#### 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	lb/day										lb/day					
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
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
Worker	0.0598	0.0426	0.5692	1.5400e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1200e-003	0.0397		152.8947	152.8947	4.8200e-003		153.0152
<b>Total</b>	<b>0.0598</b>	<b>0.0426</b>	<b>0.5692</b>	<b>1.5400e-003</b>	<b>0.1453</b>	<b>1.2100e-003</b>	<b>0.1465</b>	<b>0.0385</b>	<b>1.1200e-003</b>	<b>0.0397</b>		<b>152.8947</b>	<b>152.8947</b>	<b>4.8200e-003</b>		<b>153.0152</b>

### Mitigated Construction On-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	lb/day										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8402</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>	<b>0.0000</b>	<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

### 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	lb/day										lb/day					
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
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
Worker	0.0598	0.0426	0.5692	1.5400e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1200e-003	0.0397		152.8947	152.8947	4.8200e-003		153.0152
<b>Total</b>	<b>0.0598</b>	<b>0.0426</b>	<b>0.5692</b>	<b>1.5400e-003</b>	<b>0.1453</b>	<b>1.2100e-003</b>	<b>0.1465</b>	<b>0.0385</b>	<b>1.1200e-003</b>	<b>0.0397</b>		<b>152.8947</b>	<b>152.8947</b>	<b>4.8200e-003</b>		<b>153.0152</b>

## 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	lb/day										lb/day					
Mitigated	7.2900e-003	0.0358	0.1108	3.7000e-004	0.0288	3.7000e-004	0.0291	7.7000e-003	3.4000e-004	8.0400e-003		37.4317	37.4317	1.9900e-003		37.4814
Unmitigated	7.2900e-003	0.0358	0.1108	3.7000e-004	0.0288	3.7000e-004	0.0291	7.7000e-003	3.4000e-004	8.0400e-003		37.4317	37.4317	1.9900e-003		37.4814

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	3.05	3.05	3.05	13,528	13,528
Total	3.05	3.05	3.05	13,528	13,528

#### 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
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

#### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

#### 5.0 Energy Detail

Historical Energy Use: N

#### 5.1 Mitigation Measures Energy

	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	lb/day										lb/day					
NaturalGas Mitigated	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419
NaturalGas Unmitigated	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

	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	lb/day										lb/day					
General Light Industry	541.14	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419
<b>Total</b>		<b>5.8400e-003</b>	<b>0.0531</b>	<b>0.0446</b>	<b>3.2000e-004</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>63.6636</b>	<b>63.6636</b>	<b>1.2200e-003</b>	<b>1.1700e-003</b>	<b>64.0419</b>

### 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	lb/day										lb/day					

General Light Industry	0.54114	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419
<b>Total</b>		<b>5.8400e-003</b>	<b>0.0531</b>	<b>0.0446</b>	<b>3.2000e-004</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>63.6636</b>	<b>63.6636</b>	<b>1.2200e-003</b>	<b>1.1700e-003</b>	<b>64.0419</b>

## 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	lb/day										lb/day					
Mitigated	0.4178	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003
Unmitigated	0.4178	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003

### 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	lb/day										lb/day					
Architectural Coating	0.2016					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Landscaping	1.1000e-004	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003
<b>Total</b>	<b>0.4178</b>	<b>1.0000e-005</b>	<b>1.1200e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3900e-003</b>	<b>2.3900e-003</b>	<b>1.0000e-005</b>		<b>2.5500e-003</b>

**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	lb/day										lb/day					
Architectural Coating	0.2016					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003
<b>Total</b>	<b>0.4178</b>	<b>1.0000e-005</b>	<b>1.1200e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3900e-003</b>	<b>2.3900e-003</b>	<b>1.0000e-005</b>		<b>2.5500e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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PVOU SZ-South Interim Remedy - Water Treatment Plant - Los Angeles-South Coast County, Winter

**PVOU SZ-South Interim Remedy - Water Treatment Plant  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.91	1000sqft	0.25	10,912.50	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	9			<b>Operational Year</b>	2020
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Treatment plant = 0.25 acres

Construction Phase -

Vehicle Trips - estimated 60 labor hours per week for plant operation and maintenance. Analysis conservatively assumes up to 3 trips per day = 3/10.91 = 0.275

Area Coating -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	1.32	0.28
tblVehicleTrips	SU_TR	0.68	0.28







### 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	9/26/2019	9/27/2019	5	2	
2	Grading	Grading	9/28/2019	10/3/2019	5	4	
3	Building Construction	Building Construction	10/4/2019	7/9/2020	5	200	
4	Paving	Paving	7/10/2020	7/23/2020	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42

Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

### 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	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	33.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Site Preparation - 2019

#### Unmitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.7123	19.4821	7.8893	0.0172		0.8824	0.8824		0.8118	0.8118		1,704.9189	1,704.9189	0.5394		1,718.4044
Total	1.7123	19.4821	7.8893	0.0172	5.7996	0.8824	6.6819	2.9537	0.8118	3.7655		1,704.9189	1,704.9189	0.5394		1,718.4044

#### 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	lb/day										lb/day					
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
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
<b>Total</b>	<b>0.0443</b>	<b>0.0325</b>	<b>0.3540</b>	<b>9.2000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>91.3705</b>	<b>91.3705</b>	<b>3.1400e-003</b>		<b>91.4491</b>

**Mitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.7123	19.4821	7.8893	0.0172		0.8824	0.8824		0.8118	0.8118	0.0000	1,704.9189	1,704.9189	0.5394		1,718.4044
<b>Total</b>	<b>1.7123</b>	<b>19.4821</b>	<b>7.8893</b>	<b>0.0172</b>	<b>5.7996</b>	<b>0.8824</b>	<b>6.6819</b>	<b>2.9537</b>	<b>0.8118</b>	<b>3.7655</b>	<b>0.0000</b>	<b>1,704.9189</b>	<b>1,704.9189</b>	<b>0.5394</b>		<b>1,718.4044</b>

**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	lb/day										lb/day					
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

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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244	91.3705	91.3705	3.1400e-003	91.4491	
<b>Total</b>	<b>0.0443</b>	<b>0.0325</b>	<b>0.3540</b>	<b>9.2000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>	<b>91.3705</b>	<b>91.3705</b>	<b>3.1400e-003</b>	<b>91.4491</b>	

### 3.3 Grading - 2019

#### Unmitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775		1,396.3909	1,396.3909	0.4418		1,407.4359
<b>Total</b>	<b>1.4197</b>	<b>16.0357</b>	<b>6.6065</b>	<b>0.0141</b>	<b>4.9143</b>	<b>0.7365</b>	<b>5.6507</b>	<b>2.5256</b>	<b>0.6775</b>	<b>3.2032</b>		<b>1,396.3909</b>	<b>1,396.3909</b>	<b>0.4418</b>		<b>1,407.4359</b>

#### 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	lb/day										lb/day					
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
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244	91.3705	91.3705	3.1400e-003	91.4491		
<b>Total</b>	<b>0.0443</b>	<b>0.0325</b>	<b>0.3540</b>	<b>9.2000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>91.3705</b>	<b>91.3705</b>	<b>3.1400e-003</b>		<b>91.4491</b>

**Mitigated Construction On-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	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775	0.0000	1,396.3909	1,396.3909	0.4418		1,407.4359
<b>Total</b>	<b>1.4197</b>	<b>16.0357</b>	<b>6.6065</b>	<b>0.0141</b>	<b>4.9143</b>	<b>0.7365</b>	<b>5.6507</b>	<b>2.5256</b>	<b>0.6775</b>	<b>3.2032</b>	<b>0.0000</b>	<b>1,396.3909</b>	<b>1,396.3909</b>	<b>0.4418</b>		<b>1,407.4359</b>

**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	lb/day										lb/day					
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
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
<b>Total</b>	<b>0.0443</b>	<b>0.0325</b>	<b>0.3540</b>	<b>9.2000e-004</b>	<b>0.0894</b>	<b>7.7000e-004</b>	<b>0.0902</b>	<b>0.0237</b>	<b>7.1000e-004</b>	<b>0.0244</b>		<b>91.3705</b>	<b>91.3705</b>	<b>3.1400e-003</b>		<b>91.4491</b>

**3.4 Building Construction - 2019**

**Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846		2,018.0224	2,018.0224	0.3879		2,027.7210
<b>Total</b>	<b>2.2721</b>	<b>15.9802</b>	<b>13.4870</b>	<b>0.0220</b>		<b>0.9158</b>	<b>0.9158</b>		<b>0.8846</b>	<b>0.8846</b>		<b>2,018.0224</b>	<b>2,018.0224</b>	<b>0.3879</b>		<b>2,027.7210</b>

**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	lb/day										lb/day					
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
Vendor	0.0563	1.5065	0.4400	3.3100e-003	0.0832	9.7500e-003	0.0930	0.0240	9.3300e-003	0.0333		352.6602	352.6602	0.0248		353.2796
Worker	0.1827	0.1342	1.4602	3.7900e-003	0.3689	3.1800e-003	0.3720	0.0978	2.9300e-003	0.1008		376.9032	376.9032	0.0130		377.2273
<b>Total</b>	<b>0.2391</b>	<b>1.6407</b>	<b>1.9002</b>	<b>7.1000e-003</b>	<b>0.4521</b>	<b>0.0129</b>	<b>0.4650</b>	<b>0.1218</b>	<b>0.0123</b>	<b>0.1340</b>		<b>729.5634</b>	<b>729.5634</b>	<b>0.0377</b>		<b>730.5069</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846	0.0000	2,018.0224	2,018.0224	0.3879		2,027.7210
<b>Total</b>	<b>2.2721</b>	<b>15.9802</b>	<b>13.4870</b>	<b>0.0220</b>		<b>0.9158</b>	<b>0.9158</b>		<b>0.8846</b>	<b>0.8846</b>	<b>0.0000</b>	<b>2,018.0224</b>	<b>2,018.0224</b>	<b>0.3879</b>		<b>2,027.7210</b>



**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	lb/day										lb/day					
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
Vendor	0.0563	1.5065	0.4400	3.3100e-003	0.0832	9.7500e-003	0.0930	0.0240	9.3300e-003	0.0333		352.6602	352.6602	0.0248		353.2796
Worker	0.1827	0.1342	1.4602	3.7900e-003	0.3689	3.1800e-003	0.3720	0.0978	2.9300e-003	0.1008		376.9032	376.9032	0.0130		377.2273
<b>Total</b>	<b>0.2391</b>	<b>1.6407</b>	<b>1.9002</b>	<b>7.1000e-003</b>	<b>0.4521</b>	<b>0.0129</b>	<b>0.4650</b>	<b>0.1218</b>	<b>0.0123</b>	<b>0.1340</b>		<b>729.5634</b>	<b>729.5634</b>	<b>0.0377</b>		<b>730.5069</b>

**3.4 Building Construction - 2020**

**Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>		<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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	lb/day										lb/day					
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
Vendor	0.0483	1.3826	0.3996	3.2800e-003	0.0832	6.6100e-003	0.0898	0.0240	6.3200e-003	0.0303		350.2838	350.2838	0.0234		350.8694
Worker	0.1686	0.1196	1.3233	3.6700e-003	0.3689	3.0800e-003	0.3720	0.0978	2.8400e-003	0.1007		365.4487	365.4487	0.0115		365.7367
<b>Total</b>	<b>0.2170</b>	<b>1.5022</b>	<b>1.7229</b>	<b>6.9500e-003</b>	<b>0.4521</b>	<b>9.6900e-003</b>	<b>0.4618</b>	<b>0.1218</b>	<b>9.1600e-003</b>	<b>0.1310</b>		<b>715.7325</b>	<b>715.7325</b>	<b>0.0349</b>		<b>716.6061</b>

**Mitigated Construction On-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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>	<b>0.0000</b>	<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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	lb/day										lb/day					

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	0.0483	1.3826	0.3996	3.2800e-003	0.0832	6.6100e-003	0.0898	0.0240	6.3200e-003	0.0303		350.2838	350.2838	0.0234		350.8694
Worker	0.1686	0.1196	1.3233	3.6700e-003	0.3689	3.0800e-003	0.3720	0.0978	2.8400e-003	0.1007		365.4487	365.4487	0.0115		365.7367
<b>Total</b>	<b>0.2170</b>	<b>1.5022</b>	<b>1.7229</b>	<b>6.9500e-003</b>	<b>0.4521</b>	<b>9.6900e-003</b>	<b>0.4618</b>	<b>0.1218</b>	<b>9.1600e-003</b>	<b>0.1310</b>		<b>715.7325</b>	<b>715.7325</b>	<b>0.0349</b>		<b>716.6061</b>

### 3.5 Paving - 2020

#### Unmitigated Construction On-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	lb/day										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8402</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>		<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

#### 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	lb/day										lb/day					
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
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
Worker	0.0664	0.0471	0.5213	1.4500e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1200e-003	0.0397		143.9647	143.9647	4.5400e-003		144.0781
<b>Total</b>	<b>0.0664</b>	<b>0.0471</b>	<b>0.5213</b>	<b>1.4500e-003</b>	<b>0.1453</b>	<b>1.2100e-003</b>	<b>0.1465</b>	<b>0.0385</b>	<b>1.1200e-003</b>	<b>0.0397</b>		<b>143.9647</b>	<b>143.9647</b>	<b>4.5400e-003</b>		<b>144.0781</b>

### Mitigated Construction On-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	lb/day										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8402</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>	<b>0.0000</b>	<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

### 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	lb/day										lb/day					
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
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
Worker	0.0664	0.0471	0.5213	1.4500e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1200e-003	0.0397		143.9647	143.9647	4.5400e-003		144.0781
<b>Total</b>	<b>0.0664</b>	<b>0.0471</b>	<b>0.5213</b>	<b>1.4500e-003</b>	<b>0.1453</b>	<b>1.2100e-003</b>	<b>0.1465</b>	<b>0.0385</b>	<b>1.1200e-003</b>	<b>0.0397</b>		<b>143.9647</b>	<b>143.9647</b>	<b>4.5400e-003</b>		<b>144.0781</b>

## 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	lb/day										lb/day					
Mitigated	7.1000e-003	0.0370	0.1044	3.5000e-004	0.0288	3.7000e-004	0.0291	7.7000e-003	3.4000e-004	8.0400e-003		35.6290	35.6290	1.9700e-003		35.6783
Unmitigated	7.1000e-003	0.0370	0.1044	3.5000e-004	0.0288	3.7000e-004	0.0291	7.7000e-003	3.4000e-004	8.0400e-003		35.6290	35.6290	1.9700e-003		35.6783

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	3.05	3.05	3.05	13,528	13,528
Total	3.05	3.05	3.05	13,528	13,528

#### 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
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

#### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

#### 5.0 Energy Detail

Historical Energy Use: N

#### 5.1 Mitigation Measures Energy

	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	lb/day										lb/day					
NaturalGas Mitigated	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419
NaturalGas Unmitigated	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

	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	lb/day										lb/day					
General Light Industry	541.14	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419
<b>Total</b>		<b>5.8400e-003</b>	<b>0.0531</b>	<b>0.0446</b>	<b>3.2000e-004</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>63.6636</b>	<b>63.6636</b>	<b>1.2200e-003</b>	<b>1.1700e-003</b>	<b>64.0419</b>

### 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	lb/day										lb/day					

General Light Industry	0.54114	5.8400e-003	0.0531	0.0446	3.2000e-004		4.0300e-003	4.0300e-003		4.0300e-003	4.0300e-003		63.6636	63.6636	1.2200e-003	1.1700e-003	64.0419
<b>Total</b>		<b>5.8400e-003</b>	<b>0.0531</b>	<b>0.0446</b>	<b>3.2000e-004</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>4.0300e-003</b>	<b>4.0300e-003</b>		<b>63.6636</b>	<b>63.6636</b>	<b>1.2200e-003</b>	<b>1.1700e-003</b>	<b>64.0419</b>

## 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	lb/day										lb/day					
Mitigated	0.4178	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003
Unmitigated	0.4178	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003

### 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	lb/day										lb/day					
Architectural Coating	0.2016					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Landscaping	1.1000e-004	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003
<b>Total</b>	<b>0.4178</b>	<b>1.0000e-005</b>	<b>1.1200e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3900e-003</b>	<b>2.3900e-003</b>	<b>1.0000e-005</b>		<b>2.5500e-003</b>

**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	lb/day										lb/day					
Architectural Coating	0.2016					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3900e-003	2.3900e-003	1.0000e-005		2.5500e-003
<b>Total</b>	<b>0.4178</b>	<b>1.0000e-005</b>	<b>1.1200e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3900e-003</b>	<b>2.3900e-003</b>	<b>1.0000e-005</b>		<b>2.5500e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

**Fire Pumps and Emergency Generators**



Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## RESOLUTION NO. 263

### RESOLUTION OF THE BOARD OF DIRECTORS OF LA PUENTE VALLEY COUNTY WATER DISTRICT ADOPTING A MITIGATED NEGATIVE DECLARATION FOR THE PUENTE VALLEY OPERABLE UNIT SHALLOW ZONE SOUTH REMEDY PROJECT

**WHEREAS**, Northrop Grumman Systems Corporation (“Northrop”) has been identified by the United States Environmental Protection Agency (“EPA”) as a “potentially responsible party” in the Puente Valley Operable Unit Shallow Zone South (“PVOU SZS”) in the Main San Gabriel Groundwater Basin (“Basin”), and consequently plans to construct a groundwater extraction and treatment facility and appurtenant improvements to fulfill its remedial obligations under a Consent Decree with EPA;

**WHEREAS**, the Basin serves as a water source for the La Puente Valley County Water District (the “District”);

**WHEREAS**, the District has experience and expertise in the extraction and treatment of groundwater for potable use and has agreed to manage and operate said groundwater treatment facility for Northrop pursuant to written agreement;

**WHEREAS**, the District’s partnership with Northrop in the PVOU SZS will enhance groundwater cleanup of the Basin and generate revenue that will provide funding for capital improvement projects to offset the cost of water service to the District’s customers;

**WHEREAS**, the aforementioned groundwater extraction and treatment facility and appurtenant improvements consists specifically of the utilization of groundwater extraction wells, a proposed treatment plant, conveyance infrastructure, and groundwater monitoring wells (hereinafter collectively referred to as the “Project”);

**WHEREAS**, the Project is located in various portions of the Cities of Industry and La Puente, with the water treatment plant to be constructed at 111 Hudson Avenue in the City of Industry, California 91744;

**WHEREAS**, the Project constitutes a “project” as defined by the California Environmental Quality Act (“CEQA”), and the District is the appropriate lead agency for making determinations under CEQA;

**WHEREAS**, Stantec Consulting Services Inc. was engaged to assist the District with the preparation of the necessary environmental documentation to support the Project;

**WHEREAS**, an initial study was prepared for the Project and concluded that the Project as proposed could have a significant impact on the environment, but the District revised the Project so the environmental impacts would be reduced to an insignificant level through the mitigation measures incorporated into the Project;

**WHEREAS**, the District therefore authorized the preparation and circulation of a Mitigated Negative Declaration for the Project in accordance with the requirements of CEQA;

**WHEREAS**, the District, as lead agency for the Project, gave Notice of Intent to Adopt a Mitigated Negative Declaration in accordance with Section 15072 of the CEQA Guidelines and provided a public review period of not less than thirty (30) days beginning November 21, 2019, in accordance with Section 15073 of the CEQA Guidelines;

**WHEREAS**, the Project was assigned State Clearinghouse No. 2019119080;

**WHEREAS**, comments were received on the Project from the California Department of Fish and Wildlife, to which the District has responded;

**WHEREAS**, the Mitigated Negative Declaration and related materials which constitute the record of proceedings upon which this Resolution is based are located at the District's office, the custodian of those documents being the General Manager of the District;

**WHEREAS**, at a duly noticed public hearing on February 24, 2020, the District's Board of Directors considered the proposed Final Mitigated Negative Declaration together with any and all comments received during the public review process.

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Directors of La Puente Valley County Water District has reviewed the Final Mitigated Negative Declaration and the record before it and finds:

(i) That the Mitigated Negative Declaration is adequate and complete in that it addresses all potential environmental effects of the Project;

(ii) That there is no substantial evidence in the record that the Project will have a significant effect on the environment as proposed with the incorporation of the subject mitigation measures in that all potential significant environmental effects will be reduced to an acceptable level or that such effects have been eliminated or reduced to a level of insignificance by the mitigation measures identified in the Mitigation Monitoring Program of the Mitigated Negative Declaration;

(iii) That the Mitigated Negative Declaration complies with CEQA; and

(iv) That these findings reflect the independent judgment and analysis of the Board of Directors of La Puente Valley County Water District.

**BE IT FURTHER RESOLVED**, that the Board of Directors of La Puente Valley County Water District hereby adopts the Mitigation Monitoring Program for the Project attached hereto as Exhibit "A."

**BE IT FURTHER RESOLVED**, that the General Manager and District staff are hereby directed to file a Notice of Determination with the State Office of Planning and Research and the Los Angeles County Clerk-Recorder pursuant to the provisions of Section 15075 of the CEQA Guidelines.

**BE IT FURTHER RESOLVED**, that the General Manager and District staff are hereby further authorized to take such other steps and actions as may be necessary to implement and carry out the purpose and intent of this Resolution.

**ADOPTED** this 24<sup>th</sup> day of February 24, 2020.

\_\_\_\_\_  
Henry P. Hernandez, Board President

ATTEST:

\_\_\_\_\_  
Greg B. Galindo, Board Secretary

# EXHIBIT A

## NORTHROP GRUMMAN SYSTEMS CORPORATION PUENTE VALLEY OPERABLE UNIT, SHALLOW ZONE – SOUTH INTERIM REMEDY PROJECT

### MITIGATION MONITORING AND REPORTING PLAN

## 8.0 MITIGATION MONITORING AND REPORTING PLAN

Mitigation Measure	Lead Agency Department	Action(s) Required	Required Time of Compliance	Action Taken	Verified By/Dept.	Date	Further Action Needed
<p><b>BIOLOGICAL RESOURCES and UTILITIES AND SERVICE SYSTEMS</b></p> <p><b>BIO-1: Nesting Bird Impacts Avoidance:</b> This proposed Project does not propose vegetation removal; however, there is nesting bird potential in trees and shrubs adjacent to proposed construction activities (e.g. landscaping occurs primarily along sidewalks immediately adjacent to proposed pipelines in existing roads). The noise and level of human activity associated with construction activities within the Project footprint have the potential to result in direct impacts or indirect disturbance to nesting birds. Any activities that could potentially cause disturbance to active nests, eggs, and/or young of nesting birds, or cause nest abandonment, shall be minimized or avoided. Prior to initial site disturbance, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist. If construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the proposed Project is complete. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all proposed Project activities.</p> <p>If endangered or threatened species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The buffer shall be extended to 500 feet from active raptor nests. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.</p>	La Puente Valley County Water District	Conduct nesting bird surveys, shall be conducted by a qualified biologist	No more than 3 days prior to start of ground disturbance Annually, if construction carries over into a second nesting season(s)				



**AGREEMENT FOR OPERATION SERVICES  
OF A WATER TREATMENT FACILITY**

This Agreement for Operation Services of a Water Treatment Facility (the “Agreement”) is dated as of \_\_\_\_\_, 2020 by and between La Puente Valley County Water District (“LPVCWD”) and Northrop Grumman Systems Corporation (“Northrop Grumman”), and shall be effective as of the Effective Date as hereinafter defined. (At times, LPVCWD and Northrop Grumman may be referred to collectively herein as the “Parties” and individually as a “Party.”)

**SECTION 1            RECITALS**

1.1     Northrop Grumman is a Delaware corporation. It and other businesses, their predecessors and individuals have been identified by the United States Environmental Protection Agency (“EPA”) as “potentially responsible parties” in the Puente Valley Operable Unit (“PVOU”) in the Main San Gabriel Groundwater Basin (“Basin”). (Terms defined in this Section 1 are also defined in Section 2.)

1.2     LPVCWD is a county water district formed pursuant to California Water Code Section 30000 et seq. LPVCWD’s service area covers portions of the City of La Puente and the City of Industry.

1.3     Pursuant to an Administrative Order issued by the EPA, Northrop Grumman is required to achieve performance criteria concerning groundwater contamination at a depth interval referred to as the “Shallow Zone” in the PVOU south of Puente Creek, and Northrop Grumman will be implementing an interim remedy for the PVOU (“Interim Remedy-Shallow Zone”) consisting of extraction wells in the Shallow Zone south of Puente Creek (the “Remedy Wells”), pipelines leading from those wells to a treatment facility (the “Collection Pipelines”), a treatment

facility (“Treatment Facility”), certain discharge pipelines, and other ancillary components of an overall treatment system (collectively, the “Subject Facilities.”)

1.4 To meet its obligations relative to those performance criteria, Northrop Grumman seeks to contract with LPVCWD for LPVCWD to operate and maintain the Subject Facilities in accordance with best industry practices, as the same may evolve over time, to ensure that the Subject Facilities are capable of operating on a near continuous basis in accordance with the design rates of flow.

1.5 The Subject Facilities will be capable of treating and discharging water in accordance with applicable regulatory requirements (“Treated Water”). Northrop Grumman’s objectives are to contain the lateral and vertical extent of the PVOU SZ-South plume as it exists at the time the Subject Facilities are certified by the EPA to be operational and functional and discharge Treated Water to the San Jose Creek as permitted by the EPA and RWQCB.

1.6 On February 24, 2020, LPVCWD, acting as the lead agency under the California Environmental Quality Act (Cal. Public Resources Code Section 21000 *et seq.*) adopted the Initial Study/Mitigated Negative Declaration for the Shallow Zone Interim Remedy Project.

## **SECTION 2           DEFINITIONS**

2.1 Administrative Order. Unilateral Administrative Order (UAO) 2011-14, titled *Remedial Design/Remedial Action (RD/RA) Statement of Work (SOW), Shallow Zone South of Puente Creek, Puente Valley Operable Unit, San Gabriel Valley Superfund Site, Area 4, Los Angeles County, California*, issued by the United States Environmental Protection Agency (USEPA) on September 13, 2011 (USEPA, 2011).

2.2 Agreement. This Agreement for Operation Services for a Water Treatment Facility between LPVCWD and Northrop Grumman.

2.3 Basin. The Main San Gabriel Groundwater Basin.

2.4 Brine. Waste concentrate from the Treatment Facility's reverse osmosis.

2.5 Brine Line. Conveyance pipeline for the Brine to an industrial sewer line of the Sanitation Districts of Los Angeles County.

2.6 Brine Line Meter. The meter that will measure the amount of Brine discharged from the Treatment Facility to the industrial sewer line of the Sanitation Districts of Los Angeles County.

2.7 Collection Pipelines. The pipelines leading from the Remedy Wells to the Treatment Facility.

2.8 Discharge Pipeline. The connection between the Treatment Facility and a storm drain (BI 4301 Unit 2) on the south side of the Treatment Site.

2.9 Discharge Point. The outfall from BI 4301 Unit 2 storm drain to San Jose Creek.

2.10 Effective Date. The date when LPVCWD adopts the CEQA document as set forth in Section 1.6.

2.11 EPA. The United States Environmental Protection Agency.

2.12 EPA Approval. Written documentation from EPA approving the Interim Remedy-Shallow Zone in accordance with the Administrative Order.



2.13 ESD. The Explanation of Significant Differences for the PVOU dated June 14, 2005.

2.14 gpm. Gallons per minute.

2.15 Interim Remedy-Shallow Zone. The actions undertaken by Northrop Grumman to implement the Shallow Zone remedy in the PVOU pursuant to the Administrative Order and applicable work plans approved by EPA.

2.16 Judgment. The Judgment entered by the Los Angeles County Superior Court on January 4, 1972 in the action entitled Upper San Gabriel Valley Municipal Water District v. City of Alhambra, Case No. 924128, and as amended on June 21, 2012.

2.17 LPVCWD. La Puente Valley County Water District.

2.18 Northrop Grumman. Northrop Grumman Systems Corporation and any and all corporate predecessors and successors.

2.19 NPDES Approval. RWQCB's approval for LPVCWD to discharge the Treated Water to the body of surface water designated in the NPDES Approval.

2.20 PVOU. Puente Valley Operable Unit.

2.21 Remedy Wells. Those extraction wells in the Shallow Zone required to implement the Interim Remedy-Shallow Zone.

2.22 ROD. The Interim Record of Decision for the PVOU dated September 28, 1998.

2.23 RWQCB. The Regional Water Quality Control Board, Los Angeles Region.

2.24 Shallow Zone or PVOU SZ-South. The aquifer zone as defined by the Administrative Order, and as characterized hydrostratigraphically in the *Conceptual Site Model Report, SZ-South and IZ Interim Remedies, Puente Valley Operable Unit* (August 14, 2015).

2.25 Subject Facilities. The Remedy Wells, the Collection Pipelines, Treatment Facility, the Discharge Pipeline, the Brine Line, and other ancillary components of the overall treatment system contemplated by this Agreement as more specifically set forth in Exhibit A hereto.

2.26 Treatment Facility. The facility to be (a) built by Northrop Grumman on the Treatment Site and (b) operated and maintained by LPVCWD that will remedy contaminated groundwater from the PVOU SZ-South in accordance with the Interim Remedy-Shallow Zone.

2.27 Treatment Site. The real property located at 111 Hudson Avenue, City of Industry, California, which is owned by Northrop Grumman.

2.28 Treated Water. The water treated by the Treatment Facility.

2.29 Watermaster. The Main San Gabriel Basin Watermaster.

2.30 Watermaster Approvals. Watermaster's approval of a Water Production Agreement with Northrop Grumman and, if and as required by Watermaster, Watermaster's approval of this Agreement.

2.31 Watermaster Rules. The Main San Gabriel Basin Watermaster's Rules and Regulations established pursuant to the Judgment.

2.32 WQA. The San Gabriel Basin Water Quality Authority.

### **SECTION 3            DESIGN AND CONSTRUCTION OF SUBJECT FACILITIES**

3.1     Two Remedy Wells were installed in 2018, and Northrop Grumman will install any additional Remedy Wells required by the EPA. The Remedy Wells are designed to extract groundwater for the purpose of removing contamination and containing the contaminant plume in the PVOU SZ-South. Water from these wells will be treated at the Treatment Facility to be constructed by Northrop Grumman on the Treatment Site.

3.2     The Treatment Facility shall be designed to treat extracted groundwater so that the Treated Water will comply with applicable regulatory requirements and standards set by EPA and RWQCB.

3.3     The Treatment Facility shall produce Treated Water in accordance with applicable cleanup performance objectives for the PVOU SZ-South. The system will be designed to treat extracted groundwater in an amount up to 300 gallons per minute (gpm). The Treated Water flow rate will be less than that amount because of outages and discharge of Brine. It is estimated that Treated Water will range (on average) between 50 gpm and 125 gpm. To maximize cleanup performance, the goal is to operate on a continuous basis (24 hours a day, 7 days a week). The Treatment Plant will have the capability to discharge Treated Water and Brine to a facility owned by the Sanitations District of Los Angeles County pursuant to applicable permits. Northrop Grumman will only extract as much groundwater from the PVOU SZ-South as necessary to meet the remedial requirements of the Administrative Order.

3.4     At its cost, Northrop Grumman shall complete the design and construction of the Subject Facilities, (which are further described in Exhibit A hereto.) Northrop Grumman shall reasonably cooperate with LPVCWD on the design of the Subject Facilities referenced in this

Section 3.4, including allowing LPVCWD the opportunity to review and comment on the design. However, Northrop Grumman shall have final authority over the design of the Subject Facilities.

3.5 In connection with its construction of the Remedy Wells, Northrop Grumman shall install metering devices on all Remedy Wells in accordance with the standard practice of the Watermaster.

3.6 The Treatment Facility includes unit processes that are supplied by equipment manufacturers providing performance guarantees to ensure the adequacy and operating efficiency of the unit processes. The procurement of these systems includes warranty, spare parts, training and other support services that are essential to the functionality of these systems. The Parties shall cooperate in the preparation of purchase agreements with these manufacturers. Northrop Grumman shall have final responsibility for these purchase contracts, and the performance guarantees provided by the manufacturers shall inure to the benefit of Northrop Grumman and LPVCWD.

3.7 Northrop Grumman shall reasonably cooperate with LPVCWD with respect to the construction of the Subject Facilities, including allowing LPVCWD the opportunity to review and provide input on construction plans and bids. However, Northrop Grumman shall have final authority over all construction issues.

3.8 Northrop Grumman shall comply with all applicable laws and regulations in the design and construction of the Subject Facilities, including conditions that regulatory agencies may establish for the treatment and re-use of water.

3.9 Provided that LPVCWD complies with all applicable laws concerning waste streams generated by the Subject Facilities, such waste streams shall be owned by and will be the responsibility of Northrop Grumman. LPVCWD shall not be listed or identified as a generator on any waste manifest for any waste generated from operation of the Subject Facilities, and shall not incur any immediate or long-term liability in connection with said wastes.

#### **SECTION 4 PERMITTING, OPERATION AND MAINTENANCE OF SUBJECT FACILITIES**

4.1 At its cost, Northrop Grumman shall obtain all permits and government approvals necessary to operate the Subject Facilities and the Treatment Facility, including the Watermaster Approval and the NPDES Approval from RWQCB. LPVCWD shall reasonably cooperate with Northrop Grumman with respect to its effort to obtain said permits and approvals in this Section 4.1.

4.2 Northrop Grumman shall take all actions after completion of construction of the Subject Facilities that are necessary to confirm that the Subject Facilities are operational in accordance with any and all applicable permits, approvals, and regulatory compliance standards. After the Subject Facilities are deemed to be operational, LPVCWD shall operate and maintain the Subject Facilities in the manner provided in this Agreement. Northrop Grumman may issue reasonable requests, guidance and advice to LPVCWD on operational and maintenance issues. Subject to Section 4.5 below, LPVCWD shall have final authority over decisions regarding the operation and maintenance of the Subject Facilities that are necessary to meet its obligations under this Agreement.

4.3 LPVCWD shall operate and maintain the Subject Facilities to meet the following requirements:

(a) LPVCWD shall operate and maintain the Subject Facilities to produce Treated Water of suitable quality to meet standards for surface discharge.

(b) LPVCWD shall operate and maintain the Subject Facilities in accordance with industry standards and best practices in order to maximize the amount of Treated Water and minimize the amount of Brine generated by the Treatment Facility.

(c) LPVCWD shall operate and maintain the Subject Facilities in compliance with all applicable laws, regulations, agency orders and standards, and the operating permits described in Section 4.1 of this Agreement, including but not limited to all applicable testing, monitoring and reporting requirements.

(d) LPVCWD acknowledges that near continuous operation (accounting for temporary shutdowns due to ordinary repair and maintenance) of the Subject Facilities is required at the time that the EPA certifies the Subject Facilities are operational and functional to achieve and maintain compliance with the performance criteria adopted by EPA in the ROD, as modified by the ESD. LPVCWD shall use best efforts to operate and maintain the Subject Facilities in a manner that will achieve those performance criteria. However, Northrop Grumman shall have sole responsibility to (i) negotiate the performance criteria for the Subject Facilities with EPA and (ii) satisfy all requirements imposed by EPA and any other regulatory agency concerning the remediation of the groundwater contamination in the PVOU SZ-South, including those set forth in the ROD, the ESD and the Administrative Order.

4.4 LPVCWD shall calibrate and maintain metering devices on all Remedy Wells in accordance with the standards and practices of Watermaster.

4.5 Consistent with its obligations to meet the performance criteria adopted by EPA in the ROD, as modified by the ESD, Northrop Grumman shall issue written directions to LPVCWD as to which Remedy Wells to extract contaminated groundwater and the rate of extraction from those Remedy Wells. Subject to satisfying those performance criteria, LPVCWD shall operate and maintain the Remedy Wells and Collection Pipelines as it deems necessary to satisfy its obligations under this Agreement. With respect to any extraordinary repair or rehabilitation of any of the Remedy Wells, LPVCWD shall submit a proposal for such work to Northrop Grumman in the manner provided in Section 5.3 of this Agreement. Northrop Grumman, in its sole discretion, may approve LPVCWD's proposal or enter into a contract with a third party for performance of said work. LPVCWD shall have no obligation to perform any work involving the installation of an entirely new Remedy Well.

4.6 LPVCWD's relationship to Northrop Grumman shall be as an independent contractor. LPVCWD shall employ all personnel required to perform services under this Agreement. Such personnel shall be under LPVCWD's exclusive direction and control and shall not be deemed to be employees of Northrop Grumman for any purpose.

4.7 LPVCWD shall be solely responsible for and shall pay all wages, salaries, fringe benefits and other amounts due to its employees in connection with performing work under this Agreement. Because LPVCWD shall act as an independent contractor under this Agreement, LPVCWD shall be responsible for all reports and obligations respecting its employees relating to social security, income tax withholding, unemployment compensation, and workers' compensation.

4.8 LPVCWD shall purchase all supplies necessary to perform its obligations under the Agreement, including operating and maintaining the Subject Facilities. Title to all such supplies shall be in Northrop Grumman's name, and such supplies shall be received and held in inventory by LPVCWD. Such supplies shall be used by LPVCWD solely in connection with the operation and maintenance of the Subject Facilities. Security for such supplies shall be the responsibility of LPVCWD, whether stored at the Treatment Site or on property owned by LPVCWD. LPVCWD's written proposal for the provision of security and insurance for said supplies shall be submitted to Northrop Grumman for its consideration and prior approval.

4.9 Subject to Section 5.3 of this Agreement, LPVCWD shall be responsible for entering into the third party contracts (e.g., chemical suppliers, maintenance service providers, and engineers) reasonably necessary to operate the Treatment Facility in accordance with the requirements of this Agreement. LPVCWD shall provide Northrop Grumman copies of such third party contracts promptly after execution of the contracts.

4.10 LPVCWD shall operate the Treatment Facility according to all applicable laws and regulations and best industry practice concerning operational efficiency, as the same may change from time to time during this Agreement. LPVCWD shall formulate the necessary training programs, organize operations and maintenance systems, including Standard Operating Procedures and Unit Process Guidelines, and develop maintenance and asset management systems and standards for the Subject Facilities. Those Standard Operating Procedures and Unit Process Guidelines shall be consistent with the Operating and Maintenance Manual to be approved by EPA and RWQCB, which shall be prepared by Northrop Grumman in consultation with LPVCWD. LPVCWD shall perform acceptance tests and conduct training and certification programs. LPVCWD shall provide monthly operational status reports to Northrop Grumman. Upon



reasonable written request, Northrop Grumman retains the right to receive and review additional information, including but not limited to, remote viewing access to the main treatment system's Programmable Logic Controller, concerning LPVCWD's operation of the Treatment Facility.

4.11 Northrop Grumman's employees and contractors shall have access to the Subject Facilities upon providing 24-hours' notice (by email or in writing) to LPVCWD. Northrop Grumman shall be responsible for its employees and contractors complying with all applicable laws, regulations and LPVCWD's operating rules concerning the Subject Facilities.

## **SECTION 5 COSTS ASSOCIATED WITH THE OPERATION OF THE SUBJECT FACILITIES**

5.1 Northrop Grumman shall be responsible for all costs and fees associated with the operation and maintenance of the Subject Facilities, including the cost of: (a) extraction of contaminated water from the Remedy Wells; (b) treatment of contaminated water at the Treatment Facility; (c) operation and maintenance of the Subject Facilities, including necessary supplies therefor; (d) insurance; (e) repairs to the Subject Facilities; and (f) discharge of the Treated Water to the Discharge Point.

5.2 Other than the Management Fee described in Section 5.6, the costs and fees described in Section 5.1 of this Agreement may be incurred directly by LPVCWD and shall be reimbursed by Northrop Grumman as provided in Sections 5.3 and 6.2. Northrop Grumman's obligation to pay such fees and costs shall extend only to: (a) LPVCWD's labor costs directly related to the operation and maintenance of the Subject Facilities, including regulatory compliance monitoring and reporting, based on the hourly rates set forth on Exhibit B to this Agreement and as increased annually in accordance with the consumer price index for urban wage earners and clerical workers in Los Angeles, Riverside, and Orange Counties; (b) LPVCWD's reasonable out

of pocket costs (which shall not include overhead); and (c) fees charged to LPVCWD by a third party consultant, vendor or supplier in accordance with Section 5.3, below.

5.3 Except for an expense for ordinary maintenance and supplies costing less than \$20,000, which expenses shall be incurred pursuant to LPVCWD's purchasing policy, a copy of which is attached hereto as Exhibit C, or expenses necessitated by an emergency condition, LPVCWD shall not enter into a contract with a third party for supplies, services or work concerning the Subject Facilities unless Northrop Grumman provides prior written approval. In support of a request for such approval, LPVCWD shall submit to Northrop Grumman the following information: (a) a detailed scope of work, which shall include performance goals, schedule objectives, staffing and personnel requirements, and deliverables; and (b) an estimated total not-to-exceed cost with supporting documentation, including competitive bids where appropriate.

5.4 LPVCWD shall reasonably cooperate with Northrop Grumman's efforts to obtain funding grants from the WQA or other governmental entities for costs to design, construct or operate the Subject Facilities.

5.5 Except for the first annual operating budget described below, LPVCWD shall establish an annual operating budget ("Annual Operating Budget") for the Subject Facilities and provide that budget to Northrop Grumman for its review and approval by October 1st of each year. The Annual Operating Budget shall identify all fees and costs to be borne by Northrop Grumman pursuant to this Section 5. LPVCWD shall provide Northrop Grumman with budget updates on a quarterly basis after Northrop Grumman's written approval of the Annual Operating Budget. Upon Northrop Grumman's reasonable request, LPVCWD and Northrop Grumman shall meet to review any invoices sent by LPVCWD pursuant to Section 6, below, or any other financial matters.

LPVCWD shall provide Northrop Grumman with the first Annual Operating Budget ninety (90) days before the estimated date for commencement of operations of the Subject Facilities, as determined by Northrop Grumman in accordance with Section 5.6 below. The first Annual Operating Budget shall cover the remainder of the calendar year in which that budget is submitted and the entire following calendar year.

5.6 Northrop Grumman shall pay LPVCWD an annual management fee of \$35,000 for the management and administration of the Subject Facilities, which fee shall be increased on an annual basis at a rate of 2% (the “Management Fee”). The Management Fee shall compensate LPVCWD for (a) the time and labor incurred by LPVCWD and certain LPVCWD employees, contractors and consultants pursuant to Exhibit D hereto, and (b) the risks assumed by LPVCWD under this Agreement as described in Exhibit D hereto. The Management Fee shall be paid beginning one year prior to the day of commencement of operations of the Subject Facilities, which date Northrop Grumman shall provide to LPVCWD in a written notice in the form attached hereto as Exhibit E (the “One-Year Notice”). The Management Fee shall be included in the calculation of the Annual Operating Budget prepared pursuant to Section 5.5. Upon commencement of payment of the Management Fee, LPVCWD shall not separately invoice Northrop Grumman, and Northrop Grumman shall not therefore be obligated to pay, for any of the services described in Exhibit D. If Northrop Grumman decides, in its sole discretion, that the estimated date for commencement of operations of the Subject Facilities will be materially delayed, then Northrop Grumman may, upon thirty (30) days’ written notice to LPVCWD, suspend paying the Management Fee, which will then obligate Northrop Grumman to reimburse LPVCWD for the services set forth in Exhibit D pursuant to Section 5.2, above. Northrop Grumman may resume paying the Management Fee upon providing thirty (30) days’ written notice to LPVCWD. If

Northrop Grumman is paying the Management Fee, then the only other fees and costs incurred by LPVCWD in operating the Subject Facilities for which Northrop Grumman shall be responsible are reimbursements pursuant to Section 5.2 of this Agreement. The Management Fee shall be paid by Northrop Grumman to LPVCWD in advance in quarterly installments.

## **SECTION 6 BILLING AND PAYMENT PROVISIONS FOR PROJECT COSTS FOR OPERATIONS AND MAINTENANCE**

6.1 Upon Northrop Grumman's written approval of the Annual Operating Budget, Northrop Grumman shall wire to a dedicated bank account held solely in LPVCWD's name on a quarterly basis an amount equal to twenty-five percent (25%) of the approved Annual Operating Budget. LPVCWD shall not commingle the funds in the dedicated bank account with any other funds held by LPVCWD. LPVCWD shall use funds wired by Northrop Grumman to the dedicated bank account only to pay for the fees and costs described in Section 5.1 of the Agreement. Upon written request by Northrop Grumman, LPVCWD shall provide copies of the bank statements for this account to Northrop Grumman.

6.2 LPVCWD shall issue a monthly statement to Northrop Grumman for the fees and costs described in Section 5 that are incurred in connection with the operation and maintenance of the Subject Facilities during the previous month, including, when applicable, the quarterly installment of the annual Management Fee (the "Monthly Statement"). As to fees and costs incurred pursuant to Section 5.2(a), except for those services included as part of the Management Fee when said Management Fee is being paid, the Monthly Statement shall identify the services and work performed by LPVCWD, including the appropriate backup documentation identifying the person or persons working on the matter, a description of the work performed, the hourly rate or rates charged, the total hours devoted to the work by each person, and the total amount of fees.

Such backup documentation shall also include invoices from third parties such as vendors, contractors and consultants, to the extent incurred pursuant to Sections 5.2(b) and 5.2(c). All statements, invoices and backup documentation shall be sent to Northrop Grumman's project manager or other representative designated by Northrop Grumman, and may be sent by LPVCWD via e-mail. If the fees and costs reflected in the Monthly Statement are consistent with an approved Annual Operating Budget, then LPVCWD may withdraw funds from the dedicated bank account described in Section 6.1 to pay for such fees and costs.

6.3 Northrop Grumman may object to any charge(s) invoiced by LPVCWD in a Monthly Statement in writing within thirty (30) days of receipt thereof, or the Monthly Statement shall be deemed accepted and no longer subject to objection or dispute. If Northrop Grumman timely objects, LPVCWD may revise the monthly statement to remove such charges or LPVCWD may withdraw the disputed amount from the dedicated bank account and Northrop Grumman may invoke the dispute resolution process described in Section 14 of this Agreement. If Northrop Grumman prevails in any such dispute, the disputed amount previously withdrawn by LPVCWD pending the resolution of the dispute shall be reimbursed by LPVCWD either by direct payment to Northrop Grumman or an offset against charges in future invoices, which Northrop Grumman shall decide in its sole discretion.

6.4 Prior to Northrop Grumman's approval of the Annual Operating Budget, the parties shall meet to reconcile the actual fees and costs incurred by LPVCWD during the preceding year and the amount of the funds deposited by Northrop Grumman in the dedicated bank account during the preceding year. Any difference between LPVCWD's actual fees and costs and Northrop Grumman's annual deposit shall be added to or subtracted from the Annual Operating Budget for the ensuing year.

## **SECTION 7 DATA SUBMISSION AND INSPECTION**

7.1 LPVCWD shall provide Northrop Grumman, on a weekly basis or such other frequency as Northrop Grumman may reasonably determine, copies of pumping rates on a well-by-well basis, all water quality data, all reports and submissions to RWQCB and EPA, the amount of Treated Water discharged to the Discharge Point, the amount of Brine discharged through the Brine Line as measured at the Brine Line Meter, and any other information reasonably necessary for Northrop Grumman to demonstrate compliance with the Administrative Order to the EPA.

7.2 Upon reasonable notice, LPVCWD shall permit Northrop Grumman, EPA and their authorized representatives full access at reasonable times to inspect the Subject Facilities and all records, including but not limited to, financial records maintained by LPVCWD concerning the operation and maintenance of the Subject Facilities.

## **SECTION 8 GOVERNMENTAL APPROVALS**

8.1 Upon issuance, LPVCWD shall comply with the: (a) applicable commitments in the NPDES Approval and Watermaster Approvals; and (b) the terms and conditions in the NPDES Approval, the Watermaster Approvals and all other laws, regulations and governmental approvals and permits related to the production and discharge of the Treated Water.

8.2 Upon issuance, Northrop Grumman shall comply with the EPA Approval, the Watermaster Approval and each of the governmental approvals and permits listed on Exhibit F to this Agreement.

8.3 Each Party shall use its best efforts to take the actions necessary to maintain the approvals described in Sections 8.1 and 8.2 of this Agreement in full force and effect. Each Party

shall notify the other Party promptly when any approval has been withdrawn or is no longer in effect.

## **SECTION 9 INDEMNITY**

9.1 LPVCWD shall indemnify, defend and hold harmless Northrop Grumman, including its officers, directors, employees, successors, parent companies, affiliate companies and assigns from and against all claims, losses, costs, expenses, liability, awards, judgments, and decrees (collectively, "Liabilities") arising from, connected with, or resulting out of: (a) LPVCWD's gross negligence or willful misconduct in the operation or maintenance of any of the Subject Facilities; (b) employment related claims asserted by any LPVCWD employee involved with operation of the Subject Facilities; or (c) claims asserted by any vendor under a contract with LPVCWD for which Northrop Grumman did not provide prior approval, except those related to contracts under \$20,000 or those necessitated by an emergency condition pursuant to Section 5.3.

9.2 In agreeing to operate the Subject Facilities for Northrop Grumman, LPVCWD is not assuming, accepting, or incurring any responsibilities or liabilities in any shape or form, whether express or implied, for any EPA Superfund Activities including the Interim Remedy, the ROD, the Administrative Order or any other groundwater cleanup requirements for or related to the PVOU SZ-South, and Northrop Grumman shall indemnify, defend and hold harmless LPVCWD, including its officers, directors, employees, successors and assigns from and against any and all Liabilities resulting therefrom that may be issued or imposed by EPA or any other regulating governmental agency upon LPVCWD resulting from its involvement in the PVOU SZ-South or its obligations under this Agreement, except that Northrop Grumman's indemnity of LPVCWD under this Section 9.2 shall not exceed Liabilities determined to be attributable to LPVCWD's grossly negligent or willful actions or omissions causing a release of contaminants

into, or exacerbating existing contamination in, the PVOU SZ-South pursuant to the dispute resolution provisions of Section 14 hereunder.

9.3 Northrop Grumman shall indemnify, defend and hold harmless LPVCWD, including its officers, directors, employees, successors and assigns from and against all Liabilities arising from, connected with, or resulting out of: (a) LPVCWD's certification of an environmental review document under the California Environmental Quality Act in connection with the Subject Facilities and its execution of this Agreement; (b) Northrop Grumman's gross negligence in the design or construction of the Subject Facilities; (c) the water quality of the Treated Water, unless determined to be caused by LPVCWD's gross negligence or willful misconduct; (d) any and all waste produced by the Subject Facilities; or (e) Northrop Grumman's implementation of the Interim Remedy-Shallow Zone. (Claims described in this Section 9 shall be referred to hereinafter as an "Indemnified Claim." The Party obligated to provide the indemnity pursuant to Sections 9 shall be hereinafter referred to as the "Indemnifying Party," and the Party entitled to receive the indemnity shall be referred to as the "Indemnified Party.")

9.4 The Indemnifying Party shall defend with competent outside counsel reasonably satisfactory to the Indemnified Party, protect and hold harmless the Indemnified Party, its officers, directors, employees, attorneys, successors and assigns, from and against all Indemnified Claims in any administrative, judicial or other forum, including without limitation awards of damages, interest, fines, charges, penalties and expenses resulting therefrom (including all expenses, but not limited to, attorneys' and expert witness fees and costs incurred in connection with defending against any of the foregoing or in asserting or enforcing this indemnity) of any kind whatsoever paid, incurred or suffered by, or asserted against, the Indemnified Party or its officers, directors, employees, agents, successors or assigns. The Indemnified Party agrees to cooperate fully and



completely with the Indemnifying Party and with outside counsel provided by the Indemnifying Party in resolving any legal matter that arises pursuant to this indemnity. The Indemnified Party further agrees that the Indemnifying Party may resolve or settle such matter to which this indemnity applies with the Indemnified Party's permission or approval, which the Indemnified Party will not unreasonably withhold.

9.5 The Indemnified Party shall tender an Indemnified Claim to the Indemnifying Party within a reasonable time after becoming aware of the existence of the Indemnified Claim, but, in any event, the tender shall be deemed timely if submitted within twenty (20) calendar days after the Indemnified Party becomes aware thereof, or if submitted at a later time, only so long as the Indemnifying Party is not unduly prejudiced by any such delay. Within thirty (30) calendar days of the Indemnifying Party's receipt of notice of an Indemnified Claim, the Indemnifying Party shall notify the Indemnified Party that it: (a) accepts the claim and will indemnify the Indemnified Party pursuant to the terms and conditions of the indemnity contained herein; or (b) accepts the claim and simultaneously exercises its right to dispute resolution pursuant to Section 9.6, below. If the Indemnifying Party invokes the dispute resolution process, then it shall provide a defense to the Indemnified Party in accordance with Section 9.6 until and unless an arbitrator rules that the Indemnifying Party is not obligated to provide an indemnity or defense for the claim to the Indemnified Party. The Indemnifying Party will be deemed to have unconditionally accepted the Indemnified Claim if a timely response or if no response is provided within 30 days of receipt of notice of an Indemnified Claim.

9.6 If the Indemnified Party timely presents an Indemnified Claim, the Indemnifying Party may conditionally accept the Indemnified Claim so as to bear the costs of defense in the proceeding with a reservation of rights with regard to its indemnification obligation. If a

determination is thereafter made by agreement of the Parties or by an arbitrator selected by the Parties pursuant to a dispute resolution proceeding pursuant to Section 14 of this Agreement that the Indemnifying Party is absolved from any indemnification obligation, the Indemnifying Party may by written notice immediately withdraw from the costs of defense and turn the defense over to the Indemnified Party.

9.7 Any disputes regarding the obligations to provide indemnification shall be subject to the dispute resolution proceedings of this Agreement. If a specific finding and/or conclusion is made in any dispute resolution proceeding that the Indemnified Party made an Indemnified Claim in bad faith, the Indemnifying Party may recover from the Indemnified Party the costs of defense expended by the Indemnifying Party from the date of its conditional acceptance to the date of its withdrawal. If the Indemnifying Party refuses to accept the defense of a claim tendered by the Indemnified Party and a finding or conclusion is made in a dispute resolution proceeding that the Indemnifying Party had a duty to indemnify the Indemnified Party, the Indemnified Party may recover from the Indemnifying Party the costs of defense and all related costs including any damages, penalties and costs incurred in or as a result of the defense.

9.8 The Parties' respective rights and obligations under Sections 9.1 through 9.7 shall survive the termination of this Agreement.

## **SECTION 10 OWNERSHIP**

10.1 The Treatment Site and the Subject Facilities are owned solely by Northrop Grumman.

10.2 In its sole discretion, Northrop Grumman may use the Treatment Site for any purpose so long as such other use does not significantly interfere with LPVCWD's ability to perform its obligations under this Agreement.

10.3 If this Agreement is terminated by either Party pursuant to Section 12 of this Agreement, that termination shall have no effect on the ownership of the Subject Facilities or the Treatment Site as described in this Section 10.

## **SECTION 11 INSURANCE**

11.1 LPVCWD shall obtain and keep in force during the term of the Agreement the minimum insurance coverages set forth in Exhibit G to this Agreement.

11.2 LPVCWD shall obtain insurance policies that provide exclusive coverage for the Subject Facilities and satisfies the criteria for such policies that are described in Exhibit G hereto. Such policies must be approved by Northrop Grumman in writing prior to LPVCWD purchasing such policies.

11.3 Each of the policies described in Exhibit G of this Agreement shall name Northrop Grumman as an additional insured. The costs associated with obtaining the policies described in Section 11.2 of this Agreement and any additional incremental costs to LPVCWD for existing policies to include coverage for the Subject Facilities and LPVCWD's personnel shall be paid by Northrop Grumman in accordance with the provisions of Section 6 of this Agreement. Declaration pages of the policies identified in this Section 11.1 shall be delivered to Northrop Grumman promptly upon commencement of operations of the Subject Facilities and upon renewals. LPVCWD shall not take any actions to cause any change in the policies described in this Section

11 that would materially affect Northrop Grumman's coverage thereunder without its prior written consent, which consent shall not be unreasonably withheld.

## **SECTION 12            TERM, EXPIRATION AND TERMINATION OF THE AGREEMENT**

12.1    This Agreement for LPVCWD to operate the Subject Facilities shall commence on the Effective Date and shall continue for a period of eight (8) years after EPA has certified that the Interim Remedy-Shallow Zone under the Administrative Order is operational and functional (the "Initial Term"). If EPA and all other government agencies with jurisdiction over the PVOU SZ-South remedy have not determined within 180 calendar days before the end of the Initial Term that Northrop Grumman may cease operation of the Subject Facilities at the conclusion of the Initial Term, then Northrop Grumman may, in its sole discretion, unilaterally extend the term of this Agreement by three (3) years on the same terms and conditions as provided herein by giving written notice to LPVCWD ninety (90) days before the end of the Initial Term (an "Extension Option"). Thereafter, Northrop Grumman may exercise, in its sole discretion, additional Extension Options by providing written notice to LPVCWD 60 days before the expiration of the term of the Extension Option until EPA and all other government agencies with jurisdiction over the PVOU SZ-South remedy have determined that Northrop Grumman may cease operation of the Subject Facilities. Such additional Extension Options may be three (3) to ten (10) years in duration at Northrop Grumman's election. The Parties shall cooperate in good faith with each other regarding additional terms and conditions for any Extension Option.

12.2    This Agreement may be terminated earlier upon the following:

(a) Northrop Grumman receives an order to permanently cease the production of water from the Remedy Wells issued by EPA or any other governmental agency with jurisdiction over contamination in the PVOU SZ-South;

(b) Any of the governmental permits or approvals listed on Exhibit F hereto is not granted by the relevant governmental agency; or

(c) Denial of Northrop Grumman's or LPVCWD's application for the Watermaster Approval, the EPA Approval, or the NPDES Approval.

12.3 If the conditions described in Section 12.2 (a) or (b) occur, then Northrop Grumman may, in its sole discretion, terminate the Agreement upon providing the other Party with ninety (90) calendar days' notice. If the conditions described in Section 12.2(c) occur, then either Northrop Grumman or LPVCWD may terminate this Agreement upon providing the other Party with sixty (60) calendar days' notice.

12.4 In the event of the termination of this Agreement pursuant to Section 12.2 above, LPVCWD shall be entitled to payment for its services and costs through the termination date pursuant to Section 5 of this Agreement. Any disputes between the Parties regarding payments due LPVCWD or credits or reimbursements due to Northrop Grumman shall be resolved by negotiation or dispute resolution pursuant to Section 14.

12.5 This Agreement may be terminated by either Party on the basis of a material breach by the other Party, but only after the dispute resolution process described in Section 14 herein has been completed and an agreement or determination is made to that effect.

## **SECTION 13 INDEPENDENT CONTRACTOR**

13.1 At all times, LPVCWD shall act under this Agreement as an independent contractor. Nothing in this Agreement shall create a joint venture, partnership, agency, or formal business organization of any kind between the Parties. LPVCWD shall not make any representation, express or implied, that LPVCWD is an agent or legal representative of Northrop Grumman, nor will LPVCWD assume or incur liability or obligations of any kind of any third party in the name or on behalf of Northrop Grumman without the prior written approval of Northrop Grumman.

## **SECTION 14 DISPUTE RESOLUTION**

14.1 Jurisdiction. All disputes between the Parties regarding the rights and obligations of the Parties in this Agreement are subject to the dispute resolution procedures set forth herein.

14.2 Notice. The dispute resolution provision is invoked by providing notice to the other Party. The notice shall describe the nature of the dispute, including, if appropriate, the dollar amount in controversy. For cost disputes, notice must be given within thirty (30) calendar days after the cost has been invoiced by LPVCWD. For all other disputes, the notice must be given promptly, but in no event later than ninety (90) calendar days after the dispute arises, unless otherwise agreed to by the Parties.

14.3 Meet and Confer. Within thirty (30) calendar days after receipt of the notice of dispute, the Parties shall meet and confer to resolve the dispute. If the Parties are unable to resolve the dispute in good faith within sixty (60) calendar days after receipt of the notice of dispute, either Party may submit the dispute to arbitration by providing a written notice of arbitration (“Notice of Arbitration”) to the other Party.

14.4 Arbitrator. LPVCWD and Northrop Grumman shall attempt to mutually agree on a single arbitrator from a list of approved American Arbitration Association (AAA) or JAMS Arbitrators. If the Parties are unable to mutually agree on an arbitrator within thirty (30) calendar days after service of a Notice of Arbitration, then the arbitrator shall be selected by lot according to the following procedures. LPVCWD shall submit five (5) names, ranked from one (highest) to five (lowest) in terms of acceptability from the AAA or JAMS list, and simultaneously Northrop Grumman shall submit five (5) names from those lists. If any name appears on both lists, that person shall be deemed selected; provided that if more than one name appears on both lists, the person with the lowest numerical combined ranking score shall be selected and if two or more have the same score, the selection shall be by availability or by lot. If no name appears on both lists, new lists shall be submitted by each Party until an arbitrator is selected. The selected arbitrator shall accept his or her appointment in writing. Within thirty (30) calendar days after the arbitrator is selected, each party to the dispute shall submit to the arbitrator and serve on the other Party a short statement of the dispute and a proposed discovery and hearing schedule.

14.5 Preliminary Hearing. Within sixty (60) calendar days after selection of the arbitrator, the arbitrator shall schedule a preliminary hearing. At the preliminary hearing the arbitrator shall decide discovery, briefing and scheduling issues and set dates, including a final hearing date. In resolving discovery issues the arbitrator shall consider expedition, cost effectiveness, fairness and the needs of the parties for adequate information with respect to the dispute.

14.6 Arbitration Hearing. The arbitration hearing shall be scheduled no later than ninety (90) calendar days after the initial preliminary hearing unless the Parties mutually agree to extend the date or the arbitrator extends the date.

14.7 Procedural Rules. The procedural rules of AAA or JAMS, depending on the arbitrator selected, will govern the arbitration process.

14.8 Decision of the Arbitrator Final. The arbitrator shall make a written decision specifying the factual findings and legal reasoning in support of the decision within sixty (60) calendar days after the arbitration hearing. The arbitrator's decision is final and binding and there shall be no right to appeal the decision, except as otherwise expressly permitted by California law. The arbitrator may order any relief that could be granted by a court in accordance with applicable law, including but not limited to specific performance, temporary restraining orders, injunctive relief, and attorneys' fees, except that the arbitrator shall have no authority to award punitive damages.

14.9 Time for Completion. The arbitration shall be completed within 150 calendar days of the preliminary hearing, unless the Parties mutually agree to extend the date or the arbitrator extends the date.

14.10 Fees and Costs. The arbitrator shall award costs, including attorneys' fees, to the prevailing Party. The fees and costs of the arbitrator shall be paid by the losing Party.

## **SECTION 15           WAIVER**

15.1 No waiver by a Party of any provision of this Agreement shall be valid unless it is in writing and signed by an authorized representative of such Party. The waiver by any Party of any failure on the part of another Party to perform any of its obligations under this Agreement shall not be construed as a waiver of any future or continuing failure or failures.

## **SECTION 16           AMENDMENT OF THE AGREEMENT**



16.1 No amendment of this Agreement shall be binding upon the Parties unless it is in writing and executed by duly authorized representatives of all the Parties.

## **SECTION 17 GOVERNING LAW**

17.1 This Agreement and any dispute arising hereunder shall be governed by the substantive and procedural laws of the State of California, except, however, that California's Choice of Law provisions shall not apply.

## **SECTION 18 INTEGRATED AGREEMENT**

18.1 This Agreement represents the final Agreement between the Parties concerning the matters addressed in this Agreement and supersedes all prior agreements, negotiations and discussions between the Parties hereto and/or their respective counsel with respect to such matters.

## **SECTION 19 COMPUTATION OF TIME**

19.1 In computing any period of time under this Agreement, where the last day would fall on a Saturday, Sunday, or federal or California state holiday, the period shall run until 5 p.m. Pacific Time on the next working day. All time periods of thirty (30) days or longer are calendar days unless otherwise specified.

## **SECTION 20 COUNTERPARTS**

20.1 This Agreement will be executed in counterparts each of which shall be deemed an original, and all of which, taken together, shall constitute one and the same instrument.

## **SECTION 21 ASSIGNMENT**

21.1 Neither Party shall assign or otherwise transfer its rights or obligations hereunder without the other Party's prior written consent, except that Northrop Grumman may, in its sole discretion, transfer its rights and obligations under this Agreement to another Potentially

Responsible Party that assumes full and complete legal responsibility for the Interim Remedy-Shallow Zone under any future consent decree or other administrative order.

## **SECTION 22            INDEPENDENT COUNSEL**

22.1 Each of the Parties represents and warrants that, in connection with the negotiation and execution of this Agreement, it has been represented by independent counsel of its own choosing, that it has not relied upon the advice or counsel of the other Party's independent counsel in the negotiation or drafting of this Agreement, that it has executed this Agreement after receiving the advice of such independent counsel, that its representative has read and understands the provisions and terms of this Agreement, and that it has had an adequate opportunity to conduct an independent investigation of all facts and circumstances with respect to all matters that are the subject of this Agreement. Northrop Grumman shall reimburse LPVCWD for its reasonable attorneys' fees, experts' fees, and costs incurred in connection with the negotiation and preparation of this Agreement.

## **SECTION 23            FURTHER ACTIVITIES**

23.1 The Parties agree to execute and deliver all further documents and agreements and perform all further acts that may be reasonable and necessary to design, construct, operate and maintain the Subject Facilities and otherwise carry out the provisions of this Agreement.

## **SECTION 24            JOINT DRAFTING AND NEGOTIATION**

24.1 This Agreement has been jointly negotiated and drafted and the language of the Agreement shall not be construed in favor of or against any particular Party based on the Parties' respective roles in the drafting process.

## **SECTION 25            SECTION HEADINGS**

25.1 Section headings used in this Agreement are for reference only and shall not affect the construction of this Agreement.

**SECTION 26 NO THIRD PARTY BENEFICIARIES**

26.1 No third party, including but not limited to federal or state agencies, shall be entitled to claim or enforce any rights hereunder.

**SECTION 27 SEVERABILITY**

27.1 In the event that any provision of this Agreement is determined by an arbitrator pursuant to the dispute resolution provisions of Section 14 or a court of competent jurisdiction to be invalid, said provision shall be modified in a manner that is both consistent with the intent of the Parties and legally valid, if possible. The remainder of this Agreement shall not be affected thereby.

**SECTION 28            SUCCESSORS AND ASSIGNS**

28.1 All covenants and agreements contained in this Agreement by or on behalf of any of the Parties hereto shall bind and inure to the benefit of their respective successors and permitted assigns, whether so expressed or not. Any change in ownership or corporate or other legal status, including, but not limited to, any transfer of assets or real or personal property, shall in no way alter the status or responsibilities of the Parties under this Agreement.

**SECTION 29            ORGANIZATION/AUTHORIZATION**

29.1 The Parties hereby respectively represent and warrant to the other that each of them is a duly organized or constituted entity, with all requisite power to carry out its obligations under this Agreement, and that the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action, will not result in a violation of such Party’s organizational documents, and that no further action is necessary to make this Agreement and all transactions contemplated hereby valid and binding on the Parties in accordance with its terms. The corporate signatories hereto represent and warrant that they are authorized to execute and deliver this Agreement on behalf of their respective corporate entities.

**SECTION 30            NOTICE**

30.1 Whenever, under the terms of this Agreement, written notice is required to be given or a document is required to be sent by or to a Party, it shall be directed to the addresses specified below, unless otherwise permitted in this Agreement.

With respect to LPVCWD:

Greg B. Galindo  
General Manager  
La Puente Valley County Water District  
112 North 1st Street  
La Puente, CA 91744

With a copy to:

Jim Ciampa, Esq.  
Lagerlof, Senecal, Gosney & Kruse LLP  
301 N. Lake Avenue, 10th Floor  
Pasadena, CA 91101

With respect to Northrop Grumman:

Northrop Grumman Systems Corporation  
Manager of Environmental Remediation  
1 Space Park Drive  
Mailstop: CER XE6D21  
Redondo Beach, CA 90278

With a copy to:

Northrop Grumman Systems Corporation  
Corporate (Attn: Law Department)  
2980 Fairview Park Drive  
Falls Church, VA 22042

Northrop Grumman Systems Corporation  
Corporate Procurement  
7575 Colshire Drive  
FAC D  
Maclean, VA 22102

30.2 Notice is deemed effective when delivered in person or by overnight courier with proof of delivery, or upon receipt of registered or certified mail. Either Party may change its designated contact for notice purposes by written notice to the other Party.

### **SECTION 31 REMEDIES**

31.1 The Parties agree that money damages alone may be an inadequate remedy for any breach or threatened breach of this Agreement and further agree that the provisions of this Agreement may be enforced by specific performance or a preliminary, permanent, mandatory or prohibitory injunction pursuant to Section 14 above and without limiting any other remedy that a Party may have.

### **SECTION 32 PUBLIC STATEMENTS**

32.1 Unless as may be required by law, no Party, including its employees, agents and consultants, shall make any statement, verbal, written or electronic, to any individual associated with any newspaper, publication of general circulation, any on-line publication or blog, or other media outlet, or otherwise disseminate any document to the general public, including but not limited to press releases, newsletters and articles (a "Public Statement"), that discusses this Agreement or the Subject Facilities without receiving the prior written approval of the other Party

to this Agreement. Said approval may be withheld in any Party's sole discretion, although the Parties shall cooperate in good faith with each other with respect to any proposed Public Statement.

IN WITNESS WHEREOF, this Agreement has been executed as of the dates set forth below.

LA PUENTE VALLEY COUNTY WATER DISTRICT

\_\_\_\_\_, 2020

\_\_\_\_\_  
By: Greg B. Galindo  
Its: General Manager

\_\_\_\_\_, 2020

NORTHROP GRUMMAN SYSTEMS CORPORATION

\_\_\_\_\_  
By:  
Its:

# EXHIBIT A

## 1. DETAILED DESCRIPTION AND DESIGN BASIS OF THE REMEDIAL SYSTEM

### 1.1 Introduction

This exhibit, based on the Shallow Zone south of Puente Creek (SZ-South) Interim Remedy Pre-Final Design Report (PFDR), provides detailed descriptions of the components of the SZ-South Interim Remedy and is organized into the following main subsections:

- Groundwater Extraction and Conveyance System;
- Treatment Plant;
- Discharge of Treated Groundwater;
- Discharge of Wastewater;
- Utility Requirements; and
- Security.

In addition to the information presented in this section, Appendices B and C of the PFDR contain calculations of the anticipated flow rates, concentrations, and mass loading rates in the influent to the treatment plant. Appendix G contains a detailed process control description that describes how the system will operate, including control logic, process control set points, and alarms and notifications. To provide detailed information regarding how the system will be constructed, Technical Specifications are provided in Appendix H and Design Drawings are provided in Appendix I. Appendix J presents hydraulic model calculations for the conveyance pipeline. Appendix K is the Geotechnical Investigation Report containing geotechnical findings and recommendations for the development of the 111 Hudson Avenue (the treatment plant site) property. The development of the 111 Hudson Avenue property is currently in progress. Appendix L presents structural design calculations for the treatment plant equipment foundations. Appendices M, N, and O contain the informational sheets for three of the treatment plant processes: the ultraviolet/oxidation (UV/Ox) system provided by Trojan Technologies (Trojan), the liquid-phase granular activated carbon (LGAC) system provided by Evoqua Water Technologies (Evoqua), and the bag filtration system provided by Rosedale.

### 1.2 Groundwater Extraction and Conveyance System

#### 1.2.1 General

The following subsections describe details regarding the components of the groundwater extraction and conveyance system. The groundwater extraction and conveyance system includes the two existing groundwater extraction wells (EW-C and EW-N, installed in July and August 2018) and the installation of groundwater conveyance piping via pipelines to the Hudson Avenue SZ-South treatment plant.

### **1.2.2 Groundwater Extraction Well Locations**

Groundwater flow model simulation outputs indicated that, to meet the objectives of the SZ-South Interim Remedy, within the City of La Puente one extraction well should be located around Cadbrook Drive approximately equidistant from Nelson Avenue and Unruh Avenue, with a second extraction well located on Cadbrook Drive immediately north of the Nelson Avenue intersection. As such, the groundwater extraction wells, EW-C and EW-N, were installed in July and August 2018 on Nelson Avenue and Cadbrook Avenue, as shown here in Exhibit A and Figure 1-2 of the PFDR. A description of the groundwater flow simulations demonstrating that capture can be achieved with extraction wells and over the range of historical groundwater elevation fluctuations, including current low water levels, is presented in the technical memorandum on Proposed Well Locations and Rates in Appendix F of the PFDR and the technical memorandum on Extraction Rates and Hydraulic Containment in Appendix B of the PFDR.

### **1.2.3 Groundwater Extraction Well Construction**

The extraction wells are screened from the top of the simulated high groundwater elevation in Shallow Zone 1 (SZ1) to the bottom of Shallow Zone 2 (SZ2) as documented in the Extraction Wells Installation Revised Report (Geosyntec Consultants, Inc. [Geosyntec], 2019), which was approved by the United States Environmental Protection Agency (USEPA) in an email dated 1 March 2019. Table E-2 of Appendix E of the PFDR provides a summary of the well construction details for the two groundwater extraction wells. The two extraction wells will be operated to accommodate fluctuating water levels observed in the Mouth-of-Valley area (MOV). The current anticipated combined flow rate range of groundwater extraction is 50 to 125 gallons per minute (gpm), with 85 gpm being the operational flow rate (additional details on hydraulic containment and varying flow rates with fluctuating water levels are provided in Appendix B of the PFDR).

Additional details on the two extraction wells are provided in the Extraction Wells Installation Revised Report (Geosyntec, 2019), which was approved by USEPA in an email dated 1 March 2019.

### **1.2.4 Groundwater Extraction Pumping Rate**

To account for groundwater elevation fluctuations observed in the Shallow Zone (SZ) in the Puente Valley Operable Unit (PVOU) area, the assessment of groundwater capture with the installed extraction wells was performed under both high and low water level conditions to meet hydraulic containment over the range of expected conditions. A description of the groundwater flow simulations demonstrating that capture can be achieved with the two extraction wells is included in Appendix F to the PFDR. An evaluation of the anticipated hydraulic containment using extraction rates consistent with the August 2018 well testing and groundwater elevations is included in Appendix B to the PFDR. The anticipated groundwater capture zones for the two extraction wells under these multiple groundwater level conditions are shown in Figures E-1 and E-2 for historical groundwater elevation fluctuations and Figures E-3 and E-4 for groundwater elevation fluctuations consistent with the current low water levels.



Based on the evaluation presented in Appendices B and F to the PFDR, the two extraction wells can achieve hydraulic containment of the SZ-South plume under both current low groundwater elevation conditions and achievable pumping rates measured during well testing, and under historical groundwater elevation fluctuations. Therefore, using the installed extraction wells and proposed extraction rates, it is anticipated that the groundwater within both SZ1 and SZ2 that exceeds 10 times the Containment Levels for SZ-South of Puente Creek constituents of concern (COCs) will be adequately contained.

The anticipated operational flow rate for low groundwater elevation conditions is 85 gpm, consistent with the combined measured extraction well yield during well testing in July and August 2018. The minimum and maximum flow rates for low groundwater elevation conditions are 50 and 125 gpm, respectively, to account for uncertainty and provide for at least a 40 percent (%) increase or decrease in wells' extraction rates for the current design due to potential groundwater elevation fluctuations. In addition, by the addition of treatment process units, the design has the flexibility to accommodate a potential future maximum design flow rate of up to 300 gpm, which would both provide hydraulic containment under groundwater elevation conditions consistent with historically high levels and accommodate potential system upgrades, such as the addition of an extraction well or wells. The treatment plant may be operated in batch mode if the combined extraction rate from EW-C and EW-N is below 50 gpm.

### **1.2.5 Groundwater Extraction Well Pumps**

Submersible pumps will be installed in each extraction well to extract and transfer groundwater to the treatment plant via a groundwater conveyance system. The performance requirements for the extraction pumps are presented in Appendix H, Pre-Final Specifications, to the PFDR. Appendix J to the PFDR presents the hydraulic model calculation outputs for the extraction wells and conveyance pipeline network. In addition, it is anticipated that, if groundwater elevations in the San Gabriel Basin increase such that the extraction wells can produce above the combined flow rate of 125 gpm, the extraction well pumps will be replaced to accommodate for higher flow rates. Variable frequency drives (VFDs) will be included for the pump motors that can be adjusted at the treatment plant central control panel and the pump control panels to be located near each extraction wellhead. The VFDs will allow for optimization of groundwater extraction rates and plume capture while reducing electrical consumption.

### **1.2.6 Groundwater Extraction Wellhead and Wellhead Vaults**

The wellheads for groundwater extraction wells EW-N and EW-C will be located subgrade in pre-fabricated steel and precast concrete vaults. Electrical and control panels will be constructed in a flush mount (as to not interfere with pedestrian flow of traffic) belowground vault that will be locked (tamper-proof). A separate pre-fabricated steel and cast-in-place concrete valve vault will also be in proximity to each wellhead vault.

Access to the vaults will be provided via a spring-assisted water-tight/resistant traffic-rated lockable cover. The vault cover is intended to reduce surface water entry into the vault during runoff events and provide for safety and security.

### **1.2.7 Conveyance Pipelines**

A map of the conveyance pipelines is presented in Exhibit A, and the pipeline design drawings are provided in Appendix I to the PFDR. The selected piping sizes can handle the full range of flow rates anticipated at varying groundwater elevations, including current low water levels and historical high water levels. A summary of the pipelines is as follows:

- Influent pipelines – new influent pipelines will be installed to connect EW-C and EW-N to a pipeline to the treatment plant at 111 Hudson Avenue. A portion of the conveyance pipeline for the SZ-South remediation system may be installed in a common trench with the Intermediate Zone (IZ) Interim Remedy conveyance pipeline. This common trench portion will be along Nelson Avenue, Unruh Avenue, and Stafford Street. The section of pipeline in Cadbrook Drive may be installed prior to the rest of the treatment plant construction in advance of anticipated Cadbrook Drive street improvements, planned to be performed by City of La Puente.
- Treated water pipeline – a pipeline will be constructed to convey the treated water from the treatment plant to an on-site storm drain outfall for ultimate discharge of treated effluent to San Jose Creek.
- Wastewater discharge line – a discharge pipeline will be constructed to convey wastewater to the wastewater tank, which will be shared with the IZ Interim Remedy and installed as part of the IZ Interim Remedy construction.

The conveyance pipelines from the extraction wells to the treatment plant will be in rights-of-way within City of Industry and City of La Puente.

## **1.3 Treatment Plant**

### **1.3.1 General**

The SZ-South Interim Remedy groundwater treatment plant will be located at 111 Hudson Avenue in the City of Industry, California (Exhibit A). The property is near the existing conveyance pipelines and extraction wells. Further details regarding the treatment plant are provided in the following subsections. A detailed Process Control Description for the treatment plant is provided in Appendix G to the PFDR.

The primary treatment processes include the following:

- UV/Ox for removal of 1,4-dioxane, bis(2-Ethylhexyl) phthalate (DEHP), and volatile organic compounds (VOCs);

- LGAC for removal of VOCs not adequately removed by UV/Ox; and
- Reverse osmosis (RO) for removal of perchlorate, copper, lead, mercury, nickel, selenium, total dissolved solids (TDS), and nitrate.

### 1.3.2 Treatment Plant Site Grading and Foundations

A geotechnical investigation was performed in support of the treatment plant design and construction permitting process. Results of the geotechnical investigation findings are included in Appendix K of the PFDR. The geotechnical investigation indicates that the site is located within a zone of potential liquefaction, and site-specific analysis estimated that seismically induced settlements due to potential liquefaction hazards may be up to 3.5 inches in some areas (closer to the north/northwest area) of the treatment plant site. Therefore, ground improvement is recommended at the site to reduce the potential for seismically induced settlements.

Applicable national and state codes and regulations were considered in the site development plans, including the Federal Occupational Safety and Health Standards Act, the California State Industrial Safety Orders, the 2016 California Building Code, the 2015 International Building Code, and the American Water Works Association D100-11. Regional seismic design criteria were also considered in the design of the site development plans, including:

- |   |         |
|---|---------|
| • Site Class:   | C       |
| • Mapped Short Period Spectral Response Acceleration: | 2.162 g |
| • Mapped 1-second Spectral Response Acceleration:     | 0.765 g |
| • Design Short Period Spectral Response Acceleration: | 1.442 g |
| • Design 1-second Spectral Response Acceleration:     | 0.663 g |
| • Mapped MCEG Peak Ground Acceleration:               | 0.791 g |
| • Site Class Adjusted MCEG Peak Ground Acceleration:  | 0.791 g |

Where g is the acceleration due to Earth's gravity, equivalent to g-force.

The foundations and excavation design conform to the findings and recommendations provided in Appendix K to the PFDR (the Geotechnical Investigation Report) and the structural design calculations for the treatment plant foundations are based on these findings and are presented in Appendix L to the PFDR.

In accordance with the Geotechnical Investigation Report (Appendix K to the PFDR) and the structural design parameters shown in the design drawings (Appendix I to the PFDR), the allowable bearing capacity for isolated shallow foundations is 4,000 pounds per square foot.

Open areas of the treatment site are designed to be surfaced with asphalt paving (for the access and service roads), structural concrete (for the treatment system containment areas), or

landscaping. The asphalt road base and upper 12 inches of subgrade materials will be compacted to 95% of relative compaction. Bituminous asphalt will be used for the surface paving of the access and service roads.

For structural concrete, the concrete will be composed of typical Portland cement and fine aggregate and coarse aggregate from approved sources. Reinforced concrete will have a minimum strength of 4,000 pounds per square inch (psi), with a maximum slump of  $4 \pm 1$  inches and maximum water to cement ratio of 0.45. The concrete mix will produce a plastic, workable mixture in accordance with the applicable specifications and suitable to the specific conditions of placement. Concrete work throughout will be constructed as a monolith where feasible and constructible. The structural concrete and grout of the homogeneous structure, when hardened, will have the required strength, water-tightness, and resistance to weathering, as specified in the Technical Specifications (Appendix H to the PFDR).

Anchor bolts, nuts, and washers will be hot-dip galvanized, unless noted otherwise. Remolded expansion joint filler is designed to be  $\frac{3}{4}$ -inch and will conform to ASTM International 1751 standards. Joint sealant is designed to be  $\frac{1}{4}$ -inch deep and chemical resistant. Expansion anchors are designed to be Hilti Kwik Bolt 3 carbon steel. Grout will be five-star no-shrink cementitious structural grout.

Concrete reinforcing steel is designed to meet the following minimum concrete cover requirements:

- Concrete cast against earth: 3 inches;
- Cast in-place concrete exposed to earth or weather: 1- $\frac{1}{2}$  inches for No. 5 and smaller; 2 inches for No. 6 or larger; and
- Precast concrete exposed to earth or weather:  $\frac{3}{4}$ -inch for No. 11 or smaller; 1- $\frac{1}{2}$  inches for No. 14 and No. 18.

Dowels will be provided at pour and construction joints and will be the same size and spacing as the reinforcing shown for the subsequent construction, unless otherwise noted. Bars will be free of rust, grease, or other materials that may impair the bonding. Rebar will be cold bent in accordance with applicable standards. Reinforcing steel laps or species will be well staggered, and the minimum lap will be 48 inches.

### **1.3.3 Treatment Plant Layout Considerations**

A significant amount of care and advanced planning has gone into the treatment plant layout design. Several constraints and operability considerations were considered, including:

- Driveways and equipment access – A service driveway is maintained along the northwestern (to be constructed during the IZ Interim Remedy treatment plant construction) and southeastern sides of the SZ-South Interim Remedy treatment plant to

facilitate treatment media and chemical delivery and future equipment maintenance. The treatment processes are generally oriented in a way that will allow for access to pumps, multimedia filter vessels, LGAC vessels, and chemical storage tanks.

- Treatment Process Sequence, Orientation, and Location – The treatment process unit operations are sequenced and positioned to streamline piping runs and provide optimum access for serviceability. Equipment that will require more frequent maintenance (i.e., LGAC vessels) has been positioned to be closer to the access roads.
- Secondary Containment – The treatment processes are located inside a concrete berm, and the individual chemical storage tanks are located in separate concrete bermed areas to segregate chemicals.
- Control Building – The control building is located outside of the main secondary containment berm, near an entrance and along the driveway for easy access. The control building has been arranged to contain space for the operations personnel to view data, store files, and generally use as a base for ongoing site activities.
- Canopy – A flexible canopy system is included to protect the UV/Ox system, hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) tank, chemical systems, and RO train system from direct sunlight. The canopy is limited in size so that it does not impede access to other equipment. A canopy is also included over the switchboard and motor control center (MCC) located along Hudson Avenue.
- Lighting – Area-specific and general lighting are provided to facilitate safe operation and provide night-time security.
- Landscaping – Drought-tolerant landscaping is provided along Stafford Street and Hudson Avenue and in the south/southwest corner of the treatment plant to allow limited infiltration of stormwater, address City of Industry’s aesthetic requirements, and help the treatment plant blend into its surroundings.

#### **1.3.4 Treatment Plant Expected Flow Rates**

Based on results of groundwater modeling and the evaluation of well yields and hydraulic containment based on low water levels and well yields during July and August 2018 testing, the flow rate of extracted groundwater from the two extraction wells to the treatment plant is estimated to range from approximately 50 to 125 gpm at low groundwater elevations and up to 220 gpm at historical high groundwater elevations. To account for potential uncertainties during the system’s operational life and to provide operational flexibility, the treatment plant is designed to accommodate system upgrades that will treat up to 300 gpm.

#### **1.3.5 Treatment Plant Influent Water Quality**

Comprehensive subsurface characterization has been conducted to understand the water quality and the distribution of COCs (Geosyntec, 2015). An influent water quality evaluation was

performed to estimate weighted average and maximum influent concentrations taking into consideration historical monitoring data, the groundwater monitoring well distribution, and fluctuating groundwater elevations. The estimated influent concentrations were compared to the anticipated Applicable or Relevant and Appropriate Requirements for surface water discharge to San Jose Creek to develop the groundwater treatment requirements and to select appropriate treatment processes.

Average and maximum treatment plant influent concentrations are estimated based on measured concentrations between January 2011 and April 2017 at both monitoring wells and extraction wells screened in SZ-South. The weighted average treatment plant influent concentrations (weighted average concentrations) are derived from the arithmetic mean (average) of the temporal arithmetic means (between 2011 and 2017) calculated for each well and based on the average flow rate contribution from within the high density well area (i.e., the flow rate contribution is used to calculate a “weighted” average of the temporal arithmetic means at each well). The weighted maximum treatment plant influent concentrations (weighted maximum concentrations) are derived from the arithmetic mean (average) of the temporal maxima (between 2011 and 2017) calculated for each well and based on the maximum flow rate contribution from within the high density well area (i.e., the flow rate contribution is used to calculate a “weighted” average of the temporal arithmetic maximum at each well). The weighted average concentrations are used to evaluate operation and maintenance requirements for the treatment system components. The weighted maximum concentrations are used to size treatment system components.

The influent concentrations to be used for the design are provided in the Groundwater Extraction Evaluation (Appendix C of the PFDR).

### **1.3.6 Influent Equalization Tank**

To account for potential variation in extraction well operations, groundwater from the SZ-South extraction wells will be transferred via a 4-inch-diameter pipeline to an aboveground equalization tank that will provide hydraulic retention and regulate influent flow and pressure to the treatment plant.

Inclusion of the equalization tank allows for continued system operation and decreased booster pump and motor wear by reducing the amount of cycling, stopping, and restarting of the influent booster pump system. The tank volume will have a nominal capacity of 28,000 gallons (corresponding to a usable capacity of 19,500 gallons) to provide up to 3.5 hours of hydraulic retention at the anticipated current operational flow rate of 85 gpm, up to 2.5 hours of hydraulic retention at 125 gpm, and up to 60 minutes of hydraulic retention at the maximum system design capacity of 300 gpm. Retention will provide flexibility during system service activities, such as temporary system operation in recirculation mode. The equalization tank will be constructed of carbon steel and will include an interior epoxy coating compatible with water quality requirements.

### **1.3.7 Influent Booster Pump System**

A duplex in-line horizontal booster pump system will provide the pressure to transfer water from the influent equalization tank via a 4-inch-diameter pipeline through the treatment processes to the effluent storage tank. Each pump will be capable of operating at flow rates up to 150 gpm. The pumps may be operated individually, in parallel, or in rotation to increase pump life, and will be operated using VFDs.

### **1.3.8 Scale and pH Control System**

The estimated influent water quality (Appendix C to the PFDR) anticipates elevated concentrations of certain sparingly soluble salts such as calcium carbonate ( $\text{CaCO}_3$ ), calcium sulfate ( $\text{CaSO}_4$ ), barium sulfate ( $\text{BaSO}_4$ ), and silica that can contribute to scaling of process piping and treatment equipment, including fouling of the UV lamp sleeves, LGAC, and RO membranes. The scale and pH control system is intended to reduce the scale potential by keeping the sparingly soluble compounds in solution. The goal is to achieve a Langelier Saturation Index (LSI) rating that is neutral to undersaturated with  $\text{CaCO}_3$  and associated salts to prevent excessive scaling and to reduce the pH of the water received by the RO system to a pH at or below 6.8.

The system includes a double-walled 750 gallon, 4.5-foot-diameter cross-linked polyethylene sulfuric acid storage tank and two metering pumps. The anticipated sulfuric acid dosing will vary based on the influent water chemistry. For the weighted maximum concentrations of soluble salts, it is estimated that a sulfuric acid dosing of approximately 52.6 milligrams per liter (mg/L) of influent water will achieve the LSI of 0 (indicating balanced conditions) and the pH of 6.8.

The 750-gallon tank will provide a range of approximately 8 to 48 weeks of sulfuric acid storage depending on the influent groundwater flow rate under the higher concentration anticipated dosing conditions (52.6 mg/L).

### **1.3.9 Multimedia Filters**

Influent water will pass through multimedia filters to remove suspended solids from water and reduce turbidity before it enters the UV/Ox system. Turbidity in groundwater inhibits UV transmissivity, resulting in reduced performance of UV/Ox treatment. The current design includes two multimedia filters and can be expanded to include up to three multimedia filters for flow rates of up to 300 gpm.

The multimedia filters will receive the influent water under pressure (roughly 108 psi). The multimedia filters will consist of layers of gravel, sand, and anthracite. The multimedia filters will be backwashed with treated effluent water for 10 minutes a day then rinsed with feed water for 5 minutes a day. Backwash water will be provided at approximately 580 gpm at 27 psi. Rinse water will initially be provided at the treatment plant influent flow rate and adjusted by the booster pumps as needed to maintain consistent flow through the treatment plant processes.

### 1.3.10 Ultraviolet Light and Hydrogen Peroxide Advanced Oxidation System

Following scale control and multimedia filtration, groundwater will be transferred to the UV/Ox system. The Trojan UV/Ox system uses a photochemical process that relies on H<sub>2</sub>O<sub>2</sub> and UV light to remove 1,4-dioxane and certain VOCs that are not readily removed by UV photolysis alone. Since these compounds typically need both UV photolysis and the hydroxyl radical for removal to occur, the upstream addition of H<sub>2</sub>O<sub>2</sub> is essential to facilitate constituent removal.

The H<sub>2</sub>O<sub>2</sub> addition system will consist of metering pumps, chemical storage with secondary containment, and an in-line static mixer. H<sub>2</sub>O<sub>2</sub> will be injected upstream of the UV reactors followed by a static mixer in the conveyance pipeline to perform blending of H<sub>2</sub>O<sub>2</sub> with groundwater prior to entry into the UV reactors.

The UV/Ox system manufactured by Trojan has been evaluated for performing treatment for flow rates between 50 and 300 gpm. For the current design, which will accommodate system flow rates up to 125 gpm, the design of the UV/Ox system includes one D72AL75 UV reactor with one out of two reactor zones populated with lamps. For flow rates higher than 125 gpm, the second reactor zone can be populated with lamps. For flow rates up to the maximum design flow of 300 gpm, the UV/Ox system can be expanded to include up to two D72AL75 UV reactors in series with the four reactor zones populated with lamps.

Each UV reactor zone contains 72 UV lamps that utilize a total of 72 kilowatts (kW) at design capacity. Power provided to the lamps in each reactor zone can be adjusted to operate from 60% to 100% of the design maximum in 2% increments. The Trojan UV oxidation system can be adjusted to operate at as low as 5.4 kW if influent concentrations are reduced. This is accomplished by turning off one of the two reactor zones and operating the remaining reactor zone at 60% power. Trojan information sheets for the UV/Ox system are included in Appendix M to the PFDR.

The weighted maximum influent concentration for 1,4-dioxane is estimated to be 80 micrograms per liter (µg/L). The 1,4-dioxane regulatory effluent limit for surface water discharge is 3 µg/L. However, it is anticipated that the future regulatory effluent for 1,4-dioxane may be reduced to 1 µg/L. Based on this understanding, the treatment goal for 1,4-dioxane for the SZ-South Interim Remedy is 1 µg/L.

The UV/Ox system manufactured by Trojan has been identified as a proven and viable treatment technology to remediate 1,4 dioxane present in the extracted groundwater. In addition to 1,4-dioxane, UV/Ox will also remove DEHP and certain VOCs. Projected influent water quality to be received by the UV/Ox system is presented in Table E-7 of the PFDR.

The H<sub>2</sub>O<sub>2</sub> addition system will consist of a double-walled 500-gallon high-density polyethylene (HDPE) chemical storage tank, two metering pumps, and an in-line static mixer. H<sub>2</sub>O<sub>2</sub> will be stored at 50% concentration in the storage tank and injected upstream of the UV reactors. In-line static mixers within the process piping will assist with blending of H<sub>2</sub>O<sub>2</sub> within the piping prior to water entry into the UV/Ox system. H<sub>2</sub>O<sub>2</sub> analyzers will be located upstream and downstream of



the UV reactors for adjustment of chemical dosing rates. The residual H<sub>2</sub>O<sub>2</sub> will be quenched by a catalytic LGAC vessel within the LGAC system.

### **1.3.11 Liquid-Phase Granular Activated Carbon System**

Following UV/Ox treatment, groundwater will be transferred to the LGAC system to remove remaining VOCs and residual H<sub>2</sub>O<sub>2</sub>. Adsorption capabilities of the LGAC were predicted by Evoqua using a proprietary version of the Michigan Technological University-based Adsorption Design Software with the Pore and Surface Diffusion Model. The modeling included compounds that are targeted for treatment by LGAC, as well as additional VOCs present that do not have or are below their respective effluent discharge criteria but may affect carbon usage. Based on anticipated influent conditions to the LGAC system following UV/Ox treatment, a comparison was made with respect to regulatory requirements to evaluate which constituents may need additional treatment by LGAC. Fourteen primary target compounds were identified. The LGAC changeout frequency is based on the weighted average concentrations of these 14 target compounds at the anticipated current operational flow rate of 85 gpm. The changeout frequency was also evaluated for the weighted maximum concentrations at the maximum current design flow rate of 125 gpm. In addition, to provide a conservative upper bound on carbon usage, the changeout frequency was also calculated for VOCs that may affect carbon usage. This approach likely greatly overestimates actual carbon usage because the model assumes that each compound does not compete for adsorption with the other compounds present in the stream. In addition, the estimated changeout frequency is likely conservative due to the anticipated decrease in influent contaminant concentrations over time. The summary of the Surface Diffusion Model for the LGAC system is included as Appendix N to the PFDR.

The current design of the LGAC system includes two 5,000-pound, 6-foot-diameter carbon vessels operating in series to accommodate system flows from 50 to 125 gpm. An additional LGAC vessel with catalytic media operating in series after the first two vessels will perform quenching of H<sub>2</sub>O<sub>2</sub> residual from the UV/Ox system as well as provide additional VOC removal. The expanded design of the LGAC system includes up to a total of six 5,000-pound vessels to accommodate removal of system flows of up to 300 gpm and up to two total catalytic vessels to quench residual H<sub>2</sub>O<sub>2</sub>.

The primary and secondary LGAC vessels will contain 5,000 pounds each of coconut shell-based LGAC; the tertiary catalytic vessel will contain 5,000 pounds of specialized catalytic coconut shell-based LGAC media. The coconut shell-based LGAC has surface areas (typically 1,200 square meters per gram) that will create a strong interaction between the carbon surface and the constituent being adsorbed and will provide a relatively high adsorption rate of VOCs.

By taking advantage of the catalytic vessel's capacity for removal of VOCs in addition to H<sub>2</sub>O<sub>2</sub>, the LGAC system will allow for optimized LGAC usage, decreased LGAC changeouts, and reduced associated system downtime. The vendor-estimated bed life of the lead 5,000-pound LGAC vessel based on weighted average influent target compound concentrations is

approximately 53 days (Appendix N to the PFDR). For two vessels, the changeout period is estimated to be approximately 106 days.

LGAC vessel backwashing will be conducted to remove carbon fines and entrapped air and stratify the LGAC bed. The estimated backwash rate for the designed system is approximately 250 gpm for 30 minutes per vessel. Backwash wastewater will be transferred to the 200,000-gallon wastewater storage tank at the treatment plant site (to be installed as part of the IZ Interim Remedy plant) prior to discharge to the Los Angeles County Sanitation District (LACSD) sewer.

### **1.3.12 Catalytic LGAC System**

The catalytic LGAC vessel(s) will utilize coconut-shell based carbon with catalytic capability to quench residual H<sub>2</sub>O<sub>2</sub> remaining in the UV/Ox system effluent water. The catalytic carbon will include specially processed filter medium that will greatly enhance the carbon's natural capacity for H<sub>2</sub>O<sub>2</sub> removal and protect the subsequent RO system membranes. The H<sub>2</sub>O<sub>2</sub> residual in the UV/Ox effluent is estimated to range from 5 to 15 mg/L for the current design flow rate range of 50 to 125 gpm based on Trojan's performance prediction modeling. The catalytic LGAC vessel(s) will quench H<sub>2</sub>O<sub>2</sub> in the process water prior to discharge to the RO system. H<sub>2</sub>O<sub>2</sub> levels will be monitored in the catalytic carbon effluents.

### **1.3.13 Bag Filtration System**

Catalytic LGAC effluent water will pass through a 20-micrometer (micron) bag filtration system to remove residual LGAC fines from the water before it enters the RO system. Vendor informational sheets for the bag filtration system are presented in Appendix O to the PFDR. The turbidity in the process water following bag filtration will be further reduced using cartridge filters prior to entering the RO system. The use of bag filtration is expected to increase the longevity of the RO cartridge filters.

The multiplex bag filtration system includes four single filters mounted in parallel, with each unit having separate inlet and outlet valves and ports for individual servicing when the pressure differential across the filter reaches a set level (15 psi) (Appendix Q to the PFDR).

### **1.3.14 Reverse Osmosis Treatment System**

#### ***1.3.14.1 General***

Following the bag filtration system, the RO system will remove selenium, metals, TDS, nitrate, and perchlorate from the process water. Concentrations of selenium, metals, TDS, nitrate, and perchlorate will increase on the high-pressure side of the RO membrane as water permeates through the membrane to the low-pressure side. RO concentrate waste containing selenium, metals, TDS, nitrate, and perchlorate will be discharged to an LACSD industrial sewer line. The RO system is described in the next sections.

#### ***1.3.14.2 Reverse Osmosis Pretreatment System***

The RO pretreatment system will be used to remove residual compounds that could foul the membranes within the RO system. Suspended solids and dissolved sparingly soluble salts including CaCO<sub>3</sub>, CaSO<sub>4</sub>, BaSO<sub>4</sub>, and silica can contribute to RO membrane fouling.

Sulfuric acid will be added to the RO influent water to reduce the pH to at or below 6.8. Suspended solids removal will then be performed by the multimedia filters and bag filtration system. Scale inhibitor will be added to the water following the UV/Ox and LGAC systems and the bag filters. The scale inhibitor will be selected for appropriate efficacy against silica. The scale inhibitor tank will include a mixer to maintain uniform injected chemical solution. Following the addition of scale inhibitor, suspended solids will be removed through duplex cartridge filters in parallel. The process water will then be sent under pressure to the RO membrane trains.

As indicated on the process and instrumentation diagram (P&ID) for the RO system (Appendix I to the PFDR), a bypass line around the RO is included in the design. This will allow for a portion of the pretreated groundwater to bypass the RO treatment plant and be blended in the finished water at a ratio that will meet established effluent discharge criteria.

#### ***1.3.14.3 Reverse Osmosis System Membrane Trains***

Following RO pretreatment, process water will flow to two RO system membrane trains. Each membrane train will include three pressure vessels housing the RO membrane elements, a feed pump to boost the pressure to the membranes, and independent piping, valves, instruments, and controls. The individual trains will be connected for feed (influent water), permeate (treated process water), concentrate waste (brine), cleaning solution feed, cleaning solution return, and permeate cleaning return via a common pipe manifold that will contain a permeate line and a concentrate waste line.

The capacity of individual trains must be matched to the expected range of permeate flows. The required flow of permeate is a function of several factors, including raw water flow, raw water quality, and desired product water quality.

The RO system will have an influent flow rate range between 50 and 100 gpm for each train in service (corresponding to a permeate effluent flow rate range between 30 and 75 gpm per train). The current design will include two trains to accommodate the current flow rate range of 50 to 125 gpm and higher flow rates of up to 200 gpm, and the expanded design includes a third train to accommodate the maximum design flow rate of 300 gpm.

#### ***1.3.14.4 Clean-In-Place System***

A skid-mounted clean-in-place (CIP) system for the RO membrane trains will include a solution tank, tank immersion heater, circulation pump, bag filter, liquid and dry chemical addition system,

pipng, valves, instrumentation, and controls to clean the pressure vessels in each RO train. The CIP system components are sized to clean each stage within a given train individually.

#### ***1.3.14.5 Reverse Osmosis Post-Treatment System***

The LSI after the RO system membrane trains is estimated to be negative 4.7, which may be corrosive to downstream infrastructure. Post-treatment stabilization to reduce corrosivity will include addition of sodium hydroxide (caustic soda) to adjust the pH and alkalinity of the water. In addition, partial stabilization of the RO effluent will occur from blending with the RO bypass water. The RO effluent process water will achieve a positive LSI greater than 0.19 and a pH between 6.5 and 8.5 to protect downstream surface discharge infrastructure.

If bypass is not possible in the future (e.g., if surface water discharge criteria for one or more constituents are modified), a footprint is being reserved for a potential calcium addition system to the west of the effluent storage tank (Appendix I to the PFDR, Drawing W-701). If the calcium addition system is required at a future time, the decision to use a lime (calcium hydroxide) or a calcium chloride system will be made at that time. This alternative was selected over other options such as a decarbonator due to its smaller footprint.

#### ***1.3.14.6 Reverse Osmosis Concentrate Waste***

RO concentrate waste containing selenium, metals, TDS, nitrate, and perchlorate will be transferred to an on-site wastewater storage tank prior to discharge to an LACSD industrial sewer line. It is estimated that 20% of the feed water will be discharged as concentrate waste. At an influent flow rate of 85 gpm, the concentrate flow is anticipated to be between 15 and 16 gpm for weighted average and weighted maximum concentrations, respectively.

### **1.3.15 Effluent Tank**

Treated groundwater from the RO system will be collected in a 65,000-gallon nominal capacity (corresponding to a 53,000-gallon usable capacity) coated steel storage tank prior to discharge to surface water. This storage capacity provides a range of about 7 to 18 hours of retention at flow rates ranging from 50 to 125 gpm and 3 hours of retention at flow rates up to 300 gpm. Floats, water level sensors, and an automated control system will be included to provide operator awareness, control for discharge of the stored water, and emergency shut-off of the treatment plant. The tank will be placed within a concrete berm for secondary containment.

### **1.3.16 Effluent Booster Pump System**

A duplex booster pump system will transfer effluent water from the effluent storage tank via a 4-inch-diameter pipeline to the on-site storm drain that discharges to San Jose Creek. Each booster pump will be capable of transferring up to 300 gpm of water to the discharge pipeline. The pumps may be operated individually, in parallel, or in rotation to increase pump life and will include VFDs.

The treated effluent will discharge into a drain box/sump. The conveyance piping from the effluent booster pumps to the drain box/sump will include an effluent flow meter and backflow preventer. From the drain box/sump, the treated effluent will be conveyed to an existing stormwater manhole via 24-inch-diameter HDPE piping. The drain box/sump and the 24-inch piping will be installed as part of the IZ Interim Remedy construction.

### **1.3.17 Backwash Supply Pump System**

Treated effluent water will also be used for backwash of treatment system components. A duplex backwash supply pump system will transfer effluent water from the effluent storage tank and route it back through the treatment system for backwashing. Each backwash supply pump will be capable of transferring up to 600 gpm of water through the backwash supply line. To accommodate a wide flow rate range for backwash operations, the outlet of the pumps will contain a bypass line to the effluent tank equipped with a flow control valve. When the flow control valve is open, 100% of the effluent water will recirculate back to the effluent storage tank. The pumps may be operated individually, in parallel, or in rotation to increase pump life and will include VFDs.

## **1.4 Discharge of Treated Groundwater**

During operation (including system startup, commissioning testing, routine system operation, and periodic maintenance), treated groundwater will be discharged via a 4 inch-diameter conveyance pipeline to the on-site BI 4301 Unit 2 storm drain (Exhibit A) for ultimate discharge to San Jose Creek. Treated groundwater will be discharged to the on-site drain box/sump. From the drain box/sump, the treated groundwater will be gravity fed to an existing stormwater manhole via 24-inch-diameter HDPE piping. The drain box/sump and the 24-inch piping will be installed as part of the IZ Interim Remedy construction (Geosyntec, 2018). No modifications to the existing storm drain except for installation of the manhole connection are anticipated. Surface water discharge approval will be obtained from Regional Water Quality Control Board (RWQCB) and City of Industry. Discharge flow rates (41 gpm to 103 gpm) will be consistent with the current treatment plant design influent flow rates (50 gpm to 125 gpm) minus the RO concentrate waste. The treated discharge conveyance pipeline will also be able to accommodate the maximum expanded design influent flow rate of 300 gpm.

## **1.5 Discharge of Wastewater**

Wastewater from well maintenance, backwash of the RO multimedia filters, LGAC, bag filter, and RO, and RO concentrate waste will be transferred to an on-site wastewater storage tank prior to discharge to the LACSD sewer. The treatment plant will have the capability to operate in recirculation mode if the ability to discharge is halted.

Wastewater from well maintenance, backwash of the RO multimedia filters, LGAC, bag filter, and RO membranes, and RO concentrate waste will be transferred to the on-site 200,000-gallon wastewater storage tank that will be constructed as part of the IZ Interim Remedy. Wastewater from the 200,000-gallon storage tank will be pumped from the tank via two centrifugal discharge

pumps and the wastewater discharge conveyance pipeline to an existing LACSD sewer line on Salt Lake Avenue, City of Industry, California, for discharge. The preliminary alignment of the pipeline is presented in Figure 1-2 of the PFDR and Appendix D (Sheets W-115 through W-120) to the IZ Interim Remedy Second Revised Final Design Report (Geosyntec, 2018).

## **1.6 Utility Requirements**

Potable water, electricity, and sanitary sewer will service the treatment plant property. A natural gas connection is not required and therefore not planned for the treatment plant.

Potable water will be supplied to the treatment plant property via a service connection to an existing water main located adjacent to the treatment plant at Stafford Avenue, which will be implemented as part of the IZ Interim Remedy. The 8-inch-diameter line will include the appropriate backflow preventer(s) and will be used to supply water for personnel use, including chemical showers, and irrigation.

Southern California Edison (SCE) will provide electricity from new transformers and an electrical service connection to be installed at the northeast side of the treatment plant property. The new electrical service will provide power to both the SZ-South and IZ Interim Remedy treatment systems. The electrical service will be 480/277 volt alternating current (VAC), 500 amp, three phase wye service. This service voltage is typically selected for industrial applications with loads of this size.

The treatment plant does not incorporate a redundant power supply (e.g., generators), since a power failure at the treatment plant would likely be regional in nature and the extraction wells would shut down, thus eliminating the need for plant operation. Battery backups are planned for critical monitoring/control system components, such as alarm callouts, computers, and emergency lighting.

A sanitary sewer connection will be provided in the Control Building for sanitary facilities constructed as part of the IZ Interim Remedy. The sanitary sewer connection has been sized in accordance with the requirements of City of Industry and LACSD and is being developed as part of the IZ Interim Remedy Design.

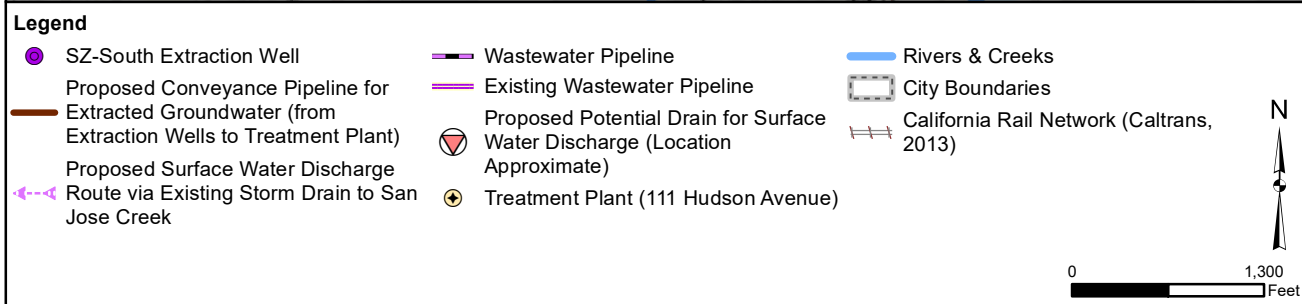
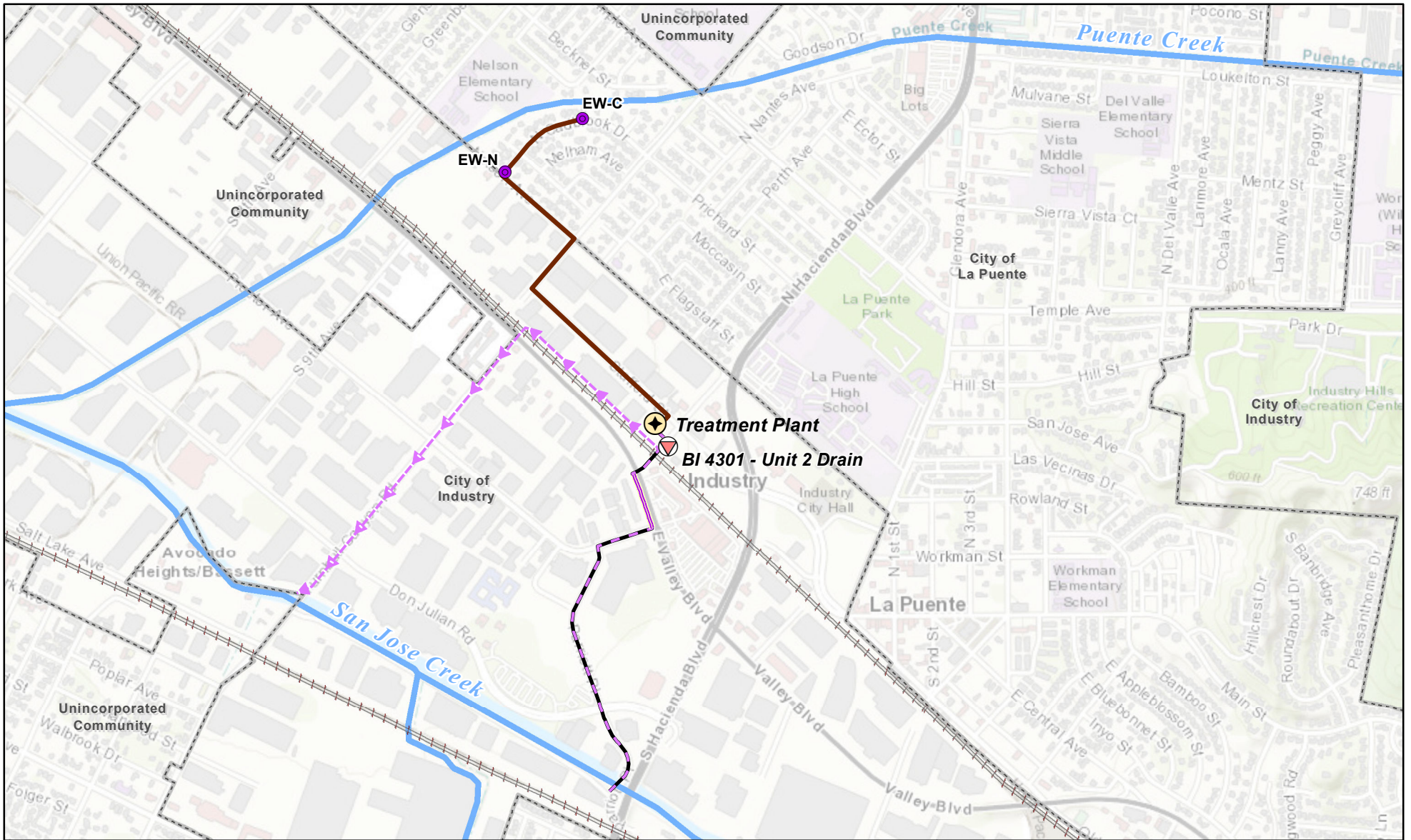
Preliminary telecommunication requirements for the treatment plant will include up to two voice lines and up to two data communication lines. Two phone lines were selected to allow simultaneous operator communication with auto-dialer alarm callout. Typically, only one data line would be used at a time, and the second data communication line will provide a redundant data connection. Telecommunications services are available from major telecommunications service providers in City of Industry.

## **1.7 Security**

The design of the SZ-South Interim Remedy contains the following security features:

- Extraction Wells:
  - Locked wellhead vault;
  - Locked instrument vault, with a sample port and an air release valve;
  - Locked control panel;
  - Intrusion detection on the control panel;
- Treatment Plant:
  - Steel fence of at least 6 feet tall around entire site;
  - Locked entry gates;
  - Locked control building; and
  - Video surveillance system.

This level of security at the treatment plant will be maintained during construction and operation of the SZ-South Interim Remedy.



**SZ-South Interim Remedy Site Features**

Puente Valley Operable Unit  
Puente Valley, California

**Geosyntec**  
consultants

**Exhibit**

**A**

WR1916      December 2019



## EXHIBIT B

### La Puente Valley County Water District Staff Hourly Billing Rates as of January 1, 2020

<b>POSITION</b>	<b>HOURLY RATE</b>	<b>OVERTIME RATE</b>
<b>General Manager</b>	\$ 120.73	N/A
<b>Compliance Manager / Superintendent</b>	\$ 92.61	N/A
<b>Treatment Supervisor</b>	\$ 91.14	\$ 106.01
<b>Treatment Operator II</b>	\$ 83.58	\$ 96.68
<b>Treatment Operator I</b>	\$ 76.54	\$ 87.59
<b>Maintenance Technician</b>	\$ 71.90	\$ 81.61

## EXHIBIT C



# La Puente Valley County Water District

## Purchasing Policy

### **PURPOSE**

The purpose of this Policy is to establish a comprehensive set of purchasing policies for the La Puente Valley County Water District (“District”) that will assure continuity and uniformity in its purchasing operations, and provide guidelines for purchasing supplies and services.

### **1. Policy**

The District is committed to purchasing supplies, services and equipment in a fair, open and equitable manner that provides the best overall value to the District. Each employee responsible for the procurement of goods and services for the District must follow these guidelines.

### **2. Conflict of Interest**

No Employee or Director of the District shall participate in the process of purchasing any supplies, services and equipment, or participate in the selection, award, or administration of a contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

- An Employee, Officer or Director;
- Any member of his or her immediate family;
- His or her partner; or
- An organization that employs, or is about to employ, any of the above:

has a financial interest in the firm or organization selected for award of such a contract for supplies, services, or equipment.

No Employee or Director of the District may accept, directly or indirectly, any gift, rebate, money, or anything else of value whatsoever from any person or entity if the gift, rebate, money or item of value is intended as a reward or inducement for conducting business, placing orders with, or otherwise using the employee’s or Director’s position to favor the contributor.

No Employee or Director of the District shall aide or assist a vendor or bidder in securing a contract to furnish commodities, equipment or services, or, favor one vendor or bidder over another, or give or withhold information from any vendor or bidder not given or withheld from all other vendors or bidders, or willfully mislead any vendor or bidder in regards to an offer or

bid specification, or knowingly certify to a greater level of service performed, or commodities or equipment furnished, than has respectively been performed or received.

### **3. General Provisions**

The basic purchasing policy of the District is to obtain goods and services for operation at the lowest possible overall cost. This includes maintaining a purchasing system that ensures maximum use of fair and open competition and receipt of the best value for funds available, consistent with applicable laws and regulations. The purchasing functions are decentralized, with each Department responsible for compliance with District policies and procedures. Purchasing responsibility and authority shall be delegated to a level consistent with good business practice and sound financial management policy.

The following apply to all purchases made by the District:

- A. No purchase will be approved or undertaken unless an appropriation has been established, either through the adopted annual budget or Board approval of additional appropriations. It is the responsibility of the General Manager and Department Heads to maintain control of budgets that have been designated as their responsibility.
- B. All purchases shall be of the quality deemed necessary to suit the intended purpose.
- C. Competitive bidding is established based on type of purchase and/or established dollar limits. To the extent competitive bidding is required by this Policy, or, if in the discretion of the General Manager competitive bidding is deemed to serve the best interests of the District, the General Manager shall have the sole and exclusive authority to determine the manner in which the competitive bidding process shall be undertaken, with the objective that the bid process be fair and open to qualified bidders in order to obtain the best value for the District.
- D. Purchases shall not be split to avoid required procedures or established dollar limits. Purchases of like items or services should be considered on an annual basis.
- E. The emergency purchase of goods is authorized under certain conditions, as defined in Section 4-F.

### **4. Purchasing and Approval Authority**

Purchasing authority is defined as the authority to make a purchase or enter into an agreement once all applicable purchasing procedures have been followed.

The Board of Directors (“Board”) delegates purchasing and approval authority in certain amounts as specified in this Policy to the General Manager. The General Manager may then delegate appropriate authority to staff as outlined in this Policy.

- A. Management Authority Levels. Purchasing and approval authority is established as shown below:

<b>Position</b>	<b>Regular Level</b>	<b>Emergency Level</b>
General Manager	Up to \$50,000 per contract, purchase order or invoice	Up to \$100,000
Department Heads	Up to \$10,000	Up to \$25,000

B. Regular Procurement Standards and Procedures. For acquisition or leasing of personal property; repair or modification of District equipment or structures; or obtaining labor, materials or services as identified in the budget, the following shall apply:

<b>Dollar Amount</b>	<b>Procedure</b>	<b>Approval</b>
\$0-2,500	Best value discretion	Department Heads or General Manager
\$2,501-\$10,000	Obtain 2 written quotes	Department Heads or General Manager
\$10,001 - \$50,000	Obtain 3 written quotes	General Manager
>\$50,000	Competitive / Formal Bid	Board of Directors

Exception: In the circumstance where the District is making purchases from a supplier on a regular basis on store credit, a written quote may be waived for purchases under \$10,000.

C. Capital Projects Standards and Procedures. For acquisition of personal property, repair or modification of District equipment or structures, or obtaining labor, materials or services associated with Capital Projects (as that term is identified and defined in the District's budget), the following shall apply:

<b>Dollar Amount</b>	<b>Procedure</b>	<b>Approval</b>
\$0-25,000	Obtain 2 written quotes	General Manager
\$25,001 - \$125,000	Obtain 3 written quotes	Board of Directors
>\$125,000	Competitive / Formal Bid	Board of Directors

D. Capital Project Change Order Standards and Procedures. The following shall apply to each Change Order (not cumulative Change Orders on the same project):

<b>Dollar Amount</b>	<b>Procedure</b>	<b>Approval</b>
Up to 10% of Project Costs and no greater than \$25,000	General Manager Review	General Manager
Greater than 10% of Project Cost and/or greater than \$25,000	Notify Board of Directors	Board of Directors

- E. Contractual Services Standards and Procedures. The following shall apply to professional services such as engineering consultant(s), accountants, auditors, IT support, etc. as identified in the District’s budget:

<b>Dollar Amount</b>	<b>Procedure</b>	<b>Approval</b>
\$0-10,000	Obtain a minimum of 1 written proposal	Department Head or General Manager
\$10,001 - \$25,000	Obtain a minimum of 2 written proposals	General Manager
>\$25,000	3 written proposals	Board of Directors

- F. Standards and Procedures for Emergency Purchasing Procurement.The following shall apply during emergency situations:

<b>Dollar Amount</b>	<b>Procedure</b>	<b>Approval</b>
\$0-100,000	Inform Board of Directors at the next or special meeting	General Manager
>\$100,000	Inform Board of Directors at the next or special meeting	Board of Directors ratification

Definition of Emergency: Those events which require immediate and/or extraordinary action to protect the public health, safety, welfare and property of the public, the District, or the District’s employees, as determined by the General Manager. Ratification must be made by the Board at the next regular Board meeting or the earliest special meeting that can be called. In cases where notification is required, a written memo shall be provided explaining the emergency and stating the reasons for the approval by the General Manager.

- G. Credit Card Purchases. Credit cards are issued to certain District staff as needed. All purchases must be in accordance with authorized authority within the budget and purchasing policies. Credit card purchases may be made for gasoline, travel expenses, training seminars and for supplies or services that will not be billed by a vendor. Credit cards may not be used for employees’ personal purchases. If the credit card is inadvertently used for personal expenditures, the employee must immediately notify the General Manager and reimburse the District for the charges.

- H. Exceptions. Certain purchases of goods not subject to competitive offers include goods and services that can be obtained from only one vendor or one known source as the result of standardization, unique performance capabilities or intellectual property requirements, manufacturing processes, compatibility requirements or certain market conditions. These purchases may include proprietary items sold directly from the manufacturer, items that have only one distributor authorized to sell in any particular geographical area, or a specific product that has been proven to be the only product acceptable (“sole source” goods).

Other purchases that are not readily adaptable to the verbal competitive price quotes or informal or formal bidding processes do not require competitive offers. These items may

include, but are not limited to, water or water rights, debt service payments, and real property. Appropriate approvals and documentation must still be obtained for these types of purchases.

Examples include:

Water

Advertisements and notices

Subscriptions

Travel expenses

Copying/Print services

Membership dues

Water rights

Postage

Trade circulars or books

Fuel

Medical payments (Physicians/labs)

Attorney and legal services

## EXHIBIT D

# MEMO



**To:** Mr. James L'Esperance, PE, Northrop Grumman Corporation  
**From:** Greg B. Galindo, General Manager  
**Date:** February 18, 2020  
**Subject:** Agreement for Operation Services of a Water Treatment Facility - (Section 5.6) Management Fee

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With respect to the Management Fee (Section 5.6 of the Agreement for Operations Services of a Water Treatment Facility), the following services and support for the Puente Valley Operable Unit Shallow Zone South Remedy Project (Project) will be provided in return for the Management Fee:

1. Management services provided by the District's General Manager, including, managerial expertise and oversight of the treatment facility commissioning and operations, as well as:
  - a. Training of District personnel to operate the treatment plant.
  - b. Review of plant performance and implementation of changes in operation to improve efficiency and/or changes as required by regulatory agencies, and provide recommendations to Northrop for efficiency improvements when identified.
  - c. Interaction with regulatory agencies on treatment plant operational goals (e.g., remediation and performance), with Watermaster as project liaison, and coordinate with in-basin water purveyors as needed.
  - d. Education of and interface with the District's Governing Board of Directors on Project related matters and areas of impact.
2. Accounting and finance support services:
  - a. Accounts payable services for project related expenses.
  - b. Tracking and reporting of expense categories.
  - c. Annual financial audit in accordance with government accounting standards and compliance with all California local government accounting regulations.
  - d. Preparation of annual treatment plant budget and monthly financial reporting.
  - e. Preparation of financial reports as requested by Northrop.
3. Human resource support services:
  - a. Employee benefits management.
  - b. Employee and Labor Relations.
  - c. Federal and State employment law compliance.
  - d. Recruitment and employment of qualified treatment plant staff.
4. District Legal Counsel services:
  - a. Preparation and/or review of District contracts related to or impacted by the project (e.g., material / chemical supply vendor contracts, equipment service provider contracts, employment and labor related staffing issues).

- b. Counsel to the District's Board of Directors on Project related matters and actions.
  - c. Other legal services as needed to support the initial launch as well as the continuation of the project at the conclusion of the initial term.
5. Community outreach efforts:
- a. Attendance of project related community events to properly represent the District's involvement in the Project (e.g., EPA community outreach events).
  - b. Interaction with local and State legislative and other elected officials.
  - c. Preparation and distribution of customer outreach material related to the project to address District customer concerns and to gain and maintain public support for the District's involvement with the Project.
6. District Board of Directors official action and oversight:
- a. Official Board actions related to and required for the project (e.g. CEQA certification).
  - b. Continuing education and review of the Project to enable informed official action on items pertaining to the project and adequate response to inquiries and concerns addressed to individual board directors.
7. Risk Management:
- a. The assumption of risk involved with being a partner and operating the Project that is not otherwise addressed or addressable by the definitive agreements. Voluntarily participation in a superfund project results in a potential for liability that the District cannot foresee. The District will naturally be a key party to any issues or potential liability that arises from managing and operating the treatment plant.
  - b. Risk associated with stranded labor costs. The potential of having labor costs stranded while the plant may be down for an issue out of the District's control. Specifically, the potential risk of full time employees on the clock but not billed to the project if the plant is non-operational for reasons beyond the District's control.



# EXHIBIT E

Northrop Grumman Systems Corporation ("Northrop Grumman") is providing this notice to La Puente Valley County Water District pursuant to Section 5.6 of the Agreement For Operations Services Of A Water Treatment Facility ("Agreement") that Northrop Grumman intends to commence operation of the Subject Facilities (as that term is defined in Section 2.25 of the Agreement) within one year of the date of this notice.

Dated: \_\_\_\_\_,

\_\_\_\_\_  
Authorized Representative of  
Northrop Grumman Systems Corporation

# EXHIBIT F

## Permits and Approvals Puente Valley Operable Unit, Shallow Zone South Interim Remedy, California

Item No.	Agency	Applicable to:	Description
1	City of Industry 15651 East Stafford Street City of Industry, CA 91744	Pipeline	Excavation/Encroachment permit, including traffic control
		Treatment Plant and End Use (Surface Water Discharge)	Zoning and development permit
			Encroachment and building permit for construction of the treatment plant (via Los Angeles County Department of Public Works)
2	City of La Puente Planning & Building/Safety Division 15900 E. Main Street La Puente, CA 91744	Extraction Wells	Encroachment permit, including traffic control
		Pipeline	License agreement
			Encroachment, excavation, and construction permits
3	Los Angeles County Baldwin Park Permit Office Baldwin Park, CA 91706	Treatment Plant	Encroachment and construction permits
4	Los Angeles County Department of Public Health (LACDPH) Bureau of Environmental Protection Water & Sewage/Mountain & Rural Programs 5050 Commerce Drive Baldwin Park, CA 91706	Extraction Wells	Application for Well Construction
5	Southern California Edison (SCE)	Extraction Wells	Electric power connection (power drops to Extraction Wells EW-N and EW-C) and treatment plant
		Treatment Plant	
6	Federal Aviation Administration (FAA)	Treatment Plant	FAA study
7	Main San Gabriel Basin Watermaster (Watermaster) 725 N. Azusa Ave. Azusa, CA 91702	Extraction Wells	Watermaster approval (as needed)
		End Use (Surface Water Discharge)	
		Treatment Plant	
8	California Regional Water Quality Control Board, Los Angeles Region (RWQCB) Well Investigation Program Los Angeles RWQCB 320 W. 4th Street, Suite 200 Los Angeles, CA 90013-2343	End Use (Surface Water Discharge)	National Pollutant Discharge Elimination System permitting
9	Los Angeles County Sanitation Districts (LACSD) Los Angeles County Sanitation Districts 1955 Workman Mill Road Whittier, CA 90601	Treatment Plant	Industrial wastewater permit (wastewater from reverse osmosis system and backwash of liquid phase granular activated carbon media, bag filters, and reverse osmosis system)

## **EXHIBIT G: INSURANCE REQUIREMENTS**

LPVCWD shall obtain and maintain in full force and effect, with sound and reputable insurers during the term of this Agreement, the following insurance coverages:

- (a) Commercial General Liability insurance against all hazards, covering claims for bodily injury, death, and property damage, including premises and operations, products, services and completed operations, personal and advertising injury, contractual, and broad-form property damage liability coverages with a minimum limit of liability for bodily/personal injury, including death resulting therefrom, on an occurrence basis of \$2 million and \$2 million in the aggregate, and with a minimum limit of liability for property damage on an occurrence basis of \$2 million and \$2 million in the aggregate;
  
- (b) Umbrella Liability insurance that follows the form of the Commercial General Liability Insurance, with a limit of at least \$10 million per occurrence and \$10 million in the aggregate;
  
- (c) Automobile Liability insurance against liability arising from the ownership, maintenance or use of all owned, non-owned and hired automobiles and trucks with a minimum limit of liability for bodily injury of \$2 million per occurrence and \$2 million in the aggregate, and with a minimum limit of liability for property damage of \$2 million per accident and \$2 million in the aggregate;
  
- (d) Worker's Compensation insurance as required by the laws applicable to employees that provide any services under the Agreement;

- (e) Employer's Liability insurance with a minimum limit of \$1 million for each accident, and \$1 million for disease for each employee, including death at any time resulting therefrom, not caused by accident, and not less than \$1 million aggregate limit of liability per policy year;
  
- (f) Errors and Omissions Liability insurance on a claims-made basis with a minimum limit of \$5 million per claim and \$5 million in the aggregate providing coverage for claims arising out of the performance of services under this Agreement (including but not limited to coverage for regulatory and other claims arising out of the delivery and beneficial use of the Treated Water, such as claims alleging water not meeting applicable drinking water standards, the accidental failure to supply water, and/or failure to comply with applicable laws, regulations and/or governmental approvals). LPVCWD shall renew and keep Errors and Omissions Liability coverage in force for the term of this Agreement and a minimum of two years from the time this Agreement expires;
  
- (g) To the extent not otherwise covered by the policies listed above, Environmental and Pollution Liability and Remediation Expense insurance written on an occurrence basis with a minimum limit of \$5 million per occurrence and \$10 million in the aggregate, including without limitation mold coverage and coverage for the cost of remediation and clean-up of contaminants, crisis management/image restoration, business interruption and emergency expenses, as well as liability for bodily injury and property damage, after the release or discharge of pollutants and other on-site or off-site contamination;

- (h) Crime insurance including, but not limited to, Public Employee Theft, Depositors Forgery or Alteration, Computer and Funds Transfer fraud coverages with a minimum limit of liability of \$500,000 per single loss and \$500,000 in the aggregate; and.
  
- (i) Privacy and Network Security/Cyber insurance with a minimum limit of \$2 million per claim/incident and \$2 million in the aggregate, covering first party expenses (e.g., forensic investigation, privacy notification, business interruption, crisis management, PR firm, repairing and restoring a computer system and other remediation costs) and third party liability (e.g., claims alleging unauthorized access to confidential or personally identifiable information and claims alleging denial of service) for all losses arising directly or indirectly out of any acts, errors or omissions or breach of contract resulting in any of the following: (1) loss or disclosure of confidential or personally identifiable information in hard copy or electronic form; (2) loss of digital assets or data; (3) data security breach; (4) denial or loss of computer service and/or network outages; and (5) cyber extortion; LPVCWD shall renew and keep this coverage in force for the term of this Agreement and a minimum of two years from the time this Agreement expires.

The limits listed herein shall be for no less than any one year policy period. Coverage for third party claims will include defense expenses, damages, and settlements.

LPVCWD's liability insurance shall be endorsed to add Northrop Grumman and each of its now existing and future direct and indirect subsidiaries as additional insureds. Northrop Grumman's additional insured status will not be dependent upon allegations of acts, errors or omissions

against LPVCWD. The Liability Coverage listed above shall be deemed and expressly provide that they are primary and non-contributory, and the policies will not include insured vs. insured, contractual liability, or liquidated damages exclusions to the extent that such exclusions would limit coverage for claims by or against Northrop Grumman and/or its subsidiaries. The Workers' Compensation Coverage include a waiver of subrogation rights against Northrop Grumman and its subsidiaries.

LPVCWD shall provide Northrop Grumman with certificates of insurance evidencing the coverages required hereunder and identified above promptly upon commencement of operations of the Subject Facilities and upon renewals. Upon written request at any time during the term of this Agreement, LPVCWD will provide complete copies of the insurance policies. Each policy required hereunder shall provide that LPVCWD shall receive thirty (30) days' advance written notice in the event of a cancellation, non-renewal or material change in such policy. (Within three (3) business days of receipt of such notice from the insurance carrier, LPVCWD shall provide a copy of such notice to Northrop Grumman.) Nothing herein shall be interpreted to limit LPVCWD's obligation to maintain the insurance identified above, or the requirement that the policies must be approved by Northrop Grumman in writing prior to the purchase of the policies. The insurance coverages carried by LPVCWD may be maintained in whole or in part in the form of self-insurance by LPVCWD, or in the form of the participation by LPVCWD in a joint powers agency or other program providing pooled insurance.

In the event that any service under this Agreement is to be rendered by persons or third parties other than LPVCWD's employees, LPVCWD shall arrange to furnish Northrop Grumman with evidence of insurance for such persons or third parties subject to the same terms and conditions

as set forth above and applicable to LPVCWD prior to the commencement of service by such person(s) or third parties.

**AMENDMENT NO. 1 TO THE  
AGREEMENT FOR OPERATION SERVICES  
OF A WATER TREATMENT FACILITY**

This Amendment No. 1 (“Amendment”) to the Agreement for Operation Services of a Water Treatment Facility (the “Agreement”) is dated and effective as of \_\_\_\_\_, 2020 by and between La Puente Valley County Water District (“LPVCWD”) and Northrop Grumman Systems Corporation (“Northrop Grumman”).

**SECTION 1            RECITALS**

1.1     On February 22, 2018, the Agreement was entered into and executed between LPVCWD and Northrop Grumman.

1.2     LPVCWD and Northrop seek to amend the Agreement, as set forth below. Except as so amended, the Agreement remains in full force and effect.

**SECTION 2            AMENDMENT**

2.1     Section 5.8 of the Agreement is hereby amended to read as follows:

Northrop Grumman shall pay LPVCWD an annual management fee of \$215,000.00 for the management and administration of the Subject Facilities, which fee shall be increased on an annual basis at a rate of 2% (the “Management Fee”). The Management Fee shall compensate LPVCWD for (a) the time and labor incurred by LPVCWD and certain LPVCWD employees, contractors and consultants pursuant to Exhibit E hereto, and (b) the risks assumed by LPVCWD under this Agreement as described in Exhibit E hereto. The first quarterly installment of the initial Management Fee in the amount of \$53,750.00 shall be paid by Northrop Grumman to LPVCWD on April 1, 2020 in order to compensate LPVCWD for the services described in Exhibit E. Three additional quarterly installment payments of that initial Management Fee, each in the amount of \$53,750.00,



shall be paid thereafter on July 1, 2020, October 1, 2020 and January 1, 2021. Thereafter, the Management Fee shall become payable when the DDW approval for operation of the Subject Facilities is issued to the LPVCWD and paid in accordance with the budget and payment process described in Sections 5.6, 6.1 and 6.2. The Management Fee shall be included in the calculation of the Annual Operating Budget prepared pursuant to Section 5.6. Upon commencement of payment of the Management Fee, LPVCWD shall not separately invoice Northrop Grumman for any services related to the Subject Facilities, except as provided in Section 5.2, below, and Northrop Grumman shall not therefore be obligated to pay, for any of the services described in Exhibit E other than through payment of the Management Fee. If Northrop Grumman is paying the Management Fee, then the only other fees and costs incurred by LPVCWD in operating the Subject Facilities for which Northrop Grumman shall be responsible are reimbursements pursuant to Section 5.2 of this Agreement. The Management Fee shall be paid by Northrop Grumman to LPVCWD in advance in quarterly installments.

IN WITNESS WHEREOF, this Amendment No. 1 has been executed as follows:

LA PUENTE VALLEY COUNTY WATER DISTRICT

\_\_\_\_\_, 2020 \_\_\_\_\_  
By: Greg B. Galindo  
Its: General Manager

NORTHROP GRUMMAN SYSTEMS CORPORATION

\_\_\_\_\_, 2020 \_\_\_\_\_  
By:  
Its:



**RESOLUTION NO. 264**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF  
LA PUENTE VALLEY COUNTY WATER DISTRICT ESTABLISHING A POLICY FOR  
DISCONTINUATION OF RESIDENTIAL WATER SERVICE**

**WHEREAS**, the La Puente Valley County Water District (the "District") is the retail water provider to the residences and businesses within its service area; and

**WHEREAS**, California Health and Safety Code Section 116906 requires each urban and community water system, including the District, to adopt a written policy on discontinuation of residential service for nonpayment, and such written policy must address specified subjects required by law; and

**WHEREAS**, District's Board of desires to adopt the Policy for Discontinuation of Residential Water Service in the form attached to this Resolution in English and as translated into Spanish, Chinese, Korean, Tagalog and Vietnamese in order to comply with the requirements of Health and Safety Code Section 116906.

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Directors of the La Puente Valley County Water District does hereby adopt the attached Policy for Discontinuation of Residential Water Service (the "Policy") as set forth in Exhibit "A" attached hereto and as translated into the required specified languages, which shall be effective the first Residential Water Service billing period after February 15, 2020, and which shall control over any conflicting District rule, regulation or policy.

**ADOPTED, SIGNED AND APPROVED** by the Board of Directors of La Puente Valley County Water District at a duly noticed, open and public meeting held on February 24, 2020.

Ayes:  
Nays:  
Abstains:  
Absent:

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Henry Hernandez, President  
Board of Directors  
La Puente Valley County Water District

ATTEST:

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Greg B. Galindo, Board Secretary

**EXHIBIT A**



## **POLICY ON DISCONTINUATION OF RESIDENTIAL WATER SERVICE FOR NON-PAYMENT**

Notwithstanding any other policy or rule, this Policy on Discontinuation of Residential Water Service for Non-Payment shall apply to the discontinuation of residential water service for non-payment under the provisions set forth herein. In the event of any conflict between this Policy and any other policy or rule, this Policy shall prevail.

**I. Application of Policy; Contact Telephone Number:** This policy shall apply only to residential water service for non-payment and all existing policies and procedures shall continue to apply to commercial and industrial water service accounts. Further assistance concerning the payment of water bills and the potential establishment of the alternatives set forth in this policy to avoid discontinuation of service can be obtained by calling (626) 330-2126.

### **II. Discontinuation of Residential Water Service for Non-Payment:**

A. **Rendering and Payment of Bills:** Bills for water service will be rendered to each consumer on a bi-monthly basis unless otherwise provided for in the rate schedules. Bills for service are due and payable upon presentation and become overdue and subject to discontinuation of service if not paid within sixty (60) days from the date of the bill. Payment may be made at the office, to any representative authorized to make collections or by electronic transmission if feasible. However, it is the consumer's responsibility to assure that payments are received at the specified location in a timely manner. Partial payments are not authorized unless prior approval has been received. Bills will be computed as follows:

1. Meters will be read at regular intervals for the preparation of periodic bills and as required for the preparation of opening bills, closing bills, and special bills.
2. Bills for metered service will show the meter reading for the current and previous meter reading period for which the bill is rendered, the number of units, date, and days of service for the current meter reading.
3. Billings shall be paid in legal tender of the United States of America. Notwithstanding the foregoing, the Supplier shall have the right to refuse any payment of such billings in coin.

B. **Overdue Bills:** The following rules apply to consumers whose bills remain unpaid for more than sixty (60) days following the invoice date:

1. Overdue Notice: If payment for a bill rendered is not made on or before the forty-fifth (45<sup>th</sup>) day following the invoice date, a notice of overdue payment (the “Overdue Notice”) will be mailed to the water service customer at least seven (7) business days prior to the possible discontinuation of service date identified in the Overdue Notice. For purposes of this policy, the term “business days” shall refer to any days on which the Supplier’s office is open for business. If the consumer’s address is not the address of the property to which the service is provided, the Overdue Notice must also be sent to the address of the property served, addressed to “Occupant.” The Overdue Notice must contain the following:

- a) Consumer’s name and address;
- b) Amount of delinquency;
- c) Date by which payment or arrangement for payment must be made in order to avoid discontinuation of service;
- d) Description of the process to apply for an extension of time to pay the amount owing (see Section III(D), below);
- e) Description of the procedure to petition for review and appeal of the bill giving rise to the delinquency (see Section IV, below); and
- f) Description of the procedure by which the consumer can request a deferred, amortized, reduced or alternative payment schedule (see Section III, below).

The Supplier may alternatively provide notice to the consumer of the impending discontinuation of service by telephone. If that notice is provided by telephone, the Supplier shall offer to provide the consumer with a copy of this policy and also offer to discuss with the consumer the options for alternative payments, as described in Section III, below, and the procedures for review and appeal of the consumer’s bill, as described in Section IV, below.

2. Unable to Contact Consumer: If the Supplier is not able to contact the consumer by written notice (e.g., a mailed notice is returned as undeliverable) or by telephone, the Supplier will make a good faith effort to visit the residence and leave, or make other arrangements to place in a conspicuous location, a notice of imminent discontinuation of service for non-payment, and a copy of this Policy.

3. Late Charge: A Late Charge, as specified in the Supplier’s schedule of fees and charges, shall be assessed and added to the outstanding balance on the consumer’s account if the amount owing on that account is not paid before the Overdue Notice is generated.

4. Turn-Off Deadline: Payment for water service charges must be received in the Supplier's offices no later than 4:30 p.m. on the date specified in the Overdue Notice. Postmarks are not acceptable.

5. Notification of Returned Check: Upon receipt of a returned check rendered as remittance for water service or other charges, the Supplier will consider the account not paid. The Supplier will attempt to notify the consumer in person and leave a notice of termination of water service at the premises. Water service will be disconnected if the amount of the returned check and returned check charge are not paid by the due date specified on the notice, which due date shall not be sooner than the date specified in the Overdue Notice; or if an Overdue Notice had not been previously provided, no sooner than the sixtieth (60<sup>th</sup>) day after the invoice for which payment by the returned check had been made. To redeem a returned check and to pay a returned check charge, all amounts owing must be paid by cash or certified funds.

6. Returned Check Tendered as Payment for Water Service Disconnected for Nonpayment:

a) If the check tendered and accepted as payment which resulted in restoring service to an account that had been disconnected for nonpayment is returned as non-negotiable, the Supplier may disconnect said water service upon at least three (3) calendar days' written notice. The consumer's account may only be reinstated by receipt of outstanding charges in the form of cash or certified funds. Once the consumer's account has been reinstated, the account will be flagged for a one-year period indicating the fact that a non-negotiable check was issued by the consumer.

b) If at any time during the one year period described above, the consumer's account is again disconnected for nonpayment, the Supplier may require the consumer to pay cash or certified funds to have that water service restored.

C. Conditions Prohibiting Discontinuation: The Supplier shall not discontinue residential water service if all of the following conditions are met:

1. Health Conditions – The consumer or tenant of the consumer submits certification of a primary care provider that discontinuation of water service would (i) be life threatening, or (ii) pose a serious threat to the health and safety of a person residing at the property;

2. Financial Inability – The consumer demonstrates he or she is financially unable to pay for water service within the water system's normal billing cycle. The consumer is deemed "financially unable to pay"

if any member of the consumer's household is: (i) a current recipient of the following benefits: CalWORKS, CalFresh, general assistance, Medi-Cal, SSI/State Supplementary Payment Program or California Special Supplemental Nutrition Program for Women, Infants and Children; or (ii) the consumer declares the household's annual income is less than 200% of the federal poverty level (see this link for the federal poverty levels applicable in California: <https://www.healthforcalifornia.com/covered-california/income-limits>); and

3. Alternative Payment Arrangements – The consumer is willing to enter into an amortization agreement, alternative payment schedule or a plan for deferred or reduced payment, consistent with the provisions of Section III, below.

D. Process for Determination of Conditions Prohibiting Discontinuation of Service: The burden of proving compliance with the conditions described in Subdivision (C), above, is on the consumer. In order to allow the Supplier sufficient time to process any request for assistance by a consumer, the consumer is encouraged to provide the Supplier with the necessary documentation demonstrating the medical issues under Subdivision (C)(1), financial inability under Subdivision (C)(2) and willingness to enter into any alternative payment arrangement under Subdivision (C)(3) as far in advance of any proposed date for discontinuation of service as possible. Upon receipt of such documentation, the Supplier's General Manager, or his or her designee, shall review that documentation and respond to the consumer within seven (7) calendar days to either request additional information, including information relating to the feasibility of the available alternative arrangements, or to notify the consumer of the alternative payment arrangement, and terms thereof, under Section III, below, in which the Supplier will allow the consumer to participate. If the Supplier has requested additional information, the consumer shall provide that requested information within five (5) calendar days of receipt of the Supplier's request. Within five (5) calendar days of its receipt of that additional information, the Supplier shall either notify the consumer in writing that the consumer does not meet the conditions under Subdivision (C), above, or notify the consumer in writing of the alternative payment arrangement, and terms thereof, under Section III, below, in which the Supplier will allow the consumer to participate. Consumers who fail to meet the conditions described in Subdivision (C), above, must pay the delinquent amount, including any penalties and other charges, owing to the Supplier within the latter to occur of: (i) two (2) business days after the date of notification from the Supplier of the Supplier's determination the consumer failed to meet those conditions; or (ii) the date of the impending service discontinuation, as specified in the Overdue Notice.

E. Special Rules for Low Income Consumers: Consumers are deemed to have a household income below 200% of the federal poverty line if: (i) any member of the customer's household is a current recipient of the following benefits: CalWORKS, CalFresh, general assistance, Medi-Cal, SSI/State Supplementary Payment Program or California Special Supplemental Nutrition Program for Women, Infants and Children; or (ii) the consumer declares the household's annual income is less than 200% of the federal

poverty level (see this link for the federal poverty levels applicable in California: <https://www.healthforcalifornia.com/covered-california/income-limits>). If a consumer demonstrates either of those circumstances, then the following apply:

1. Reconnection Fees: If service has been discontinued and is to be reconnected, then any reconnection fees during the Supplier's normal operating hours cannot exceed \$50, and reconnection fees during non-operational hours cannot exceed \$150. Those fees cannot exceed the actual cost of reconnection if that cost is less than the statutory caps. Those caps may be adjusted annually for changes in the Consumer Price Index for the Los Angeles-Long Beach-Anaheim metropolitan area beginning January 1, 2021.
2. Interest Waiver: The Supplier shall not impose any interest charges on delinquent bills.

F. Landlord-Tenant Scenario: The below procedures apply to individually metered detached single-family dwellings, multi-unit residential structures and mobile home parks where the property owner or manager is the customer of record and is responsible for payment of the water bill.

1. Required Notice:
  - a. At least 10 calendar days prior if the property is a multi-unit residential structure or mobile home park, or 7 calendar days prior if the property is a detached single-family dwelling, to the possible discontinuation of water service, the Supplier must make a good faith effort to inform the tenants/occupants at the property by written notice that the water service will be discontinued.
  - b. The written notice must also inform the tenants/occupants that they have the right to become customers to whom the service will be billed (see Subdivision 2, below), without having to pay any of the then delinquent amounts.
2. Tenants/Occupants Becoming Customers:
  - a. The Supplier is not required to make service available to the tenants/occupants unless each tenant/occupant agrees to the terms and conditions for service and meets the Supplier's requirements and rules.
  - b. However, if (i) one or more of the tenants/occupants assumes responsibility for subsequent charges to the account to the Supplier's satisfaction, or (ii) there is a physical means to selectively discontinue service to those tenants/occupants who have not met the Supplier's requirements, then the Supplier may make service available only to those tenants/occupants who have met the requirements.



c. If prior service for a particular length of time is a condition to establish credit with the Supplier, then residence at the property and proof of prompt payment of rent for that length of time, to the Supplier's satisfaction, is a satisfactory equivalent.

d. If a tenant/occupant becomes a customer of the Supplier and the tenant's/occupant's rent payments include charges for residential water service where those charges are not separately stated, the tenant/occupant may deduct from future rent payments all reasonable charges paid to the Supplier during the prior payment period.

**III. Alternative Payment Arrangements:** For any consumer who meets the three conditions under Section II(C), above, in accordance with the process set forth in Section II(D), above, the Supplier shall offer the consumer one or more of the following alternative payment arrangements, to be selected by the Supplier in its discretion: (i) amortization of the unpaid balance under Subdivision (A), below; (ii) alternative payment schedule under Subdivision (B), below; (iii) partial or full reduction of unpaid balance under Subdivision (C), below; or (iv) temporary deferral of payment under Subdivision (D), below. The General Manager, or his or her designee, shall, in the exercise of reasonable discretion, select the most appropriate alternative payment arrangement after reviewing the information and documentation provided by the consumer and taking into consideration the consumer's financial situation and Supplier's payment needs.

A. Amortization: Any consumer who is unable to pay for water service within the normal payment period and meets the three conditions under Section II(C), above, as the Supplier shall confirm, may, if the Supplier has selected this alternative, enter into an amortization plan on the following terms:

1. Term: The consumer shall pay the unpaid balance, with the administrative fee and interest as specified in Subdivision (2), below, over a period not to exceed twelve (12) months, as determined by the General Manager or his or her designee; provided, however, that the General Manager or his or her designee, in their reasonable discretion, may apply an amortization term of longer than twelve (12) months to avoid undue hardship on the consumer. The unpaid balance, together with the applicable administrative fee and any interest to be applied, shall be divided by the number of months in the amortization period and that amount shall be added each month to the consumer's ongoing monthly bills for water service.

2. Administrative Fee; Interest: For any approved amortization plan, the consumer will be charged an administrative fee, in the amount established by the Supplier from time to time, representing the cost of initiating and administering the plan. At the discretion of the General Manager or his or her designee, interest at an annual rate not to exceed

eight percent (8%) shall be applied to any amounts to be amortized under this Subsection A.

3. Compliance with Plan: The consumer must comply with the amortization plan and remain current as charges accrue in each subsequent billing period. The consumer may not request further amortization of any subsequent unpaid charges while paying delinquent charges pursuant to an amortization plan. Where the consumer fails to comply with the terms of the amortization plan for sixty (60) calendar days or more, or fails to pay the consumer's current service charges for sixty (60) calendar days or more, the Supplier may discontinue water service to the consumer's property at least five (5) business days after posting at the consumer's residence a final notice of its intent to discontinue service.

B. Alternative Payment Schedule: Any consumer who is unable to pay for water service within the normal payment period and meets the three conditions under Section II(C), above, as the Supplier shall confirm, may, if the Supplier has selected this alternative, enter into an alternative payment schedule for the unpaid balance in accordance with the following:

1. Repayment Period: The consumer shall pay the unpaid balance, with the administrative fee and interest as specified in Subdivision (2), below, over a period not to exceed twelve (12) months, as determined by the General Manager or his or her designee; provided, however, that the General Manager or his or her designee, in their reasonable discretion, may extend the repayment period for longer than twelve (12) months to avoid undue hardship on the consumer.

2. Administrative Fee; Interest: For any approved alternative payment schedule, the consumer will be charged an administrative fee, in the amount established by the Supplier from time to time, representing the cost of initiating and administering the schedule. At the discretion of the General Manager or his or her designee, interest at an annual rate not to exceed eight percent (8%) shall be applied to any amounts to be paid under this Subsection B.

3. Schedule: After consulting with the consumer and considering the consumer's financial limitations, the General Manager or his or her designee shall develop an alternative payment schedule to be agreed upon with the consumer. That alternative schedule may provide for periodic lump sum payments that do not coincide with the established payment date, may provide for payments to be made more frequently than monthly, or may provide that payments be made less frequently than monthly, provided that in all cases, subject to Subdivision (1), above, the unpaid balance and administrative fee shall be paid in full within twelve (12) months of establishment of the payment schedule. The agreed upon schedule shall be set forth in writing and be provided to the consumer.

4. Compliance with Plan: The consumer must comply with the agreed upon payment schedule and remain current as charges accrue in each subsequent billing period. The consumer may not request a longer payment schedule for any subsequent unpaid charges while paying delinquent charges pursuant to a previously agreed upon schedule. Where the consumer fails to comply with the terms of the agreed upon schedule for sixty (60) calendar days or more, or fails to pay the consumer's current service charges for sixty (60) calendar days or more, the Supplier may discontinue water service to the consumer's property at least five (5) business days after posting at the consumer's residence a final notice of its intent to discontinue service.

C. Reduction of Unpaid Balance: Any consumer who is unable to pay for water service within the normal payment period and meets the three conditions under Section II(C), above, as the Supplier shall confirm, may, if the Supplier has selected this alternative, receive a reduction of the unpaid balance owed by the consumer, not to exceed thirty percent (30%) of that balance without approval of and action by the Board of Directors; provided that any such reduction shall be funded from a source that does not result in additional charges being imposed on other customers. The proportion of any reduction shall be determined by the consumer's financial need, the Supplier's financial condition and needs and the availability of funds to offset the reduction of the consumer's unpaid balance.

1. Repayment Period: The consumer shall pay the reduced balance by the due date determined by the General Manager or his or her designee, which date (the "Reduced Payment Date") shall be at least fifteen (15) calendar days after the effective date of the reduction of the unpaid balance.

2. Compliance with Reduced Payment Date: The consumer must pay the reduced balance on or before the Reduced Payment Date, and must remain current in paying in full any charges that accrue in each subsequent billing period. If the consumer fails to pay the reduced payment amount within sixty (60) calendar days after the Reduced Payment Date, or fails to pay the consumer's current service charges for sixty (60) calendar days or more, the Supplier may discontinue water service to the consumer's property at least five (5) business days after posting at the consumer's residence a final notice of its intent to discontinue service.

D. Temporary Deferral of Payment: Any consumer who is unable to pay for water service within the normal payment period and meets the three conditions under Section II(C), above, as the Supplier shall confirm, may, if the Supplier has selected this alternative, have payment of the unpaid balance temporarily deferred for a period of up to six (6) months after the payment is due. The Supplier shall determine, in its discretion, how long of a deferral shall be provided to the consumer.

1. Repayment Period: The consumer shall pay the unpaid balance by the deferral date (the “Deferred Payment Date”) determined by the General Manager or his or her designee. The Deferral Payment Date shall be within twelve (12) months from the date the unpaid balance became delinquent; provided, however, that the General Manager or his or her designee, in their reasonable discretion, may establish a Deferred Payment Date beyond that twelve (12) month period to avoid undue hardship on the consumer.

2. Compliance with Reduced Payment Date: The consumer must pay the reduced balance on or before the Deferred Payment Date, and must remain current in paying in full any charges that accrue in each subsequent billing period. If the consumer fails to pay the unpaid payment amount within sixty (60) calendar days after the Deferred Payment Date, or fails to pay the consumer’s current service charges for sixty (60) calendar days or more, the Supplier may discontinue water service to the consumer’s property at least five (5) business days after posting at the consumer’s residence a final notice of its intent to discontinue service.

**IV. Appeals**: The procedure to be used to appeal the amount set forth in any bill for residential water service is set forth below. A consumer shall be limited to three (3) unsuccessful appeals in any twelve (12) month period and if that limit has been reached, the Supplier is not required to consider any subsequent appeals commenced by or on behalf of that consumer.

A. Initial Appeal: Within ten (10) days of receipt of the bill for water service, the consumer has a right to initiate an appeal or review of any bill or charge. Such request must be made in writing and be delivered to the Supplier’s office. For so long as the consumer’s appeal and any resulting investigation is pending, the Supplier cannot discontinue water service to the consumer.

B. Overdue Notice Appeal: In addition to the appeal rights provided under Subsection A, above, any consumer who receives an Overdue Notice may request an appeal or review of the bill to which the Overdue Notice relates at least five business (5) days after the date of the Overdue Notice if the consumer alleges the bill is in error with respect to the quantity of water consumption set forth on that bill; provided, however, that no such appeal or review rights shall apply to any bill for which an appeal or request for review under Subsection A, above, has been made. Any appeal or request for review under this Subsection B must be in writing and must include documentation supporting the appeal or the reason for the review. The request for an appeal or review must be delivered to the Supplier’s office within that five (5) business day period. For so long as the consumer’s appeal and any resulting investigation is pending, the Supplier cannot discontinue water service to the consumer.

C. Appeal Hearing: Following receipt of a request for an appeal or review under Subsections A or B, above, a hearing date shall be promptly set before the General Manager, or his or her designee (the “Hearing Officer”). After evaluation of the evidence provided by the consumer and the information on file with the Supplier concerning the

water charges in question, the Hearing Officer shall render a decision as to the accuracy of the water charges set forth on the bill and shall provide the appealing consumer with a brief written summary of the decision.

1. If water charges are determined to be incorrect, the Supplier will provide a corrected invoice and payment of the revised charges will be due within ten (10) calendar days of the invoice date for revised charges. If the revised charges remain unpaid for more than sixty (60) calendar days after the corrected invoice is provided, water service will be disconnected, on the next regular working day after expiration of that sixty (60) calendar day period; provided that the Supplier shall provide the consumer with the Overdue Notice in accordance with Section II(B)(1), above. Water service will only be restored upon full payment of all outstanding water charges, fees, and any and all applicable reconnection charges.

2. (a) If the water charges in question are determined to be correct, the water charges are due and payable within two (2) business days after the Hearing Officer's decision is rendered. At the time the Hearing Officer's decision is rendered, the consumer will be advised of the right to further appeal before the Board of Directors. Any such appeal must be filed in writing within seven (7) calendar days after the Hearing Officer's decision is rendered if the appeal or review is an initial appeal under Subdivision A above, or within three (3) calendar days if the appeal or review is an Overdue Notice appeal under Subdivision B, above. The appeal hearing will occur at the next regular meeting of the Board of Directors, unless the consumer and Supplier agree to a later date.

(b) For an initial appeal under Subdivision A, above, if the consumer does not timely appeal to the Board of Directors, the water charges in question shall be immediately due and payable. In the event the charges are not paid in full within sixty (60) calendar days after the original billing date, then the Supplier shall provide with the Overdue Notice in accordance with Section II(B)(1), above, and may proceed in potentially discontinuing service to the consumer's property.

(c) For an Overdue Notice appeal under Subdivision B, above, if the consumer does not timely appeal to the Board of Directors, then water service to the subject property may be discontinued on written or telephonic notice to the consumer to be given at least twenty-four (24) hours after the latter to occur of: (i) expiration of the original sixty (60) calendar day notice period set forth in the Overdue Notice; or (ii) the expiration of the appeal period.

3. When a hearing before the Board of Directors is requested, such request shall be made in writing and delivered to the Supplier at its office. The consumer will be required to personally appear before the Board and present evidence and reasons as to why the water charges on the bill in

question are not accurate. The Board shall evaluate the evidence presented by the consumer, as well as the information on file with the Supplier concerning the water charges in question, and render a decision as to the accuracy of said charges.

a) If the Board finds the water charges in question are incorrect, the consumer will be invoiced for the revised charges. If the revised charges remain unpaid for more than sixty (60) calendar days after the corrected invoice is provided, water service will be disconnected, on the next regular working day after expiration of that sixty (60) calendar day period; provided that the Supplier shall provide the consumer with the Overdue Notice in accordance with Section II(B)(1), above. Water service will be restored only after outstanding water charges and any and all applicable reconnection charges are paid in full.

b) If the water charges in question are determined to be correct, the water charges are due and payable within two (2) business days after the decision of the Board is rendered. In the event the charges are not paid in full within sixty (60) calendar days after the original billing date, then the Supplier shall provide with the Overdue Notice in accordance with Section II(B)(1), above, and may proceed in potentially discontinuing service to the consumer's property.

c) Any overcharges will be reflected as a credit on the next regular bill to the consumer, or refunded directly to the consumer, at the sole discretion of the Board.

d) Water service to any consumer shall not be discontinued at any time during which the consumer's appeal to the Supplier or its Board of Directors is pending.

e) The Board's decision is final and binding.

**V. Restoration of Service:** In order to resume or continue service that has been discontinued due to non-payment, the consumer must pay a security deposit and a Reconnection Fee established by the Supplier, subject to the limitation set forth in Section II(E)(1), above. The Supplier will endeavor to make such reconnection as soon as practicable as a convenience to the consumer. The Supplier shall make the reconnection no later than the end of the next regular working day following the consumer's request and payment of any applicable Reconnection Fee.

**NOTICES INCLUDED:**

- NOTICE OF PAYMENT DELINQUENCY AND IMPENDING DISCONTINUATION
  - One notice is always to be mailed to customer address. Where customer address differs from address of impending service termination a second notice should be mailed to the address of impending service termination and addressed to “occupant.”
- FINAL NOTICE OF SERVICE PAYMENT DELINQUENCY AND IMPENDING DISCONTINUATION

**Notes:**

- Notices are to be provided in English, Spanish, Chinese, Korean, Vietnamese and Tagalog. Additionally, they should be provided in any other language spoken by 10 percent or more of the customers in the urban and community water system’s service area. (*see* SB 998 §116922).
- Not included below are separate notices for when the District is unable to contact a consumer. When the District is unable to contact a consumer by telephone or when a mailed notice is rendered undeliverable, the District should post a copy of the NOTICE OF PAYMENT DELINQUENCY AND IMPENDING DISCONTINUATION addressed to “occupant” as well as a copy of the District Policy on Discontinuation of Residential Water Service for Non-Payment in a conspicuous location at the residence where water service is to be terminated.

NOTICE OF PAYMENT DELINQUENCY AND IMPENDING DISCONTINUATION  
WATER SERVICE TO BE TURNED OFF  
10-Day Notification

Date of Notice \_\_\_\_\_  
Date of Turn-Off \_\_\_\_\_  
Address of Service Termination  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Customer Name: \_\_\_\_\_  
Account Number: \_\_\_\_\_  
Customer Address:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Amount of Delinquency: \_\_\_\_\_  
Late Charge: \_\_\_\_\_  
Account's Total Outstanding Balance: \_\_\_\_\_

Water service to the service address stated above is scheduled to be discontinued on the date of turn-off stated above (the "Turn-Off Date") for non-payment. To avoid the loss of water service, you must do one of the following before Turn-Off Date: (a) pay the delinquent amount, including any late fees and other charges, in full on or before \_\_\_\_\_ p.m. on the Turn-Off Date; (b) if you are a tenant and your landlord has failed to pay the water bill, you can become a customer responsible for the account going forward if you follow the steps described below; or (c) make an alternative payment arrangement as set forth below.

**Tenant Occupants (applicable only to residential tenants):**

To avoid the loss of water service as a tenant, you must contact your landlord, property manager or property owner regarding payment of the water bill.

Also, as a tenant you have a right to become a customer responsible for the account. However, if you do this you will become responsible for all future billings for the water used at this property. If you meet our requirements to become a new customer and agree to comply with our rules and regulations, which may include the payment of a deposit, the water service will be continued without requiring you to pay the current outstanding balance.

Please call our customer service representative at \_\_\_\_\_ to learn how to continue water service at your address, receive an estimated monthly cost of water service and obtain our office address, where you can speak to a customer service representative in person.

**Requesting Extension or Alternative Payment Arrangement:**

As a consumer, you have the right to request alternative payment arrangements regarding the current account balance, which will be granted at our discretion. To qualify for alternative payment arrangements, you must provide proof of meeting **all three** of the following requirements prior to the Turn-Off Date:

- (1) **Health Conditions** – you must provide certification from a primary care provider that discontinuation of water service would be life-threatening to, or pose a serious threat to the health and safety of, any person who lives at the property;
- (2) **Financial Inability** – you must demonstrate you are financially unable to pay by: (a) presenting a document that shows any member of your household is a current recipient of one of the following benefits: CalWORKS, CalFresh, general assistance, MediCal, SSI/State Supplementary Payment Program or California Special Supplemental Nutrition Program for Women, Infants and Children; or (b) declaring



that your household's annual income is less than 200% of the federal poverty level;  
and

- (3) **Alternative Payment Arrangements** – you must indicate your willingness to enter into an amortization agreement, alternative payment schedule or a plan for deferred or reduced payment.

Documentation must be submitted to our office. To allow sufficient time for processing requests for alternative payments, you should return all required documentation as soon as possible.

Upon timely receipt of proof of qualification and after confirmation thereof, we will promptly contact you to request any necessary additional information or to notify you of the alternative payment arrangement, and corresponding terms, for which you are selected to participate. Possible alternative payment arrangements that we may select, in our sole discretion, include: (1) amortization of the unpaid balance; (2) alternative payment schedules; (3) partial or full reduction of unpaid balance; or (4) temporary deferral of payment.

Bill Review and Appeal Process:

If no prior appeal or request for review of a bill has been made, you may request an appeal or review of the bill to which this notice relates if you allege the bill is in error with respect to the quantity of water consumption set forth on that bill. Appeals and requests for review must be in writing and must include documentation supporting the appeal or reason for review. All appeals or requests for review must be delivered to our office within five (5) business days of the date of this notice.

Upon receipt of an appeal or request for review, our General Manager or his or her designee will render a decision as to the accuracy of the water charges and provide you with a written summary of the decision. If charges are found to be incorrect, a corrected invoice will be issued and payment of revised charges will be due within ten (10) calendar days of the revised invoice date. Charges determined to be correct are due and payable two (2) business days after the General Manager's or designee's decision is rendered. You may appeal that decision to our Board of Directors. To file an appeal before the Board of Directors, you must file such appeal in writing and deliver it to our office within seven (7) calendar days after the General Manager's or designee's initial decision is rendered. This subsequent appeal will be heard at the next regular meeting of the Board of Directors, unless a later date is agreed upon.

A hard-copy of our Policy on Discontinuation of Residential Water Service for Non-Payment is available upon request. It is also available electronically at \_\_\_\_\_ .com.

FINAL NOTICE OF SERVICE PAYMENT DELINQUENCY AND IMPENDING  
DISCONTINUATION  
WATER SERVICE TO BE TURNED OFF  
5-Business Day Notification

Date of Notice: \_\_\_\_\_

Date of Turn-Off: \_\_\_\_\_

Customer Name: \_\_\_\_\_

Account Number: \_\_\_\_\_

Address of Impending Service Termination

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Water service to this address is scheduled to be discontinued in five (5) business days for one of the following reasons:

- (a) Customer has failed to comply with an amortization agreement, an alternative payment schedule, or a deferral or reduction in payment plan for delinquent charges for 60 days or more; or
- (b) While undertaking an amortization agreement, an alternative payment schedule, or a deferral or reduction in payment plan for delinquent charges, the customer has failed to pay his or her current residential service charges for 60 days or more.

Tenant Occupants (applicable only to residential tenants):

To avoid the loss of water service as a tenant, you must contact your landlord, property manager or property owner regarding the above referenced delinquencies.

Also, as a tenant you have a right to become a customer responsible for the account. However, if you do this you will become responsible for all future billings for the water used at this property. If you meet our requirements to become a new customer and agree to comply with our rules and regulations, which may include the payment of a deposit, the water service will be continued without requiring you to pay the current outstanding balance.

Please call our customer service representative at \_\_\_\_\_ to learn how to continue water service at your address, receive an estimated monthly cost of water service and obtain the office address where you can speak to a customer service representative in person.



**TETRA TECH**

February 14, 2020

Mr. Greg Galindo  
La Puente Valley County Water District  
112 N. First Street  
La Puente, CA 91744

**Reference: La Puente Valley County Water District Recycled Water Project  
Recycled Water Customer Retrofit Support Services Proposal**

Dear Mr. Galindo:

Tetra Tech is submitting this proposal to provide Recycled Water Customer Retrofit support services for the end users of the above referenced recycled water project. Tetra Tech completed the design of the La Puente Valley County Water District's (La Puente VCWD) Recycled Water Project – Phase 1 in October 2019 and we recently provided Bid Phase Support Services funded by the Upper San Gabriel Valley Municipal Water District (Upper District) by agreement with La Puente VCWD. Our current authorizations do not include Recycled Water Site Retrofit Support Services based on the Agreement between Upper District and La Puente VCWD.

The following paragraphs summarize our proposal to prepare recycled water retrofit regulatory drawings and provide general support for the La Puente VCWD RW Project.

## **RECYCLED WATER CUSTOMER RETROFIT SUPPORT SERVICES**

### **Item 1 – Prepare Recycled Water Retrofit Regulatory Drawings**

Tetra Tech will prepare the required recycled water site retrofit drawings for submittal to the Los Angeles County Department of Public Health (LA County DPH) and the Sanitation Districts of Los Angeles County (LACSD). These drawings are required for approval for the use of the recycled water and prior to conversion of the existing properties irrigation systems to safely use recycled water in lieu of the current potable water supplied to the irrigation systems.

Recycled water retrofit drawings quality depends greatly on the information provided for the existing sites for including in the retrofit drawings. Tetra Tech assumes that site plans will be available for showing the existing buried plumbing and irrigation facilities accurately for both recycled water retrofits. If site plans are not available, our assumed effort may not be adequate for preparing drawings within the hours estimated.

Tetra Tech will prepare RW site retrofit plans for regulatory approval of the following property:

Southern California Edison (SCE)

We have assumed a maximum of one (1) day (4 hours) to visit the site to note key existing irrigation system components and plumbing system connections. We will also note the location of the existing water meters and backflow devices found serving the property. We assume La Puente VCWD will provide a complete meter list (potable and irrigation meters) for the site to help expedite our site investigation work. We have also assumed a maximum of one (1) meeting (6 hours max) for performing the final site shutdown tests with LA County DPH.

**Tetra Tech, Inc.**

17885 Von Karman Avenue, Suite 500, Irvine, CA 92614-6213  
Tel 949.809.5000 Fax 949.809.5010 [www.tetrattech.com](http://www.tetrattech.com)

Our proposal assumes the following five (5) DPH RW Retrofit Drawings will be prepared:

SCE

1. Title Sheet
2. Site Plan
3. Site Details
4. Miscellaneous Details
5. DPH Standard Notes Sheet

The retrofit drawings will use available aerial photography and LA County property information as the base map, and the plumbing and irrigation system components will be overlaid in color. Drawings will be schematic in nature, and not coordinate correct. The findings of the field investigation will be shown on the *draft* retrofit drawings before submittal to La Puente VCWD and the Site owners for review. Any comments or markups received will be addressed before submitting final drawings to LA County DPH and LACSD.

Tetra Tech will prepare two (2) sets of full-size color drawings with an electronic copy on USB drive for submitting to LA County DPH. We will also submit the drawings to LACSD for their review and approval. LACSD will be provided with electronic files only. All DPH plan check application fees (\$1,791 per site) are to be paid by La Puente Valley County Water District and not included in our fee.

**Item 2 – Provide Recycled Water Retrofit Regulatory Support**

Tetra Tech will support La Puente Valley County Water District with the on-site retrofit process for their RW system expansion customers, including but not limited to: review site owner prepared/provided RW retrofit regulatory drawings for typical regulatory compliance prior to LA County DPH plan check submittal; perform site visits; perform cross connection test (initial or final); and other DPH coordination required. This work will be “as-requested” by the General Manger of La Puente VCWD and be based on a time and materials basis, not-to-exceed the total contract amount listed below.

**PROJECT SCHEDULE**

Tetra Tech Project Team is ready to start the work immediately, and will work with La Puente Valley County Water District to complete the RW retrofit drawings per the below estimated schedule:

Notice to Proceed (NTP)	February 21, 2020
Site Inspections	March 4, 2020
Submit Draft Retrofit Plans	April 8, 2020
Receive comments from LPVCWD & Site Owners	April 16, 2020
Submit DPH Regulatory Drawings	May 1, 2020

If the above NTP date cannot not held, we will try to hold the durations between milestones to the extent that scheduling of meetings and review periods are held by others. Tetra Tech does not control the duration of drawing reviews. Our estimated scope assumes only minor comments and revisions to the draft retrofit drawings.

Mr. Greg Galindo  
February 14, 2020  
Page 3

## **BUDGET**

The above scope of services is our best guess for recycled water retrofit drawing preparation that may be required based on past similar retrofit sites.

Tetra Tech will perform the above recycled water customer retrofit services on a time and material basis while not exceeding the approved budget.

Item 1 – Prepare Retrofit Drawings (SCE)	\$ 10,000
Item 2 – Provide RW Retrofit Regulatory Support (as-needed)	<u>\$ 20,000</u>
<b>Total Estimated Budget</b>	<b>\$ 30,000</b>

For reference, we have attached our person-hour estimate per task for this work and our Hourly Rate Sheet.

If you have any questions or require additional information, please do not hesitate to call me at 949-809-5156.

Sincerely,



Tom Epperson, P.E.  
Project Manager

TE/ch

M:\Management\WTRS\Drafts\Cory\LPVCWD\Recycled Water Retrofit Proposal.docx  
Attachments

**La Puente Valley County Water District**  
 Recycled Water Project - Phase 1  
 Recycled Water Retrofit Design Services  
 Fee Proposal

Task Description							Fees		TOTALS
	Senior Project Manager	Project Manager	Design Engineer 3	Senior CADD	WP	Total Hours	Labor	Sub-Contractors Re-imbursables	
<b>Item Recycled Water Retrofit Drawings</b>									
1 Prepare RW Retrofit Drawings (SCE)	2	16	20	26	0	64	\$9,638	\$362	\$10,000
2 Provide RW Retrofit Support as needed	6	85	0	0	0	91	\$19,680	\$320	\$20,000
Budget Request	8	101	20	26	0	155	\$29,318	\$682	\$30,000
<b>TOTAL</b>	<b>8</b>	<b>101</b>	<b>20</b>	<b>26</b>	<b>0</b>	<b>155</b>	<b>\$29,318</b>	<b>\$682</b>	<b>\$30,000</b>



2019

HOURLY CHARGE RATE AND EXPENSE REIMBURSEMENT SCHEDULE

Project Management		Construction	
Project Manager 1	\$210.00	Construction Project Rep 1	\$78.00
Project Manager 2	\$240.00	Construction Project Rep 2	\$85.00
Sr Project Manager	\$305.00	Sr Constr Project Rep 1	\$100.00
Program Manager	\$305.00	Sr Constr Project Rep 2	\$115.00
Principal in Charge	\$340.00	Construction Manager 1	\$165.00
		Construction Manager 2	\$185.00
		Construction Director	\$233.00
Engineers		General & Administrative	
Engineering Technician	\$37.00	Project Assistant 1	\$67.00
Engineer 1	\$96.00	Project Assistant 2	\$75.00
Engineer 2	\$115.00	Project Administrator	\$95.00
Engineer 3	\$130.00	Sr Project Administrator	\$110.00
Project Engineer 1	\$140.00	Graphic Artist	\$130.00
Project Coordinator	\$165.00	Technical Writer 1	\$97.00
Project Engineer 2	\$165.00	Technical Writer 2	\$124.00
Sr Engineer 1	\$170.00	Sr Technical Writer	\$155.00
Sr Engineer 2	\$175.00		
Sr Engineer 3	\$210.00		
Principal Engineer	\$300.00		
Planners		Information Technology	
Planner 1	\$104.00	Systems Analyst / Programmer 1	\$77.00
Planner 2	\$115.00	Systems Analyst / Programmer 2	\$115.00
Sr Planner 1	\$125.00	Sr Sys Analyst / Programmer 1	\$130.00
Sr Planner 2	\$151.00	Sr Systems Analyst / Programmer 2	\$196.00
Sr Planner 3	\$175.00		
Designers & Technicians		Project Accounting	
CAD Technician 1	\$65.00	Project Analyst 1	\$90.00
CAD Technician 2	\$75.00	Project Analyst 2	\$114.00
CAD Technician 3	\$90.00	Sr Project Analyst	\$155.00
CAD Designer	\$100.00		
Sr CAD Designer 1	\$118.00	Reimbursable In-House Costs:	
Sr CAD Designer 2	\$130.00	Photo Copies (B&W 8.5"x11")	\$ 0.15/Each
CAD Director	\$150.00	Photo Copies (B&W 11"x17")	\$ 0.40/Each
Survey Tech 1	\$50.00	Color Copies (up to 8.5"x11")	\$ 2.00/Each
		Color Copies (to 11"x17")	\$ 3.00/Each
		Compact Discs	\$10/each
		Large format copies	\$0.40 S.F.
		Mileage-Company Vehicle	\$0.80/mile
		Mileage-POV	\$0.55/mile*
		*current GSA POV mileage rate subject to change	
Health & Safety			
H&S Administrator	\$95.00		
Sr H&S Administrator	\$115.00		
H&S Manager	\$145.00		

All other direct costs, such as production, special photography, postage, delivery services, overnight mail, printing and any other services performed by subcontractor will be billed at cost plus 15%.



# Upcoming Events

To: Honorable Board of Directors

Date: 02/24/2020

Re: Upcoming Board Approved Meetings and Conferences for 2020.

Day/Date	Event	<u>Barajas</u>	<u>Escalera</u>	<u>Hastings</u>	<u>Hernandez</u>	<u>Rojas</u>
Thursday February 27, 2020	SCWUA Luncheon Sheraton, Pomona Fairplex		X			
Friday March 6, 2020	Grace Napolitano Roundtable Discussion with Water & Community Leaders on Critical Issues. 10:00 a.m – 12:00 p.m.					
Tuesday -Thursday April 7 – 9, 2020	AWWA CA/NV 2020 Spring Conference Disneyland Hotel, Anaheim, CA					
Thursday April 16, 2020	San Gabriel Valley Water Forum Hilton San Gabriel Hotel, San Gabriel 7:30 a.m – 1:45 p.m.		X			
Saturday April 18, 2020	Kiwani's La Puente Car Show (non- compensable)		X			
Wednesday - Thursday, May 6 - 7, 2020	ACWA 2020 Spring Conference Monterey Conference Center, Monterey, CA	X	X	X	X	X
Monday – Wednesday June 15 – 17, 2020	AWWA ACE 2020 Annual Conference Orange County Convention Center, Orlando, FL				X	
Tuesday – Thursday August 25 - 27, 2020	California Special Districts Association CSDA 2020 Annual Conference, Palm Desert, CA		X			
Wednesday-Thursday Sept 30 – Oct 1, 2020	Watersmart Innovations Conference South Point Hotel and Conference Center, Las Vegas, NV		X			
Tuesday-Thursday October 27-29, 2020	AWWA CA/NV 2020 Annual Fall Conference Rio Hotel, Las Vegas, NV		X			
Wednesday - Friday, December 2 -4, 2020	ACWA 2020 Fall Conference, Indian Wells		X			
TBD	SCWUA – Christmas Luncheon at the Sheraton at Pomona Fairplex					