AGENDA
SAN ELIJO JOINT POWERS AUTHORITY
MONDAY, JANUARY 14, 2019 AT 8:30 AM
SAN ELIJO WATER RECLAMATION FACILITY – CONFERENCE ROOM
2695 MANCHESTER AVENUE
CARDIFF BY THE SEA, CALIFORNIA

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1. CALL TO ORDER

2. ROLL CALL

3. PLEDGE OF ALLEGIANCE

4. ORAL COMMUNICATIONS (NON-ACTION ITEM)

5. AWARDS AND RECOGNITION

    - Casey Larsen, SCADA Manager, 10 Years of Service

6. * **CONSENT CALENDAR**

7. * APPROVAL OF MINUTES FOR DECEMBER 10, 2018 MEETING

8. * APPROVAL FOR PAYMENT OF WARRANTS AND MONTHLY INVESTMENT REPORTS

9. * SAN ELIJO WATER RECLAMATION FACILITY TREATED EFFLUENT FLOWS – MONTHLY REPORT

10.* SAN ELIJO JOINT POWERS AUTHORITY RECYCLED WATER PROGRAM – MONTHLY REPORT

11.* ADOPT THE PROPOSED MITIGATED NEGATIVE DECLARATION ADDENDUM FOR UPGRADES AT THE SAN ELIJO WATER RECLAMATION FACILITY

12. * ITEMS REMOVED FROM CONSENT CALENDAR

Items on the Consent Calendar are routine matters and there will be no discussion unless an item is removed from the Consent Calendar. Items removed by a "Request to Speak" form from the public will be handled immediately following adoption of the Consent Calendar. Items removed by a Board Member will be handled as directed by the Board.

REGULAR AGENDA

13. ELECTION OF OFFICERS AND SCHEDULE OF BOARD MEETINGS

1. Appoint the Chairperson and Vice Chairperson for the 2019 Board of Directors;

2. Select the regular meeting dates and time for 2019; and

3. Discuss and take action as appropriate.

Staff Reference: Director of Finance and Administration

14. PRELIMINARY TREATMENT AND ODOR CONTROL UPGRADES PROJECT

1. Authorize General Manager to increase the Preliminary Treatment and Odor Control Upgrades project budget by $250,000; and

2. Authorize General Manager to amend the professional services agreement with Black & Veatch for an additional amount not to exceed $41,175; and

3. Authorize General Manager to amend the professional services agreement with Dudek for an additional amount not to exceed $28,050; and

4. Discuss and take action as appropriate.

Staff Reference: General Manager

15. CAPITAL IMPROVEMENT PROGRAM UPDATE

No action required. This memorandum is submitted for information only.

Staff Reference: General Manager

16. GENERAL MANAGER'S REPORT

Informational report by the General Manager on items not requiring Board action.

17. GENERAL COUNSEL'S REPORT

Informational report by the General Counsel on items not requiring Board action.

18. BOARD MEMBER COMMENTS

This item is placed on the agenda to allow individual Board Members to briefly convey information to the Board or public, or to request staff to place a matter on a future agenda and/or report back on any matter. There is no discussion or action taken on comments by Board Members.

19. CLOSED SESSION

The Board will adjourn to Closed Session to discuss item(s) identified below. Closed Session is not open to the public; however, an opportunity will be provided at this time if members of the public would like to comment on any item listed below. (Three minute limit.) A closed session may be held at any time during this meeting of the San Elijo Joint Powers Authority for the purposes of discussing potential or pending litigation or other appropriate matters pursuant to the "Ralph M. Brown Act".

- CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION. Significant exposure to litigation pursuant to Gov. Code section 54956.9(d)(2);
- CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION. Initiation of litigation pursuant to Gov. Code section 54956.9(d)(4).

20. ADJOURNMENT

The next regularly scheduled San Elijo Joint Powers Authority Board Meeting will be Monday, February 11, 2019 at 8:30 a.m.

NOTICE:

The San Elijo Joint Powers Authority's open and public meetings meet the protections and prohibitions contained in Section 202 of the Americans With Disabilities Act of 1990 (42 U.S.C Section 12132), and the federal rules and regulations adopted in implementation thereof. Any person with a disability who requires a modification or accommodation, including auxiliary aids or services, in order to participate in a public meeting of the SEJPA Board of Directors may request such modification or accommodation from Michael T. Thornton, General Manager, (760) 753-6203 ext. 72.

The agenda package and materials related to an agenda item submitted after the packet's distribution to the Board is available for public review in the lobby of the SEJPA Administrative Office during normal business hours. Agendas and minutes are available at www.sejpa.org. The SEJPA Board meetings are held on the second Monday of the month, except August.

AFFIDAVIT OF POSTING

I, Michael T. Thornton, Secretary of the San Elijo Joint Powers Authority, hereby certify that I posted, or have caused to be posted, a copy of the foregoing agenda in the following locations:

San Elijo Water Reclamation Facility, 2695 Manchester Avenue, Cardiff, California
City of Encinitas, 505 South Vulcan Avenue, Encinitas, California
City of Solana Beach, 635 South Highway 101, Solana Beach, California

The notice was posted at least 72 hours prior to the meeting, in accordance with Government Code Section 54954.2(a).

Date: January 9, 2019

Michael T. Thornton, P.E.
Secretary / General Manager

SAN ELIJO JOINT POWERS AUTHORITY
MINUTES OF THE REGULAR BOARD MEETING
HELD ON DECEMBER 10, 2018
AT THE
SAN ELIJO WATER RECLAMATION FACILITY

Tasha Boerner Horvath, Chair — David Zito, Vice Chair

A regular meeting of the Board of Directors of the San Elijo Joint Powers Authority (SEJPA) was held Monday, December 10, 2018, at 8:30 a.m., at the San Elijo Water Reclamation Facility at 2695 Manchester Avenue, Cardiff by the Sea, California.

1. CALL TO ORDER

Vice Chair Zito called the meeting to order at 8:30 a.m.

2. ROLL CALL

Directors Present:	David Zito Joe Mosca Peter Zahn
Directors Absent:	None
Others Present:	
General Manager	Michael Thornton
Director of Finance & Administration	Paul Kinkel
Director of Operations	Chris Trees
Administrative Assistant/Board Clerk	Jennifer Basco
SEJPA Counsel:	
Procopio, Cory, Hargreaves & Savitch	Greg Moser
City of Encinitas:	
Public Works Management Analyst	Bill Wilson
City of Solana Beach:	
City Manager	Greg Wade
Director of Engineering/Public Works	Mohammad “Mo” Sammak
The Pun Group, LLC	Kenneth H. Pun, CPA, CGMA

3. PLEDGE OF ALLEGIANCE

Vice Chair Zito led the Pledge of Allegiance.

4. ORAL COMMUNICATIONS

None

5. AWARDS AND RECOGNITION

General Manager Michael Thornton congratulated Michael J. Bardin, General Manager of Santa Fe Irrigation District on his retirement and thanked him for his work with SEJPA. Mr. Thornton also recognized Board Members Peter Zahn and Tasha Boerner Horvath for their service to SEJPA.

6. CONSENT CALENDAR

Moved by Board Member Mosca and seconded by Board Member Zahn to approve the Consent Calendar.

Agenda Item No. 7	Approval of Minutes for the October 8, 2018 Meeting
Agenda Item No. 8A	Approval for Payment of Warrants and Monthly Investment Report (19-11)
Agenda Item No. 8B	Approval for Payment of Warrants and Monthly Investment Report (19-12)
Agenda Item No. 9A	San Elijo Water Reclamation Facility Treated Effluent Flows – Monthly Report (September)
Agenda Item No. 9B	San Elijo Water Reclamation Facility Treated Effluent Flows – Monthly Report (October)
Agenda Item No. 10A	San Elijo Joint Powers Authority Recycled Water Program – Monthly Report (September)
Agenda Item No. 10B	San Elijo Joint Powers Authority Recycled Water Program – Monthly Report (October)
Agenda Item No. 11	Authorization for Intensive Monitoring Agreement
Agenda Item No. 12	Purchase of Reverse Osmosis Membranes

Motion carried with the following vote of approval:

AYES:	Zito, Mosca, Zahn
NOES	None
ABSENT:	None
ABSTAIN:	None

13. ITEMS REMOVED FROM CONSENT CALENDAR

None

14. FISCAL YEAR 2017-18 FINANCIAL AUDIT ACCEPTANCE

Paul Kinkel, Director of Finance and Administration presented the Fiscal Year 2017-18 Audit to the Board of Directors. Mr. Kinkel introduced Ken Pun from The Pun Group to give an overview of the audit findings. Mr. Pun provided his firm's opinion that the financial statements are presented fairly, in all material aspects, and are prepared in accordance with generally accepted accounting principles (GAAP) and the Government Accounting Standards Board (GASB). In addition, Mr. Pun stated that the financial statement disclosures are neutral, consistent, and clear, there were no difficulties or disagreements with staff or management, and there were no corrected or uncorrected misstatements. Mr. Pun briefly outlined his audit approach to the Board of Directors, reviewed the financials and statement of cash flows, and then answered Board Member questions.

Moved by Board Member Mosca and seconded by Board Member Zahn to:

1. Accept and file the Fiscal Year 2017-18 Audited Financial Statements for the San Elijo Joint Powers Authority; and

2. Accept and file the Fiscal Year 2017-18 SAS 114 Letter.

Motion carried with the following vote of approval:

AYES:	Zito, Mosca, Zahn
NOES	None
ABSENT:	None
ABSTAIN:	None

15. SAN ELIJO JOINT POWERS AUTHORITY END OF YEAR REVIEW OF THE FISCAL YEAR 2017-18 OPERATING AND DEBT SERVICE EXPENSES

Paul Kinkel, Director of Finance and Administration provided a financial review for Fiscal Year 2017-18. Overall, the SEJPA was below budget by $250,479 or 4.1% for all programs. Wastewater Treatment, Pump Stations, Ocean Outfall, and other service programs were under budget by $194,016 or 4.2%. The Recycled Water expenditures were $56,463 or 3.8% under budget. SEJPA accrued $50,000 for the PARS Section 115 Trust for the exclusive use to fund the CalPERS retirement plan unfunded actuarial liability or pension expense.

No action required. This memorandum was submitted for information only.

16. BUILDING & SITE IMPROVEMENT PROJECT – APPROVAL OF PROFESSIONAL SERVICE AND CALTRANS CONSTRUCTION CONTRIBUTION AGREEMENTS

The General Manager gave a brief background on the Building and Site Improvement Project. In June 2018, the SEJPA Board of Directors authorized staff to pursue the development of the Project using the delivery method of Construction Management at Risk (CMAR) coupled with a financial structure of a lease-purchase agreement. Staff advertised the project in August 2018 and pre-qualified three firms based on construction expertise, qualifications, and experience with similar projects. Staff then

advertised a request for proposal from the pre-qualified firms, and two of the three qualified firms proposed. The proposal submitted by PCL Construction, Inc. was selected based on their proposed approach, project team, and overall value. The development of the project is anticipated to be completed in two stages: Stage 1 "Design Services" and Stage 2 "Construction Services". Kennedy/Jenks was retained by SEJPA to serve as the owner's advisor for project development. Staff is requesting Kennedy/Jenks to serve as the owner's advisor for Stage 1. Stage 1 of Lease-Purchase Agreement with PCL Construction, Inc. is for an amount of $138,972. Kennedy/Jenks fee for Stage 1 owner's advisor support is $69,900. Staff and Caltrans reached agreement for construction cost contribution for funding by Caltrans of up to $4.2 million. The 2017 Revenue Bond Fund balance is available for this project.

Moved by Board Member Zahn and seconded by Board Member Mosca to:

1. Authorize the General Manager to execute a professional service agreement with PCL Construction, Inc. for an amount not to exceed $138,972;

2. Authorize the General Manager to amend professional service agreement with Kennedy/Jenks Consultants as the Owner's Representative for an amount not to exceed $69,900; and

3. Approve Caltrans Construction Contribution Agreement for $4.2 million for Bike/Pedestrian Trail.

Motion carried with the following vote of approval:

AYES:	Zito, Mosca, Zahn
NOES	None
ABSENT:	None
ABSTAIN:	None

17. GENERAL MANAGER'S REPORT

The General Manager informed the Board of Directors the staff intends to apply for grant funding through the Proposition 1 – Round 1 IRWM grant program for storm water and potable reuse projects.

18. GENERAL COUNSEL'S REPORT

None

19. BOARD MEMBER COMMENTS

Board Member Zahn thanked the Board Members and staff for their service to the community.

20. CLOSED SESSION

The Board of Directors adjourned to closed session at 9:35 a.m., pursuant to the following Government Code Sections:

- CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION. Significant exposure to litigation pursuant to Gov. Code section 54956.9(d)(2): 1 matter;

- CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION. Initiation of litigation pursuant to Gov. Code section 54956.9(d)(4): 1 matter; and

The Board of Directors came out of closed session at 9:45 a.m., with no reportable action.

21. ADJOURNMENT

The meeting adjourned at 9:46 a.m. The next Board of Directors meeting will be held on Monday, January 14, 2019 at 8:30 a.m.

Respectfully submitted,

Michael T. Thornton, P.E.
General Manager

SAN ELIJO JOINT POWERS AUTHORITY
PAYMENT OF WARRANTS
19-01
For the Months November and December 2018

Warrant #	Vendor Name	G/L Account	Warrant Description	Amount
36515	Aflac	EE Deduction Benefits	Aflac - December	643.60
36516	All American First Aid & Safety	Supplies - Safety	Nitrile gloves	321.63
36517	Atlas Pumping Service Inc.	Services - Grease & Scum	Grease and scum pumping and roll-off	2,801.88
36518	B+B Smartworx	Repair Parts Expense	4G router and power supply	672.88
36519	Barrett Engineered Pumps	Repair Parts Expense	Connection and union nut kit	437.47
36520	Boot World, Inc.	Uniforms - Boots	Safety boots	179.39
36521	Brenntag Pacific, Inc.	Supplies - Chemicals	Sodium hydroxide	2,183.25
36522	CA Assoc. of Sanitary Agencies	Dues & Memberships	Agency membership	13,370.00
36523	Complete Office	Supplies - Office	Office supplies	196.80
36524	Day & Night Power Sweeping	Services - Maintenance	Power sweeping service	620.00
36525	Dudek & Associates	Services - Engineering	CMAR and preliminary treatment upgrades	16,990.53
36526	EDCO Waste & Recycling Service	Utilities - Trash	November service	242.75
36527	City of Encinitas	Service - IT Support	Admin network	2,625.00
36528	Evantec Lab Supply	Supplies - Lab	Tubes and filters	693.81
36529	Frankie Abeyta	Dues & Memberships	Wastewater treatment exam	120.00
36530	Fuscoe Engineering	Services - Professional	Grading and drainage	10,700.00
36531	gafcon	Services - Professional	Encinitas Ranch RW project	365.00
36532	Gierlich Mitchell, Inc.	Capital Outlay	Wear strips	4,585.26
36533	Grainger, Inc.	Repair Parts Expense	Valve - Boiler	505.95
36534	GTT Communications	Utilities - Internet	T-1 service - January	355.24
36535	Housing &Community Development	Licenses	Renewals - Commercial modular	84.00
36536	Idexx Distribution, Inc.	Supplies - Lab	Laboratory supplies	617.60
36537	The Lawton Group	Services - Intern Program	Weeks worked - 11/05/18 - 11/25/18	832.50
36538	Lee's Lock & Safe	Services - Maintenance	Repair and replace lock	208.33
36539	Lizbeth Ecke	Licenses	Temporary construction access	750.00
36540	McMaster-Carr Supply Co.	Shop Tools and Equip.	Tools, plumbing parts, pressure gauge	2,464.52
36541	MetLife - Group Benefits	Dental/Vision	Dental - December	1,861.15
36542	Pacific Pipeline Supply	Repair Parts Expense	Gaskets and flanges	865.21
36543	Preferred Benefit Insurance	Dental/Vision	Vision - December	315.60
36544	ProBuild Company, LLC	Supplies - Safety	Repair parts, safety supplies, and tools	79.86
36545	ReadyRefresh	Supplies - Lab	Kitchen and lab supplies	256.27
36546	Santa Fe Irrigation District	Utilities - Water	Recycled water	1,536.36
36547	San Dieguito Trophy	Board Expense	Service awards	154.62
36548	Southland Manufacturing, Inc.	Supplies - Shop & Field	Silt fence	277.73
36549	State Water Resources Control	Dues & Memberships	Operator certification	60.00
36550	SWRCB	Fees - Permits	Annual permit fees	16,347.00
36551	SWRCB	Fees - Permits	Annual permit fees	23,326.00
36552	Christopher A. Trees	Subsistence - Meals	Laboratory consultant	35.71
36553	Unifirst Corporation	Services - Uniforms	Uniform service	221.26
36554	Underground Service Alert/SC	Services - Alarm	Dig alert - November	153.55
36555	USA Bluebook	Shop Tools and Equip.	pH meter	840.93
36556	Vantagepoint Transfer Agents	EE Deduction Benefits	ICMA - 457	7,351.72
36557	Vantagepoint Transfer Agents	ICMA Retirement	ICMA - 401a	3,544.79
36558	Volt Management Corp	Services - Intern Program	Periods end - 10/26/18 - 11/30/18	4,237.29
36559	VWR International, Inc.	Supplies - Lab	Laboratory supplies	374.04
36560	Woodard & Curran	Services - Professional	Stormwater opportunities study	6,552.64
36561	Water Environment Federation	Dues & Memberships	Membership	20.00
On-line 141	Chevron & Texaco Business Card	Fuel	November	225.98
On-line 142	Public Employees - Retirement	Retirement Plan - PERS	Retirement - 11/17/18 - 11/30/18	13,494.10
On-line 143	San Diego Gas & Electric	Utilities - Gas & Electric	Gas and electric - 10/04/18 - 11/05/18	56,347.03
36562	Ag Tech, LLC	Services - Biosolids Hauling	Biosolids hauling - November	13,895.79
36563	Albertsons Companies	Services - Medical	Vaccine	34.00
36564	All American First Aid & Safety	Supplies - Safety	First aid supplies	134.09
36565	AMETEK Arizona Instrument	Services - Maintenance	Manifold and sensor assembly	1,769.59
36566	AT&T	Utilities - Telephone	Phone service - 11/13/18 - 12/12/18	396.73
36567	AT&T	Utilities - Telephone	Alarm service - December	409.56
36568	Atlas Pumping Service Inc.	Services - Grease & Scum	Grease and scum pumping, grit and screenings	1,858.76
36569	Black & Veatch	Services - Management	Solids treatment process	8,876.25
36570	Brenntag Pacific, Inc.	Supplies - Chemicals	Sodium hydroxide	1,386.93
36571	Burtech Pipeline, Inc.	Services - Contractors	Encinitas Ranch RW project; Leucadia and Quail	470,839.04
36572	Carollo Engineers	Services - Engineering	ARC flash and protection study	2,719.40

SAN ELIJO JOINT POWERS AUTHORITY
PAYMENT OF WARRANTS
19-01
For the Months November and December 2018

Warrant #	Vendor Name	G/L Account	Warrant Description	Amount
36573	Complete Office	Supplies - Office	Various supplies	130.51
36574	Corodata	Rent	Record storage - November	91.83
36575	D&H Water Systems	Supplies - Chemicals	Acetate buffer	487.55
36576	Dudek & Associates	Services - Professional	ESDC-preliminary treatment upgrades; ER RW projec	21,898.25
36577	Duperon Corporation	Equipment Rental/Lease	Washer compactor	4,848.75
36578	E & M Electric & Machinery, Inc.	Licenses	SCADA technical support	8,430.00
36579	Encina Wastewater Authority	Service - EWA Support	Resource sharing - HR and safety	1,073.40
36580	Evantec Lab Supply	Supplies - Lab	Laboratory supplies	948.09
36581	J.R. Filanc Construction Co.	Services - Contractors	Final payment	450,000.00
36582	Flo-Systems, Inc.	Capital Outlay	Spiral shaft	10,409.73
36583	Forte of San Diego	Services - Janitorial	Janitorial	2,000.00
36584	gafcon	Services - Professional	Labor compliance - Encinitas Ranch RW project	503.50
36585	Global Power Group Inc.	Services - Maintenance	Controller	567.00
36586	Golden State Overnight	Postage/Shipping	Water samples	33.42
36587	Hardy Diagnostics	Supplies - Lab	Deionized water	710.04
36588	Idexx Distribution, Inc.	Supplies - Lab	Laboratory supplies	735.99
36589	Kemira Water Solutions, Inc.	Supplies - Chemicals	Ferric chloride	5,317.53
36590	Kennedy/Jenks Consultants	Services - Engineering	CMAR-owner representative	13,491.78
36591	Kimley-Horn & Associates, Inc.	Services - Professional	As needed services	34,355.41
36592	Casey Larsen	Subsistence - Travel	Mileage - SWMOA training	13.40
36593	The Lawton Group	Services - Intern Program	Weeks worked - 11/26/18 - 12/09/18	740.00
36594	Lizbeth Ecke	Licenses	Temporary construction access	750.00
36595	McMaster-Carr Supply Co.	Repair Parts Expense	PVC clear tubing	206.84
36596	MetLife - Group Benefits	Dental/Vision	Dental - January	1,935.56
36597	Nash Fabricators	Repair Parts Expense	Special angle fitting	2,143.15
36598	The Nyhart Company	Services - Accounting	Pension and OPEB actuarial valuations	1,450.00
36599	Olin Corp - Chlor Alkali	Supplies - Chemicals	Sodium hypochlorite	3,572.69
36600	Olivenhain Municipal Water District	Rent	Pipeline rental payment	8,595.00
36601	OneSource Distributors, Inc.	Repair Parts Expense	Plumbing parts	1,323.99
36602	Pacific Green Landscape	Services - Landscape	December	2,625.00
36603	Pacific Pipeline Supply	Supplies - Shop & Field	Protective coating	367.19
36604	Polydyne Inc.	Supplies - Chemicals	Clarifloc	1,241.36
36605	Procopio Cory Hargreaves	Services - Legal	Labor & employment; General - November	8,090.02
36606	ReadyRefresh	Supplies - Lab	Kitchen and lab supplies	329.82
36607	Roesling Nakamura Terada Architects	Services - Professional	Building design	2,180.00
36608	Rohan & Sons, Inc.	Services - Maintenance	November	385.00
36609	Rusty Wallis, Inc.	Services - Maintenance	Water softener, exchange tanks, and salt bags	137.32
36610	Ryan Herco Products Corp.	Repair Parts Expense	Press gauge	225.26
36611	Sabarco Thermal Solutions	Repair Parts Expense	Air to air cabinet cooler	1,955.58
36612	San Diego Union Tribune	Advertising	Legal notices inviting bids	1,308.94
36613	San Dieguito Water District	Utilities - Water	Recycled water	1,426.76
36614	San Dieguito Water District	Utilities - Water	Recycled water	1,421.16
36615	Sigma-Aldrich	Supplies - Lab	Laboratory supplies	373.78
36616	Southland Manufacturing, Inc.	Supplies - Shop & Field	Screened sand	154.84
36617	Southwest Valve & Equip.	Repair Parts Expense	Eccentric plug valve	2,998.88
36618	Sunbelt Rentals	Equipment Rental/Lease	Diesel driven stand-by pump	1,991.43
36619	Terminix Processing Center	Services - Maintenance	Pest control	382.00
36620	Test America	Services - Laboratory	Testing water samples	1,240.50
36621	TNEMEC Company Inc.	Supplies - Shop & Field	Paint	900.28
36622	Christopher A. Trees	Subsistence - Travel	Mileage - RAC meeting	19.51
36623	Trussell Technologies, Inc.	Services - Engineering	RO membrane replacement; MR and RO training	7,017.00
36624	Unifirst Corporation	Services - Uniforms	Uniform service	324.82
36625	USA Bluebook	Repair Parts Expense	Cable clamps	1,047.23
36626	Vantagepoint Transfer Agents	EE Deduction Benefits	ICMA - 457	7,351.41
36627	Vantagepoint Transfer Agents	ICMA Retirement	ICMA - 401a	3,544.79
36628	Verizon Wireless	Utilities - Telephone	11/11/18 - 12/10/18	310.69
36629	Volt Management Corp	Services - Intern Program	Periods end - 12/07/18 and 12/14/18	1,945.80
36630	VWR International, Inc.	Supplies - Lab	Laboratory supplies	721.09
36631	WageWorks	Payroll Processing Fees	Admin and compliance fee	128.75
On-line 144	BankCard Center	Vehicle Maintenance	Office supplies, repairs, and workshops	2,966.34
On-line 145	Chevron & Texaco Business Card	Fuel	December	860.01

SAN ELIJO JOINT POWERS AUTHORITY
PAYMENT OF WARRANTS
19-01
For the Months November and December 2018

Warrant #	Vendor Name	G/L Account	Warrant Description	Amount
On-line 146	P.E.R.S.	Medical Insurance - Pers	Health - January	21,699.33
On-line 147	Public Employees - Retirement	Retirement Plan - PERS	Retirement - 12/01/18 - 12/14/18	13,494.10
On-line 148	Sun Life Financial	Life Insurance/Disability	Life and disability insurance - January	1,752.13
	San Elijo Payroll Account	Payroll	Payroll - 12/07/2018	71,843.73
	San Elijo Payroll Account	Payroll	Payroll - 12/21/2018	70,344.77
	San Elijo Payroll Account	Payroll	Payroll - 01/04/2019	76,810.84
				$1,593,047.24

SAN ELIJO JOINT POWERS AUTHORITY

PAYMENT OF WARRANTS SUMMARY

For the Months November and December 2018
As of January 4, 2019

PAYMENT OF WARRANTS		$ 1,593,047.24
Reference Number	19-01	

I hereby certify that the demands listed and covered by warrants are correct and just to the best of my knowledge, and that the money is available in the proper funds to pay these demands. The cash flows of the SEJPA, including the Member Agency commitment in their operating budgets to support the operations of the SEJPA, are expected to be adequate to meet the SEJPA's obligations over the next six months. I also certify that the SEJPA's investment portfolio complies with the SEJPA's investment policy.

Paul F. Kinkel
Director of Finance & Administration

STATEMENT OF FUNDS AVAILABLE FOR PAYMENT OF WARRANTS
AND INVESTMENT INFORMATION
As of January 4, 2019

FUNDS ON DEPOSIT WITH		AMOUNT
LOCAL AGENCY INVESTMENT FUND		
(NOVEMBER 2018 YIELD 2.208%)		
RESTRICTED SRF RESERVE	$	630,000.00
UNRESTRICTED DEPOSITS	$	7,401,561.09
CALIFORNIA BANK AND TRUST		
(NOVEMBER 2018 YIELD 0.01%)		
REGULAR CHECKING	$	113,501.88
PAYROLL CHECKING	$	5,000.00
UNION BANK - TRUSTEE (BOND FUNDS)		
BLACKROCK	$	1,962,859.28
(NOVEMBER 2018 YIELD 2.10%)		
LAIF	$	16,552,843.60
(NOVEMBER 2018 YIELD 2.208%)		
TOTAL RESOURCES	$	26,665,765.85

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AGENDA ITEM NO. 9

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

January 14, 2019

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: SAN ELIJO WATER RECLAMATION FACILITY TREATED EFFLUENT FLOWS – MONTHLY REPORT

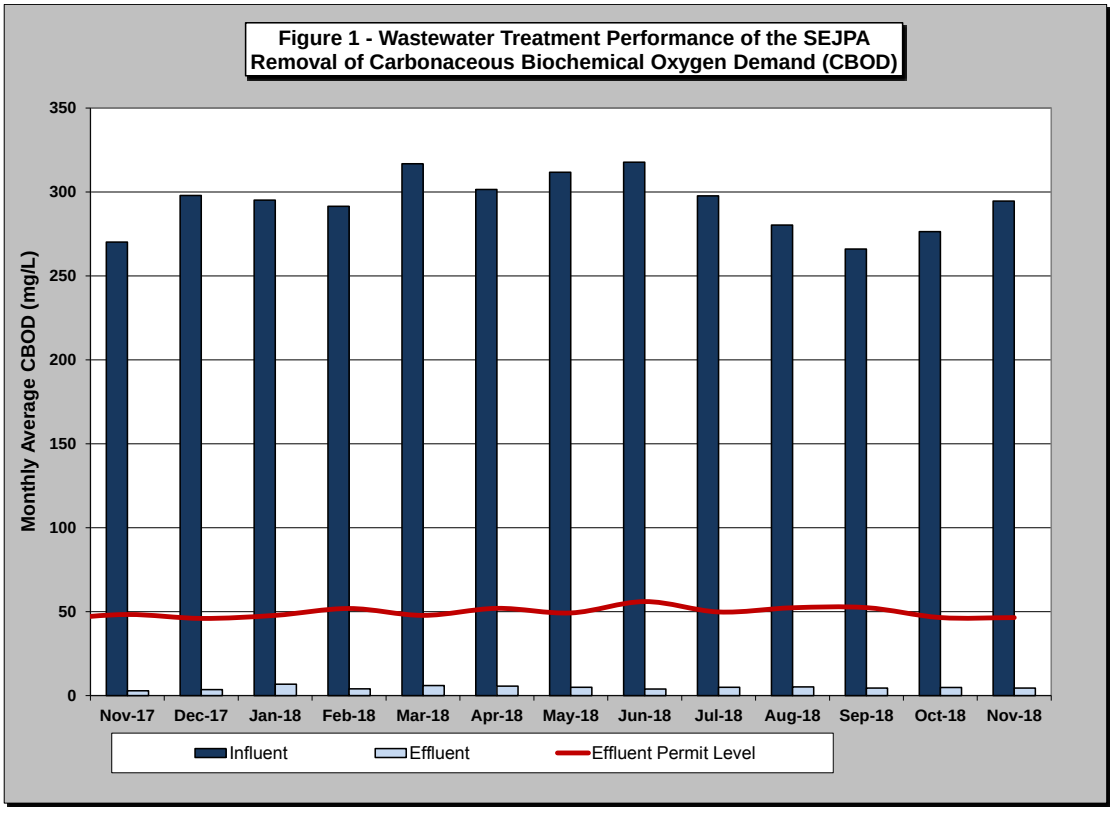
RECOMMENDATION

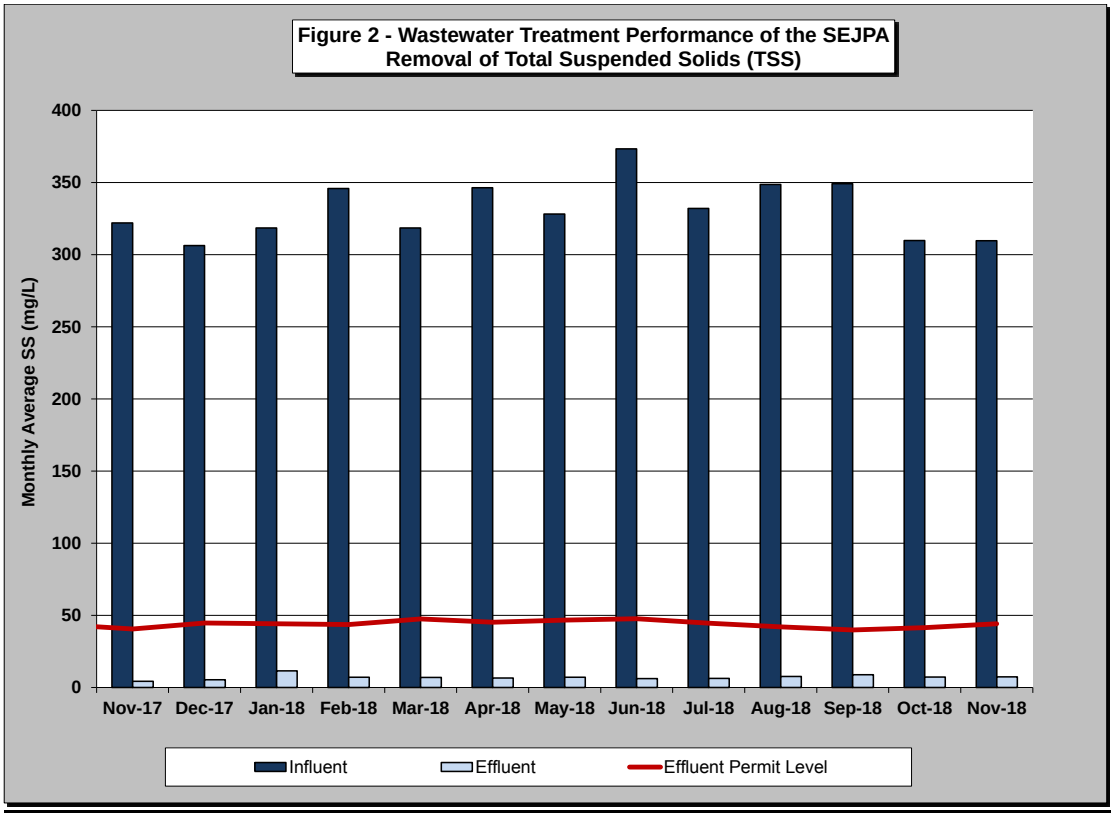
No action required. This memorandum is submitted for information only.

DISCUSSION

Monthly Treatment Plant Performance and Evaluation

Wastewater treatment for the San Elijo Joint Powers Authority (SEJPA) met all National Pollutant Discharge Elimination System (NPDES) ocean effluent limitation requirements for the month of November 2018. The primary indicators of treatment performance include the removal of Carbonaceous Biochemical Oxygen Demand (CBOD) and Total Suspended Solids (TSS). The SEJPA is required to remove a minimum of 85 percent of the CBOD and TSS from the wastewater. Treatment levels for CBOD and TSS were 98.5 and 97.6 percent removal, respectively, (as shown in Figure 1 and Figure 2).





Member Agency Flows

Presented below are the influent and effluent flows for the month of November. Average daily influent flows were recorded for each Member Agency. Total effluent flow was calculated for the San Elijo Water Reclamation Facility. The City of Del Mar wastewater flow was diverted to the City of San Diego from November 6 to December 11, 2018 due to draining of the Del Mar Fairgrounds ponds into the sewer system. The pond water had elevated levels of chlorides that had the potential to upset the treatment process at the San Elijo Water Reclamation Facility.

	November	
	Influent (mgd)	**Effluent (mgd)***
Cardiff Sanitary Division	1.173	0.495
City of Solana Beach	0.906	0.383
Rancho Santa Fe SID	0.121	0.051
City of Del Mar	0.064	0.027
Total San Elijo WRF Flow	**2.264**	**0.956**

* Effluent is calculated by subtracting the recycled water production from the influent wastewater.

Table 1 (below) presents the historical average, maximum, and unit influent and effluent flow rates per month for each of the Member Agencies during the past 5 years. It also presents the number of connected Equivalent Dwelling Units (EDUs) for each of the Member Agencies during this same time period.

TABLE 1 - SAN ELIJO WATER RECLAMATION FACILITY MONTHLY REPORT - FLOWS AND EDUS

	AVERAGE DAILY INFLUENT FLOW RATE (MGD)					AVERAGE DAILY EFFLUENT FLOW RATE (MGD)					CONNECTED EDUs					AVERAGE UNIT INFLUENT FLOW RATE (GAL/EDU/DAY)				
MONTH	CSD	RSF CSD	SB	DM	TOTAL PLANT	CSD	RSF CSD	SB	DM	TOTAL PLANT	CSD EDUS	RSF CSD EDUS	SB EDUS	DM	TOTAL EDUS	CSD	RSF	SB	DM	TOTAL PLANT
Jul-13	1.366	0.144	1.269		2.779	0.482	0.050	0.448		0.980	8,309	493	7,728		16,530	164	292	164		168
Aug-13	1.342	0.168	1.258		2.768	0.380	0.048	0.356		0.784	8,311	494	7,728		16,533	161	340	163		167
Sep-13	1.343	0.117	1.193		2.653	0.403	0.036	0.358		0.797	8,311	494	7,728		16,533	162	237	154		160
Oct-13	1.319	0.132	1.184		2.635	0.629	0.063	0.565		1.257	8,314	494	7,728		16,536	159	267	153		159
Nov-13	1.348	0.133	1.194		2.675	0.932	0.092	0.826		1.850	8,315	494	7,728		16,537	162	270	155		162
Dec-13	1.341	0.134	1.191		2.666	1.030	0.103	0.915		2.048	8,316	494	7,728		16,538	161	272	154		161
Jan-14	1.322	0.135	1.194		2.651	0.851	0.087	0.768		1.706	8,318	495	7,728		16,541	159	273	155		160
Feb-14	1.314	0.127	1.172		2.613	0.954	0.093	0.851		1.898	8,323	495	7,728		16,546	158	257	152		158
Mar-14	1.339	0.134	1.185		2.658	0.858	0.086	0.760		1.704	8,324	496	7,728		16,548	161	270	153		161
Apr-14	1.326	0.128	1.128		2.582	0.449	0.043	0.382		0.874	8,328	498	7,728		16,554	159	257	146		156
May-14	1.353	0.124	1.127		2.604	0.159	0.015	0.132		0.306	8,333	498	7,728		16,559	162	249	146		157
Jun-14	1.341	0.126	1.188		2.655	0.207	0.020	0.183		0.410	8,333	498	7,728		16,559	161	253	154		160
Jul-14	1.271	0.130	1.307		2.708	0.232	0.024	0.239		0.495	8,338	499	7,728		16,565	152	261	169		163
Aug-14	1.228	0.130	1.298		2.656	0.227	0.024	0.239		0.490	8,345	500	7,728		16,573	147	260	168		160
Sep-14	1.215	0.113	1.232		2.560	0.211	0.019	0.214		0.444	8,351	500	7,728		16,579	145	226	159		154
Oct-14	1.204	0.114	1.198		2.516	0.394	0.038	0.392		0.824	8,353	500	7,728		16,581	144	228	155		152
Nov-14	1.237	0.118	1.198		2.553	0.667	0.063	0.646		1.376	8,354	502	7,728		16,584	148	235	155		154
Dec-14	1.323	0.147	1.229		2.699	1.163	0.129	1.081		2.373	8,355	502	7,728		16,585	158	293	159		163
Jan-15	1.253	0.130	1.232		2.615	0.984	0.102	0.967		2.053	8,359	503	7,977		16,838	150	259	154		155
Feb-15	1.229	0.132	1.228		2.589	0.757	0.081	0.757		1.595	8,361	504	7,977		16,841	147	262	154		154
Mar-15	1.269	0.135	1.231		2.635	0.583	0.062	0.566		1.211	8,365	504	7,977		16,846	152	268	154		156
Apr-15	1.183	0.124	1.196		2.503	0.350	0.036	0.354		0.740	8,366	504	7,977		16,847	141	246	150		149
May-15	1.209	0.117	1.149		2.475	0.545	0.053	0.518		1.116	8,367	505	7,977		16,848	144	232	144		147
Jun-15	1.287	0.113	1.052		2.452	0.362	0.032	0.296		0.690	8,369	506	7,977		16,852	154	224	132		146
Jul-15	1.282	0.110	1.176		2.568	0.392	0.034	0.359		0.785	8,370	510	8,003		16,883	153	216	147		152
Aug-15	1.264	0.095	1.087		2.446	0.315	0.023	0.271		0.609	8,371	510	8,003		16,884	151	186	136		145
Sep-15	1.256	0.105	1.001		2.362	0.457	0.038	0.364		0.859	8,372	511	8,003		16,885	150	206	125		140
Oct-15	1.243	0.106	1.002		2.351	0.681	0.058	0.549		1.288	8,373	511	8,003		16,886	148	208	125		139
Nov-15	1.250	0.100	0.994		2.344	0.792	0.063	0.630		1.485	8,376	511	8,003		16,889	149	196	124		139
Dec-15	1.266	0.107	1.016		2.389	0.971	0.082	0.780		1.833	8,377	511	8,003		16,891	151	210	127		141
Jan-16	1.342	0.131	1.037		2.510	1.189	0.116	0.918		2.223	8,380	511	8,003		16,894	160	257	130		149
Feb-16	1.245	0.112	1.008		2.365	0.780	0.070	0.631		1.481	8,383	512	8,003		16,897	149	219	126		140
Mar-16	1.267	0.116	1.023		2.406	0.763	0.070	0.616		1.449	8,388	512	8,003		16,903	151	227	128		142
Apr-16	1.240	0.102	0.990		2.332	0.675	0.055	0.539		1.269	8,389	512	8,003		16,904	148	199	124		138
May-16	1.238	0.117	1.002		2.357	0.505	0.048	0.409		0.962	8,389	512	8,003		16,904	148	229	125		139
Jun-16	1.205	0.111	1.055		2.371	0.362	0.033	0.317		0.712	8,390	514	8,003		16,907	144	216	132		140
Jul-16	1.336	0.105	1.008		2.449	0.586	0.046	0.442		1.074	8,392	514	8,020		16,926	159	204	126		145
Aug-16	1.317	0.107	1.007		2.431	0.647	0.053	0.495		1.195	8,393	516	8,020		16,929	157	207	126		144
Sep-16	1.311	0.110	0.975		2.396	0.601	0.050	0.447		1.098	8,394	516	8,020		16,930	156	213	122		142
Oct-16	1.289	0.108	0.962		2.359	0.521	0.043	0.389		0.953	8,397	517	8,020		16,933	154	209	120		139
Nov-16	1.323	0.113	0.932		2.368	0.730	0.062	0.514		1.306	8,403	517	8,020		16,940	157	219	116		140
Dec-16	1.419	0.150	0.998		2.567	1.179	0.125	0.829		2.133	8,406	549	8,020		16,975	169	273	124		151
Jan-17	1.572	0.197	1.125	0.047	2.941	1.489	0.186	1.066	0.045	2.786	8,409	549	8,020	1,716	18,694	187	359	140	142	157
Feb-17	1.361	0.211	1.240	0.000	2.812	1.236	0.192	1.126	0.000	2.554	8,409	549	8,020	1,716	18,694	162	384	155	0	166
Mar-17	1.215	0.170	1.261	0.000	2.646	0.856	0.120	0.889	0.000	1.865	8,413	550	8,020	1,716	18,698	144	309	157	0	156
Apr-17	1.077	0.139	1.190	0.000	2.406	0.841	0.108	0.929	0.000	1.878	8,414	551	8,020	1,716	18,700	128	252	148	0	142
May-17	1.082	0.136	1.184	0.000	2.402	0.842	0.106	0.922	0.000	1.870	8,416	551	8,049	1,716	18,732	129	247	147	0	141
Jun-17	1.241	0.134	1.032	0.000	2.407	0.980	0.106	0.815	0.000	1.901	8,420	551	8,049	1,716	18,737	147	243	128	0	141
Jul-17	1.267	0.130	1.083	0.000	2.480	0.802	0.082	0.685	0.000	1.569	8,421	551	8,061	1,716	18,749	150	236	134	0	146
Aug-17	1.262	0.139	1.051	0.000	2.452	0.852	0.094	0.709	0.000	1.655	8,423	553	8,061	1,716	18,753	150	251	130	0	144
Sep-17	1.264	0.130	1.006	0.000	2.400	0.866	0.089	0.689	0.000	1.644	8,427	555	8,061	1,716	18,759	150	234	125	0	141
Oct-17	1.242	0.123	0.977	0.000	2.342	0.543	0.053	0.427	0.000	1.023	8,431	555	8,061	1,716	18,763	147	222	121	0	137
Nov-17	1.257	0.131	0.983	0.000	2.371	0.661	0.069	0.517	0.000	1.247	8,431	554	8,061	1,716	18,762	149	237	122	0	139
Dec-17	1.248	0.125	1.014	0.000	2.387	0.693	0.070	0.563	0.000	1.326	8,431	554	8,061	1,716	18,762	148	226	126	0	140
Jan-18	1.276	0.125	1.015	0.000	2.416	0.886	0.087	0.705	0.000	1.678	8,435	555	8,061	1,716	18,767	151	225	126	0	142
Feb-18	1.249	0.118	0.968	0.000	2.335	0.601	0.056	0.466	0.000	1.123	8,441	555	8,061	1,716	18,773	148	213	120	0	137
Mar-18	1.265	0.122	0.922	0.039	2.348	0.857	0.083	0.625	0.026	1.591	8,451	555	8,061	1,716	18,782	150	220	114	149	125
Apr-18	1.184	0.115	0.901	0.337	2.537	0.627	0.061	0.477	0.179	1.344	8,451	559	8,061	1,716	18,786	140	206	112	129	135
May-18	1.173	0.119	0.890	0.376	2.558	0.566	0.057	0.430	0.182	1.235	8,461	562	8,061	1,716	18,799	139	212	110	144	136
Jun-18	1.188	0.124	0.888	0.549	2.749	0.557	0.058	0.417	0.258	1.290	8,466	562	8,061	1,716	18,804	140	221	110	210	146
Jul-18	1.193	0.118	0.933	0.537	2.781	0.619	0.061	0.484	0.278	1.442	8,478	562	8,083	2,611	19,733	141	210	115	206	141
Aug-18	1.210	0.119	0.980	0.534	2.843	0.686	0.067	0.555	0.303	1.611	8,481	563	8,083	2,611	19,737	143	212	121	205	144
Sep-18	1.230	0.117	0.905	0.341	2.593	0.677	0.064	0.498	0.188	1.427	8,481	563	8,083	2,611	19,737	145	208	112	131	131
Oct-18	1.172	0.121	0.897	0.354	2.544	0.529	0.054	0.405	0.160	1.148	8,481	564	8,083	2,611	19,738	138	215	111	136	129
Nov-18	1.173	0.121	0.906	0.064	2.264	0.495	0.051	0.383	0.027	0.956	8,488	565	8,083	2,611	19,746	138	214	112	136	129

CSD: Cardiff Sanitary Division

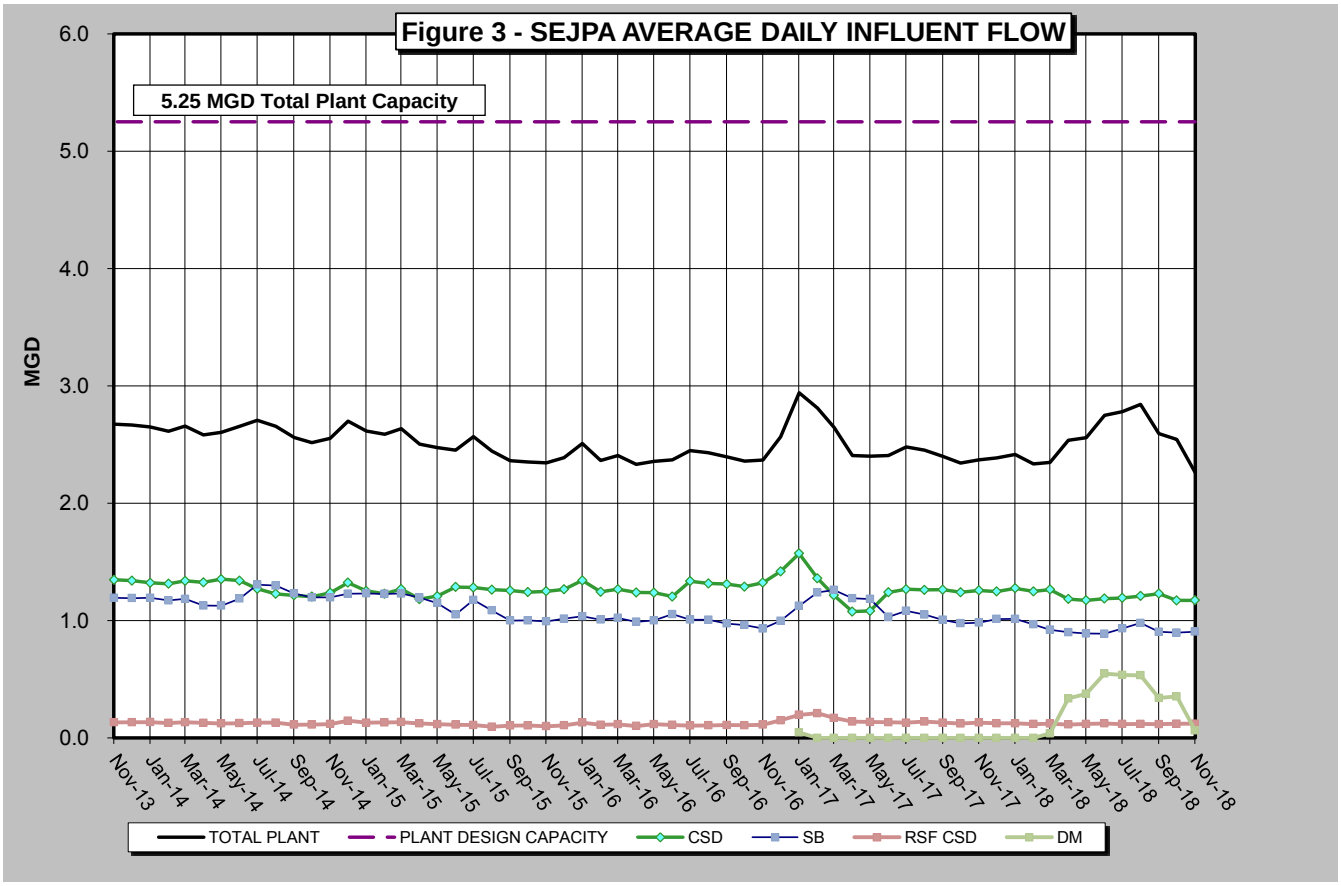
RSF CSD: Ranch Santa Fe Community Service District

SB: Solana Beach

DM: City of Del Mar

EDU: Equivalent Dwelling Unit

Figure 3 (below) presents the 5-year historical average daily flows per month for each Member Agency. This is to provide a historical overview of the average treated flow by each agency. Also shown in Figure 3 is the total wastewater treatment capacity of the plant, 5.25 mgd, of which each Member Agency has the right to 2.2 mgd, Rancho Santa Fe Community Service District leases 0.25 mgd, and the City of Del Mar leases 0.60 mgd.



City of Escondido Flows

The average and peak flow rate for the month of November 2018 from the City of Escondido's Hale Avenue Resource Recovery Facility, which discharges through the San Elijo Ocean Outfall, is reported below.

	Flow (mgd)
Escondido (Average flow rate)	8.82
Escondido (Peak flow rate)	18.1

Connected Equivalent Dwelling Units

The City of Solana Beach updated the connected EDUs number that is reported to the SEJPA in July 2018. The City of Encinitas and Rancho Santa Fe CSD report their connected EDUs every month. Wastewater flow from the City of Del Mar was diverted to San Diego for treatment on November 6, 2018 due to pond water discharge from the Del Mar Fairgrounds and so the number of equivalent dwelling units connected has been reduced accordingly. Del Mar flow is expected to be returned to SEJPA in mid-December 2018. The number of EDUs connected for each of the Member Agencies and lease agencies is as follows:

	Connected (EDU)
Cardiff Sanitary Division	8,488
Rancho Santa Fe SID	565
City of Solana Beach	7,747
San Diego (to Solana Beach)	337
City of Del Mar	2,611
Total EDUs to System	**19,746**

Respectfully submitted,

Michael T. Thornton, P.E.
General Manager

*

AGENDA ITEM NO. 10

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

January 14, 2019

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: SAN ELIJO WATER RECLAMATION PROGRAM – MONTHLY REPORT

RECOMMENDATION

No action required. This memorandum is submitted for information only.

DISCUSSION

Recycled Water Production

For the month of November 2018, recycled water demand was 103 acre-feet (AF), which was met using 103 AF of recycled water no supplementation with potable water.

November demand was 15.9% above budget. The total water production for the year is above budget by 6.0% or 50 AF for the first 5 months of the fiscal year.

Figure 1 (attached) provides monthly demands for recycled water since deliveries began in September 2000. Figure 2 (attached) provides a graphical view of annual recycled water demand spanning the last 17 fiscal years. Figure 3 (attached) shows the monthly recycled water demand for each November since the program began. Figure 4 (attached) compares budget versus actual recycled water sales for FY 2018-19; showing sales are starting the year above budget.

Respectfully submitted,

Michael T. Thornton, P.E.
General Manager

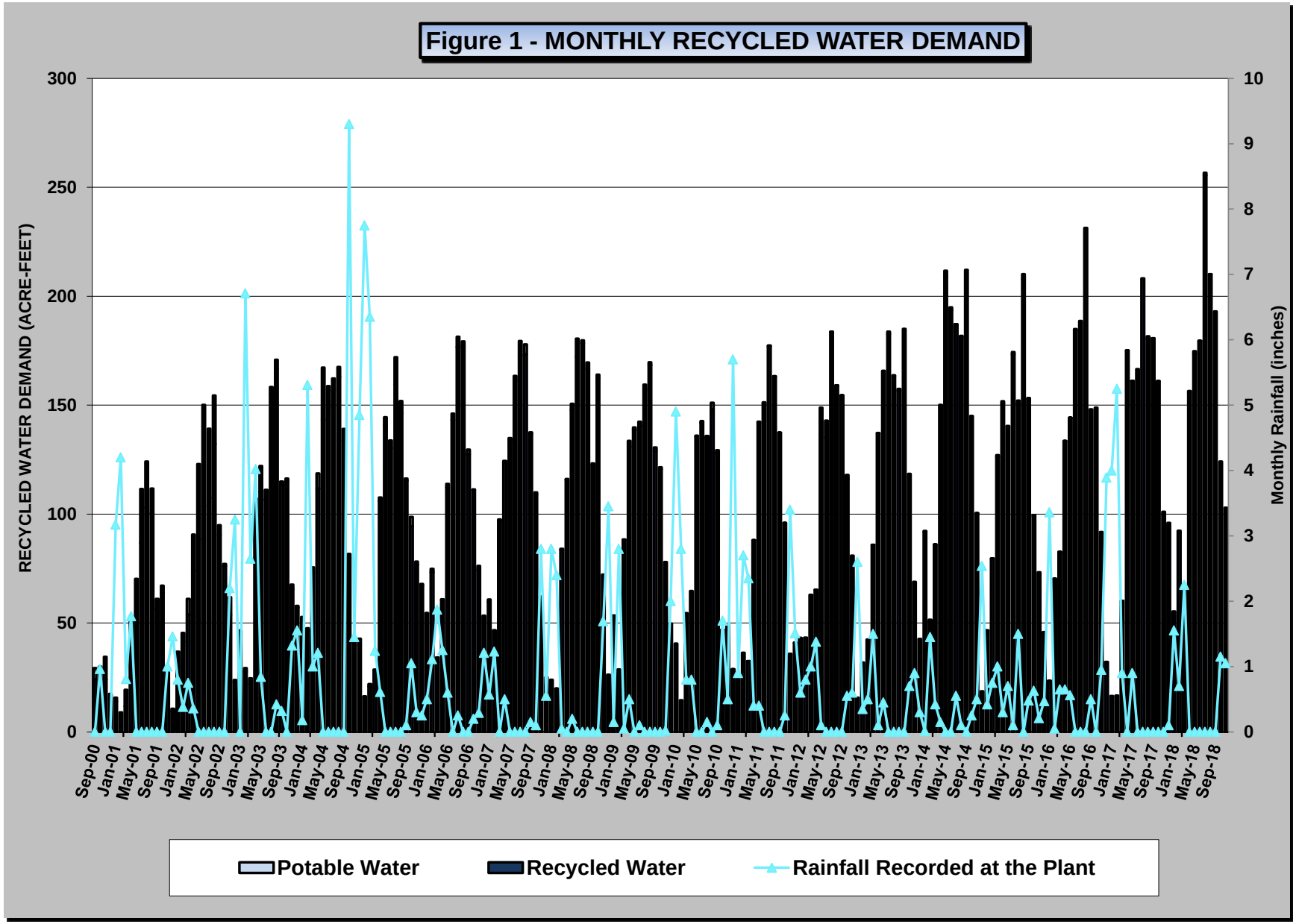


Figure 1 - MONTHLY RECYCLED WATER DEMAND
RECYCLED WATER DEMAND (ACRE-FEET)
Monthly Rainfall (inches)
300
250
200
150
100
50
0
10
9
8
7
6
5
4
3
2
1
0
Sep-00 Jan-01 May-01 Sep-01 Jan-02 May-02 Sep-02 Jan-03 May-03 Sep-03 Jan-04 May-04 Sep-04 Jan-05 May-05 Sep-05 Jan-06 May-06 Sep-06 Jan-07 May-07 Sep-07 Jan-08 May-08 Sep-08 Jan-09 May-09 Sep-09 Jan-10 May-10 Sep-10 Jan-11 May-11 Sep-11 Jan-12 May-12 Sep-12 Jan-13 May-13 Sep-13 Jan-14 May-14 Sep-14 Jan-15 May-15 Sep-15 Jan-16 May-16 Sep-16 Jan-17 May-17 Sep-17 Jan-18 May-18 Sep-18
Potable Water
Recycled Water
Rainfall Recorded at the Plant

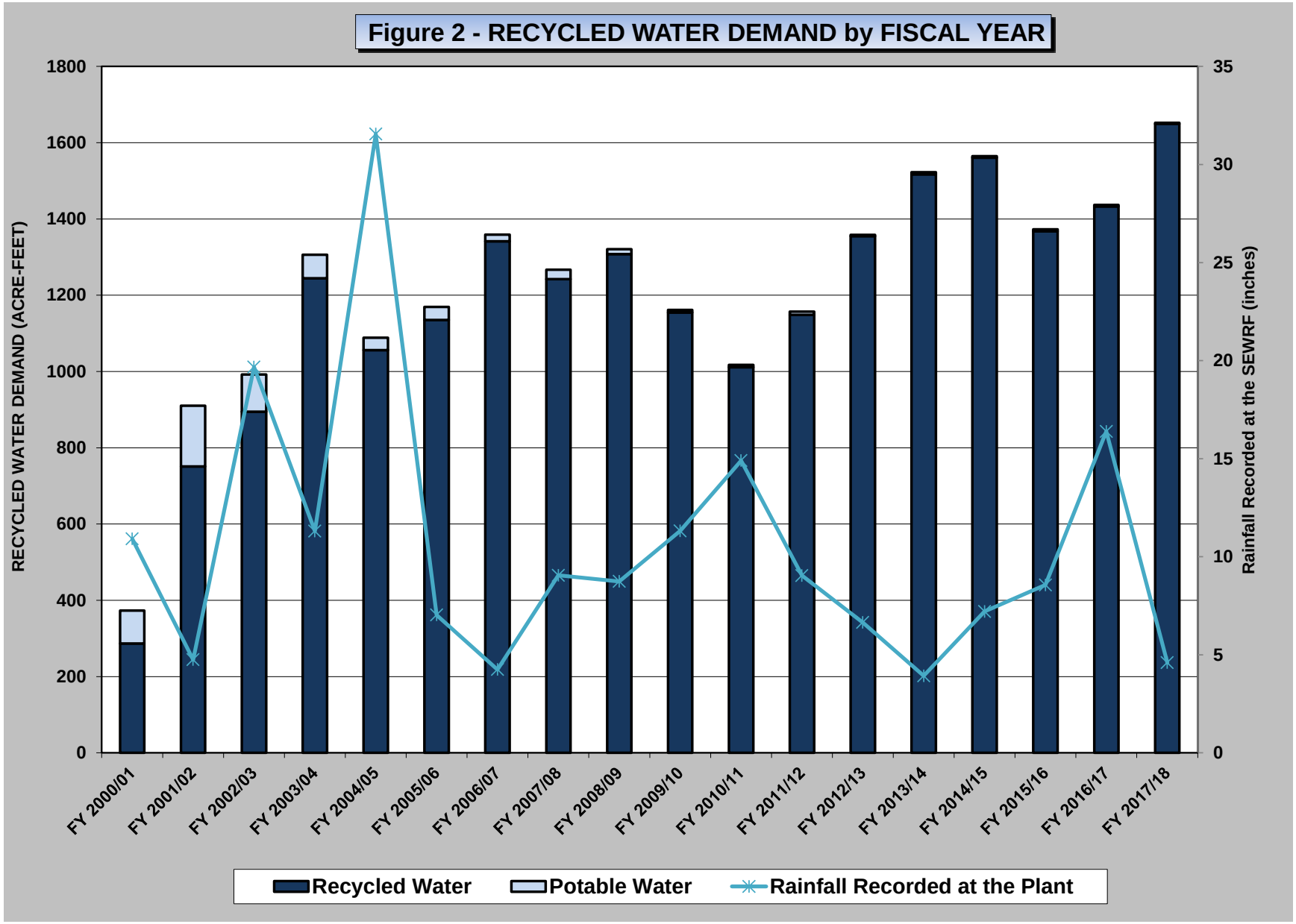


Figure 2 - RECYCLED WATER DEMAND by FISCAL YEAR
RECYCLED WATER DEMAND (ACRE-FEET)
Rainfall Recorded at the SEWRF (inches)
1800
1600
1400
1200
1000
800
600
400
200
0
35
30
25
20
15
10
5
0
FY 2000/01
FY 2001/02
FY 2002/03
FY 2003/04
FY 2004/05
FY 2005/06
FY 2006/07
FY 2007/08
FY 2008/09
FY 2009/10
FY 2010/11
FY 2011/12
FY 2012/13
FY 2013/14
FY 2014/15
FY 2015/16
FY 2016/17
FY 2017/18
Recycled Water
Potable Water
Rainfall Recorded at the Plant

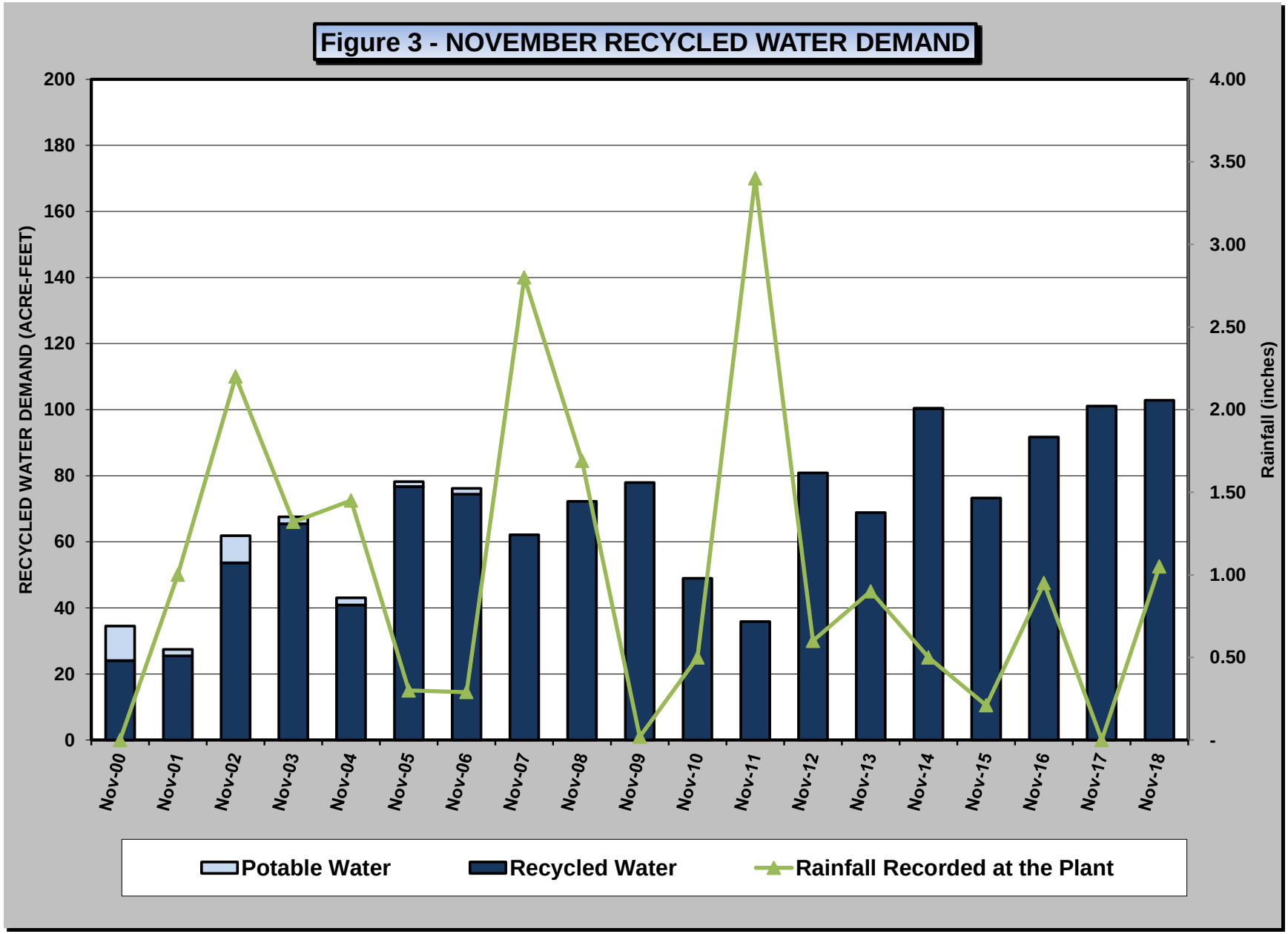


Figure 3 - NOVEMBER RECYCLED WATER DEMAND
RECYCLED WATER DEMAND (ACRE-FEET)
Rainfall (inches)
200
180
160
140
120
100
80
60
40
20
0
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
-
Nov-00
Nov-01
Nov-02
Nov-03
Nov-04
Nov-05
Nov-06
Nov-07
Nov-08
Nov-09
Nov-10
Nov-11
Nov-12
Nov-13
Nov-14
Nov-15
Nov-16
Nov-17
Nov-18
Potable Water
Recycled Water
Rainfall Recorded at the Plant

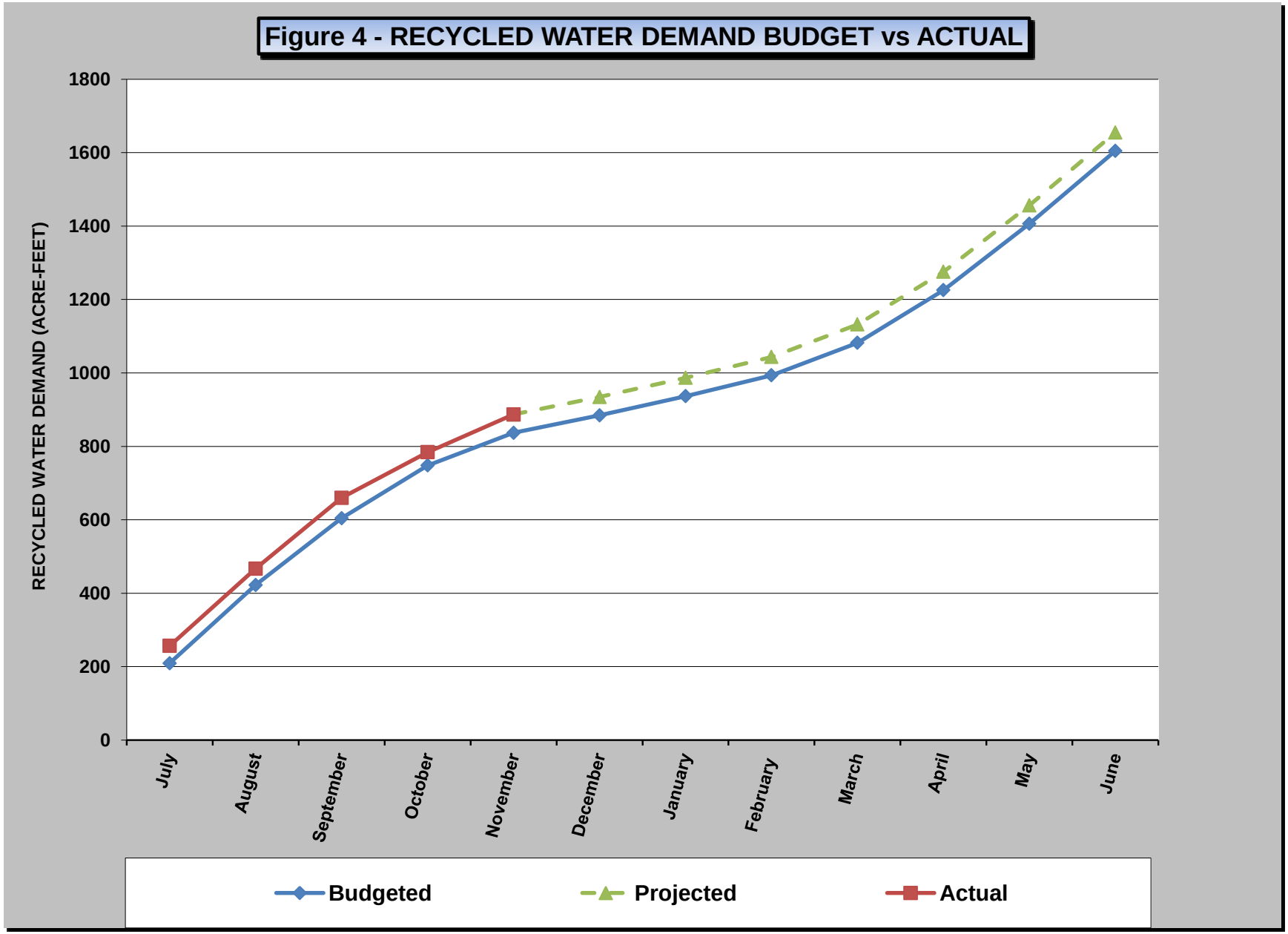


Figure 4 - RECYCLED WATER DEMAND BUDGET vs ACTUAL
RECYCLED WATER DEMAND (ACRE-FEET)
1800
1600
1400
1200
1000
800
600
400
200
0
July
August
September
October
November
December
January
February
March
April
May
June
Budgeted
Projected
Actual

*

AGENDA ITEM NO. 11

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

January 14, 2019

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: ADOPT THE PROPOSED MITIGATED NEGATIVE DECLARATION ADDENDUM FOR UPGRADES AT THE SAN ELIJO WATER RECLAMATION FACILITY

RECOMMENDATION

It is recommended that the Board of Directors:

1. Adopt the Proposed Addendum No. 1 to Mitigated Negative Declaration for the San Elijo Water Reclamation Facility Upgrades; and

2. Discuss and take action as appropriate.

BACKGROUND

In April 2015, San Elijo Joint Powers Authority's (SEJPA) Board accepted the 2015 Facility Plan for the SEJPA's San Elijo Water Reclamation Facility (SEWRF) that provided an update to the condition assessments from the 2007 Facility Plan and identified necessary replacement or upgrades. The 2015 Facility Plan recommended that multiple components of the SEWRF be upgraded based on a combination of factors such as risk, safety, physical condition, code compliance, and potential for improving process performance.

A Final Mitigated Negative Declaration (Final MND) for the SEWRF Upgrades Project was accepted by the Board in April 2016. Following acceptance, minor adjustments were made to the proposed projects, including the addition of a shared-use bicycle/pedestrian trail through the SEWRF, traffic safety enhancements at the entrance of the SEWRF site and Manchester Avenue, and the location of solar panels (Figure 1).

DISCUSSION

California Environmental Quality Act (CEQA) Guidelines Section 15164 allows the Lead Agency to prepare an addendum to an adopted negative declaration if some changes or additions are necessary provided none of the conditions described in Section 15162 calling for the preparation of a subsequent environmental document have occurred. Section 15164(b)

provides that an addendum "may be prepared if only minor technical changes or additions are necessary."

Staff engaged Helix Environmental Planning to review the Final MND, proposed project adjustments, and prepare an addendum as required under CEQA guidelines. This Addendum documents that the revised project will not result in new or substantially more severe significant impacts relative to the proposed project as described in the Final MND.

Figure 1. Proposed project changes

It is therefore recommended that the Board of Directors:

1. Adopt the Proposed Addendum No. 1 to Mitigated Negative Declaration for the San Elijo Water Reclamation Facility Upgrades; and

2. Discuss and take action as appropriate.

Respectfully submitted,

Michael T. Thornton, P.E.
General Manager

Attachment 1: Addendum to the Final Mitigated Negative Declaration dated January 2019

ATTACHMENT 1

San Elijo Water Reclamation Facility Upgrades

Addendum to the Final Mitigated Negative Declaration

January 2019 | KHA-37

Prepared for:

San Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff by the Sea, CA 92007

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

San Elijo Water Reclamation Facility Upgrades

Addendum to the Final Mitigated Negative Declaration

Prepared for:

San Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff by the Sea, CA 92007

Prepared by:

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La Mesa, CA 91942

January 2019 | KHA-37

INTRODUCTION

A Final Mitigated Negative Declaration (Final MND) was completed for the San Elijo Water Reclamation Facility (SEWRF) Upgrades Project in April 2016 and was approved by the San Elijo Joint Powers Authority (SEJPA) on April 11, 2016. Following approval, minor changes were made to the proposed project, including addition of a shared-use trail on the SEWRF property and safety improvements at the intersection of the SEWRF site and Manchester Avenue, as well as relocation of a planned solar field within the SEWRF site.

California Environmental Quality Act (CEQA) Guidelines Section 15164 requires either the Lead Agency or a responsible agency to prepare an addendum to an adopted negative declaration if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent environmental document have occurred. Section 15164(b) provides that an addendum "may be prepared if only minor technical changes or additions are necessary."

This Addendum demonstrates that the revised project would not result in new or substantially more severe significant impacts relative to the proposed project as described in the Final MND.

CEQA Requirements

An addendum to the Final MND is permitted under CEQA Guidelines Sections 15162 and 15164 for projects where there are no substantial changes to the project, or in circumstances surrounding the project, and where the project would not have new significant impacts or substantially more severe impacts than those disclosed in the previously approved negative declaration. To summarize, Sections 15162 and 15164 of the CEQA Guidelines state that an addendum to a previously approved negative declaration can be prepared for a project if the criteria and conditions summarized below are satisfied:

- **No Substantial Changes**. There are no substantial changes proposed in the project that will require major revisions to the previous negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- **No Substantial Change in Circumstances**. No substantial changes to the circumstances regarding the project have taken place that would require major revisions of the previous negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- **No Substantial New Information**. There is no new information of substantial importance that was not known or could not have been known at the time of the previous negative declaration that shows the project would have one or more significant effects not discussed in the previous negative declaration or significant effects previously examined would be substantially more severe than shown in the previous negative declaration.

An addendum need not be circulated for public review but can be included in or attached to the adopted negative declaration. The decision making body shall consider the addendum with the adopted negative declaration prior to making a decision on the project.

None of the conditions identified in CEQA Guidelines Section 15162(a) would occur because:

a) The changes to the project evaluated in the Final MND, as described in this Addendum, would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Minor changes are proposed to the project, including addition of a shared-use trail on the SEWRF property and safety improvements at the intersection of the SEWRF site and Manchester Avenue. These changes in project description would not result in new or substantially more severe significant environmental impacts (refer to the comparison below for details regarding the impacts associated with the project changes).

b) Circumstances and existing conditions surrounding the project site have not changed from those described in the Final MND approved in May 2016. Existing conditions on and surrounding the project site remain generally as described in the Final MND.

c) There is no substantial new information. The changes in the proposed project do not constitute substantial new information as defined in the CEQA Guidelines. Changes to the proposed project would not result in new or substantially more severe significant impacts.

d) Mitigation measures are required and are not different from those analyzed in the Final MND and contained in the adopted Mitigation Monitoring and Reporting Program.

BACKGROUND

Project Location

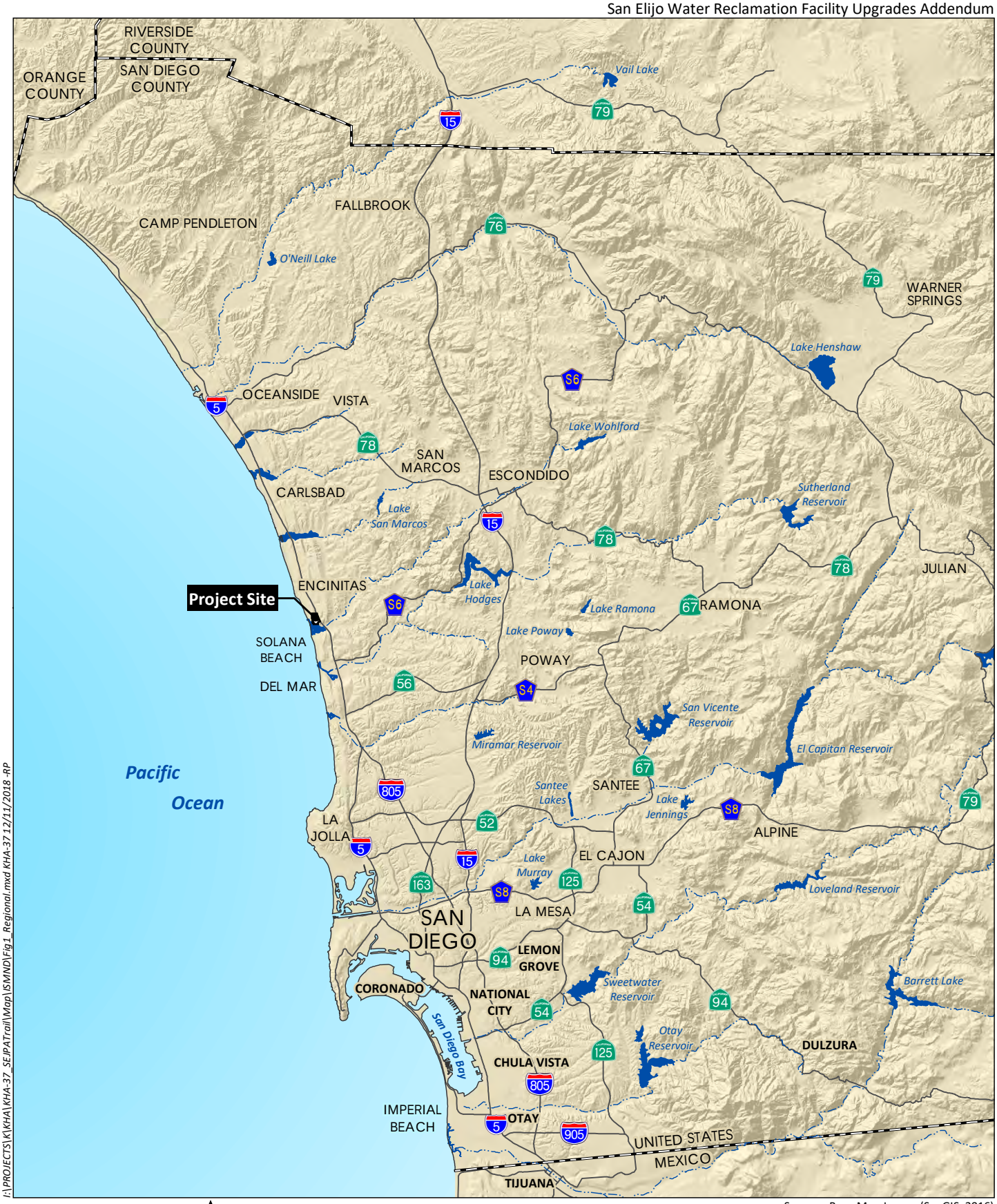
Facility upgrades from the proposed project would occur at the existing SEWRF site located at 2695 Manchester Avenue, Cardiff by the Sea, California 92007 (Assessor's Parcel Number 2610101302), as shown in Figure 1, *Regional Location*, and Figure 2, *Aerial Photograph*. The revised project upgrades would occur over the channel adjacent to the west of the SEWRF, at the intersection of Manchester Avenue and the driveway to the SEWRF, and in the southeastern portion of the SEWRF site in the vicinity of the existing flow equalization basins. The project site is surrounded by existing residential development to the north, west, and southeast. Interstate 5 (I-5) is located immediately to the east of the project site. San Elijo Lagoon is located to the south across Manchester Avenue. The project site is located approximately 0.4 mile east of the Pacific Ocean.

Currently, the project site is mostly developed with the existing SEWRF, associated landscaping, and stormwater drainage facilities, as shown in Figure 2. The northern portion of the site is mostly undeveloped, except for stormwater facilities. The project site is zoned as Public/Semi-Public. The project is within the Coastal Zone.

Project Description as Proposed in the Approved Final MND

The previously approved project included various upgrades, rehabilitations, and replacements for components of the SEWRF (see Figure 3, *Approved Project Components*). These include:

Administration and Operations Buildings and Seismic Upgrades. The operations building, cogeneration building, and chlorine building would receive a seismic roof to wall connections retrofit. A new administration building would be constructed at the southern end of the project site, near the SEWRF entrance off Manchester Avenue.



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Source: Base Map Layers (SanGIS, 2016)

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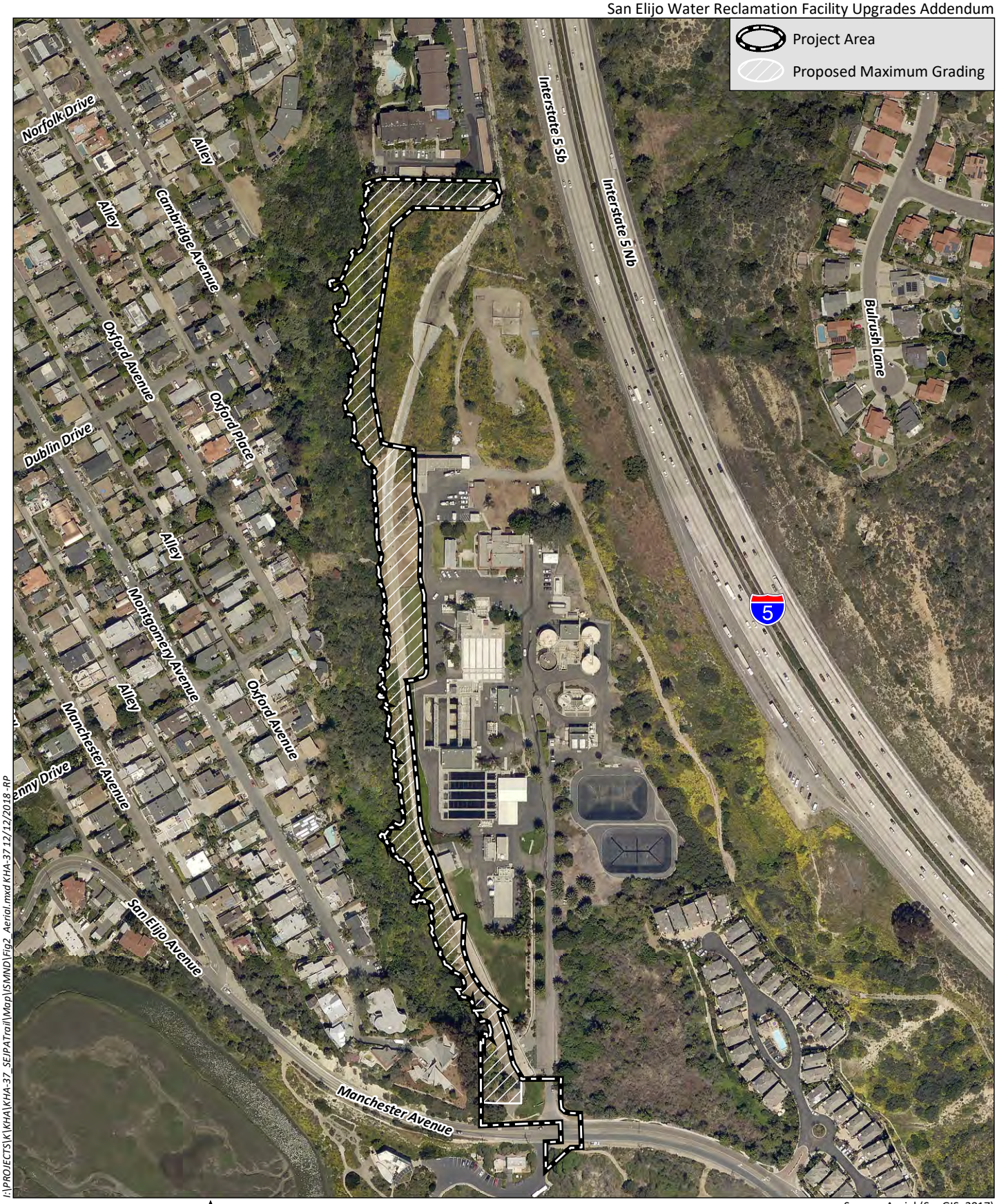
Regional Location

Figure 1



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Source: Aerial (SanGIS, 2017)

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Aerial Photograph

Figure 2

Source: Dudek 2016

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Approved Project Components

Figure 3

Site Improvements and Security. Site access and use would be improved by replacing the open storm channels with storm pipes or culverts. Work on the open storm channel would extend approximately 10 feet west of the existing channel. Site asphalt would be replaced. Fencing surrounding the SEWRF site would be improved for proper height along with the installation of climbing deterrents (also to be installed at the block wall located at the gate). Video surveillance would be improved at critical facility areas.

Preliminary Treatment Upgrades. Two existing mechanical screens would be replaced with new screens in new concrete channels, duty/standby compactors, and a new screenings conveyor/sluice would be installed. New screenings and grit inlet channels would be constructed. Corrosion in the existing screenings channels, grit chamber and channels, and primary influent channels would be repaired. Additional foul air ducting would be installed at the headworks channels and Grit and Screenings Building to improve odor control.

Electrical Upgrades. Switchboard MS-2 in the cogeneration building and the odor control panel in the headworks would be replaced. As part of the electrical upgrades, the Arc Flash Study would be updated and Arc Flash labels included on all electrical panels.

Dewatering Upgrades. These upgrades would include replacement of the existing belt filter presses, feed pumps, and electrical equipment and controls. The condition of the truck loading hopper would be evaluated, and the hopper would be repaired or retrofitted as necessary. The mezzanine and roof decking in the dewatering building would be repaired.

Digester Improvements. Digester improvements would include replacement of Sludge Circulation Pumps Nos. 2, 3, and 5, heat exchangers, and the floating cover on Digester No. 2. Repair would occur on Digester No. 2 (concrete and lining), Digester No. 3 (seals around cover), and Digester No. 4 (joint between cover and walls). Additionally, further inspection of cracks on Digesters Nos. 2, 3, and 4 may identify the need for further repair.

Aeration and Return Upgrades. These upgrades would include the installation of mixing in anoxic zones, high efficiency blowers, diffusers, permanent baffles, a fall arrest system, and Return Flow Pump No. 4. The drain pump, all discharge piping, and all pump rails would be replaced.

Dissolved Air Flotation (DAF) Upgrades and Co-thickening. Three pumps and the DAF No. 2 Drive would be replaced and a Pressurization Pump No. 2 (for DAF No. 2) would be installed. These upgrades would implement co-thickening of waste activated sludge and primary sludge.

Supervisory Control and Data Acquisition (SCADA) System. SCADA system hardware would be installed and the software would be updated.

Solar Fields. The proposed project includes four proposed solar fields. Conceptual plans for solar fields include an approximate 80-panel carport west of the generator, an approximate 300-panel ground-mounted field east of the generator, an approximate 200-panel carport west of the existing headworks, and an approximate 230-panel ground-mounted field north of the proposed 200-panel carport.

In the Final MND, project construction was identified to be phased intermittently over several years beginning in January 2017 and ending in September 2019. As of this document, construction has commenced on several projects; however, the work will likely be completed in 2023.

Water required for construction would be supplied by on-site recycled water. The following potential equipment were identified for construction: medium-sized excavation and earth moving equipment; dump trucks; cement mixers; portable welders; and cranes.

PROJECT DESCRIPTION

Changes to the Project Since Certification of the Final MND (Revised Project)

A 12-foot-wide shared-use trail would be constructed as part of the revised project on the SEWRF property (see Figure 4, *Revised Project Components*). The trail would mostly be constructed over the existing drainage channel, covering the existing open channel. The northern portion of the trail would travel through a vacant area on the SEWRF property.

Trail improvements would also provide connections/transitions at Manchester Avenue and to the bikeway improvements within I-5 at the northeast corner of the SEWRF property. The trail would require grading and construction of embankment slopes, security fencing, lighting installation (several lighting fixtures would be included along the trail at a height of approximately 14 feet), landscaping, surface drainage improvements and implementation of storm water quality best management practices (BMPs).

The project would include street-level enhanced trail crossing and traffic calming measures, and pedestrian-activated traffic control devices. The traffic calming measures would include a high-intensity crosswalk (HAWK) system, which is a pedestrian-activated beacon over the crosswalk to alert motorists when a pedestrian or bicyclist is crossing the road (see Figures 5a-5c, *HAWK Visual Simulation*), or other crosswalk alert system as approved by the City of Encinitas. Curb, gutter, and sidewalk improvements would be provided at the SEWRF entrance. Other roadway improvements at Manchester Avenue include a center turn lane, roadway signing and striping, and small retaining walls at the southeast corner of the SEWRF property.

The revised project components total approximately 1.25 acres and would disturb a maximum of 0.75 acre per day. As shown in Table 1, *Anticipated Construction Schedule*, construction for the proposed project is estimated to start in August 2019 and be complete by August 2020.

Table 1
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period		
	Start	End	Number of Working Days
Clear/Grub & Rough Grade	8/1/2019	10/23/2019	60
Channel Construction & Drainage Improvements	9/2/2019	4/10/2020	160
Paving	4/13/2020	6/5/2020	40
Architectural Coating	6/8/2020	6/12/2020	5
Lighting, Fencing, & Landscaping	6/15/2020	8/7/2020	40

In addition, the project would include relocation of a planned ground-mounted solar array to the southeastern portion of the SEWRF site in the vicinity of the existing flow equalization basins. The solar array would be installed in an existing developed area within this portion of the SEWRF site.

Proposed Trail Alignment
Proposed Maximum Grading
Curb/Sidewalk
Crosswalk
Light Pole
Proposed Shared Use Trail
Existing Channel

Edinburg Avenue
Alley
Private Road
Carol View Drive
Interstate 5 Nb
Interstate 5 Sb
5
Alley
Cambridge Avenue
Oxford Avenue
Oxford Place
Dublin Drive
Alley
Montgomery Avenue
Alley
Oxford Avenue
Alley
Manchester Avenue
Kilkenny Drive
San Elijo Avenue
San Elijo Water Reclamation Facility
Manchester Avenue
Mackinnon Ranch Road
San Elijo Lagoon Nature Center

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0 200 Feet

Source: Base Map Layers (SanGIS, 2016)

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Revised Project Components

Figure 4

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HAWK Visual Simulation

Figure 5a

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HAWK Visual Simulation

Figure 5b

HELIX Environmental Planning

HAWK Visual Simulation

Figure 5c

Previously Disclosed Impacts

The Final MND determined that all impacts would be less than significant, except biological resources, cultural resources, and utilities and service systems. These potentially significant impacts would be reduced to a less than significant level with implementation of mitigation measures. The Final MND determined that potentially significant direct and indirect impacts to special-status species, sensitive natural communities, jurisdictional resources, and wildlife corridors would occur from project construction and operation; however, implementation of mitigation measures MM-BIO-1 through MM-BIO-4 for construction and MM-BIO-5 through MM-BIO-9 for operation would reduce impacts to a less than significant level. The Final MND determined that construction activities that may impact cultural resources would be potentially significant; however, implementation of mitigation measure MM-CUL-1 would reduce impacts to a less than significant level. The Final MND also determined that construction activities may impact paleontological resources, which would be potentially significant; implementation of mitigation measure MM-CUL-2 would reduce impacts to a less than significant level. In addition, the Final MND determined that significant environmental effects, as identified above, would occur from utilities and service systems through upgrades to the SEWRF facilities. This impact would be mitigated through the aforementioned mitigation measures. As such, no significant and unmitigable impacts would occur.

ENVIRONMENTAL ANALYSIS

The revised project modifications would not substantially change from the proposed project in a way that would modify the Final MND impact discussion for: agriculture and forestry resources, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, and utilities and service systems. Therefore, the analysis below focuses on the CEQA topics that would be potentially affected by the modifications to the proposed project: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas (GHG) emissions, hydrology and water quality, noise, recreation, transportation and traffic, and tribal cultural resources.

Aesthetics

Scenic Vistas

The Final MND identifies a scenic stop off the southbound I-5, north of the Manchester Avenue exit, that overlooks the site. A viewer from this area would see the SEWRF site, in addition to the San Elijo Lagoon and Pacific Ocean. The revised project would construct a shared-use trail, mostly over an existing concrete drainage channel but with a smaller portion over undeveloped land in the northwestern portion of the SEWRF site. This new path would be consistent with the existing development of the SEWRF in the area, which dominates the visual landscape from the scenic stop-off of the small valley that the project is in. The revised project would also construct a HAWK system over the new crosswalk on Manchester Avenue (see Figures 5a-5c). Although this would add a traffic signal system in a location without such a system, the design of the HAWK system would be visually consistent with other traffic signals along Manchester Avenue/San Elijo Avenue, and given the limited height and bulk of the HAWK system compared to existing buildings and trees would not substantially affect the view from the scenic stop-off. The relocated solar array would not be highly visible because of proposed SEWRF structures, surrounding landscaping, and topography. In addition, similar to the proposed project, aesthetic impacts from construction of the revised project components would be temporary and short-term. Therefore,

impacts to scenic vistas would be less than significant, and the revised project is consistent with the findings for scenic vistas described in the Final MND.

Scenic Resources within a State Scenic Highway

As with the proposed project, the revised project components are located approximately 1,950 feet from Coast Highway 101, portions of which are designated as State Scenic Highway. However, no portions of Coast Highway 101 within San Diego County are designated State Scenic Highway. In addition, I-5, which is located adjacent to the SEWRF site to the east, is not listed as a State Scenic Highway. Therefore, no impacts to a State Scenic Highway would occur, and the revised project is consistent with the findings for scenic resources described in the Final MND.

Visual Character and Quality

The revised project would construct a shared-use trail, mostly over an existing concrete drainage channel but with a smaller portion over undeveloped land in the northwestern portion of the SEWRF site. This new path would be consistent with the existing development of the SEWRF in the area, which dominates the visual character and quality of the small valley in which the project is located. The revised project would also construct a HAWK system over the new crosswalk on Manchester Avenue (see Figures 5a-5c). Although this would add a traffic signal system in a location without such a system, the design of the HAWK system would be visually consistent with other traffic signals along Manchester Avenue/San Elijo Avenue, and given the limited height and bulk of the HAWK system compared to existing buildings and trees would not substantially affect the visual character and quality of the area. The relocated solar array would not be highly visible because of proposed SEWRF structures, surrounding landscaping, and topography and would not substantially affect the existing visual character and quality of the area. In addition, similar to the proposed project, aesthetic impacts from construction of the revised project components would be temporary and short-term. Therefore, impacts to visual character and quality would be less than significant, and the revised project is consistent with the findings for visual character and quality described in the Final MND.

Light and Glare

Lighting is currently provided throughout the existing SEWRF facilities. New lighting as a result of the proposed facility upgrades would be similar to existing SEWRF lighting. New lighting associated with the trail for security purposes during evening hours would be the minimum necessary to provide for safety. The HAWK system and street lights would be added over the crosswalk on Manchester Avenue, and would provide lighting to allow users to cross the street safely (see Figures 5a-5c). These additional lights on the street would not be a substantial addition to the area, as there are existing street lights in the area. No revised project components would be a substantial source of glare. Therefore, similar to the Final MND conclusions for light and glare, impacts would be less than significant.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND, and no new or substantially increased aesthetics impacts would occur.

Air Quality

To analyze the potential impacts from the revised project, an Addendum to the Air Quality and Greenhouse Gas Emissions Impact Assessment was prepared (HELIX 2018a; Appendix A).

Air Quality Plans

As described in the Final MND, consistency with local air quality plans is determined by if the project proposes development that is greater than anticipated in the City of Encinitas General Plan or in the San Diego Association of Governments' (SANDAG's) growth projections, and therefore would conflict with the State Implementation Plan and Regional Air Quality Standards (RAQS) and may contribute to a potentially significant cumulative impact on air quality. Similar to the proposed project, the revised project components would be consistent with existing zoning and General Plan land use designations for the project site, and would not result in growth projections beyond SANDAG's projections. In addition, as described below, criteria pollutant emissions of the revised project would be below County thresholds. Therefore, the revised project is consistent with the findings for air quality plans described in the Final MND.

Air Quality Standards

Emissions from the revised project were calculated for the Addendum to the Air Quality and Greenhouse Gas Emissions Impact Assessment using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2.

Construction

The project would generate criteria pollutants during clearing/grubbing, rough grading, channel construction and drainage improvements, paving, and installation of lighting, fencing and landscaping. Construction emissions would be short-term and temporary and would cease with construction termination.

The proposed project construction emissions are shown in Table 2, *Maximum Daily Construction Emissions*. The proposed project's maximum daily emissions were added to the peak day reported in the MND, regardless of timing, to present the most conservative analysis. Table 2 presents the maximum anticipated daily emissions and compares them to County Screening Level Thresholds (SLTs; County 2007). As shown, new maximum daily emissions would remain below County SLTs and impacts would remain less than significant.

Operation

The revised project proposes a shared-use trail and roadway and drainage improvements and would only generate emissions during construction. Therefore, operational emissions would not be generated from the revised project, and no changes to the operational emissions impacts discussed in the Final MND would occur.

Table 2
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Construction Phase	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2019	3.38	36.66	21.76	0.04	4.52	2.98
2020	1.78	14.50	13.15	0.02	0.83	0.71
Maximum Daily Emissions[1]	***3.38***	***36.66***	***21.76***	***0.04***	***4.52***	***2.98***
Maximum Daily Emissions Reported in the MND[2]	15.03	26.82	21.77	0.04	5.55	3.21
New Maximum Daily Emissions	**18.41**	**63.48**	**43.53**	**0.08**	**10.07**	**6.19**
SLT Threshold[3] (lbs/day)	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

[1] Proposed Project Emissions (CalEEMod; Attachment A)
[2] Previously Reported MND Emissions (SEJPA 2016; Page 27, Table 3.3-1)
[3] The County Screening Level Thresholds (SLTs; County 2007) are used for the project, as the City of Encinitas does not have specific emissions thresholds.

Cumulatively Considerable Net Increase of Criteria Pollutants

As construction emissions of the revised project components, in combination with the proposed project components, would not exceed SLT thresholds, as determined in the Final MND the project would not create a cumulatively considerable increase of criteria pollutants.

In addition, as the revised project components do not generate operational emissions, no changes to the less than significant cumulative impacts from operation identified in the Final MND would occur.

Sensitive Receptors

Construction of the revised project components would generate similar toxic air contaminants (TACs) to the proposed project from construction equipment. Similar to the proposed project, the revised project components would not occur at a magnitude to generate substantial amounts of TACs and the TAC emissions would be temporary. Therefore, as identified in the Final MND, impacts would be less than significant.

The revised project proposes a shared-use trail and roadway and drainage improvements and would only generate TAC emissions during construction. Therefore, operational emissions of TACs would not be generated from the revised project, and no changes to the impacts from operational emissions of TACs discussed in the Final MND would occur.

Odors

Construction of the revised project components would generate similar odors to the proposed project from construction equipment. As such, odors would not occur at a magnitude to affect substantial amounts of people and as the odor emission would be temporary, as identified in the Final MND impacts would be less than significant.

The revised project proposes a shared-use trail and roadway and drainage improvements and would only generate emissions during construction. Therefore, operational emissions would not be generated

from the revised project, and no changes to the operational emissions impacts discussed in the Final MND would occur.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND, and no new or substantially increased air quality impacts would occur.

Biological Resources

To analyze the potential impacts from the revised project, an Addendum to the Biological Resources Technical Report was prepared (HELIX 2018b; Appendix B). The Addendum assessed the potential impacts on biological resources associated with the construction and operation of the revised project. The findings of this assessment support the determination that no new or substantially more severe significant adverse impacts would occur as a result of the revised project that were not already identified, analyzed, and assigned mitigation in the Final MND. This letter summarizes the findings for biological resources. A summary of revised project effects is provided below.

Sensitive Species

Rare Plants

None of the special-status plant species analyzed in the Final MND have the potential to occur within the revised project impact areas. Project impacts would be restricted to developed land, disturbed habitat (i.e., ruderal and weedy areas), and areas planted as part of the SEWRF and Manchester Avenue landscaping. The four Torrey pines identified on the project site would be avoided by the revised project. Similar to the previously approved project, potential significant indirect impacts could occur from the revised project to native habitat areas located off site and downstream of the project. The potential significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-5.

The revised project is consistent with the findings for rare plants described in the Final MND.

Sensitive Wildlife Species

As with plant species, none of the special-status animal species analyzed in the Final MND have the potential to occur within the revised project impact areas. Project impacts would be restricted to developed land, disturbed habitat (i.e., ruderal and weedy areas), and areas planted as part of the SEWRF and Manchester Avenue landscaping that lack suitable habitat for special-status animals. As such, no direct impacts would occur to special-status animal species.

The coastal California gnatcatcher, a federally listed threatened species and state species of special concern, has the potential to use off-site Diegan coastal sage scrub located on portions of the steep slopes to the west of revised project impact area. The critical habitat for the coastal California gnatcatcher that overlays the eastern portions of the SEWRF does not support Diegan coastal sage scrub or the critical habitat primary constituent elements. No revised project components are proposed in the critical habitat area. No impacts to Diegan coastal sage scrub or primary constituent elements within the critical habitat overlay would occur. The least Bell's vireo, a federally and state-listed endangered

species, has potential to occur within off-site riparian habitat located to the southeast of the SEWRF. Potential significant indirect impacts could occur to the gnatcatcher and/or vireo and their habitat that occurs off site within 500 feet of construction. In addition, if operational lighting is not properly shielded and directed away from adjacent habitat areas that could support either species, the lighting could adversely affect breeding behaviors and other life history requirements of either species. These potentially significant indirect impacts to the coastal California gnatcatcher and least Bell's vireo and from operational lighting were also identified in the Final MND. These potentially significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, and MM-BIO-9.

The revised project is consistent with the findings for sensitive wildlife species described in the Final MND.

Sensitive Vegetation Communities

No riparian habitat or other sensitive natural community occurs within the revised project footprint. Therefore, no direct impacts to sensitive vegetation communities would occur. As identified in the Final MND, potentially significant indirect impacts could occur to off-site Diegan coastal sage scrub and other off-site sensitive habitat located downstream in association with San Elijo Lagoon. These potentially significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-5.

The revised project is consistent with the findings for sensitive vegetation communities described in the Final MND.

Wetlands

No wetlands occur within the revised project footprint; none are present within the SEWRF property. Therefore, no direct impacts to wetlands would occur. Wetlands do occur off site and downstream of areas that would require improvements, including the extension of culvert over the concrete flood control channel in the western portion of the SEWRF to accommodate the new trail. As identified in the Final MND, potential significant indirect impacts could occur to off-site sensitive habitat located downstream, including wetlands, associated with the San Elijo Lagoon. These potentially significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-5. As a regulatory requirement, SEJPA must notify the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW), and obtain necessary permits from these agencies prior to construction activities at the concrete flood control channel; SEJPA would be required to implement all conditions and measures from these permits.

The revised project is consistent with the findings for wetlands described in the Final MND.

Wildlife Movement and Migratory Species

The SEWRF is currently fenced and does not serve as a wildlife corridor or habitat linkage. The SEWRF is surrounded to the north, east, and west by residential development and the I-5.

The location of the proposed bike trail would not substantially interfere with the movement of resident or migratory fish or wildlife species. The bike trail is proposed in an area that is generally located to the north and west of the SEWRF, on land comprised of disturbed habitat and a concrete-lined channel. Perimeter fencing currently exists around the SEWRF, preventing wildlife from entering or leaving native habitat adjacent to the project area via the SEWRF. Therefore, the SEWRF, in its current condition, does not allow mitigatory species to pass through the area.

The intersection improvements would occur in a developed area, in the intersection of the SEWRF driveway and Manchester Avenue. This developed location is not currently considered a wildlife corridor or nursery site for resident or migratory fish or other wildlife species, nor is suitable habitat present for resident fish species. The proposed upgrades will not change the intersection in a manner that would prevent the movement of fish or wildlife species through this area, as it is not currently a wildlife corridor.

As with the Final MND, the potential impacts on wildlife movement as a result of the planned shared-use trail and intersection improvements would be less than significant. The findings described in the Final MND for wildlife movement and migratory species are consistent with the revised project.

Local Policies and Ordinances

The revised project would not conflict with local policies or ordinances protecting biological resources, such as tree preservation ordinances. The findings for local policies and ordinances described in the Final MND are consistent with the revised project.

Adopted Habitat Conservation Plans

The revised project would have no conflict with the provisions of adopted habitat conservation plans; no adopted plans apply to the revised project or SEJPA. The findings described in the Final MND for adopted habitat conservation plans are consistent with the revised project.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND. No new significant biological impacts would occur, nor would the severity of previously identified significant impacts be increased.

Cultural and Tribal Cultural Resources

To analyze the potential cultural and tribal cultural impacts from the revised project, a Cultural Resources Technical Letter Report was prepared for the revised project Area of Potential Effect (APE) (HELIX 2019; Appendix C).

Historic Resources

As identified in the Final MND, four historic built-environment resources, the Control Building (current Office Building), Chlorination Building (Generator Building), Primary Digester (Digester 1), and Secondary Digester (Digester 2) were evaluated under CEQA and Section 106 of National Historic Preservation Act (NHPA) regulations, and found not eligible under state and national eligibility criteria. As such, the four historic built-environment resources are not considered historical resources. No additional built-

environment or historic resources were identified within the revised project APE, and no impacts would occur. Therefore, the revised project is consistent with the findings for historic resources described in the Final MND.

Cultural and Tribal Cultural Resources

No archaeological resources have been identified within the project area as analyzed in the Final MND, or by a records search update conducted for the revised project at the South Coastal Information Center (SCIC) by HELIX staff on November 1, 2018. In addition, the Native American Heritage Commission (NAHC) was contacted on October 30, 2018 for a Sacred Lands File (SLF) search. The NAHC indicated in a response dated November 26, 2018 that no known sacred lands or Native American cultural resources are within the revised project area. Native American outreach letters were sent on December 17, 2018 to Native American representatives and interested parties identified by the NAHC. No responses have been received to date.

An intensive pedestrian survey was conducted of the revised project APE on December 4, 2018, by HELIX Senior Archaeologist Stacie Wilson and Kumeyaay Native American Monitor Nate Curo (Red Tail Environmental). The majority of the revised project APE is developed or within previously disturbed areas. However, as observed on the 1980 aerial photograph, one area in the northwest portion of the revised project APE was observed as not having undergone extensive grading during the construction activities undertaken for the existing concrete channel. During the pedestrian survey, a shell scatter was observed in this area. As such, a testing effort by HELIX archaeologists was conducted on December 11, 2018, with Kumeyaay Native American Monitor participation. Although the testing resulted in the identification of a subsurface shell deposit, no midden soils or cultural artifacts were encountered, and it is unclear if the shell represents ecofacts (a find at an archaeological site that comes from something living) or if the deposit predates human occupation. The deposit is not considered a significant archaeological resource under CEQA or a historic property under Section 106 of the NHPA. However, as with the proposed project, based on the general topographic suitability for this area to support archaeological resources, and considering the moderate density of prehistoric and historic-era resources in the surrounding vicinity, it is possible that unidentified archaeological resources may still be present in the revised project APE. These impacts would not be increased by the revised project. Therefore, impacts to cultural and tribal cultural resources would remain potentially significant, and MM-CUL-1 described for the proposed project would be implemented to reduce impacts to less than significant. No additional measures to avoid or minimize significant impacts to cultural and tribal cultural resources are warranted.

Therefore, the revised project is consistent with the findings for cultural and tribal resources described in the Final MND.

Paleontological Resources

Similar to the proposed project, the revised project components would occur in mostly developed or disturbed areas. As with the proposed project, there is potential to encounter unknown paleontological resources during ground disturbing activities for the revised project components. Therefore, as determined in the Final MND for the proposed project, impacts for the revised project would be potentially significant. This impact would be mitigated to less than significant through MM-CUL-2 as described in the Final MND. Therefore, the revised project is consistent with the findings for paleontological resources described in the Final MND.

Human Remains

As with cultural resources, the revised project would not result in new significant impacts to human remains due to the work area still occurring in the same general area, and as no human remains were identified in the area tested for the revised project. Similar to the proposed project, if human remains are encountered, the project would comply with California Health and Safety Code Section 7050.5. Therefore, impacts would remain less than significant, and the revised project is consistent with the findings for human remains described in the Final MND.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND, and no new or substantially increased significant cultural and tribal cultural resources impacts would occur.

Geology and Soils

Rupture of Known Earthquake Fault

Similar to the proposed project, the revised project is not located within an Alquist-Priolo earthquake fault zone. The purpose of the Alquist-Priolo earthquake fault zones is to prohibit the location of structures on the traces of active faults, thereby mitigating potential damage due to fault surface rupture. Although the project site is not associated with an Alquist-Priolo earthquake fault zone, the revised project components would be built in compliance with the California Building Code according to recommendations from the revised project's geotechnical report. Therefore, impacts would be less than significant, and the revised project is consistent with the findings for rupture of a known earthquake fault described in the Final MND.

Strong Seismic Ground Shaking

Similar to the proposed project, the revised project is located within seismically active Southern California and thus may be subject to strong ground motion from seismic activity, due to the seismic activity of the region and proximity to the Newport-Inglewood-Rose Canyon Fault Zone. However, the revised project components would be built in compliance with the California Building Code according to recommendations from the revised project's geotechnical report. Therefore, impacts would be less than significant and the revised project is consistent with the findings for strong seismic ground shaking described in the Final MND.

Liquefaction

According to Figure 4.5-2 of the Environmental Assessment for the 2013-2021 Housing Element Update for the City of Encinitas, the project site is not located within a liquefaction zone, and is in the lower peak ground acceleration tier that is considered a low liquefaction risk (City 2018). In addition, the revised project components would be built in compliance with the California Building Code according to recommendations from the revised project's geotechnical report to minimize liquefaction risk. Therefore, impacts would be less than significant and the revised project is consistent with the findings for liquefaction described in the Final MND.

Landslides

According to the California Department of Conservation Seismic Hazard Zones Maps for the Encinitas Quadrangle (Department of Conservation 1986), the majority of the project site is located in Landslide Susceptibility Area 1 (least susceptible), with the westernmost portion of the project and the hillside to the west being in Landslide Susceptibility Area 3 (generally susceptible). There is no known occurrence of seismically induced landslides within or surrounding the project area (Department of Conservation 1986). In addition, the revised project components would be built in compliance with the California Building Code according to recommendations from the revised project's geotechnical report to reduce potential landslide hazards. Therefore, impacts would be less than significant and the revised project is consistent with the findings for landslides described in the Final MND.

Soil Erosion

During construction of the revised project components, soil erosion and loss of topsoil could occur through the transport of these materials through runoff, wind transport, and vehicle movement. As discussed in the Final MND for the proposed project, completion of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Statewide Construction General Permit would be required for revised project construction. This requires implementation of water quality BMPs to ensure that water quality standards are met, and that stormwater runoff from the construction work areas does not cause degradation of water quality in receiving water bodies. Some of these BMPs include use of silt screening or fiber filtration rolls, appropriate handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick up, and vehicle and equipment repair and maintenance in designated areas. With implementation of SWPPP requirements, impacts from soil erosion would be less than significant, and the revised project is consistent with the findings for soil erosion described in the Final MND.

Unstable Geologic Units and Soil

As stated above, there is no known occurrence of seismically induced landslides or unstable geologic units and soil within or surrounding the project area, and the project is not in a liquefaction zone. In addition, similar to the proposed project, the revised project would be built in compliance with the California Building Code according to recommendations from the revised project's geotechnical report to minimize impacts from unstable geologic units and soil. Therefore, impacts from unstable geologic units and soil would be less than significant, and the revised project is consistent with the findings for soil erosion described in the Final MND.

Expansive Soil

As stated in the Final MND, the SEWRF area has no known occurrences or identification of expansive soils within the site. In addition, the revised project would be built in compliance with the California Building Code according to recommendations from the revised project's geotechnical report to minimize impacts from expansive soil. Therefore, impacts from expansive would be less than significant, and the revised project is consistent with the findings for expansive soil described in the Final MND.

Wastewater Disposal Systems

Similar to the proposed project, the revised project does not include disposal of wastewater in soils. Therefore, no impacts would occur, and the revised project is consistent with the findings for wastewater disposal systems described in the Final MND.

Greenhouse Gas Emissions

Greenhouse Gas Emissions

Construction

Similar to the project analyzed in the Final MND, the revised project would generate GHG emissions during construction. CalEEMod estimates construction emissions for each year of construction activity based on the annual construction equipment profile and other factors as needed to complete all phases of construction by the target completion year. As such, each year of construction activity has varying quantities of GHG emissions. Construction GHG emissions are generated by vehicle exhaust from off-road construction equipment, on-road hauling trucks, and worker commuting trips.

Input details and output for GHG emissions are provided in Attachment A of Appendix A. The estimated construction GHG emissions for the project are shown in Table 3, *Total Construction Greenhouse Gas Emissions*. As recommended by the County, construction emissions may be amortized over the operational lifetime of the project, which can conservatively be estimated at 20 years. Therefore, as shown in Table 3, total construction GHG emissions would generate 481.27 metric tons (MT) CO_2e, resulting in approximately 24.06 MT CO_2e per year.

Table 3
TOTAL CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	Total CO_2e (Metric Tons)
2019	145.73
2020	122.29
Proposed Project Total Emissions[1]	***268.02***
Total Emissions Reported in the MND[2]	213.25
Revised Total Construction Emissions[3]	**481.27**
Amortized Construction Emissions[4]	*24.06*

[1] Proposed Project Emissions (CalEEMod; Attachment A)
[2] Previously Reported MND Emissions (SEJPA 2016; Page 57, Table 3.7-1)
[3] Totals may not sum due to rounding
[4] Amortized over 20 years per County guidance (County 2015)

Operation

Table 4, *Total Operational Greenhouse Gas Emissions*, includes the total annual emissions for the revised project. The emissions include the amortized annual construction emissions anticipated for the project, as revised. The project revisions would not alter operational emissions. As shown in Table 4, the revised project would result in annual GHG emissions of 122.11 MT CO_2e. Therefore, the total operational emissions would not exceed the 900 MT CO_2e per year screening threshold used in the MND and

impacts would remain less than significant. The revised project is consistent with the findings for GHG emissions described in the Final MND.

Table 4
TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Emissions	Total CO_2e (Metric Tons)
Total Operational Emissions Reported in the MND[1]	98.05
New Amortized Construction Emissions	24.06
Total Operational Greenhouse Gas Emissions	**122.11**
Screening Threshold[2]	*900 MT CO_2e per year*
Significant Impact?	***No***

[1] Previously Reported MND Emissions (SEJPA 2016; Page 58, Table 3.7-2)
[2] County 2015

Greenhouse Gas Plans

The proposed project in the Final MND was determined to be consistent with the following applicable GHG plans and policies: City of Encinitas Climate Action Plan; California Air Resources Board (CARB) Scoping Plan; Executive Order B-30-15, and SANDAG's Regional Transportation Plan/Sustainable Communities Strategy. As the proposed project would not increase GHG emissions above thresholds (e.g., the 900 MT CO_2e threshold), and as the project would be consistent with zoning and land use designations, the proposed project was considered consistent with these plans. The revised project would also not increase emissions above thresholds, as shown in Table 4, and also would be consistent with the zoning and land use designations of the project site. Therefore, impacts to the aforementioned GHG plans would be less than significant and would be consistent with the findings for GHG plans described in the Final MND.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND, and no new or substantially increased GHG impacts would occur.

Hydrology and Water Quality

Water Quality Standards

Similar to the project analyzed in the Final MND, the revised project would involve ground-disturbing activities for grading and excavation that could result in sediment discharge in stormwater runoff. In addition, construction would involve the use of oil, lubricants, and other chemicals that could be discharged from leaks or accidental spills. As with the proposed project, the revised project would implement a SWPPP during construction that would implement water quality BMPs (e.g., silt screens, fiber rolls, litter control, etc.) to ensure water quality standards are met. Operation of the shared-use trail would not introduce new contaminants to water quality. Therefore, impacts would be less than significant, and the findings for water quality described in the Final MND are consistent with the revised project.

Groundwater Supplies

A small portion of the shared-use trail would convert a pervious land cover to an impervious land cover. Similar to the proposed project analyzed in the Final MND, the additional areas of impervious land cover would result in less stormwater infiltration in these specific locations; however, the reduction in groundwater recharge due to the increase in impervious surfaces would not be substantial. As such, the revised project would not significantly change groundwater quantities or result in substantial losses to groundwater recharge capability, and impacts would be less than significant. The findings for groundwater supplies described in the Final MND are consistent with the revised project.

Erosion

Construction of the revised project would alter the existing drainage pattern of the site through construction of new impervious surfaces, where the trail is built over undeveloped areas, and also through the portions of the trail that would cover the existing channel. During construction, a SWPPP would implement stormwater BMPs to ensure that substantial erosion or siltation would not occur on- or off-site. During operation, water would be collected on the trail surface via ditches and inlets and conveyed directly to the box culvert at discrete discharge points to ensure substantial erosion or siltation would not occur on- or off-site. Therefore, through implementation of a SWPPP and project design, impacts would be less than significant. The findings for erosion from drainage alteration described in the Final MND are consistent with the revised project.

Runoff

Construction of the revised project would alter the existing drainage pattern of the site through construction of new impervious surfaces, where the trail is built over undeveloped areas, and also through the portions of the trail that would cover the existing channel. During construction, a SWPPP would implement stormwater BMPs to ensure a substantial increase in runoff would not occur on- or off-site. During operation, water would be collected on the trail surface via ditches and inlets and conveyed directly to the box culvert at discrete discharge points. As with the proposed project, the revised project would be required to implement pertinent regulations and conditions such as the Water Quality Control Plan (WQCP) for the San Diego Basin and the Municipal Storm Water Permit (Regional MS4 Permit) to ensure a substantial increase in runoff would not occur on- or off-site. Therefore, through implementation of a SWPPP, compliance with the WQCP for the San Diego Basin and the Regional MS4 Permit, and project design, impacts would be less than significant. The findings for runoff from drainage alteration described in the Final MND are consistent with the revised project.

100-year Flood Hazard Areas

As with the proposed project, the revised project would not include structures or housing within a 100-year flood hazard area. No impacts would occur, and the findings for flood areas described in the Final MND are consistent with the revised project.

Levee or Dam Failure

As with the proposed project, the revised project would not be located in an area that would have the potential to be flooded as a result of levee or dam failure. No impacts would occur, and the findings for levee and dam failure as described in the Final MND are consistent with the revised project.

Seiche, Tsunami, or Mudflow Hazards

As with the proposed project, the revised project would not be located in an area susceptible to seiche or tsunami hazards. The revised project would modify portions of the western hillside to accommodate the shared-use trail; this work would be performed per the geotechnical report recommendations and applicable standards and would not increase the risk for mudflow. No impacts would occur, and the findings for seiche, tsunami, and mudflow hazards as described in the Final MND are consistent with the revised project.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND. No new significant hydrology and water quality impacts would occur, nor would the severity of previously identified significant impacts be increased.

Noise

Permanent Increase in Noise

Minor noise may be generated from users of the trail; however, the revised project components do not include components that would generate substantial noise. Therefore, permanent noise impacts would remain less than significant, and the findings for noise described in the Final MND are consistent with the revised project.

Temporary Increase in Noise

Similar to the proposed project analyzed in the Final MND, temporary noise would be created during project construction from heavy construction machinery such as large bulldozer. Construction of the channel would use an excavator, backhoe, crane, skid steer loader, and pump within 175 feet of the closest residences to the west. With a conservative assumption that this equipment would all be operating at the closest distance at the same time, according to the Roadway Construction Noise Model (RCNM) noise levels at the nearest residences would be 71.7 A-weighted decibels (dBA) one-hour equivalent (L_{EQ}), which would be below the 75-dBA threshold for the City of Encinitas. In addition, the project would implement the construction BMPs listed on pages 72 and 73 of the Final MND. Therefore, construction noise impacts would remain less than significant, and the findings for construction noise described in the Final MND are consistent with the revised project.

Vibration

Similar to the proposed project analyzed in the Final MND, vibration would be created during project construction from heavy construction machinery such as large bulldozer. The MND analyzed a bulldozer at a distance of 200 feet, resulting in a vibration level of 0.004 Peak Particle Velocity (PPV) inch per second (IPS), well below the Federal Transit Administration threshold of 0.20 PPV IPS. Project construction would occur slightly closer to nearby residences to the west, at a distance of 175 feet. At this distance, vibration levels from a bulldozer would be approximately 0.005 PPV IPS, also well below the Federal Transit Administration threshold of 0.20 PPV IPS. Therefore, vibration impacts would remain less than significant, and the findings for vibration described in the Final MND are consistent with the revised project.

Airport Noise

The revised project components are located approximately 7.4 miles south of the nearest airport (McClellan-Palomar Airport), and are not located within the vicinity of a private airstrip. No impacts would occur, and the findings for airport noise described in the Final MND are consistent with the revised project.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND. No new significant noise impacts would occur, nor would the severity of previously identified significant impacts be increased.

Recreation

Increase Use of Existing Recreational Facilities

Development of the proposed shared-use trail and crosswalk improvements would improve access to existing recreational facilities (e.g., trails within the San Elijo Lagoon area). While the increased access and associated use of trails may increase the physical deterioration of the recreational facilities, these trails are already accessible to users in the area, and the increase from the proposed trail would not be substantial. Therefore, physical deterioration impacts from increased recreational use of revised project would be less than significant, and the findings described in the Final MND are consistent with the revised project.

Construct New Recreational Facilities

The proposed project entails the construction of a shared-use trail that would serve as a transportation facility with recreational value. Potential environmental effects resulting from the proposed trail are analyzed in this Addendum. As discussed in this Addendum, the revised project would not result in new significant impacts that were not analyzed in the Final MND. Implementation of the Final MND mitigation measures would reduce impacts to below a level of significance. Therefore, the findings described in the Final MND are consistent with the revised project.

Transportation and Traffic

Circulation System Effectiveness

Similar to the proposed project analyzed in the Final MND, the majority of traffic impacts would be limited to temporary construction impacts due to associated construction vehicles entering and exiting SEWRF from Manchester Avenue. According to the Addendum to the Air Quality and Greenhouse Gas Emissions Impact Assessment, construction traffic would peak with 23 daily trips during the lighting, fencing, and landscaping phase, which would be a negligible addition to traffic on Manchester Avenue. The majority of construction would occur within the SEWRF property, with the potential for short-term lane closures to install the crosswalk and HAWK system across Manchester Avenue. This work would be temporary, and would not be anticipated to have a substantial effect on the roadway's Level of Service (LOS).

Project operation may increase pedestrians or bicyclists crossing Manchester Avenue using the crosswalk and HAWK system, which may require additional stoppage for vehicles on the street. However, this would not impact LOS operation of the roadway.

Therefore, traffic circulation impacts would remain less than significant, and the findings for traffic circulation described in the Final MND are consistent with the revised project.

Congestion Management Plans

As described above under *Circulation System Effectiveness*, the revised project would not have a significant impact on the effectiveness of the circulation system. Therefore, similar to the analysis in the Final MND, the revised project would not have a significant impact on congestion management plans. The less than significant findings for congestion management programs described in the Final MND are consistent with the revised project.

Air Traffic Hazards

The revised project components are located approximately 7.4 miles south of the nearest airport (McClellan-Palomar Airport), and are not located within the vicinity of a private airstrip. No impacts would occur, and the findings for air traffic hazards described in the Final MND are consistent with the revised project.

Traffic Design Hazards

The revised project would add a crosswalk at the Manchester Avenue and SEWRF facility intersection to allow trail users to connect to San Elijo Lagoon south of Manchester Avenue. To allow for safe passage of trail users and other users of the crosswalk, a HAWK system would be installed. The HAWK system was chosen over other crosswalk devices because it would provide the optimal visibility to drivers that the crosswalk was being used. Therefore, through project design, a traffic design hazard would not be implemented by the revised project components, and impacts would be less than significant. The findings for traffic design hazards described in the Final MND are consistent with the revised project.

Inadequate Emergency Access

The majority of construction would occur within the SEWRF property, with the potential for short-term lane closures to install the crosswalk and HAWK system across Manchester Avenue and for minor curb and sidewalk work on the roadway. This work would be temporary, lasting approximately two weeks, and at least one through lane would be maintained during the construction. Traffic control for this construction would be approved the City. Therefore, impacts would not be significant, and the findings for emergency access described in the Final MND are consistent with the revised project.

Public Transit, Bicycle, or Pedestrian Facility Plans

Construction of the Manchester Avenue/SEWRF intersection improvements may temporarily interfere with existing bicycle and pedestrian facilities (e.g., sidewalks) on Manchester Avenue. This construction would be temporary, lasting approximately two weeks, and connectivity along at least one side of the road would be maintained during construction. Construction of the shared-use trail and crosswalk improvements on Manchester Avenue would improve bicycle and pedestrian circulation in the area.

Therefore, no impacts would occur, and the findings for public transit, bicycle, and pedestrian facility plans described in the Final MND are consistent with the revised project.

Conclusion

In summary, the revised project would not alter the conclusions of the Final MND. No new significant transportation and traffic impacts would occur, nor would the severity of previously identified significant impacts be increased.

DETERMINATION

As discussed above, the revised project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts. There have been no substantial changes proposed to the project that would require major revisions to the Final MND due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. There have been no substantial changes with respect to the circumstances under which the project is undertaken which would require revisions to the Final MND. There is no new information of substantial importance which shows that the project would have significant environmental effects either not discussed or that would be substantially more severe than discussed in the Final MND. Additionally, there have been no mitigation measures or alternatives previously found not to be feasible that would in fact be feasible, nor are there measures or alternatives considerably different than those analyzed in the Final MND that would reduce identified significant impacts.

REFERENCES

City of Encinitas

2018 2013-2021 Housing Element Update. Environmental Assessment. June.

County of San Diego (County)

2018 Climate Action Plan. February 14.

2015 2015 GHG Guidance – Recommended Approach to Addressing Climate Change in CEQA Documents. January 21.

2007 Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality. March 19.

Department of Conservation

1986 Landslide Hazards in the Encinitas Quadrangle, San Diego County, California. Available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_86-08/OFR_86-08.pdf

HELIX Environmental Planning, Inc

2019 Cultural Resources Technical Letter Report for the San Elijo Water Reclamation Facility Upgrades Project in the City of Encinitas. January 8.

2018a Addendum to the Air Quality and Greenhouse Gas Emissions Impact Assessment for the San Elijo Water Reclamation Facility Upgrades Project. December 4.

2018b Addendum to the Biological Resources Technical Report for the San Elijo Water Reclamation Facility Upgrades Project in the City of Encinitas. December 21.

San Elijo Joint Powers Authority

2016 Final Mitigated Negative Declaration for the San Elijo Water Reclamation Facility Upgrades. Prepared by Dudek. April.

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December 20, 2018 KHA-37

Kirk Ammerman, P.E.
Kimley-Horn
401 B Street, Suite 600
San Diego, CA 92101

Subject: **Addendum to the Air Quality and Greenhouse Gas Emissions Impact Assessment for the San Elijo Water Reclamation Facility Upgrades Project**

Dear Mr. Ammerman:

HELIX Environmental Planning, Inc. (HELIX) prepared this letter for the addendum to the Final Mitigated Negative Declaration (MND) for the San Elijo Water Reclamation Facility Upgrades Project (Dudek 2016). The proposed project analyzed in the Final MND included various upgrades, rehabilitations, and replacements for components of the San Elijo Water Reclamation Facility (SEWRF). This updated analysis was prepared to include the proposed construction of a lighted shared-use trail and drainage improvements within the SEWRF property, and entrance improvements along the SEWRF frontage (revised project). HELIX assessed air quality and greenhouse gas (GHG) emissions associated with the construction of the revised project. This letter summarizes the findings of the air quality and GHG assessment.

PROJECT DESCRIPTION

The project site is located at 2965 Manchester Avenue in Cardiff, in the County of San Diego (County). The project totals approximately 1.25 acres and would disturb a maximum of 0.75 acres per day. A lighted 12-foot-wide shared-use trail would require grading and construction of embankment slopes, security fencing, lighting installation, landscaping, surface drainage improvements and implementation of storm water quality best management practices (BMPs). Trail improvements would also provide connections/transitions at Manchester Avenue and to the bikeway improvements within Interstate-5 at the northeast corner of the SEWRF property. Curb, gutter, and sidewalk improvements would be provided at the SEWRF entrance. Additionally, the project would include street-level enhanced trail crossing and traffic calming measures, and pedestrian-activated traffic control devices. Other roadway improvements at Manchester Avenue include a center turn lane, roadway signing and striping, and small retaining walls at the southeast corner of the SEWRF property.

METHODOLOGY

Construction emissions are assessed using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 which contains OFFROAD2011 emission factors and EMFAC2014 emission factors from the California Air Resource Board (CARB) models for off-road equipment and on-road vehicles, respectively. Construction input data for CalEEMod include, but are not limited to, (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; (3) areas to be excavated and graded; and (4) volumes of materials to be exported from and imported to the project area. The model calculates emissions of the following criteria pollutants: carbon monoxide (CO), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and the ozone precursors volatile organic gases (VOCs) and nitrogen oxides (NO_X). CalEEMod also calculates GHG emissions, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and carbon dioxide equivalent (CO_2e).

Construction Emissions

This analysis assessed emissions from individual construction activities, including site preparation, grading, channel construction and drainage improvements, 0.75 acres of paving, and installation of fencing, lighting and landscaping. Approximately 5,000 cubic yards of soil would be imported over the duration of two months, requiring approximately 300 trucks. Haul trucks would travel approximately two miles one-way. Construction would require heavy equipment and the equipment would operate up to ten hours per day, from 7 a.m. to 5 p.m. Equipment estimates, displayed in Table 1, *Construction Equipment Assumptions*, are based on information provided by Kimley-Horn and CalEEMod defaults.

Table 1
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Phase	Equipment	Number
Clear/Grub & Rough Grade	Graders	1
	Tractors/Loaders/Backhoes	1
	Rubber Tired Dozers	1
Channel Construction & Drainage Improvement	Excavators	1
	Tractors/Loaders/Backhoes	1
	Cranes	1
	Skid Steer Loaders	1
	Pumps	1
Paving	Cement and Mortar Mixers	1
	Pavers	1
	Rollers	1
	Tractors/Loaders/Backhoes	1
	Paving Equipment	1
Architectural Coating	Air Compressors	1
Lighting, Fencing, & Landscaping	Cranes	1
	Tractors/Loaders/Backhoes	1

Source: Kimley-Horn and CalEEMod Defaults
Note: Output data, including equipment horsepower, is provided in Attachment A

The construction schedule was based on information provided by Kimley-Horn and CalEEMod defaults. As shown in Table 2, *Anticipated Construction Schedule*, construction for the proposed project is estimated to start in August 2019 and be complete by August 2020. Channel construction and grading would overlap for 40 days in 2019 and installation of fencing and lighting would occur concurrently for 20 days in 2020.

Table 2
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period		
	Start	End	Number of Working Days
Clear/Grub & Rough Grade	8/1/2019	10/23/2019	60
Channel Construction & Drainage Improvements	9/2/2019	4/10/2020	160
Paving	4/13/2020	6/5/2020	40
Architectural Coating	6/8/2020	6/12/2020	5
Lighting, Fencing, & Landscaping	6/15/2020	8/7/2020	40

Source: Kimley-Horn and CalEEMod defaults
Note: Output data is provided in Attachment A

Construction design features, to ensure accordance with San Diego Air Pollution Control District (SDAPCD) Rule 55 Fugitive Dust Control Practices, include requiring the use of an on-site water truck to wet down active grading areas and roads at least twice daily, providing 12 percent moisture content to unpaved roads, and limiting vehicle speeds to 15 miles per hour (SDAPCD 2018).

The quantity, duration, and the intensity of construction activity influence the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). A complete listing of the assumptions used in the analysis and model output is provided in Attachment A.

Operation Emissions

The project proposes a shared-use trail and roadway and drainage improvements and would only generate emissions during construction and therefore, operational emissions would not be generated.

AIR QUALITY ANALYSIS

Maximum Daily Construction Emissions

The project would generate criteria pollutants during clearing/grubbing, rough grading, channel construction and drainage improvements, paving, and installation of lighting, fencing and landscaping. Construction emissions would be short-term and temporary and would cease with construction termination.

The proposed project construction emissions are shown in Table 3, *Maximum Daily Construction Emissions*. The proposed project's maximum daily emissions were added to the peak day reported in the MND, regardless of timing, to present the most conservative analysis. Table 3 presents the maximum anticipated daily emissions and compares them to County Screening Level Thresholds (SLTs; County 2007). As shown, new maximum daily emissions would remain below County SLTs and impacts would remain less than significant.

Table 3
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Construction Phase	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2019	3.38	36.66	21.76	0.04	4.52	2.98
2020	1.78	14.50	13.15	0.02	0.83	0.71
Maximum Daily Emissions[1]	***3.38***	***36.66***	***21.76***	***0.04***	***4.52***	***2.98***
Maximum Daily Emissions Reported in the MND[2]	15.03	26.82	21.77	0.04	5.55	3.21
New Maximum Daily Emissions	**18.41**	**63.48**	**43.53**	**0.08**	**10.07**	**6.19**
SLT Threshold[3] (lbs/day)	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

[1] Proposed Project Emissions (CalEEMod; Attachment A)
[2] Previously Reported MND Emissions (Dudek 2016; Page 27, Table 3.3-1)
[3] County 2007

GREENHOUSE GAS ANALYSIS

Construction Emissions

The project would generate GHG emissions during construction. CalEEMod estimates construction emissions for each year of construction activity based on the annual construction equipment profile and other factors determined as needed to complete all phases of construction by the target completion year. As such, each year of construction activity has varying quantities of GHG emissions.

Construction GHG emissions are generated by vehicle exhaust from off-road construction equipment, on-road hauling trucks, and worker commuting trips. As described above, GHG emissions were estimated using CalEEMod. Input details and output are provided in Attachment A. The estimated construction GHG emissions for the project are shown in Table 4, *Total Construction Greenhouse Gas Emissions*. As recommended by the County (County 2015), construction emissions may be amortized over the operational lifetime of the project, which can conservatively be estimated at 20 years.

Therefore, as shown in Table 4, total construction GHG emissions would generate 481.27 metric tons (MT) CO_2e, resulting in approximately 24.06 MT CO_2e per year.

Table 4
TOTAL CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	Total CO_2e (Metric Tons)
2019	145.73
2020	122.29
Proposed Project Total Emissions[1]	***268.02***
Total Emissions Reported in the MND[2]	213.25
Revised Total Construction Emissions[3]	**481.27**
Amortized Construction Emissions[4]	*24.06*

1 Proposed Project Emissions (CalEEMod; Attachment A)
2 Previously Reported MND Emissions (Dudek 2016; Page 57, Table 3.7-1)
3 Totals may not sum due to rounding
4 Amortized over 20 years per County guidance (County 2015)

Total Greenhouse Gas Emissions

Table 5, *Total Operational Greenhouse Gas Emissions*, includes the total annual emissions for the project. The emissions include the amortized annual construction emissions anticipated for the project. As shown in Table 5, the project would result in annual GHG emissions of 122.11 MT CO_2e. Therefore, the total operational emissions would not exceed the 900 MT CO_2e per year screening threshold used in the MND and impacts would remain less than significant.

Table 5
TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Emissions	Total CO_2e (Metric Tons)
Total Operational Emissions Reported in the MND[1]	98.05
New Amortized Construction Emissions	24.06
Total Operational Greenhouse Gas Emissions	**122.11**
Screening Threshold[2]	*900 MT CO_2e per year*
Significant Impact?	***No***

1 Previously Reported MND Emissions (Dudek 2016; Page 58, Table 3.7-2)
2 County 2015

Climate Action Plan

The proposed project in the Final MND was determined to be consistent with the following applicable GHG plans and policies: City of Encinitas Climate Action Plan; California Air Resources Board (CARB) Scoping Plan; Executive Order B-30-15, and SANDAG's Regional Transportation Plan/Sustainable Communities Strategy. As the proposed project would not increase GHG emissions above thresholds (e.g., the 900 MT CO_2e threshold), and as the project would be consistent with zoning and land use designations, the proposed project was considered consistent with these plans. The revised project would also not increase emissions above thresholds, as shown in Table 5, and also would be consistent

with the zoning and land use designations of the project site. Therefore, impacts to the aforementioned GHG plans would be less than significant and would be consistent with the findings for GHG plans described in the Final MND.

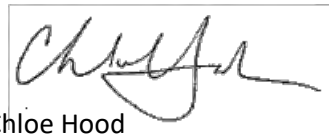
CONCLUSION

As presented above, the emissions generated by the proposed project would not result in a substantial increase and emissions of criteria pollutants and GHGs would be below applicable thresholds. Potential air quality and GHG emissions impacts associated with the installation of a shared-use trail and drainage and roadway improvements would be less than significant and no additional mitigation measures would be required.

We appreciate the opportunity to provide you with this letter report. Please do not hesitate to contact me at 619-462-1515 if you have any questions or require further assistance.

Sincerely,

Victor Ortiz
Senior Air Quality Specialist



Chloe Hood
Air Quality Specialist

Attachments:

Attachment A: CalEEMod Output

REFERENCES

County of San Diego (County). 2018. Climate Action Plan. February 14.

2015. 2015 GHG Guidance – Recommended Approach to Addressing Climate Change in CEQA Documents. January 21.

2007. Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality. March 19.

Dudek. 2016. Final Mitigated Negative Declaration for the San Elijo Water Reclamation Facility Upgrades. April.

San Diego Air Pollution Control District (SDAPCD). 2018. Rules and Regulations. Available at: https://www.sandiegocounty.gov/content/sdc/apcd/en/Rule_Development/Rules_and_Regulations.html. Accessed November 2018.

Attachment A

CalEEMod Output

San Elijo Joint Powers Authority Roadway and Trail Project | KHA-37

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.75	Acre	0.75	32,670.00	0
Other Non-Asphalt Surfaces	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Clear/Grub/Rough Grade: 3 months
Channel Construction/Drainage Improvements: 8 months
Paving: 2 months
Light/Fence/Landscape: 2 months

Off-road Equipment - Per Kimley-Horn

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Per Kimley-Horn

Grading - Import 5000 CY

Trips and VMT - 300 trucks, 2 mile haul length

Architectural Coating - Low VOC coating

Area Coating - No operational emissions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	250.00	50.00
tblAreaCoating	Area_Parking	3267	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	200.00	40.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	PhaseEndDate	7/9/2020	6/12/2020
tblConstructionPhase	PhaseEndDate	6/11/2020	8/7/2020
tblConstructionPhase	PhaseEndDate	6/25/2020	6/5/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	10/23/2019

tblConstructionPhase	PhaseStartDate	6/26/2020	6/8/2020
tblConstructionPhase	PhaseStartDate	9/6/2019	6/15/2020
tblConstructionPhase	PhaseStartDate	6/12/2020	4/13/2020
tblConstructionPhase	PhaseStartDate	8/29/2019	8/1/2019
tblGrading	MaterialImported	0.00	5,000.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripNumber	625.00	600.00

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	0.1228	1.3164	0.8327	1.6200e-003	0.1813	0.0626	0.2439	0.0905	0.0584	0.1489	0.0000	144.8039	144.8039	0.0372	0.0000	145.7327
2020	0.0887	0.8375	0.7531	1.3800e-003	0.0109	0.0416	0.0525	2.9200e-003	0.0389	0.0418	0.0000	121.5395	121.5395	0.0298	0.0000	122.2851
Maximum	**0.1228**	**1.3164**	**0.8327**	**1.6200e-003**	**0.1813**	**0.0626**	**0.2439**	**0.0905**	**0.0584**	**0.1489**	**0.0000**	**144.8039**	**144.8039**	**0.0372**	**0.0000**	**145.7327**

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	0.1228	1.3164	0.8327	1.6200e-003	0.0854	0.0626	0.1480	0.0418	0.0584	0.1002	0.0000	144.8037	144.8037	0.0372	0.0000	145.7325
2020	0.0887	0.8375	0.7531	1.3800e-003	0.0109	0.0416	0.0525	2.9200e-003	0.0389	0.0418	0.0000	121.5394	121.5394	0.0298	0.0000	122.2850
Maximum	**0.1228**	**1.3164**	**0.8327**	**1.6200e-003**	**0.0854**	**0.0626**	**0.1480**	**0.0418**	**0.0584**	**0.1002**	**0.0000**	**144.8037**	**144.8037**	**0.0372**	**0.0000**	**145.7325**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.89**	**0.00**	**32.36**	**52.18**	**0.00**	**25.57**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2019	10-31-2019	1.0510	1.0510
2	11-1-2019	1-31-2020	0.5600	0.5600
3	2-1-2020	4-30-2020	0.4596	0.4596
4	5-1-2020	7-31-2020	0.2500	0.2500
5	8-1-2020	9-30-2020	0.0183	0.0183
		Highest	1.0510	1.0510

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	3.5200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5200e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.5200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5200e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	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	N20	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	Clear/Grub & Rough Grade	Site Preparation	8/1/2019	10/23/2019	5	60	
2	Lighting, Fencing, & Landscaping	Building Construction	6/15/2020	8/7/2020	5	40	
3	Paving	Paving	4/13/2020	6/5/2020	5	40	
4	Architectural Coating	Architectural Coating	6/8/2020	6/12/2020	5	5	
5	Channel Construction & Drainage Improvement	Trenching	9/2/2019	4/10/2020	5	160	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,267 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Channel Construction & Drainage Improvement	Excavators	1	8.00	158	0.38
Lighting, Fencing, & Landscaping	Generator Sets	0	8.00	84	0.74
Lighting, Fencing, & Landscaping	Cranes	1	6.00	231	0.29
Lighting, Fencing, & Landscaping	Forklifts	0	6.00	89	0.20
Clear/Grub & Rough Grade	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Channel Construction & Drainage Improvement	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Channel Construction & Drainage Improvement	Cranes	1	8.00	231	0.29
Lighting, Fencing, & Landscaping	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Channel Construction & Drainage Improvement	Skid Steer Loaders	1	8.00	65	0.37
Channel Construction & Drainage Improvement	Pumps	1	8.00	84	0.74
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Clear/Grub & Rough Grade	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Paving Equipment	1	8.00	132	0.36
Clear/Grub & Rough Grade	Rubber Tired Dozers	1	7.00	247	0.40
Lighting, Fencing, & Landscaping	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Channel Construction & Drainage Improvem	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clear/Grub & Rough Grade	3	8.00	0.00	600.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Lighting, Fencing, & Landscaping	2	23.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Clear/Grub & Rough Grade - 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					0.1743	0.0000	0.1743	0.0887	0.0000	0.0887	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0514	0.5845	0.2367	5.2000e-004		0.0265	0.0265		0.0244	0.0244	0.0000	46.4003	46.4003	0.0147	0.0000	46.7673
Total	**0.0514**	**0.5845**	**0.2367**	**5.2000e-004**	**0.1743**	**0.0265**	**0.2008**	**0.0887**	**0.0244**	**0.1130**	**0.0000**	**46.4003**	**46.4003**	**0.0147**	**0.0000**	**46.7673**

3.2 Clear/Grub & Rough Grade - 2019

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	8.2000e-004	0.0358	6.2300e-003	5.0000e-005	5.2000e-004	6.0000e-005	5.8000e-004	1.4000e-004	6.0000e-005	2.0000e-004	0.0000	4.9941	4.9941	7.6000e-004	0.0000	5.0132
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	9.5000e-004	7.3000e-004	7.0200e-003	2.0000e-005	1.9200e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.7964	1.7964	6.0000e-005	0.0000	1.7978
Total	**1.7700e-003**	**0.0366**	**0.0133**	**7.0000e-005**	**2.4400e-003**	**7.0000e-005**	**2.5200e-003**	**6.5000e-004**	**7.0000e-005**	**7.2000e-004**	**0.0000**	**6.7905**	**6.7905**	**8.2000e-004**	**0.0000**	**6.8110**

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					0.0785	0.0000	0.0785	0.0399	0.0000	0.0399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0514	0.5845	0.2367	5.2000e-004		0.0265	0.0265		0.0244	0.0244	0.0000	46.4002	46.4002	0.0147	0.0000	46.7673
Total	**0.0514**	**0.5845**	**0.2367**	**5.2000e-004**	**0.0785**	**0.0265**	**0.1049**	**0.0399**	**0.0244**	**0.0643**	**0.0000**	**46.4002**	**46.4002**	**0.0147**	**0.0000**	**46.7673**

3.2 Clear/Grub & Rough Grade - 2019

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	8.2000e-004	0.0358	6.2300e-003	5.0000e-005	5.2000e-004	6.0000e-005	5.8000e-004	1.4000e-004	6.0000e-005	2.0000e-004	0.0000	4.9941	4.9941	7.6000e-004	0.0000	5.0132
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	9.5000e-004	7.3000e-004	7.0200e-003	2.0000e-005	1.9200e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.7964	1.7964	6.0000e-005	0.0000	1.7978
Total	**1.7700e-003**	**0.0366**	**0.0133**	**7.0000e-005**	**2.4400e-003**	**7.0000e-005**	**2.5200e-003**	**6.5000e-004**	**7.0000e-005**	**7.2000e-004**	**0.0000**	**6.7905**	**6.7905**	**8.2000e-004**	**0.0000**	**6.8110**

3.3 Lighting, Fencing, & Landscaping - 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	9.9400e-003	0.1125	0.0659	1.3000e-004		5.3300e-003	5.3300e-003		4.9000e-003	4.9000e-003	0.0000	11.6967	11.6967	3.7800e-003	0.0000	11.7912
Total	**9.9400e-003**	**0.1125**	**0.0659**	**1.3000e-004**		**5.3300e-003**	**5.3300e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**11.6967**	**11.6967**	**3.7800e-003**	**0.0000**	**11.7912**

3.3 Lighting, Fencing, & Landscaping - 2020

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	6.9000e-004	0.0205	5.4500e-003	5.0000e-005	1.1900e-003	1.0000e-004	1.2900e-003	3.4000e-004	1.0000e-004	4.4000e-004	0.0000	4.7495	4.7495	3.6000e-004	0.0000	4.7586
Worker	1.7000e-003	1.2600e-003	0.0123	4.0000e-005	3.6900e-003	3.0000e-005	3.7200e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	3.3344	3.3344	1.0000e-004	0.0000	3.3369
Total	**2.3900e-003**	**0.0218**	**0.0178**	**9.0000e-005**	**4.8800e-003**	**1.3000e-004**	**5.0100e-003**	**1.3200e-003**	**1.2000e-004**	**1.4400e-003**	**0.0000**	**8.0839**	**8.0839**	**4.6000e-004**	**0.0000**	**8.0955**

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	9.9400e-003	0.1125	0.0659	1.3000e-004		5.3300e-003	5.3300e-003		4.9000e-003	4.9000e-003	0.0000	11.6967	11.6967	3.7800e-003	0.0000	11.7912
Total	**9.9400e-003**	**0.1125**	**0.0659**	**1.3000e-004**		**5.3300e-003**	**5.3300e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**11.6967**	**11.6967**	**3.7800e-003**	**0.0000**	**11.7912**

3.3 Lighting, Fencing, & Landscaping - 2020

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	6.9000e-004	0.0205	5.4500e-003	5.0000e-005	1.1900e-003	1.0000e-004	1.2900e-003	3.4000e-004	1.0000e-004	4.4000e-004	0.0000	4.7495	4.7495	3.6000e-004	0.0000	4.7586
Worker	1.7000e-003	1.2600e-003	0.0123	4.0000e-005	3.6900e-003	3.0000e-005	3.7200e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	3.3344	3.3344	1.0000e-004	0.0000	3.3369
Total	**2.3900e-003**	**0.0218**	**0.0178**	**9.0000e-005**	**4.8800e-003**	**1.3000e-004**	**5.0100e-003**	**1.3200e-003**	**1.2000e-004**	**1.4400e-003**	**0.0000**	**8.0839**	**8.0839**	**4.6000e-004**	**0.0000**	**8.0955**

3.4 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	0.0168	0.1690	0.1775	2.7000e-004		9.3900e-003	9.3900e-003		8.6600e-003	8.6600e-003	0.0000	23.5314	23.5314	7.4600e-003	0.0000	23.7179
Paving	9.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0178**	**0.1690**	**0.1775**	**2.7000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6600e-003**	**8.6600e-003**	**0.0000**	**23.5314**	**23.5314**	**7.4600e-003**	**0.0000**	**23.7179**

3.4 Paving - 2020

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	9.6000e-004	7.1000e-004	6.9600e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.8847	1.8847	6.0000e-005	0.0000	1.8861
Total	**9.6000e-004**	**7.1000e-004**	**6.9600e-003**	**2.0000e-005**	**2.0800e-003**	**1.0000e-005**	**2.1000e-003**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.8847**	**1.8847**	**6.0000e-005**	**0.0000**	**1.8861**

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	0.0168	0.1690	0.1775	2.7000e-004		9.3900e-003	9.3900e-003		8.6600e-003	8.6600e-003	0.0000	23.5314	23.5314	7.4600e-003	0.0000	23.7179
Paving	9.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0178**	**0.1690**	**0.1775**	**2.7000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6600e-003**	**8.6600e-003**	**0.0000**	**23.5314**	**23.5314**	**7.4600e-003**	**0.0000**	**23.7179**

3.4 Paving - 2020

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	9.6000e-004	7.1000e-004	6.9600e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.8847	1.8847	6.0000e-005	0.0000	1.8861
Total	**9.6000e-004**	**7.1000e-004**	**6.9600e-003**	**2.0000e-005**	**2.0800e-003**	**1.0000e-005**	**2.1000e-003**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.8847**	**1.8847**	**6.0000e-005**	**0.0000**	**1.8861**

3.5 Architectural Coating - 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					
Archit. Coating	3.7900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**4.4000e-003**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.5 Architectural Coating - 2020

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	5.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0906	0.0906	0.0000	0.0000	0.0907
Total	**5.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0906**	**0.0906**	**0.0000**	**0.0000**	**0.0907**

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					
Archit. Coating	3.7900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**4.4000e-003**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.5 Architectural Coating - 2020

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	5.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0906	0.0906	0.0000	0.0000	0.0907
Total	**5.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0906**	**0.0906**	**0.0000**	**0.0000**	**0.0907**

3.6 Channel Construction & Drainage Improvement - 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	0.0674	0.6937	0.5662	9.9000e-004		0.0360	0.0360		0.0340	0.0340	0.0000	87.3804	87.3804	0.0215	0.0000	87.9182
Total	**0.0674**	**0.6937**	**0.5662**	**9.9000e-004**		**0.0360**	**0.0360**		**0.0340**	**0.0340**	**0.0000**	**87.3804**	**87.3804**	**0.0215**	**0.0000**	**87.9182**

3.6 Channel Construction & Drainage Improvement - 2019

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	2.2300e-003	1.7100e-003	0.0166	5.0000e-005	4.5300e-003	3.0000e-005	4.5700e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	4.2328	4.2328	1.4000e-004	0.0000	4.2362
Total	**2.2300e-003**	**1.7100e-003**	**0.0166**	**5.0000e-005**	**4.5300e-003**	**3.0000e-005**	**4.5700e-003**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**4.2328**	**4.2328**	**1.4000e-004**	**0.0000**	**4.2362**

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	0.0674	0.6937	0.5662	9.9000e-004		0.0360	0.0360		0.0340	0.0340	0.0000	87.3803	87.3803	0.0215	0.0000	87.9181
Total	**0.0674**	**0.6937**	**0.5662**	**9.9000e-004**		**0.0360**	**0.0360**		**0.0340**	**0.0340**	**0.0000**	**87.3803**	**87.3803**	**0.0215**	**0.0000**	**87.9181**

3.6 Channel Construction & Drainage Improvement - 2019

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	2.2300e-003	1.7100e-003	0.0166	5.0000e-005	4.5300e-003	3.0000e-005	4.5700e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	4.2328	4.2328	1.4000e-004	0.0000	4.2362
Total	**2.2300e-003**	**1.7100e-003**	**0.0166**	**5.0000e-005**	**4.5300e-003**	**3.0000e-005**	**4.5700e-003**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**4.2328**	**4.2328**	**1.4000e-004**	**0.0000**	**4.2362**

3.6 Channel Construction & Drainage Improvement - 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	0.0514	0.5280	0.4673	8.3000e-004		0.0264	0.0264		0.0249	0.0249	0.0000	72.1744	72.1744	0.0179	0.0000	72.6220
Total	**0.0514**	**0.5280**	**0.4673**	**8.3000e-004**		**0.0264**	**0.0264**		**0.0249**	**0.0249**	**0.0000**	**72.1744**	**72.1744**	**0.0179**	**0.0000**	**72.6220**

3.6 Channel Construction & Drainage Improvement - 2020

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	1.7500e-003	1.2900e-003	0.0127	4.0000e-005	3.8100e-003	3.0000e-005	3.8300e-003	1.0100e-003	3.0000e-005	1.0400e-003	0.0000	3.4395	3.4395	1.0000e-004	0.0000	3.4421
Total	**1.7500e-003**	**1.2900e-003**	**0.0127**	**4.0000e-005**	**3.8100e-003**	**3.0000e-005**	**3.8300e-003**	**1.0100e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.4395**	**3.4395**	**1.0000e-004**	**0.0000**	**3.4421**

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	0.0514	0.5280	0.4673	8.3000e-004		0.0264	0.0264		0.0249	0.0249	0.0000	72.1743	72.1743	0.0179	0.0000	72.6219
Total	**0.0514**	**0.5280**	**0.4673**	**8.3000e-004**		**0.0264**	**0.0264**		**0.0249**	**0.0249**	**0.0000**	**72.1743**	**72.1743**	**0.0179**	**0.0000**	**72.6219**

3.6 Channel Construction & Drainage Improvement - 2020

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	1.7500e-003	1.2900e-003	0.0127	4.0000e-005	3.8100e-003	3.0000e-005	3.8300e-003	1.0100e-003	3.0000e-005	1.0400e-003	0.0000	3.4395	3.4395	1.0000e-004	0.0000	3.4421
Total	**1.7500e-003**	**1.2900e-003**	**0.0127**	**4.0000e-005**	**3.8100e-003**	**3.0000e-005**	**3.8300e-003**	**1.0100e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.4395**	**3.4395**	**1.0000e-004**	**0.0000**	**3.4421**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Other Non-Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	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
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 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	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	3.5200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.5200e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

6.2 Area by SubCategory

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.5200e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

San Elijo Joint Powers Authority Roadway and Trail Project | KHA-37

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.75	Acre	0.75	32,670.00	0
Other Non-Asphalt Surfaces	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Clear/Grub/Rough Grade: 3 months
Channel Construction/Drainage Improvements: 8 months
Paving: 2 months
Light/Fence/Landscape: 2 months

Off-road Equipment - Per Kimley-Horn

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Per Kimley-Horn

Grading - Import 5000 CY

Trips and VMT - 300 trucks, 2 mile haul length

Architectural Coating - Low VOC coating

Area Coating - No operational emissions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	250.00	50.00
tblAreaCoating	Area_Parking	3267	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	200.00	40.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	PhaseEndDate	7/9/2020	6/12/2020
tblConstructionPhase	PhaseEndDate	6/11/2020	8/7/2020
tblConstructionPhase	PhaseEndDate	6/25/2020	6/5/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	10/23/2019

tblConstructionPhase	PhaseStartDate	6/26/2020	6/8/2020
tblConstructionPhase	PhaseStartDate	9/6/2019	6/15/2020
tblConstructionPhase	PhaseStartDate	6/12/2020	4/13/2020
tblConstructionPhase	PhaseStartDate	8/29/2019	8/1/2019
tblGrading	MaterialImported	0.00	5,000.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripNumber	625.00	600.00

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	3.3834	36.6632	21.7551	0.0432	6.0015	1.7133	7.7148	3.0061	1.5954	4.6015	0.0000	4,265.7863	4,265.7863	1.1197	0.0000	4,293.7794
2020	1.7772	14.5007	13.1505	0.0237	0.2499	0.7246	0.8314	0.0677	0.6832	0.7115	0.0000	2,282.5357	2,282.5357	0.5438	0.0000	2,296.1314
Maximum	**3.3834**	**36.6632**	**21.7551**	**0.0432**	**6.0015**	**1.7133**	**7.7148**	**3.0061**	**1.5954**	**4.6015**	**0.0000**	**4,265.7863**	**4,265.7863**	**1.1197**	**0.0000**	**4,293.7794**

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	3.3834	36.6632	21.7551	0.0432	2.8053	1.7133	4.5186	1.3806	1.5954	2.9760	0.0000	4,265.7863	4,265.7863	1.1197	0.0000	4,293.7794
2020	1.7772	14.5007	13.1505	0.0237	0.2499	0.7246	0.8314	0.0677	0.6832	0.7115	0.0000	2,282.5357	2,282.5357	0.5438	0.0000	2,296.1314
Maximum	**3.3834**	**36.6632**	**21.7551**	**0.0432**	**2.8053**	**1.7133**	**4.5186**	**1.3806**	**1.5954**	**2.9760**	**0.0000**	**4,265.7863**	**4,265.7863**	**1.1197**	**0.0000**	**4,293.7794**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**51.13**	**0.00**	**37.40**	**52.88**	**0.00**	**30.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	0.0193	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.7000e-004	2.7000e-004	0.0000		2.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0193**	**0.0000**	**1.3000e-004**	**0.0000**	**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**

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	lb/day										lb/day					
Area	0.0193	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.7000e-004	2.7000e-004	0.0000		2.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0193**	**0.0000**	**1.3000e-004**	**0.0000**	**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**

	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	N20	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	Clear/Grub & Rough Grade	Site Preparation	8/1/2019	10/23/2019	5	60	
2	Lighting, Fencing, & Landscaping	Building Construction	6/15/2020	8/7/2020	5	40	
3	Paving	Paving	4/13/2020	6/5/2020	5	40	
4	Architectural Coating	Architectural Coating	6/8/2020	6/12/2020	5	5	
5	Channel Construction & Drainage Improvement	Trenching	9/2/2019	4/10/2020	5	160	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,267 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Channel Construction & Drainage Improvement	Excavators	1	8.00	158	0.38
Lighting, Fencing, & Landscaping	Generator Sets	0	8.00	84	0.74
Lighting, Fencing, & Landscaping	Cranes	1	6.00	231	0.29
Lighting, Fencing, & Landscaping	Forklifts	0	6.00	89	0.20
Clear/Grub & Rough Grade	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Channel Construction & Drainage Improvement	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Channel Construction & Drainage Improvement	Cranes	1	8.00	231	0.29
Lighting, Fencing, & Landscaping	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Channel Construction & Drainage Improvement	Skid Steer Loaders	1	8.00	65	0.37
Channel Construction & Drainage Improvement	Pumps	1	8.00	84	0.74
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Clear/Grub & Rough Grade	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Paving Equipment	1	8.00	132	0.36
Clear/Grub & Rough Grade	Rubber Tired Dozers	1	7.00	247	0.40
Lighting, Fencing, & Landscaping	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Channel Construction & Drainage Improvem	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clear/Grub & Rough Grade	3	8.00	0.00	600.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Lighting, Fencing, & Landscaping	2	23.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Clear/Grub & Rough Grade - 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					5.8113	0.0000	5.8113	2.9555	0.0000	2.9555			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**	**5.8113**	**0.8824**	**6.6936**	**2.9555**	**0.8118**	**3.7672**		**1,704.9189**	**1,704.9189**	**0.5394**		**1,718.4044**

3.2 Clear/Grub & Rough Grade - 2019

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	0.0287	1.1699	0.2351	1.6100e-003	0.0177	2.1000e-003	0.0198	4.8600e-003	2.0100e-003	6.8600e-003		175.0533	175.0533	0.0297		175.7949
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	0.0355	0.0246	0.2339	6.6000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.3000e-004	0.0179		65.3531	65.3531	2.1100e-003		65.4058
Total	**0.0642**	**1.1945**	**0.4690**	**2.2700e-003**	**0.0834**	**2.5700e-003**	**0.0860**	**0.0223**	**2.4400e-003**	**0.0247**		**240.4064**	**240.4064**	**0.0318**		**241.2007**

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					2.6151	0.0000	2.6151	1.3300	0.0000	1.3300			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
Total	**1.7123**	**19.4821**	**7.8893**	**0.0172**	**2.6151**	**0.8824**	**3.4974**	**1.3300**	**0.8118**	**2.1417**	**0.0000**	**1,704.9189**	**1,704.9189**	**0.5394**		**1,718.4044**

3.2 Clear/Grub & Rough Grade - 2019

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	0.0287	1.1699	0.2351	1.6100e-003	0.0177	2.1000e-003	0.0198	4.8600e-003	2.0100e-003	6.8600e-003		175.0533	175.0533	0.0297		175.7949
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	0.0355	0.0246	0.2339	6.6000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.3000e-004	0.0179		65.3531	65.3531	2.1100e-003		65.4058
Total	**0.0642**	**1.1945**	**0.4690**	**2.2700e-003**	**0.0834**	**2.5700e-003**	**0.0860**	**0.0223**	**2.4400e-003**	**0.0247**		**240.4064**	**240.4064**	**0.0318**		**241.2007**

3.3 Lighting, Fencing, & Landscaping - 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	0.4972	5.6225	3.2963	6.6500e-003		0.2665	0.2665		0.2452	0.2452		644.6686	644.6686	0.2085		649.8811
Total	**0.4972**	**5.6225**	**3.2963**	**6.6500e-003**		**0.2665**	**0.2665**		**0.2452**	**0.2452**		**644.6686**	**644.6686**	**0.2085**		**649.8811**

3.3 Lighting, Fencing, & Landscaping - 2020

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	0.0352	1.0140	0.2869	2.4000e-003	0.0609	5.0600e-003	0.0660	0.0175	4.8400e-003	0.0224		257.8160	257.8160	0.0208		258.3346
Worker	0.0956	0.0639	0.6147	1.8300e-003	0.1889	1.3300e-003	0.1903	0.0501	1.2200e-003	0.0513		181.9604	181.9604	5.4800e-003		182.0973
Total	**0.1308**	**1.0779**	**0.9016**	**4.2300e-003**	**0.2499**	**6.3900e-003**	**0.2563**	**0.0677**	**6.0600e-003**	**0.0737**		**439.7763**	**439.7763**	**0.0262**		**440.4320**

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	0.4972	5.6225	3.2963	6.6500e-003		0.2665	0.2665		0.2452	0.2452	0.0000	644.6686	644.6686	0.2085		649.8811
Total	**0.4972**	**5.6225**	**3.2963**	**6.6500e-003**		**0.2665**	**0.2665**		**0.2452**	**0.2452**	**0.0000**	**644.6686**	**644.6686**	**0.2085**		**649.8811**

3.3 Lighting, Fencing, & Landscaping - 2020

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	0.0352	1.0140	0.2869	2.4000e-003	0.0609	5.0600e-003	0.0660	0.0175	4.8400e-003	0.0224		257.8160	257.8160	0.0208		258.3346
Worker	0.0956	0.0639	0.6147	1.8300e-003	0.1889	1.3300e-003	0.1903	0.0501	1.2200e-003	0.0513		181.9604	181.9604	5.4800e-003		182.0973
Total	**0.1308**	**1.0779**	**0.9016**	**4.2300e-003**	**0.2499**	**6.3900e-003**	**0.2563**	**0.0677**	**6.0600e-003**	**0.0737**		**439.7763**	**439.7763**	**0.0262**		**440.4320**

3.4 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	0.0491					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8893**	**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**

3.4 Paving - 2020

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	0.0540	0.0361	0.3474	1.0300e-003	0.1068	7.5000e-004	0.1075	0.0283	6.9000e-004	0.0290		102.8472	102.8472	3.1000e-003		102.9246
Total	**0.0540**	**0.0361**	**0.3474**	**1.0300e-003**	**0.1068**	**7.5000e-004**	**0.1075**	**0.0283**	**6.9000e-004**	**0.0290**		**102.8472**	**102.8472**	**3.1000e-003**		**102.9246**

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	0.0491					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8893**	**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**

3.4 Paving - 2020

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	0.0540	0.0361	0.3474	1.0300e-003	0.1068	7.5000e-004	0.1075	0.0283	6.9000e-004	0.0290		102.8472	102.8472	3.1000e-003		102.9246
Total	**0.0540**	**0.0361**	**0.3474**	**1.0300e-003**	**0.1068**	**7.5000e-004**	**0.1075**	**0.0283**	**6.9000e-004**	**0.0290**		**102.8472**	**102.8472**	**3.1000e-003**		**102.9246**

3.5 Architectural Coating - 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					
Archit. Coating	1.5143					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**1.7564**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.5 Architectural Coating - 2020

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	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

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					
Archit. Coating	1.5143					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**1.7564**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.5 Architectural Coating - 2020

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	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

3.6 Channel Construction & Drainage Improvement - 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	1.5492	15.9466	13.0166	0.0227		0.8277	0.8277		0.7805	0.7805		2,214.2622	2,214.2622	0.5451		2,227.8899
Total	**1.5492**	**15.9466**	**13.0166**	**0.0227**		**0.8277**	**0.8277**		**0.7805**	**0.7805**		**2,214.2622**	**2,214.2622**	**0.5451**		**2,227.8899**

3.6 Channel Construction & Drainage Improvement - 2019

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	0.0577	0.0400	0.3801	1.0700e-003	0.1068	7.6000e-004	0.1076	0.0283	7.0000e-004	0.0290		106.1988	106.1988	3.4300e-003		106.2845
Total	**0.0577**	**0.0400**	**0.3801**	**1.0700e-003**	**0.1068**	**7.6000e-004**	**0.1076**	**0.0283**	**7.0000e-004**	**0.0290**		**106.1988**	**106.1988**	**3.4300e-003**		**106.2845**

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	1.5492	15.9466	13.0166	0.0227		0.8277	0.8277		0.7805	0.7805	0.0000	2,214.2622	2,214.2622	0.5451		2,227.8899
Total	**1.5492**	**15.9466**	**13.0166**	**0.0227**		**0.8277**	**0.8277**		**0.7805**	**0.7805**	**0.0000**	**2,214.2622**	**2,214.2622**	**0.5451**		**2,227.8899**

3.6 Channel Construction & Drainage Improvement - 2019

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	0.0577	0.0400	0.3801	1.0700e-003	0.1068	7.6000e-004	0.1076	0.0283	7.0000e-004	0.0290		106.1988	106.1988	3.4300e-003		106.2845
Total	**0.0577**	**0.0400**	**0.3801**	**1.0700e-003**	**0.1068**	**7.6000e-004**	**0.1076**	**0.0283**	**7.0000e-004**	**0.0290**		**106.1988**	**106.1988**	**3.4300e-003**		**106.2845**

3.6 Channel Construction & Drainage Improvement - 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	1.4080	14.4646	12.8031	0.0227		0.7239	0.7239		0.6825	0.6825		2,179.6886	2,179.6886	0.5407		2,193.2068
Total	**1.4080**	**14.4646**	**12.8031**	**0.0227**		**0.7239**	**0.7239**		**0.6825**	**0.6825**		**2,179.6886**	**2,179.6886**	**0.5407**		**2,193.2068**

3.6 Channel Construction & Drainage Improvement - 2020

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	0.0540	0.0361	0.3474	1.0300e-003	0.1068	7.5000e-004	0.1075	0.0283	6.9000e-004	0.0290		102.8472	102.8472	3.1000e-003		102.9246
Total	**0.0540**	**0.0361**	**0.3474**	**1.0300e-003**	**0.1068**	**7.5000e-004**	**0.1075**	**0.0283**	**6.9000e-004**	**0.0290**		**102.8472**	**102.8472**	**3.1000e-003**		**102.9246**

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	1.4080	14.4646	12.8031	0.0227		0.7239	0.7239		0.6825	0.6825	0.0000	2,179.6886	2,179.6886	0.5407		2,193.2068
Total	**1.4080**	**14.4646**	**12.8031**	**0.0227**		**0.7239**	**0.7239**		**0.6825**	**0.6825**	**0.0000**	**2,179.6886**	**2,179.6886**	**0.5407**		**2,193.2068**

3.6 Channel Construction & Drainage Improvement - 2020

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	0.0540	0.0361	0.3474	1.0300e-003	0.1068	7.5000e-004	0.1075	0.0283	6.9000e-004	0.0290		102.8472	102.8472	3.1000e-003		102.9246
Total	**0.0540**	**0.0361**	**0.3474**	**1.0300e-003**	**0.1068**	**7.5000e-004**	**0.1075**	**0.0283**	**6.9000e-004**	**0.0290**		**102.8472**	**102.8472**	**3.1000e-003**		**102.9246**

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	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
Unmitigated	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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Other Non-Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

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	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
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0193	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.7000e-004	2.7000e-004	0.0000		2.9000e-004
Unmitigated	0.0193	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.7000e-004	2.7000e-004	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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0193					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.7000e-004	2.7000e-004	0.0000		2.9000e-004
Total	**0.0193**	**0.0000**	**1.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.7000e-004**	**2.7000e-004**	**0.0000**		**2.9000e-004**

6.2 Area by SubCategory

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0193					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.7000e-004	2.7000e-004	0.0000		2.9000e-004
Total	**0.0193**	**0.0000**	**1.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.7000e-004**	**2.7000e-004**	**0.0000**		**2.9000e-004**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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December 21, 2018

Michael T. Thornton, P.E.
General Manager
San Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff-by-the-Sea
California 92007-7077

Subject: Addendum to Biological Resources Technical Report for the San Elijo Water Reclamation Facility Upgrades Project in the City of Encinitas

Dear Mr. Thornton:

HELIX Environmental Planning, Inc. (HELIX) has prepared this biological resources letter report in support of the addendum to the Final Mitigated Negative Declaration (MND) for the San Elijo Water Reclamation Facility Upgrades Project (Dudek 2016). The approved project analyzed in the Final MND included various upgrades, rehabilitations, and replacements for components of the San Elijo Water Reclamation Facility (SEWRF) located in Cardiff-by-the-Sea in the City of Encinitas, California. This updated analysis was prepared to include the proposed construction of a lighted shared-use trail and drainage improvements within the SEWRF property, and entrance improvements along the SEWRF frontage with Manchester Avenue (revised project).

HELIX assessed the potential impacts on biological resources associated with the construction and operation of the revised project. The findings of this assessment support the determination that no new significant adverse impacts would occur as a result of the revised project that were not already identified, analyzed, and assigned mitigation in the Final MND and associated biological resources technical report. This letter summarizes the findings for biological resources.

PROJECT LOCATION

The revised project will occur within and immediately adjacent to SEJPA's WRF located at 2965 Manchester Avenue in the City of Encinitas, California. The project site is generally located north of the San Elijo Lagoon, south of Birmingham Drive, east of the Pacific Ocean, and west of Interstate 5 (I-5) (Figure 1). The site is situated within Township 13 South, Range 4 West, Sections 26 and 27 of the Encinitas U.S. Geological Survey (USGS) topographic quadrangle map (Figure 2). The site occurs within Assessor's Parcel Number (APN) 261-010-1302, mostly within existing disturbed and developed portions of the WRF and its driveway intersection with Manchester Avenue, with additional areas located near the San Elijo Lagoon Visitor's Center driveway intersection with Manchester Avenue (Figure 3). The northern portion of the site is mostly undeveloped, except for stormwater facilities.

PROJECT DESCRIPTION

The revised project includes only those components that represent changes to the project since certification of the Final MND, which include a new shared-use trail and roadway improvements at Manchester Avenue.

A 12-foot-wide shared-use trail would be constructed as part of the revised project on the SEWRF property. The trail would mostly be constructed over the existing drainage channel, covering the existing open channel. The northern portion of the trail would travel through a vacant area on the SEWRF property.

Trail improvements would also provide connections/transitions at Manchester Avenue and to the bikeway improvements within I-5 at the northeast corner of the SEWRF property. The trail would require grading and construction of embankment slopes, security fencing, lighting installation (several lighting fixtures would be included along the trail at a height of approximately 14 feet), landscaping, surface drainage improvements and implementation of storm water quality best management practices (BMPs).

The project would include street-level enhanced trail crossing and traffic calming measures, and pedestrian-activated traffic control devices. The traffic calming measures would include a high-intensity crosswalk (HAWK) system, which is a pedestrian-activated beacon over the crosswalk to alert motorists when a pedestrian or bicyclist is crossing the road, or other crosswalk alert system as approved by the City of Encinitas. Curb, gutter, and sidewalk improvements would be provided at the SEWRF entrance. Other roadway improvements at Manchester Avenue include a center turn lane, roadway signing and striping, and small retaining walls at the southeast corner of the SEWRF property.

The revised project components total approximately 1.25 acres and would disturb a maximum of 0.75 acres per day.

METHODS

HELIX Biologist Dane van Tamelen conducted an initial general biological survey at the project site on August 7, 2018. A subsequent survey was conducted by HELIX Biologist Laura Moreton on November 28, 2018 to inspect additional areas within the project site and verify that conditions had not changed since those reported in the Final MND (Dudek 2016). Ms. Moreton surveyed the site looking for special status plants, animals, and vegetation communities. Prior to the survey, Ms. Moreton studied aerial imagery of the site and previous biological resources data (Dudek 2016). Ms. Moreton also referred to online databases such as California Natural Diversity Database (CNDDB), California Native Plant Society, and California Department of Fish and Wildlife (CDFW) for any new observations of special status species in the direct vicinity of the project site (CDFW 2018a; CDFW 2018b; CNPS 2018).

EXISTING CONDITIONS SUMMARY

The SEWRF was originally built in 1965 and has been owned and operated by SEJPA since that time. The original plant provided primary water treatment only. The plant has evolved over the years to meet the needs of the growing community and changing environmental regulations. The project site has been

developed in its current condition and configuration for 23 years. The plant currently process wastewater and serves a water reclamation function for the surrounding communities, and processes 5.25 million gallons of water per day. Most of the SEWRF property is comprised of developed land and highly disturbed areas that are regularly maintained and characterized by bare earth, non-native ruderal (weedy) vegetation, and facility landscaping. The steep slopes located in the extreme western portion of the property contain pockets of native Diegan coastal sage scrub (DCSS) that are intermixed with non-native ornament escapees from the local area. Riparian habitat occurs off site further to the southeast of the SEWRF property, as does riparian, wetland, and coastal saltmarsh habitat associated with the San Elijo Lagoon off site further to the south. A brief summary of the existing biological conditions is included below.

Diegan Coastal Sage Scrub

DCSS is one of the two major vegetation communities, dominated by shrubs, that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). DCSS may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within DCSS include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera).*

DCSS species observed west of the project site include laurel sumac, black sage, California sagebrush, California buckwheat, and lemonadeberry. These species are intermixed with several non-native ornamental and invasive species throughout the east-facing slope, located to the west of the project site.

The DCSS west of the project site is relatively dense and situated on a steep, east-facing slope. Based on studies completed to date, the DCSS is not likely to support any special status plant species and has a low-to-moderate potential to support several special status wildlife species. Database records exist for the coastal California gnatcatcher off-site and nearby in association with better quality stands around San Elijo Lagoon and adjacent habitat. Due to the abundance of non-native plant species and absence of special-status species during survey efforts, the DCSS does not meet the criteria to be considered ESHA, although it does provide biological functions and values. As part of Coastal Development Permit (CDP) #6-89-284 some of this area has been placed into an open space conservation easement (CE) (Figure 4).

Non-Native Vegetation

Non-native vegetation includes areas dominated by non-native plant species. These areas include stands of ornamental landscaping or groups of non-natives that have escaped and recruited into native areas. Dominant non-native species observed within the project area include eucalyptus (*Eucalyptus* sp.), Canary Island date palm (*Phoenix canariensis*), acacia (*Acacia retinodes*), ice plant (*Carpobrotus edulis*), castor bean (*Ricinus communis*), tree tobacco (*Nicotiana glauca*), and Mission cactus (*Opuntia ficus-indica*).

Disturbed Habitat

Disturbed habitat includes areas with ground surface disturbance, where a soil substrate is retained. Where vegetation is present, it supports an assemblage of almost exclusively non-native, weedy, upland

species that colonize after disturbance. Within the project area, disturbed habitat occurs on either side of the existing concrete channel and other locations within the SEWRF that are maintained and used by SEJPA during ongoing operations. Where vegetation is present, species observed include acacia, star thistle (*Centaurea melitensis*), ice plant, castor bean, tree tobacco, wild cucumber (*Marah macrocarpa*), and Russian thistle (*Salsola tragus*). Scattered and isolated natives observed include species such as California buckwheat and coastal prickly pear (*Opuntia littoralis*).

Developed Land

Developed land includes areas where there is a permanent alteration to the land due to development and other significant disturbances. Developed land may include areas supporting ornamental landscaping. Within the project area, developed land includes existing graded, paved, concrete lined, and landscaped areas within the SEWRF. Ornamental trees, shrubs, and turf grasses present in landscaped areas are also considered developed.

Jurisdictional Resources

An existing concrete-lined flood control channel runs north-south on the west side of the SEWRF. The trapezoidal-shaped channel is entirely lined with concrete and devoid of vegetation and sediment. The channel has been utilized for flood control purposes and conveyance of run-on through the SEWRF for decades. The concrete-lined channel has been subject to regular maintenance by SEJPA and recent permitted activities as part of SEJPA's land outfall replacement project. The flood control channel has downstream connectivity to the San Elijo Lagoon, and as such, represents non-wetland waters of the U.S./State subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB), and concrete streambed subject to the regulatory jurisdiction of the CDFW.

PROJECT IMPACTS SIGNIFICANCE AND PROPOSED MITIGATON

Potential impacts related to the revised project are described below.

Direct Impacts

No new significant and adverse direct impacts are identified for the revised project compared to those analyzed in the Final MND. Portions of the bike trail would result in concrete-to-concrete direct, permanent impacts associated with the covering of the concrete lined channel. However, these impacts are considered less than significant due to the fact that no impacts would occur to sensitive natural communities, riparian habitat, or federally-protected wetlands. As a regulatory requirement, SEJPA must notify the USACE, RWQCB, and CDFW, and obtain necessary permits from these agencies prior to construction. As addressed further below, implementation of the mitigation measures identified in the Final MND would ensure that any potential significant direct impacts of the revised project are also reduced to less than significant levels.

Indirect Impacts

As with the direct impacts, no new significant and adverse indirect impacts are identified for the revised project compared to those analyzed in the Final MND. Implementation of the mitigation measures identified in the Final MND would ensure that any potential significant indirect impacts of the revised project are also reduced to less than significant levels.

Impact Significance Analysis

This section discussed how the potential direct and indirect significant impacts of the revised project would be mitigated with implementation of relevant mitigation measures from the Final MND (Dudek 2016).

Threshold Bio-1

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or United States Fish and Wildlife Service (USFWS)?

Plant Species

None of the special-status plant species analyzed in the Final MND have the potential to occur within the revised project impact areas. Project impacts would be restricted to developed land, disturbed habitat (i.e., ruderal and weedy areas), and areas planted as part of the SEWRF and Manchester Avenue landscaping. The four Torrey pines (*Pinus torreyana* ssp. *torreyana;* CRPR 1B.2) identified on the project site would be avoided by the revised project. If the appropriate avoidance and minimization measures are not implemented during construction, potential significant indirect impacts could occur to native habitat areas located off site and downstream of the revised project. The potential significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-5.

Animal Species

As with plant species, none of the special-status animal species analyzed in the Final MND have the potential to occur within the revised project impact areas. Project impacts would be restricted to developed land, disturbed habitat (i.e., ruderal and weedy areas), and areas planted as part of the SEWRF and Manchester Avenue landscaping that lack suitable habitat for special-status animals. As such, no direct impacts would occur to special-status animal species.

The coastal California gnatcatcher, a federally-threatened species and state species of special concern, has the potential to use off-site DCSS located on portions of the steep slopes to the west of revised project impact area. The critical habitat for the coastal California gnatcatcher that overlays the eastern portions of the SEWRF does not support any DCSS or the critical habitat primary constituent elements. No revised project components are proposed in the critical habitat area. No impacts to DCSS or primary constituent elements within the critical habitat overlay would occur. The least Bell's vireo (*Vireo bellii pusillus*), a federally- and state-endangered species, has potential to occur within off-site riparian habitat

located to the southeast of the SEWRF. Potential significant indirect impacts could occur to the gnatcatcher and/or vireo and their habitat that occurs within 500 feet of construction off site. In addition, if operational lighting is not properly shielded and directed away from adjacent habitat areas that could support either species, the lighting could adversely affect breeding behaviors and other life history requirements of either species. These potential significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, and MM-BIO-9.

Threshold Bio-2

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

No riparian habitat or other sensitive natural community (e.g., DCSS) occurs within the revised project footprint. Thus, no direct impacts would occur. If the appropriate avoidance and minimization measures are not implemented during construction, potential significant indirect impacts could occur to off-site DCSS and other off-site sensitive habitat located downstream in association with San Elijo Lagoon. These potential significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-5.

Threshold Bio-3

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

No wetlands occur within the revised project footprint; none are present within the SEWRF property. Therefore, no direct impacts to wetlands would occur. Wetlands do occur off site and downstream of areas that will require improvements, including the extension of culvert over the concrete flood control channel in the western portion of the SEWRF to accommodate the new trail. Potential significant indirect impacts could occur to off-site sensitive habitat located downstream, including wetlands, associated with the San Elijo Lagoon. These potential significant indirect impacts would be mitigated to less than significant levels with the implementation of the following mitigation measures from the Final MND: MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-5. As a regulatory requirement, SEJPA must notify the USACE, RWQCB, and CDFW, and obtain necessary permits from these agencies prior to construction activities at the concrete flood control channel; SEJPA would be required to implement all conditions and measures from these permits.

Threshold Bio-4

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

The SEWRF is currently fenced and does not serve as a wildlife corridor or habitat linkage. The SEWRF is surrounded to the north, east, and west, by residential development and the I-5 freeway.

The location of the proposed bike trail will not substantially interfere with the movement of any resident or migratory fish or wildlife species. The bike trail is proposed in an area that is generally located to the north and east of the SEWRF, on land comprised of disturbed habitat and a concrete-lined channel. Perimeter fencing currently exists around the SEWRF preventing wildlife from entering or leaving any native habitat adjacent to the project area via the SEWRF. Therefore, the SEWRF, in its current condition, does not allow any mitigatory species to pass through the area.

The intersection improvements will occur in a developed area, in the intersection of the SEWRF driveway and Manchester Avenue. This developed location is not currently considered a wildlife corridor or nursery site for resident or migratory fish or other wildlife species, nor is suitable habitat present for resident fish species. The proposed upgrades will not change the intersection in a manner that would prevent the movement of fish or wildlife species through this area, as it is not currently a wildlife corridor.

The potential impacts on wildlife movement as a result of the planned bike trail and intersection improvements are less than significant.

Threshold Bio-5

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

The revised project would not conflict with any local policies or ordinances protecting biological resources; none apply to the revised project or SEJPA.

Threshold Bio-6

Would the project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP?

The revised project would have no conflict with the provisions of such plans; no adopted plans apply to the revised project or SEJPA.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of mitigation measures MM-BIO-1 through MM-BIO-9 from the Final MND (Dudek 2016) would reduce potentially significant impacts of the revised project on biological resources to levels that are less than significant. No additional mitigation is required.

CONCLUSION

In conclusion, the findings of this assessment support the determination that no new significant adverse impacts would occur as a result of the revised project that were not already identified, analyzed, and assigned mitigation in the Final MND and associated biological resources technical report. With the implementation of mitigation measures MM-BIO-1 through MM-BIO-9 from the Final MND, any potential significant impact from the revised project would be reduced to a level of less than significant. No additional mitigation measures are required.

If you have any questions concerning this letter, please call me or Bill Vosti at (619) 462-1515.

Sincerely,

Laura Moreton
Biologist

Attachments:

Figure 1: Regional Location
Figure 2: Project Vicinity (USGS Topography)
Figure 3: Project Vicinity (Aerial Photograph)
Figure 4: Revised Project Components

REFERENCES

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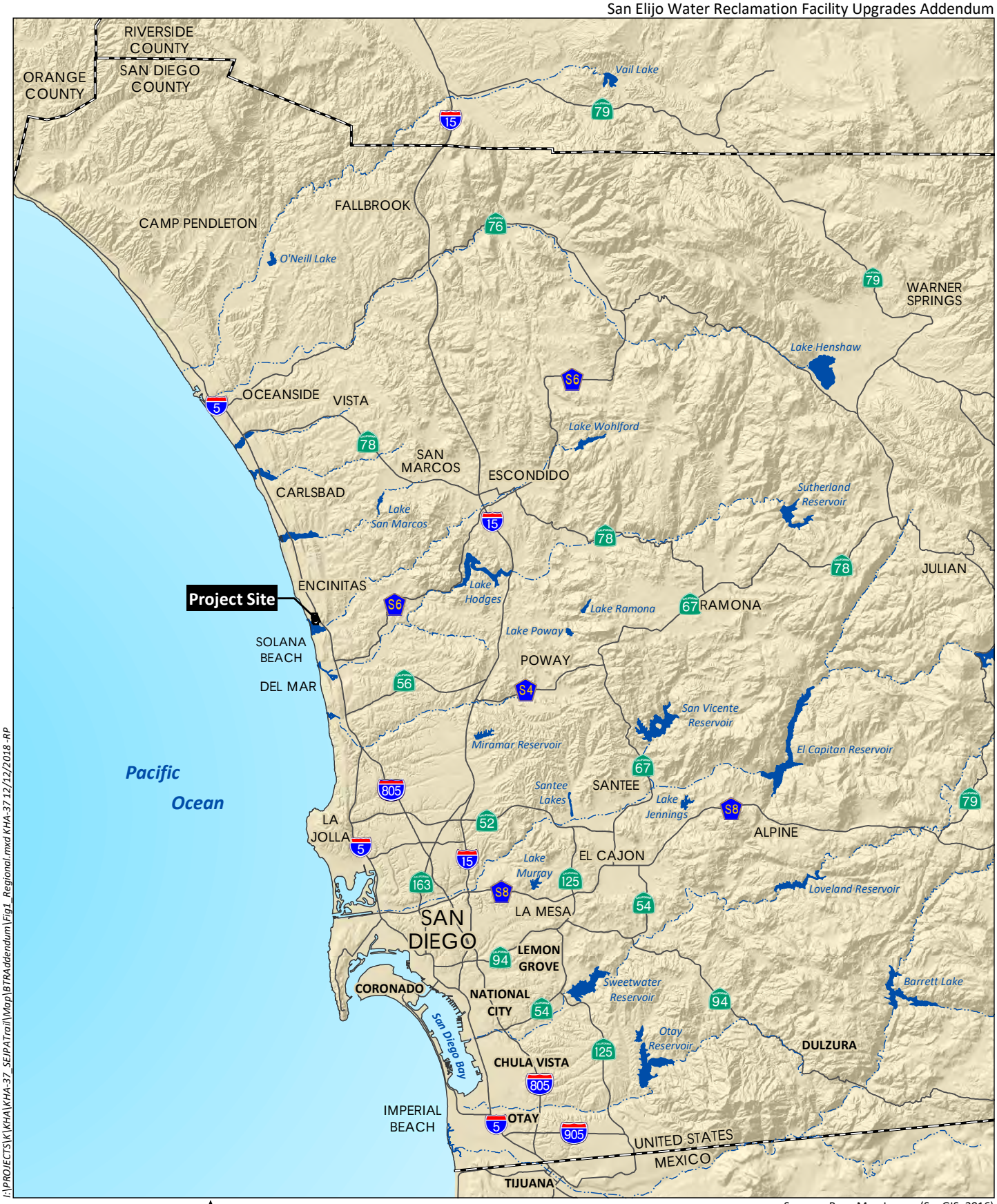

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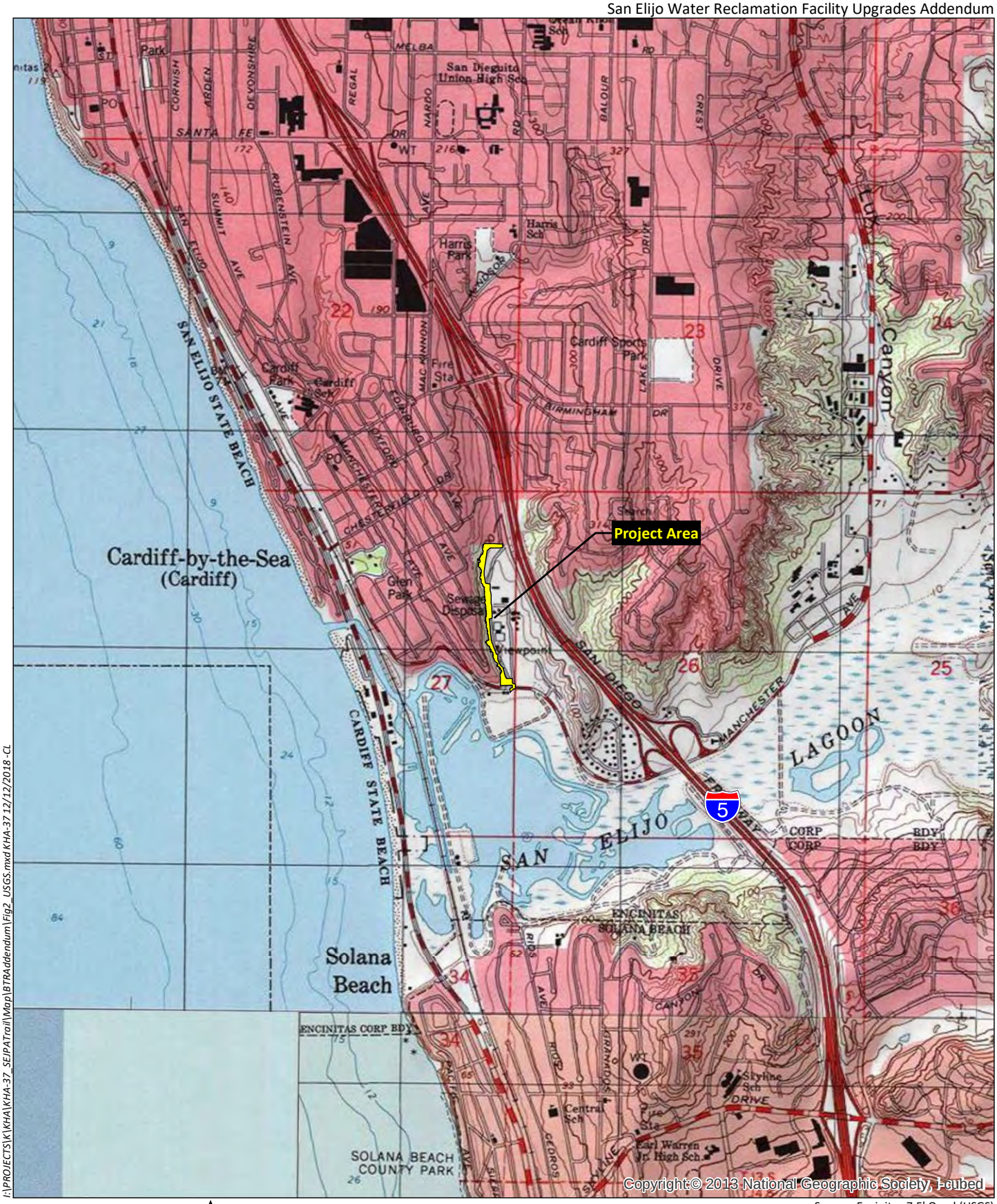
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



I:\PROJECTS\K\KHA\KHA-37_SEJPATrail\Map\BTRAddendum\Fig2_USGS.mxd KHA-37 12/12/2018 -CL

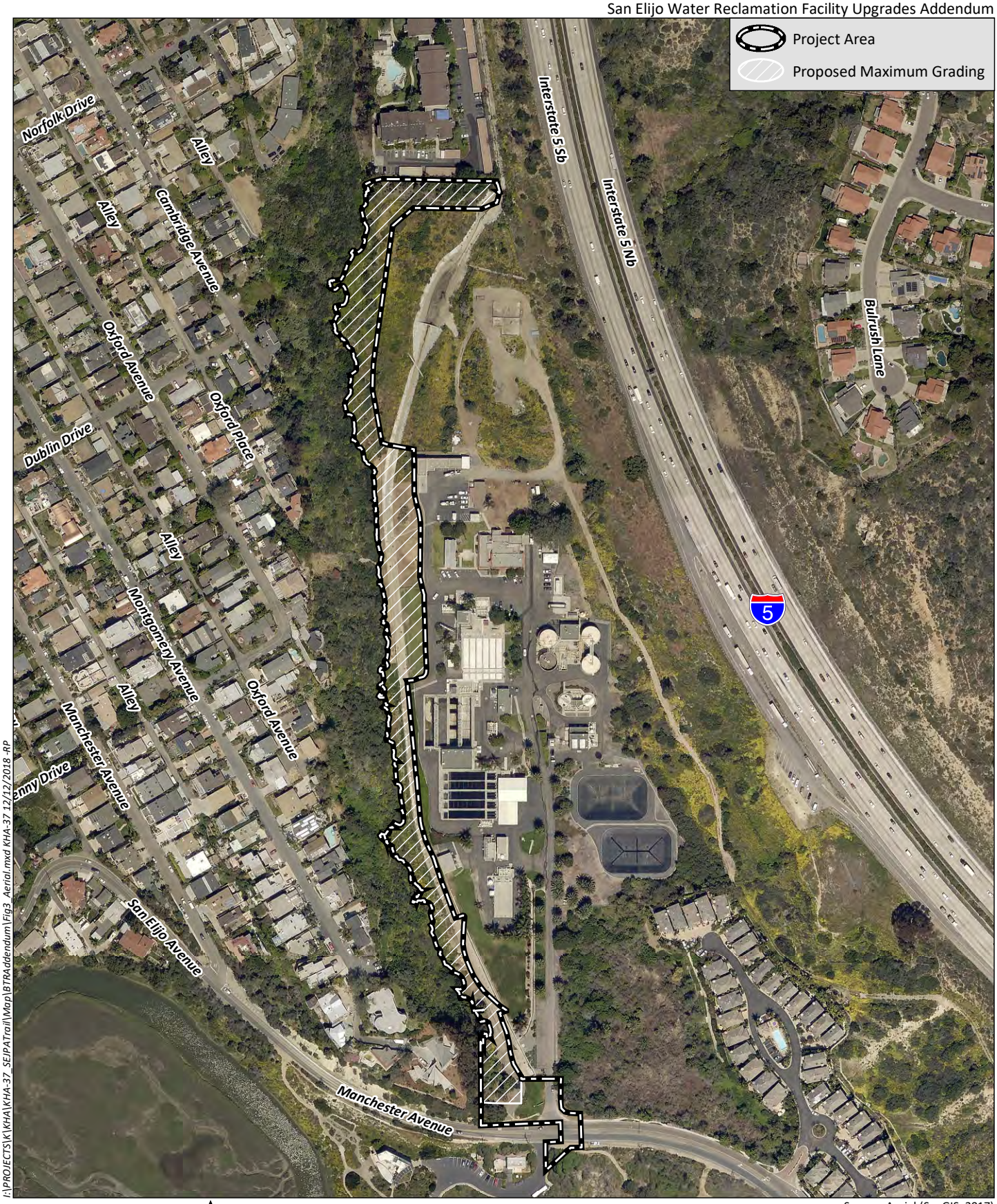
0 2,000 Feet

Source: Encinitas 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



0 300 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Aerial Photograph

Figure 3

Proposed Trail Alignment
Proposed Maximum Grading
Curb/Sidewalk
Crosswalk
Light Pole
Proposed Shared Use Trail
Existing Channel

Edinburg Avenue
Alley
Private Road
Carol View Drive
Alley
Cambridge Avenue
Interstate 5 Nb
Interstate 5 Sb
5
Oxford Avenue
Oxford Place
Dublin Drive
Alley
Montgomery Avenue
Alley
Oxford Avenue
Alley
Manchester Avenue
Kilkenny Drive
San Elijo Water Reclamation Facility
San Elijo Avenue
Manchester Avenue
Mackinnon Ranch Road
San Elijo Lagoon Nature Center

I:\PROJECTS\K\KHA\KHA-37_SEJPATrail\Map\BTRAddendum\Fig4_SitePlan.mxd KHA-37 12/12/2018 -CL

0 200 Feet

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Site Plan

Figure 4

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

January 8, 2019 KHA-37

Michael T. Thornton, P.E.
General Manager
San Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff-by-the-Sea
California 92007-7077

Subject: Cultural Resources Technical Letter Report for the San Elijo Water Reclamation Facility Upgrades Project in the City of Encinitas

Dear Mr. Thornton:

HELIX Environmental Planning, Inc. (HELIX) was contracted to conduct a cultural resources survey in support of the addendum to the Final Mitigated Negative Declaration (MND) for the San Elijo Water Reclamation Facility Upgrades Project (Dudek 2016). The approved project analyzed in the Final MND included various upgrades, rehabilitations, and replacements for components of the San Elijo Water Reclamation Facility (SEWRF) located in Cardiff-by-the-Sea in the City of Encinitas, California. This updated analysis was prepared to include the proposed construction of a lighted shared-use trail and drainage improvements within the SEWRF property, and entrance improvements along the SEWRF frontage with Manchester Avenue (revised project). This letter report details the methods and results of the cultural resources study. In summary, marine shell was observed during the survey effort; consequent testing concluded that the shell deposit is not considered a significant archaeological resource.

PROJECT LOCATION AND DESCRIPTION

The project site is generally located north of the San Elijo Lagoon, south of Birmingham Drive, east of the Pacific Ocean, and west of Interstate 5 (I-5) (Figure 1, *Regional Location*). The project is situated within Township 13 South, Range 4 West, Sections 26 and 27 of the Encinitas U.S. Geological Survey (USGS) topographic quadrangle map (Figure 2, *USGS Topography*).

The revised project will occur within and immediately adjacent to SEJPA's WRF located at 2965 Manchester Avenue in the City of Encinitas, California, within Assessor's Parcel Number (APN) 261-010-1302 (Figure 3, *Aerial Photograph*). The revised project includes only those components that represent changes to the project since certification of the Final MND, which include a new shared-use trail and

roadway improvements at Manchester Avenue. The revised project will occur mostly within existing disturbed and developed portions of the WRF and its driveway intersection with Manchester Avenue, with additional areas located near the San Elijo Lagoon Visitor's Center driveway intersection with Manchester Avenue (Figure 3). The northern portion of the site is mostly undeveloped, except for stormwater facilities.

STUDY METHODS

HELIX conducted a record search update of the revised project area and a half-mile radius at the South Coastal Information Center (SCIC) on November 1, 2018. The Native American Heritage Commission (NAHC) was contacted for a Sacred Lands File (SLF) search on October 30, 2018. Native American outreach letters were sent on December 17, 2018 to Native American representatives and interested parties identified by the NAHC. The existing cultural resources report (Pham et al. 2016), the Final MND (Dudek 2016), and historic topographic maps and aerial photographs were reviewed.

An intensive pedestrian survey was conducted of the revised project APE on December 4, 2018, by HELIX Senior Archaeologist Stacie Wilson and Kumeyaay Native American Monitor Nate Curo (Red Tail Environmental); a consequent testing effort by HELIX archaeologists was conducted on December 11, 2018, with Kumeyaay Native American Monitor participation.

REGULATORY, ENVIRONMENTAL, AND CULTURAL SETTING

The regulatory, environmental, and cultural setting was outlined in the *Phase I Historical Resources Inventory Report for the San Elijo Water Reclamation Facility Upgrades Project*, conducted in 2016 (Pham et al. 2016). For a detailed discussion of regulations and applicable laws, and the cultural and environmental context for the project, please refer to that report.

STUDY RESULTS

The NAHC indicated in a response dated November 26, 2018 that no known sacred lands or Native American cultural resources are within the revised project area. Native American outreach letters were sent on December 17, 2018 to Native American representatives and interested parties identified by the NAHC. No responses have been received to date.

The record search update indicated that two additional cultural resources, P-37-036796 (CA-SDI-22208) and P-37-035448, have been documented within the ½ mile records search area since the original records search conducted in 2015 (Pham et al. 2016). P-37-036796 is a poorly documented shell midden located on top of a bluff overlooking San Elijo Lagoon. P-37-035448 is a two-story commercial building constructed in 1912in the Italian Renaissance architectural style. No additional reports are on file at the SCIC for the records search area. No archaeological resources have been identified within the project area as analyzed in the Final MND, or by the records search update conducted for the revised project.

An intensive pedestrian survey was conducted of the revised project area on December 4, 2018, by HELIX Senior Archaeologist Stacie Wilson and Kumeyaay Native American Monitor Nate Curo (Red Tail Environmental). The majority of the revised project area is developed or within previously disturbed areas. However, as observed on the 1980 aerial photograph, one area in the northwest portion of the revised project area remains vacant and was observed as not having undergone extensive grading

during the construction activities undertaken for the existing concrete drainage channel. During the pedestrian survey, a shell scatter was observed in this area. As such, a testing effort by HELIX archaeologists was conducted on December 11, 2018, with Kumeyaay Native American Monitor participation. Although the testing resulted in the identification of a subsurface shell deposit, no midden soils or cultural artifacts were encountered, and it is unclear if the shell represents ecofacts (a find at an archaeological site that comes from something living) or if the deposit predates human occupation. Due to the lack of cultural context, the shell deposit is not considered a significant archaeological resource under the California Environmental Quality Act (CEQA).

RECOMMENDATIONS

As with the proposed project, based on the general topographic suitability for this area to support archaeological resources, and considering the moderate density of prehistoric and historic-era resources in the surrounding vicinity, it is possible that unidentified archaeological resources may still be present in the revised project area. These potential impacts would not be increased by the revised project. Therefore, impacts to cultural and tribal cultural resources would remain potentially significant, and mitigation measure MM-CUL-1 described for the proposed project in the Final MND is also recommended for the revised project area to reduce impacts to less than significant. No additional measures to avoid or minimize significant impacts to cultural and tribal cultural resources are warranted.

If you have any questions, please contact Stacie Wilson at (619) 462-1515.

Stacie Wilson, RPA
Senior Archaeologist

Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Vicinity

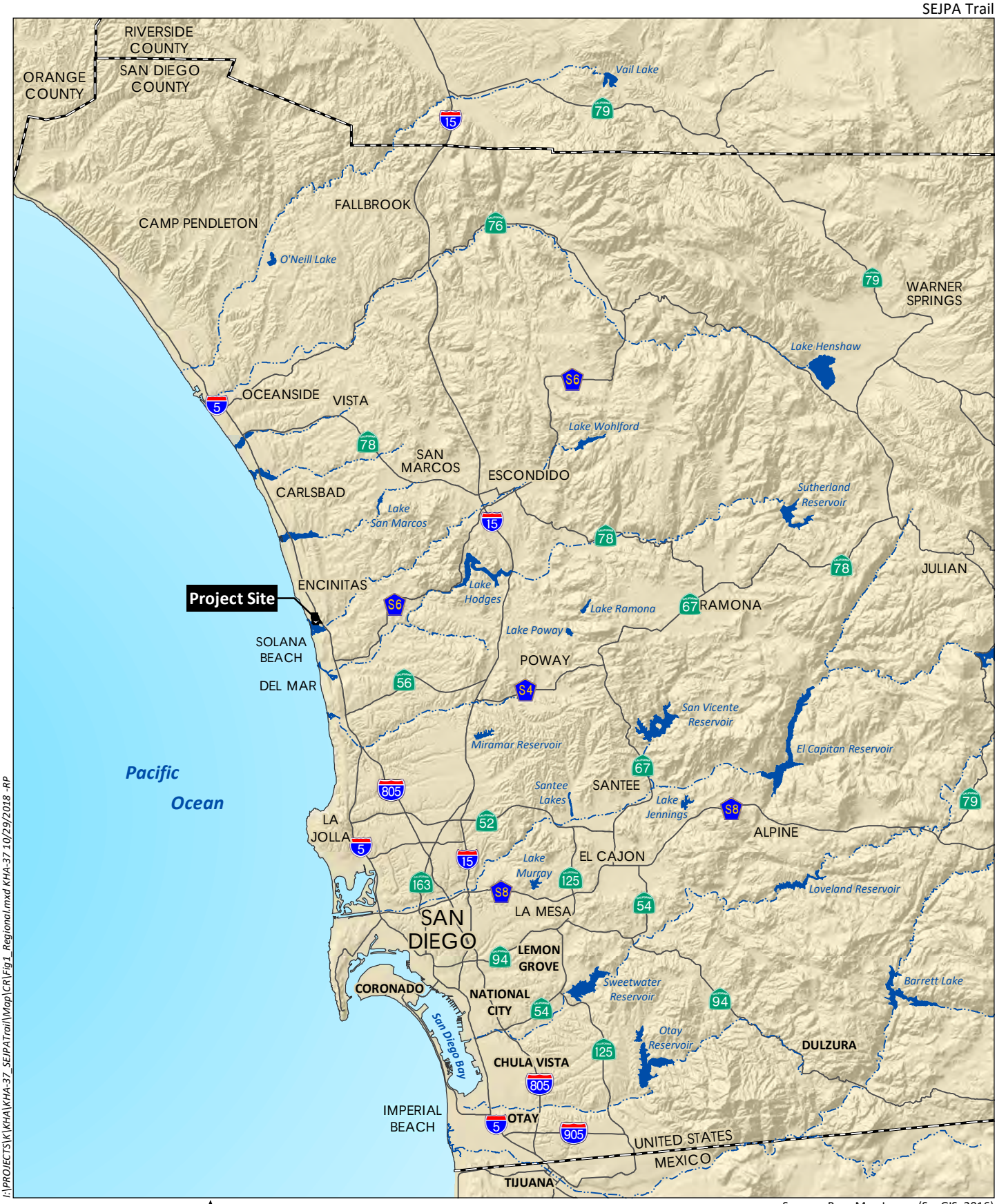
REFERENCES

Dudek

2016 Final Mitigated Negative Declaration for the San Elijo Water Reclamation Facility Upgrades. April.

Pham Angela, Salli Hosseini, and Micah Hale

2016 *Phase I Historical Resources Inventory Report for the San Elijo Water Reclamation Facility Upgrades Project*. Dudek. Report prepared for the San Elijo Joint Powers Authority.



I:\PROJECTS\K\KHA\KHA-37_SEJPATrail\Map\CR\Fig1_RegionalLmxd KHA-37 10/29/2018 -RP

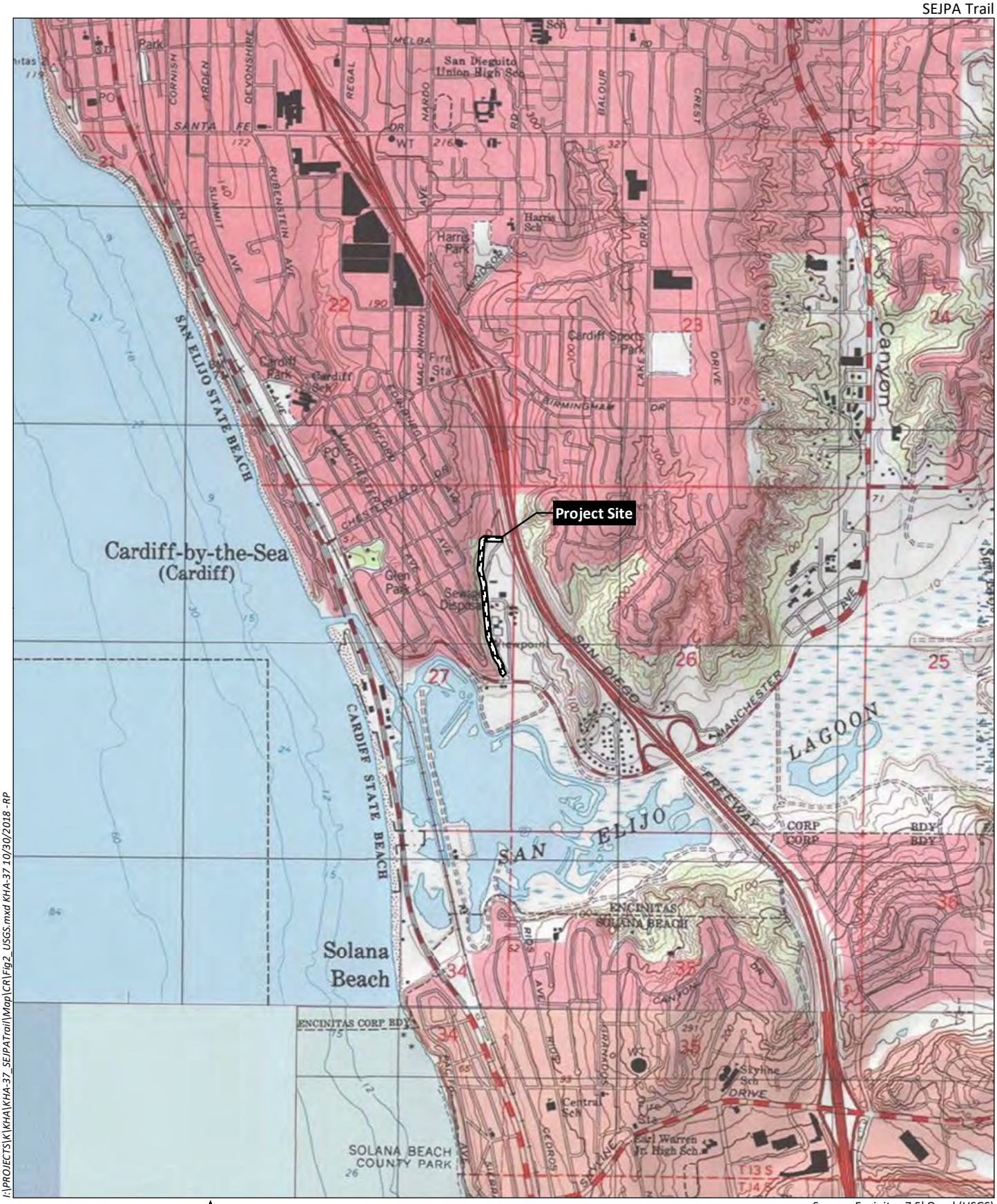
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



I:\PROJECTS\K\KHA\KHA-37_SEJPATrail\Map\CR\Fig2_USGS.mxd KHA-37 10/30/2018 -RP

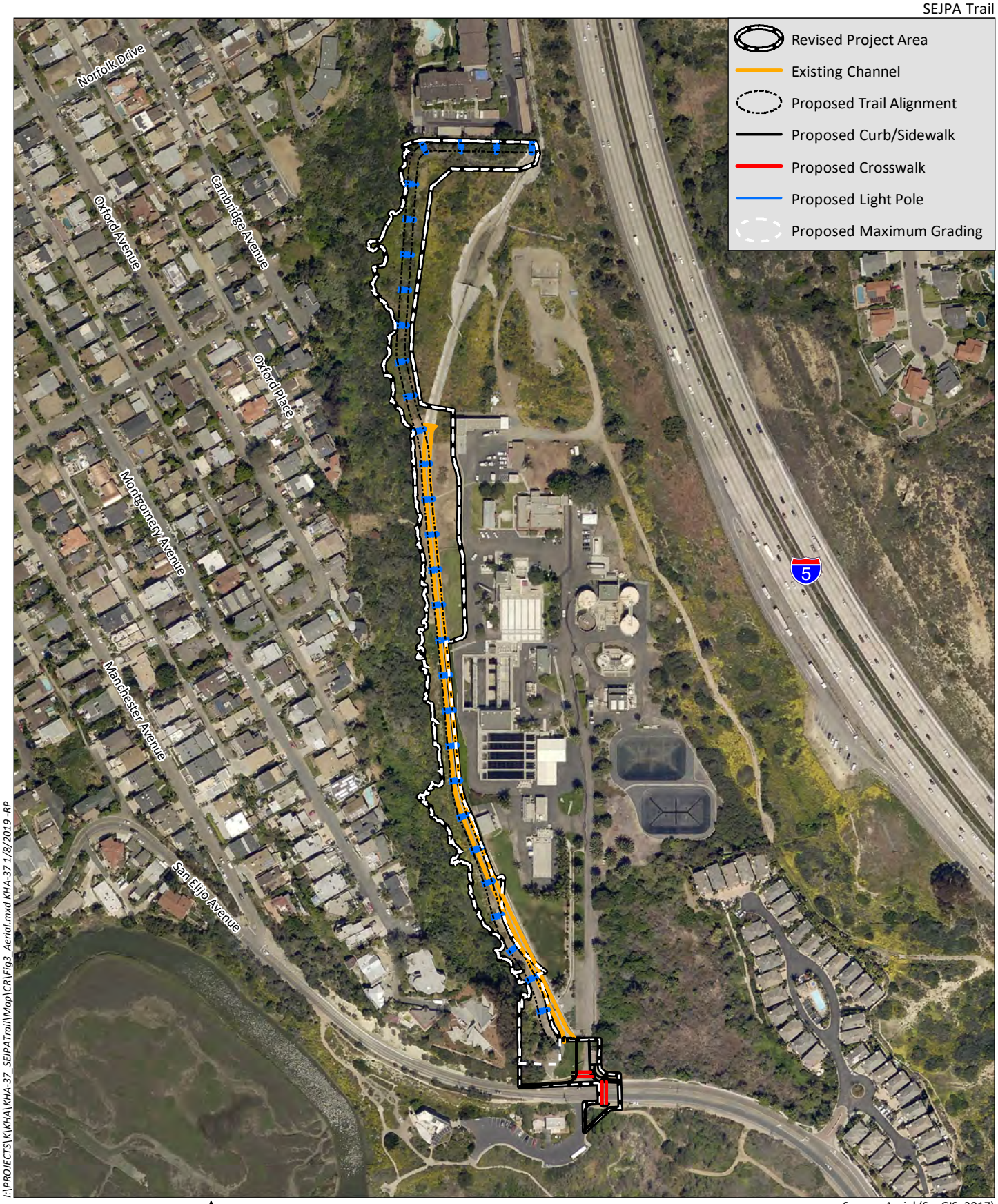
Source: Encinitas 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

SEJPA Trail



I:\PROJECTS\K\KHA\KHA-37_SEJPATrail\Map\CR\Fig3_Aerial.mxd KHA-37 1/8/2019 -RP

0 300 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Aerial Photograph

Figure 3

AGENDA ITEM NO. 13

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

January 14, 2019

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: Director of Finance and Administration

SUBJECT: ELECTION OF OFFICERS AND SCHEDULE OF BOARD MEETINGS

RECOMMENDATION

It is recommended that the Board of Directors:

1. Appoint the Chairperson and Vice Chairperson for the 2019 SEJPA Board of Directors;

2. Select the regular meeting dates and time for 2019; and

3. Discuss and take action as appropriate.

DISCUSSION

In accordance with Article 3 of the San Elijo Joint Powers Authority (SEJPA) Restatement of Agreement between the Cardiff Sanitation District and the Solana Beach Sanitation District establishing the SEJPA, the SEJPA Board is required to appoint a chairperson and vice chairperson, and establish the date and time for its regular meetings by the second meeting of each calendar year. Historically, these appointments occur in January with an annual term. SEJPA's regular meeting schedule is currently set at 8:30 a.m. on the second Monday of each month. Also, the SEJPA Board typically does not meet in August. Should the Board elect to continue this schedule; the 2019 regular Board meeting schedule will be as follows:

January 14
February 11
March 11
April 8
May 13
June 10
July 8
August – No Meeting
September 9
October 14
November 12 (Tuesday)
December 9

Note: Monday, November 11th is Veterans Day

The regular meetings are held at the San Elijo Water Reclamation Facility, located at 2695 Manchester Avenue, Cardiff-by-the-Sea, CA 92007.

It is therefore recommended that the Board of Directors:

1. Appoint the Chairperson and Vice Chairperson for the 2019 SEJPA Board of Directors;

2. Select the regular meeting dates and time for 2019; and

3. Discuss and take action as appropriate.

Respectfully submitted,

Paul F. Kinkel
Director of Finance and Administration

AGENDA ITEM NO. 14

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

January 14, 2019

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: PRELIMINARY TREATMENT AND ODOR CONTROL UPGRADES PROJECT

RECOMMENDATION

It is recommended that the Board of Directors:

1. Authorize General Manager to increase the Preliminary Treatment and Odor Control Upgrades project budget by $250,000; and

2. Authorize General Manager to amend the professional services agreement with Black & Veatch for an additional amount not to exceed $41,175; and

3. Authorize General Manager to amend the professional services agreement with Dudek for an additional amount not to exceed $28,050; and

4. Discuss and take action as appropriate.

BACKGROUND

The San Elijo Water Reclamation Facility's (SEWRF) preliminary treatment system provides basic physical treatment of the raw wastewater that enters the facility. This treatment system includes mechanical processes that remove trash, rocks, rags, and other debris that can clog, damage, or interfere with downstream treatment. In addition, preliminary treatment removes sand, grit, and other dense materials from the wastewater that can cause premature wearing of pumps and pipes within the treatment plant. The material that is removed is washed, dewatered, and sent to the local landfill for final disposal.

Preliminary Treatment at the SEWRF

The preliminary treatment concrete structures range from 30 years to 50 years in age. Equipment in this area typically has a service life of 20 years to 30 years. The Preliminary Treatment and Odor Control Upgrades project will construct new concrete structures, install new mechanical screening and dewatering equipment, replace aging chemical storage tanks, replace or rehabilitate existing concrete and steel, improve treatment performance, and upgrade the odor control system.

DISCUSSION

The construction contract was awarded to NEWest Construction in July 2017; the majority of construction has been completed. Extensive concrete and steel damage was recently identified (due to the corrosive operating conditions). It addition, the contractor has encountered additional work that will extend the project schedule and increase project. Staff recommends increasing the project budget to address estimated construction cost impacts. Based on the contractor's schedule forecast, work may extend into Spring 2019, which is beyond the original project completion date.

FINANCIAL IMPACT

The current approved project budget is $4,647,187. Due to concrete and steel repairs beyond initial estimates, as well as other unforeseen site conditions, the project will require additional construction, construction management, inspection, and design work.

To address these new encountered costs, staff recommends increasing the project budget by $250,000. If approved, the adjusted project budget would be $4,897,187. Staff is working closely with the contractor to develop solutions to the unforeseen conditions and to expedite the project schedule to minimize additional project costs. Adequate funds are available for the requested budget adjustment from the 2017 Clean Water Bonds.

It is recommended that the Board of Directors:

1. Authorize General Manager to increase the Preliminary Treatment and Odor Control Upgrades project budget by $250,000; and

2. Authorize amendment of the professional services agreement with Black & Veatch for an additional amount not to exceed $41,175; and

3. Authorize amendment of the professional services agreement with Dudek for an additional amount not to exceed $28,050; and

4. Discuss and take action as appropriate.

Respectfully submitted,

Michael T. Thornton, P.E.
General Manager

Attachment 1: Black & Veatch letter dated December 21, 2018

Attachment 2: Dudek letter dated December 21, 2018

ATTACHMENT 1

Black & Veatch Corporation
300 Rancheros Drive, Suite 250, San Marcos, CA 92069
P +1 619 597-8252 E Sturtzea@bv.com

December 21, 2018

Mr. Michael Thornton, P.E.
General Manager
San Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff by the Sea, CA 92007

B&V Project 196270
B&V File 14.2100
Letter No. 004

Subject: Amendment – Construction Management Services for the Land Outfall Replacement and Preliminary Treatment Upgrades Construction Management and Inspection Services Projects

Dear Mr. Thornton:

Black & Veatch respectfully requests a contract amendment to continue providing inspection and construction management (CM) services to support SEJPA for the remaining construction of the Preliminary Treatment Upgrades (PTU) Project. Through efficiencies implemented by Black & Veatch on the Land Outfall Project, executed under the same master services agreement at the PTU project, a remaining budget surplus of $120,901 was realized. The reallocation of these funds to the PTU project, has provided sufficient budget to extend these services to March 1, 2019. This amendment request has been prepared for the purpose of providing one more additional month, whereby extending Black & Veatch's services to April 1, 2019.

NEWest (PTU Contractor) has not achieved the production rates required to meet the original project schedule. Furthermore, recently when the SEWRF went on headworks bypass, substantial deterioration of the grit chamber effluent channel walls was observed. Due to this unanticipated condition, NEWest will be required to completely remove and replace this section of wall instead of simple repair as originally planned. It is anticipated this delay will extend the project by approximately one month, with completion by April 2019.

Due to the above delays, an extended duration of inspection and construction management oversight has been requested to provide full time project coverage. The total requested budget increase to extend Black & Veatch's services to April 1, 2019 is $41,175. This budget includes the continuation of construction management/inspection for one month, along with additional NACE inspection expected to be required.

Please don't hesitate to call me to discuss this proposed amendment. Black & Veatch will continue to seek out strategies to remain as efficient as possible to keep costs to a minimum. We sincerely look forward to successfully completing the PTU Project with you.

Very truly yours,
Black & Veatch

Kevin N. Davis, P.E., BCEE
Associate Vice President / Project Director

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

ATTACHMENT 2

December 21, 2018 8981

Mike Konicke
Sam Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff, CA 92007

Subject: Headwork Rehabilitation and Upgrade Project – Additional Services during Construction Proposal

Dear Mr. Konicke:

As requested, we are providing our proposal for extension of Engineering Services during Construction (ESDC) by four months to April 1, 2019. As we have discussed, we anticipate additional RFIs from the Contractor as they finish their work. Based on our projections, we anticipate an additional $28,050 to complete the project (as defined on the attached fee schedule).

Thank you for allowing us to continue our service to you and the Authority on this important project. Please let me know if you need anything further.

Respectfully Submitted,
DUDEK

D. Michael Metts, PE
Principal

Attachment A

Fee Schedule

San Elijo Joint Powers Authority

San Elijo WRF Preliminary Treatment Upgrades Project
Engineering Services During Construction
DUDEK FEE ESTIMATE
6/23/2017

								Subconsultant Fees				
	Project Team Role:	PIC	Project Engineer	CAD Designer	Admin	TOTAL HOURS	DUDEK LABOR COST	Electrical & I/C Engineering Moraes-Pham & Associates	Structural Engineering R2H	Odor Control Engineering DHK Engineers	OTHER DIRECT COSTS	TOTAL FEE
	Team Member:	M. Metts	P. Giori / B. Tran	N. Hunter	M. Kinney							
	Billable Rate :	$235	$185	$165	$90			Fee	Fee	Fee		
Task 2 - Engineering Services During Construction (additional services though April 1)												
2-A	Review submittals						$ -					$ -
2-B	Review contractor RFIs	8	32	24	4	68	$ 12,120	$1,700	$1,700			$ 15,520
2-D	Constr. mtgs and site visits	8	8		2	18	$ 3,540					$ 3,540
2-E	Prepare record drawings						$ -					$ -
2-F	Start-up and commissioning assistance	2	12			14	$ 2,690			$5,000		$ 7,690
2-G	Project management and status reporting	4			4	8	$ 1,300					$ 1,300
	Subtotal Task 2	**22**	**52**	**24**	**10**	**108**	**$ 19,650**	**$ 1,700**	**$ 1,700**	**$ 5,000**	**$ -**	**$ 28,050**
	Total Non-Optional Hours and Fee	**22**	**52**	**24**	**10**	**108**	**$ 19,650**	**$ 1,700**	**$ 1,700**	**$ 5,000**	**$ -**	**$ 28,050**
	Percent of Hours:	*20%*	*48%*	*22%*	*9%*	*100%*						

AGENDA ITEM NO. 15

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

January 14, 2019

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: CAPITAL IMPROVEMENT PROGRAM UPDATE

RECOMMENDATION

No action required. This memorandum is submitted for information only.

BACKGROUND

The San Elijo Joint Powers Authority (SEJPA) has the responsibility to maintain permit compliance with regulatory agencies and legal agreements with customers to provide wastewater and recycled water services. Proactive asset management and capital improvement planning are key components in keeping these commitments.

In 2014, SEJPA retained the services of Carollo Engineers to conduct an evaluation of the wastewater and recycled water capital assets owned by the SEJPA at the San Elijo Water Reclamation Facility (SEWRF).

The results of the evaluation and Carollo's recommendations were documented in the 2015 Facility Plan. Recommended projects were prioritized using a "triple-bottom line" approach to evaluate and weight each project against the others using three main factors:

- ✓ Financial (30%): Implement cost effective projects and solutions. Maximize economic benefits for customers through cost effective operations.
- ✓ Environmental (35%): Meet or exceed permit requirements and minimize reportable violations. Improve habitat and minimize impacts to the environment.
- ✓ Social (35%): Maintain a high standard of work safety and maximize community benefits through improved aesthetics and recreational uses.

The recommendations from the 2015 Facility Plan created the foundation for the SEJPA Capital Improvement Program, which includes regulatory compliance analysis, risk assessment for system failure, project prioritization, and budgetary cost estimates.

In 2017, SEJPA successfully secured $23.9 million in a bond offering to fund a majority of recommended capital projects. The SEJPA has also collected $14.8 million in cash, and anticipates $1.0 million in grants. Staff bundled the projects into phases in order to prioritize

capital spending, streamline project delivery, minimize community impacts, and reduce cost through economies of scale.

DISCUSSION

Phase I of the SEJPA Capital Improvement Program is currently in construction and includes the Land Outfall Replacement, Preliminary Treatment Upgrades, and Odor Control Improvements.

- The Land Outfall Replacement project was completed in 2018. This project replaced the original 30-inch diameter asbestos-concrete land outfall that was installed in 1965. The new pipeline is approximately 2,600 linear feet in length, constructed of high density polyethylene, and installed at a depth greater than the original pipeline to minimize conflicts with other buried utilities and future construction projects.

- The Preliminary Treatment and Odor Control Upgrades project will replace antiquated equipment, repair or replace damaged steel and concrete, improve the treatment process performance, and upgrade the odor control system. Construction began in June 2017, and is expected to be completed by spring 2019.

Phase II of the Capital Program consists of Building and Site Improvements, Encinitas Ranch Recycled Water Expansion, Electrical System Improvements, and the 2018 Supervisory Control and Data Acquisition (SCADA) Upgrade project.

The Building and Site Improvements project includes:

- New buildings
- Road and parking improvements
- Regional bike/pedestrian path in cooperation with Caltrans and the City of Encinitas
- Fire system modernization
- New perimeter fencing, access control, and security improvements
- SCADA and electrical system upgrades
- Solar power generation
- Storm water conveyance, attenuation, and treatment

The Construction Manager At-Risk (CMAR) alternative delivery method was chosen to expedite the project and to provide cost controls beyond traditional design-bid-build delivery method, and was awarded to PCL Construction at the December 2018 Board meeting. Currently, staff is coordinating with resource agencies to define project permitting requirements. Contribution agreements with Caltrans are in place for engineering, environmental services, and construction cost sharing. Construction is planned to begin in 2019, however the start date is subject to resource agencies' approval.

The Encinitas Ranch Recycled Water Expansion project includes the construction of pipelines and a water pressure boosting station to serve the Encinitas Ranch Community Association, two agricultural users, and the City of Encinitas trail system. Burtech Pipeline, Inc. was awarded the construction contract, which commenced in October 2018, and work is expected to be complete in mid-2019.

Electrical System Improvements were completed in 2018. These improvements included the replacement of Meter Service No. 2 automatic transfer switch, electrical breaker repair and maintenance, replacement of the control panels within the headworks building, and the completion of an arc-flash study on all high voltage equipment at the SEWRF and were performed in compliance with current National Fire Protection Association codes and standards.

In September 2018, the SCADA Upgrade project was awarded to Tesco Controls, Inc. The main elements of the project include new hardware, software, programming, equipment installation, and system testing and commissioning. SCADA upgrades will be performed at six functional areas within the SEWRF and at five wastewater pump stations located within the cities of Encinitas and Solana Beach. Cybersecurity enhancements will raise security to meet current industry standards. The project is expected to be complete by late-2019.

Phase III, the Solids Treatment Project, is in the pre-design phase. A Project Definition Report (PDR) is currently in development that will identify the preferred project alternatives. The PDR is expected to be complete by late-2019.

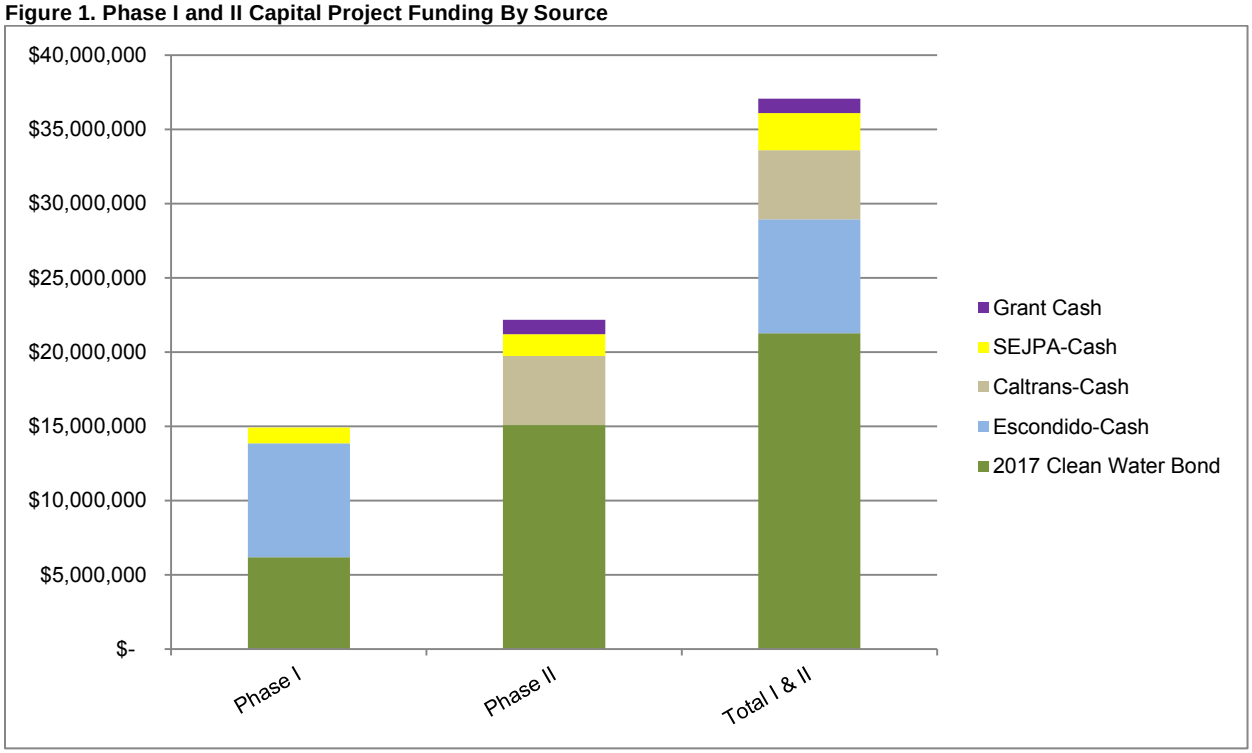
FINANCIAL IMPACT

Phase I capital budget was estimated at $13.7 million. Currently these projects are on track to be completed at $14.9 million, or approximately 9% above budget. The funding strategy is $8.0 million in cash and $6.9 million in bond funds.

Phase II capital budget is estimated to be $21.6 million. The funding strategy is $1.4 million in cash, $14.5 million in bond funds, $4.7 million from Caltrans, 1.0 million in grants.

Funding for Phase I and II are shown in Figure 1 below:

Figure 1. Phase I and II Capital Project Funding By Source



Funding for the capital projects is based on owned or leased capacity by the agencies served, which includes the Cities of Encinitas, Solana Beach, Escondido, and Del Mar, and Rancho Santa Fe Community Services Districts.

Phase III capital budget is estimated at $7.8 million. This phase is currently in early development stages and staff is working with engineers to develop a cost effective project. Phase III will be funded with the remaining bond proceeds and cash contributions.

Budget and funding adjustments will be made as capital projects are developed, awarded, and constructed. The 2017 Clean Water Bonds and grant funding, combined with current and future cash contributions for capital projects, is the financial basis for SEJPA's Capital Improvement Program.

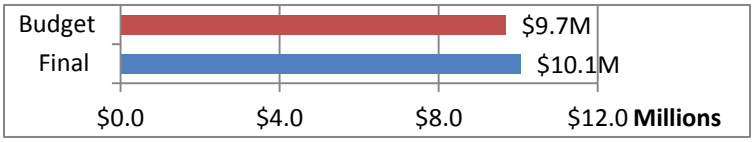
Respectfully submitted,

Michael T. Thornton, P.E.
General Manager

Attachments: Capital Project Status Reports

Land Outfall Replacement Project

Capital Program: *Phase I*
Project Status: *Construction*
Notice to Proceed: *May 2017*
Completion Date: *June 2018*



Timeline

Construction Start	Original End Date	Substantial Completion
May 2017	March 2018	June 2018

	Budget	*Approved Changes*	*Revised Budget*	*Spent to Date*
Construction	$ 8,553,000	$ 422,521*	$ 8,975,521	8,975,521
CM/Engr/Env	698,177	189,344	887,521	887,521
Contingency	428,000	<428,000>	-	-
Permits/Other	-	194,532	194,532	194,532
Total:	**$ 9,679,177**	**$ 378,397**	**$ 10,057,574**	**10,057,574**

*includes final change order of $450,000.

Project Description

The work includes installation of (approximate lengths) 2,600 feet of 30-inch diameter HDPE pipe via horizontal directional drilling (HDD), 400 feet of 30-inch pipe via open trench construction, 300 feet of dual 10-inch force mains via open trench construction, and 110 feet of 60-inch steel casing under Coast Highway. The HDD began at Cardiff State Beach, continued beneath Coast Highway (through the steel casing), the San Elijo Lagoon, NCTD railroad, the Nature Center, and Manchester Avenue before daylighting at the San Elijo Water Reclamation Facility (SEWRF). Tie-ins to the new pipeline were made at the beach and at the SEWRF. Project work sites have been restored after all work was completed.

Work Completed: August 2018 – December 2018

Completed punchlist process. Incorporated field changes into record drawings. Negotiated final change order with contractor. Coordinated with City of Encinitas staff on Living Shoreline project.

Planned Work: December 2018

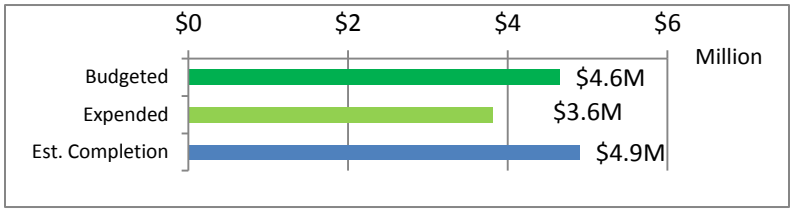
Project is completed.

Priorities or Issues to be Resolved

None.

Preliminary Treatment & Odor Control Upgrades

Capital Program: *Phase I*
Project Status: *Construction*
Notice to Proceed: *June 2017*
Est. Completion Date: *March 2019*



Timeline

Construction Start
June 2017

Orig. Completion
October 2018

Substantial Completion
February 2019

Budget	***Budget***	***Approved Changes***	***Revised Budget***	***Spent to Date***
Construction:	$3,871,480	$34,243	$3,905,723	$3,074,442
CM/Engineering:	582,137	0	582,137	574,541
Contingency:	193,570	(34,243)	159,327	
Total:	**$4,647,187**	**$0**	**$4,647,187**	**$3,649,983**

Project Description

The project consists of the construction of new concrete treatment structures, installation of new screening and dewatering equipment, rehabilitation of existing concrete channels and structures, and replacement of aging chemical storage tanks. The work also includes the replacement of aging mechanical, electrical, and other components associated with treatment odor control systems necessary to capture and remove odors and corrosive gases.

Work Completed: August 2018 - December 2018

Began field fabrication of odor ductwork. Continued concrete repair and epoxy coating application in new and existing wastewater channels. Tied-in to the east end of the existing headworks. Received and installed headworks step screens. Installed new grit building trench drain. Received the PLC panel. Completed the installation, backfill, and testing of the east Olivenhain/Cardiff forcemain. Performed emergency gas line repair. Bypassed the Solana Beach Pump Station. Installed majority of remaining conduit and pulled conductor. Started new odor scrubber recirculation pumps. Installed chemical and canopy area lights. Received and installed channel covers. Removed existing Olivenhain meter vault. Installed bypass system and began concrete restoration.

Planned Work: January 2019

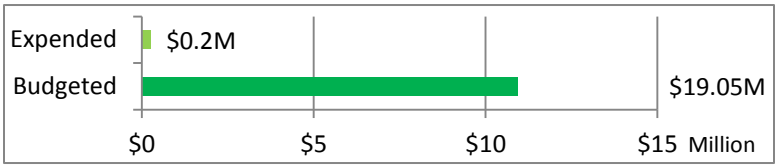
Finish concrete and coating work. Prepare for startup and commissioning of equipment. Complete odor control ducting and pipe supports. Prepare subgrade for paving. Repair deteriorated concrete channels outside of original contract work.

Priorities or Issues to be Resolved

Seek Board approval of revised project budget. Increase coordination to reduce contractor work schedule. Negotiate potential change orders.

Building and Site Improvements

Capital Program: *Phase II*
Project Status: *Design/Permitting*
Design Start: *March 2017*
Est. Design Completion: *Summer 2019*
Est. Construction Completion: *Spring 2021*



Timeline

CMAR RFP
September 2018

Full Construction
Summer 2019

Est. Completion
Spring 2021

	Budget	*Approved Changes*	*Revised Budget*	*Spent to Date*
SEJPA Construction:	$10,940,000	$0	$10,940,000	$0
Caltrans/Misc	5,300,000	0	5,300,000	0
CM/Engineering:	1,480,000	0	1,480,000	128,000
Contingency:	880,000	0	880,000	0
Total:	**$18,600,000**	**$0**	**$18,600,000**	**$128,000**

Project Description

Work consists of replacing aging administration, operations, and maintenance buildings; enhancing safety, security and public interface, improving storm water capture and treatment, and modernization of fire fighting and suppression system. Solar power, energy efficiency, and other Climate Action Plan measures will be incorporated. Planned community benefits include public parking, regional bicycle/pedestrian path, and traffic calming measures. Opportunites for interactive learning, community benefits, and education will be integrated into the site design.

Work Completed: August 2018 - December 2018

Ongoing building and bike path design work. Executed cooperative agreement with Caltrans. Awarded CMAR contract to PCL construction. Submittted Coastal Commission amendment application. Completed CEQA amendment for Bike Path addition. Performed geotechnical borings to develop foundation system. Drafted Manchester Crossing memo and met with City and local stakeholders.

Planned Work: January 2019

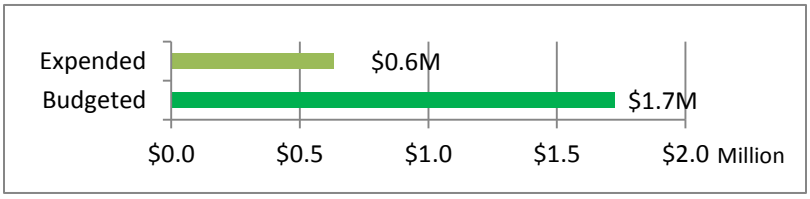
Continue building and bike path designs in preparation for next City CDP submittal. Begin CMAR coordination meetings and value engineering cost modeling. Meet with regulatory agencies for permitting requirements.

Priorities or Issues to be Resolved

Regulatory agencies requirements and submit permit applications. Design to the project budget. Complete CDP submittal for City review.

Encinitas Ranch Recycled Water Expansion

Capital Program: *Phase II*
Project Status: *Construction*
Construction Start: *October 2018*
Est. Construction Completion: *March 2019*



Timeline

Construction Start
October 2018

Est. Completion
March 2019

	Budget	*Approved Changes*	*Revised Budget*	*Spent to Date*
Construction Schedule A	$1,225,000	$0	$1,225,000	$528,012
CM/Engr/PR	274,683	0	274,683	104,288
Contingency (15%):	224,953	0	224,953	0
PROJECT TOTAL:	**$1,724,636**	**$0**	**$1,724,636**	**$632,300**

Project Description

Schedule A includes construction of a booster pump station and recycled water pipeline extension. The 1.5 mile small diameter (6-inch to 8-inch) pipeline will serve the community of Encinitas Ranch, two agricultural users, and the City of Encinitas trail system. The project is a key component of the SEJPA's $2.5M IRWM grant. The project is anticipated to offset 45 acre-feet per year of potable water use for landscape irrigation or approximately 50% of the total IRWM project potable water offset. Schedule B includes construction of 1,100 feet of 6-inch pipeline intended to serve HOA's along Requeza Street, but will not be installed at this time due to lack of water use commitments.

Work Completed: August 2018 – December 2018

Issued Notice to Proceed to Burtech Pipeline and hosted project kickoff meeting. Coordinated with Contractor and City to obtain Right of Way permit. Began submittal review process for pipeline, booster pump station, and pump equipment. Mobilized construction laydown areas and performed utility markouts. Initiated public outreach effort including signage and door hangers. Began construction of pipeline and booster pump station site grading. Coordinated with SDG&E for service connection.

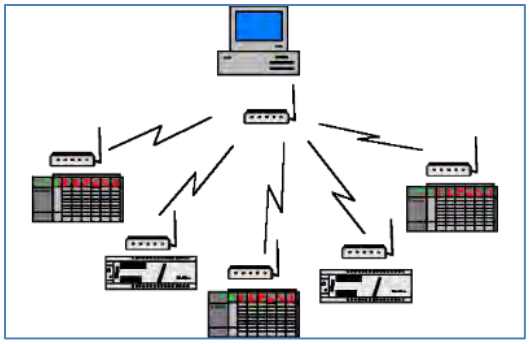
Planned Work: January 2019

Continue pipeline construction and site preparation for booster pump station. Finalize project equipment and material submittals. Construct pump station slab and begin masonry work. Coordinate SDG&E inspections for electrical service installation. Ongoing public outreach efforts for pipeline work in narrow streets. Assist ERCA and City staff with upcoming recycled water conversion activities.

Priorities or Issues to be Resolved

Manage unforeseen utility conflicts and negotiate potential change orders. Continue proactive outreach effort in the community.

2018 SCADA Upgrade Project



Capital Program: *Phase II*
Project Status: *Construction*
Notice to Proceed: *November 13, 2018*
Est. Completion Date: *May 2019*

Timeline

Construction Start
October 2018

Est. Completion
May 2019

Budget	Budget	Approved Changes	Revised Budget	Spent to Date
Construction	560,000	$0	560,000	$0
CM/Engineering	63,200	0	63,200	0
Contingency (10%):	62,320	0	62,320	0
PROJECT TOTAL:	**$685,520**	**$0**	**$685,520**	**$0**

Project Description

The Work consists of SCADA System improvements including new hardware, software, programming, equipment installation, system testing and commissioning, warranty, training and support services. Hardware includes servers, data historians, monitors, programmable logic controllers, and equipment panels. Software to replace 11 workstations with remote terminals will also be supplied. Programming, hardware/software, and equipment installation will be performed at six functional areas within the San Elijo Water Reclamation Facility and at five wastewater pump stations located within the cities of Encinitas and Solana Beach. Cybersecurity enhancements are also included to help identify, protect, detect, respond, and recover from cyber threats.

Work Completed: September 2018 – December 2018

Board approved award of project to Tesco Controls and construction management to Corollo Engineers. Executed contracts and conducted project kickoff meeting. Completed field condition assessments for SCADA equipment procurement.

Planned Work: January 2019

Begin equipment and material submittal reviews.

Priorities or Issues to be Resolved

Timely review and approval of submittals is a priority during the early stage of this project. Respond to contractor requests for information as they are received.