

**AGENDA**  
**SAN ELIJO JOINT POWERS AUTHORITY**  
**MONDAY MAY 8, 2017 AT 9:00 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. PRESENTATION OF AWARDS
  - Ravy Chea – 25 Years of Service
6. \* **CONSENT CALENDAR**
7. \* APPROVAL OF MINUTES FOR THE APRIL 10, 2017 MEETING AND APRIL 21, 2017 SPECIAL 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. \* SAN ELIJO JOINT POWERS AUTHORITY FISCAL YEAR 2017-18 RECOMMENDED BUDGET UPDATE
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. 2017 BOND FINANCING UPDATE

1. Discuss and take action as appropriate.

Staff Reference: Director of Finance and Administration

### 14. AWARD CONSTRUCTION MANAGEMENT & ENVIRONMENTAL COMPLIANCE SERVICE

1. Authorize the General Manager to award a professional services agreement to Black & Veatch for Construction Management and Environmental Compliance for an amount not to exceed \$979,667; and
2. Discuss and take action as appropriate.

Staff Reference: General Manager

### 15. GENERAL MANAGER'S REPORT

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

### 16. GENERAL COUNSEL'S REPORT

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

### 17. 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.

### 18. CLOSED SESSION

None

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".

### 19. ADJOURNMENT

The next regularly scheduled San Elijo Joint Powers Authority Board Meeting will be Monday, June 12, 2017 at 9:00 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](http://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: May 3, 2017



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

SAN ELIJO JOINT POWERS AUTHORITY  
MINUTES OF THE BOARD MEETING  
HELD ON APRIL 10, 2017  
AT THE  
SAN ELIJO WATER RECLAMATION FACILITY

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Ginger Marshall, Chair

Tasha Boerner Horvath, Vice Chair

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A meeting of the Board of Directors of the San Elijo Joint Powers Authority (SEJPA) was held Monday, April 10, 2017, at 9:00 a.m., at the San Elijo Water Reclamation Facility at 2695 Manchester Avenue, Cardiff by the Sea, California.

1. CALL TO ORDER

Chair Marshall called the meeting to order at 9:00 a.m.

2. ROLL CALL

*Directors Present:*

Ginger Marshall  
Tasha Boerner Horvath  
David Zito  
Joe Mosca

*Directors Absent:*

None

*Others Present:*

General Manager  
Director of Operations  
Director of Finance & Administration  
Associate Engineer  
Administrative Assistant/Board Clerk

Michael Thornton  
Christopher Trees  
Paul Kinkel  
Mike Konicke  
Jennifer Basco

*SEJPA Counsel:*

Procopio, Cory, Hargreaves & Savitch

Adriana Ochoa

*City of Solana Beach:*

City Manager  
Director of Engineering/Public Works

Greg Wade  
Mohammad "Mo" Sammak

*City of Encinitas:*

Public Works Management Analyst

Bill Wilson

3. PLEDGE OF ALLEGIANCE

Chair Marshall led the Pledge of Allegiance.

4. ORAL COMMUNICATIONS

None

5. PRESENTATION OF AWARDS

General Manager Thornton informed the Board of Directors that the SEJPA was recognized in Treatment Plant Operator Magazine.

6. CONSENT CALENDAR

Moved by Board Member Zito and seconded by Board Member Boerner Horvath to approve the Consent Calendar.

Agenda Item No. 7 Approval of Minutes for the March 13, 2017 meeting

Agenda Item No. 9 San Elijo Water Reclamation Facility Treated Effluent Flows – Monthly Report

Agenda Item No. 10 San Elijo Joint Powers Authority Recycled Water Program – Monthly Report

Agenda Item No. 11 Authorization for the General Manager to amend Resolution 2016-10 to be in compliance with current employment laws and OSHA requirements

Motion carried with the following vote of approval:

AYES: Marshall, Boerner Horvath, Zito, Mosca

NOES: None

ABSENT: None

ABSTAIN: None

Agenda Item No. 8 Approval for Payment of Warrants and Monthly Investment Report

Motion carried with the following vote of approval:

AYES: Marshall, Boerner Horvath, Zito

NOES: None

ABSENT: None

ABSTAIN: Mosca

12. ITEMS REMOVED FROM CONSENT CALENDAR

None

13. PRESENTATION OF THE SAN ELIJO JOINT POWERS AUTHORITY FISCAL YEAR 2017-18 RECOMMENDED BUDGET

Paul F. Kinkel, Director of Finance and Administration, presented the Fiscal Year (FY) 2017-18 Recommended Budget to the Board of Directors. The budget estimates all expenditures necessary, including capital costs and debt service, to provide wastewater treatment, waste disposal, recycled water, laboratory, ocean outfall, and pump station services. The total FY 2017-18 Recommended Budget is \$11,480,847 consisting of \$6,142,079 of Operating Costs, \$3,158,768 of Debt Service and \$2,180,000 of Capital Costs. The proposed operating budget for all programs will increase by \$1,319,838, primarily due to expansion of the recycled water pipelines and storage. Mr. Kinkel stated that the SEJPA receives revenues from seven primary sources, with the three largest customers being the City of Encinitas, the City of Solana Beach, and the Recycled Water Program, which are expected to provide \$3,029,625, \$2,669,549, and \$2,712,190, respectively.

It was recommended that the Board of Directors take the Recommended Budget to their respective Cities for review and comment. The budget will then be discussed at the next scheduled Board meeting.

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

14. CAPITAL IMPROVEMENT PROGRAM UPDATE

General Manager Thornton presented an overview of the 17 capital improvement projects recommended by the 2015 Facility Plan. He noted that in addition to these projects was a recycled water project to expand service near Encinitas Ranch Community Association and to homeowner associations along Requeza Road in the City of Encinitas. Mr. Thornton stated that the projects were prioritized using a “triple-bottom line” approach to evaluate and weight each project against the others using three main factors: financial, environmental, and social. In an effort to streamline project delivery, minimize community impacts, and reduce cost through economies of scale, Staff bundled projects that are functionally or spatially-related, and share similar construction delivery techniques. This allowed Staff to organize the capital projects into four groups or phases. Phase I projects are labeled “high priority” and include the Land Outfall Replacement, Preliminary Treatment Upgrades, and Odor Control Improvements. Phase I projects are expected to begin construction in 2017. Phase II projects primarily focus on construction activity at the San Elijo Water Reclamation Facility and include the Building Improvement Program, Site and Security Improvements, Electrical and SCADA Upgrades, and Solar, as well as offsite Recycled Water pipeline construction. The majority of Phase II projects are expected to start construction in 2018. Phase III projects are focused on wastewater treatment improvements. Phase III projects are ready to enter the design phase with construction anticipated to start in 2019. Phase IV projects, which are conceptual and need further development, address resource recovery and reuse opportunities.

Mr. Thornton informed the Board Members that the SEJPA received construction bids for the Land Outfall Replacement Project on March 28, 2017. He noted that the bids

were much higher than the Engineer's Estimate and that a special meeting will be scheduled prior to the May Board of Directors meeting to further discuss the bid submissions and to award construction of the Land Outfall Replacement to the appropriate bidder.

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

15. GENERAL MANAGER'S REPORT

General Manager Thornton informed the Board of Directors that the North San Diego Water Reuse Coalition (NSDWRC), of which the SEJPA is a member, submitted a Project Feasibility Report to the U.S. Bureau of Reclamation, in an effort to garner support and recognition for its recycled water projects. Also, Mr. Thornton shared that he traveled to Washington, D.C. seeking federal support for Water Infrastructure Improvements for the Nation Act, Title 16 funding, the NSDWRC Project, and protection of Tax Exempt Municipal Bonds.

16. GENERAL COUNSEL'S REPORT

None

18. BOARD MEMBER COMMENTS

None

19. CLOSED SESSION

None

20. ADJOURNMENT

The meeting adjourned at 10:26 a.m. The next Board of Directors meeting will be held on May 8, 2017.

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

SAN ELIJO JOINT POWERS AUTHORITY  
MINUTES OF THE SPECIAL BOARD MEETING  
HELD ON APRIL 21, 2017  
AT THE  
SAN ELIJO WATER RECLAMATION FACILITY

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Ginger Marshall, Chair

Tasha Boerner Horvath, Vice Chair

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A special meeting of the Board of Directors of the San Elijo Joint Powers Authority (SEJPA) was held Friday, April 21, 2017, at 7:00 a.m., at the San Elijo Water Reclamation Facility at 2695 Manchester Avenue, Cardiff by the Sea, California.

1. CALL TO ORDER

Chair Marshall called the meeting to order at 7:00 a.m.

2. ROLL CALL

*Directors Present:*

Ginger Marshall  
Tasha Boerner Horvath  
David Zito  
Joe Mosca

*Directors Absent:*

None

*Others Present:*

General Manager  
Director of Operations  
Director of Finance & Administration  
Associate Engineer

Michael Thornton  
Christopher Trees  
Paul Kinkel  
Mike Konicke

*SEJPA Counsel:*

Procopio, Cory, Hargreaves & Savitch

Adriana Ochoa

J.R. Filanc Construction Company, Inc.

Mark Filanc  
Bob Zaiser

3. PLEDGE OF ALLEGIANCE

Chair Marshall led the Pledge of Allegiance.



4. AWARD CONSTRUCTION CONTRACT AND DESIGN SUPPORT SERVICES FOR THE SAN ELIJO LAND OUTFALL REPLACEMENT PROJECT

General Manager Thornton gave a brief history of the aging San Elijo land outfall pipeline. It was constructed in 1965 and due to its age and the surrounding soil type, the pipeline is estimated to be at the end of its useful life. The 2015 Facility Plan identified the land outfall replacement as the highest priority project based on environmental, financial, and social considerations. The project was advertised for construction; four construction bids were received and publicly opened on March 28, 2017.

The General Manager stated that bids were promptly reviewed by Staff, legal counsel, and the project engineer of record, Kennedy/Jenks Consultants (Kennedy/Jenks) for responsiveness to bid requirements. The bid review team determined that the apparent low bidder did not meet the minimum work experience required in the bid specifications and recommended the bid be rejected as non-responsive. Staff and Kennedy/Jenks then evaluated the apparent second lowest bidder, J.R. Filanc Construction Company (Filanc). It was determined that Filanc is a responsible bidder and the bid was responsive.

Mr. Thornton stated that the lowest responsive bid price is \$8,553,000. As part of construction, the Project will require construction management, environmental compliance monitoring and reporting, and engineering support during construction. The estimated cost for these items is \$718,000 or 8.4% of construction cost. Staff also recommends including a contingency fund of \$428,000 or 5% of construction cost, to address unanticipated conditions encountered during construction resulting in a total cost of \$9,699,000.

The General Manager requested that the Board approve an amendment to the professional services agreement with Kennedy/Jenks Consultants for engineering services during construction of the Project. The engineering services are considered vital tasks that include providing final contract documents, responding to design questions, participating in construction meetings, performing material and equipment submittal review and approval, and preparing the final record drawings.

Moved by Member Zito and seconded by Chair Marshall to:

1. Authorize the General Manager to reject the non-responsive apparent low bid from Palm Engineering for the San Elijo Land Outfall Replacement Project;
2. Authorize the General Manager to waive minor bid irregularities and award construction of the San Elijo Land Outfall Replacement project to the lowest responsive and responsible bidder, J.R. Filanc Construction Company, Inc., for an amount not to exceed \$8,553,000 and issue a Notice to Proceed at the time the General Manager deems appropriate; and
3. *Subject to legal review*, authorize the General Manager to amend the professional services agreement, with Kennedy/Jenks Consultants for

construction design support services for the San Elijo Land Outfall Replacement Project for an amount not to exceed \$102,545.

Motion carried with unanimous vote of approval.

5. ADJOURNMENT

The meeting adjourned at 7:40 a.m. The next Board of Directors meeting will be held on May 8, 2017.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "M. Thornton", is written over a horizontal line.

Michael T. Thornton, P.E.  
General Manager

**SAN ELIJO JOINT POWERS AUTHORITY****PAYMENT OF WARRANTS****17-05****For the Months of March and April 2017**

<b>Warrant #</b>	<b>Vendor Name</b>	<b>G/L Account</b>	<b>Warrant Description</b>	<b>Amount</b>
34179	City of Encinitas	Fees - Permits	CDP permit fee	1,600.00
34180	Affordable Drain Services, Inc.	Services - Maintenance	Service wetwell	550.00
34181	Aflac	EE Deduction Benefits	Aflac - April	680.92
34182	Susana Arredondo	Seminars/Education	WaterReuse conference	500.00
34183	AT&T	Utilities - Telephone	Alarm service - April	398.48
34184	Atlas Pumping Service Inc.	Services - Grease & Scum	Grease and scum pumping	1,297.23
34185	Void	Void	Void	Void
34186	Boot World, Inc.	Uniforms - Boots	Safety boots	179.36
34187	Boyd Fasteners	Supplies - Shop & Field	Nuts, wedge anchors, and saw blade	336.48
34188	Brenntag Pacific, Inc.	Supplies - Chemicals	Sodium Hydroxide, Sodium Tripolyphosphate	2,773.17
34189	Consolidated Electrical Dist.	Repair Parts Expense	Lamps	309.78
34190	Chevron & Texaco Business Card	Fuel	Fuel	566.14
34191	Coast Waste Management, Inc.	Services - Grit & Screenings	10 yd roll-off	4,110.50
34192	Colorado Lining International	Services - Contractors	FEB cover cleaning and repairs	10,973.95
34193	Complete Office	Supplies - Office	Office supplies	130.88
34194	Corodata	Rent	Record storage - March	82.23
34195	County of San Diego	Fees - Permits	Facility permit	292.00
34196	Dudek & Associates	Services - Professional	Encinitas Ranch Recycled Water Project	2,565.00
34197	EDCO Waste & Recycling Service	Utilities - Trash	March	237.22
34198	Encina Wastewater Authority	Service - EWA Support	Resource sharing HR and safety	1,418.13
34199	City of Encinitas	Service - IT Support	Admin network; ultrabook, docking station	4,125.00
34200	Evantec Lab Supply	Supplies - Lab	Buffer, tubes, and filters	1,300.78
34201	Fender Mender, Inc.	Vehicle Maintenance	Deductible for pump truck repair	2,000.00
34202	Forte of San Diego	Services - Janitorial	Janitorial supplies and services	1,398.64
34203	Global Capacity	Utilities - Internet	T-1 services - May	296.03
34204	Gold Coast Environmental	Services - Maintenance	Flow meter calibration	2,115.00
34205	Golden Bell Products	Supplies - Chemicals	Granular chlorine	387.90
34206	Hach Company	Supplies - Shop & Field	Probes, wipers, annual service	30,264.55
34207	Michael Henke	Seminars/Education	Prep class and exam grade 2	215.00
34208	Integrity Municipal Systems	Repair Parts Expense	Wave form mist	2,693.75
34209	Jennifer Basco	Subsistence - Travel	March mileage	50.38
34210	Kemira Water Solutions, Inc.	Supplies - Chemicals	Ferric Chloride	2,440.46
34211	Lee Michael Konicke	CSRMA Wellness Program	Health and wellness	60.00
34212	The Lawton Group	Services - Intern Program	Weeks worked - 03/20/17 - 04/02/17	1,837.47
34213	Marine Taxonomic Services, Ltd.	Services - Contractors	Offshore water sampling	384.00
34214	McMaster-Carr Supply Co.	Repair Parts Expense	Ballast, LED bulbs, valve, fan, plumbing parts	1,398.83
34215	Olivenhain Municipal Water District	Rent	Pipeline payment - March	3,226.50
34216	Public Employees - Retirement	Retirement Plan - PERS	Retirement - 03/25/17 - 04/07/17	11,991.99
34217	Preferred Benefit Insurance	Dental/Vision	Vision - April	309.30
34218	ProBuild Company, LLC	Supplies - Shop & Field	Hose and plumbing parts	462.08
34219	Roesling Nakamura Terada Architects	Services - Professional	Equipment enclosure	1,090.00
34220	Rusty Wallis, Inc.	Services - Maintenance	Water softener, carbon exchange, and salt bags	143.79
34221	Santa Fe Irrigation District	Utilities - Water	Recycled water	3,148.53
34222	Santa Fe Irrigation District	SFID Distribution Pipeline	Pipeline purchase payment - March	427.50
34223	San Dieguito Water District	Utilities - Water	Recycled water	1,399.36
34224	San Dieguito Water District	Utilities - Water	Recycled water	8,559.57
34225	Sigma-Aldrich	Supplies - Lab	Laboratory supplies	1,320.09
34226	Specialty Seals & Accessories	Repair Parts Expense	WAS pump seals	137.36
34227	Board of Equalization	Accrued Sales Tax Payable	1st Qtr 2017 Sales tax	1,096.00
34228	SWRCB	Dues & Memberships	Operator certificate	230.00
34229	Test America	Services - Laboratory	Testing water samples	673.00
34230	Technology Integration Group	Services - Maintenance	Copier	68.62
34231	Unifirst Corporation	Services - Uniforms	Uniform service	557.60
34232	Underground Service Alert/SC	Services - Alarm	Dig alert - March	151.50
34233	USA Bluebook	Minor Equip - Shop & Field	Portable sludge interface detector	1,023.37
34234	Vantagepoint Transfer Agents	EE Deduction Benefits	ICMA - 457	6,769.46
34235	Vantagepoint Transfer Agents	ICMA Retirement	ICMA - 401a	2,994.27

**SAN ELIJO JOINT POWERS AUTHORITY****PAYMENT OF WARRANTS****17-05****For the Months of March and April 2017**

<b>Warrant #</b>	<b>Vendor Name</b>	<b>G/L Account</b>	<b>Warrant Description</b>	<b>Amount</b>
34236	WageWorks	Payroll Processing Fees	Admin and compliance fees	268.00
34237	Water Environment Federation	Dues & Memberships	Membership	312.00
34238	Whitaker Bros.	Supplies - Office	Time and date stamp machine	539.90
34239	World Water Works, Inc.	Repair Parts Expense	Mechanical seal	644.37
34240	BankCard Center	Various	Repair parts, supplies, and meetings	2,183.26
34241	Advanced Air & Vacuum	Services - Maintenance	Rotary screw service	933.00
34242	Ag Tech, LLC	Services - Biosolids Hauling	Biosolids hauling - March	11,388.15
34243	AT&T	Utilities - Telephone	Phone service - 03/13/17 - 04/12/17	371.48
34244	Atlas Pumping Service Inc.	Services - Grease & Scum	Grease and scum pumping	954.88
34245	James Barnett	CSRMA Wellness Program	Health and wellness	58.17
34246	Barracuda Networks, Inc.	Utilities - Internet	Network back-up	50.00
34247	CS-Amsco	Repair Parts Expense	Seat and shaft seals	1,929.66
34248	D&H Water Systems	Repair Parts Expense	Tubing	171.18
34249	DMV	Fees - Permits	Trailer	27.00
34250	Dudek & Associates	Services - Professional	Capital project funding, SWAP, Headworks	26,833.21
34251	Ferguson Waterworks	Repair Parts Expense	Pipe	16.77
34252	Hach Company	Repair Parts Expense	Refrigerated sampler and input flow pacing	7,964.48
34253	Hoch Consulting, APC	Services - Professional	Mtgs/Coordination	8,125.00
34254	Home Depot Credit Services	Supplies - Shop & Field	Locks, ear muffs, and parts	848.73
34255	Idexx Distribution, Inc.	Supplies - Lab	Laboratory supplies	881.70
34256	Kennedy/Jenks Consultants	Services - Engineering	Land ocean outfall - Final design	26,806.59
34257	Kimley-Horn & Associates, Inc.	Services - Engineering	Pre-design of RW relocation	1,082.22
34258	The Lawton Group	Services - Intern Program	Weeks worked - 04/03/17 - 04/16/17	2,429.26
34259	Lomas Santa Fe Country Club	Other Personnel Cost	Deposit	300.00
34260	McMaster-Carr Supply Co.	Repair Parts Expense	Gauge glass, fittings, valves, and batteries	684.91
34261	MetLife - Group Benefits	Dental/Vision	Dental - May	1,739.88
34262	MGM Plastics Inc.	Repair Parts Expense	Wall mount pump shelf	327.56
34263	Olin Corp - Chlor Alkali	Supplies - Chemicals	Sodium Hypochlorite	5,343.89
34264	Olivenhain Municipal Water District	Services - Professional	Legislative advocacy	5,000.00
34265	Olivenhain Municipal Water District	Services - Professional	Deposit for the Furman Group	7,523.67
34266	Pacific Green Landscape	Services - Landscape	April	2,975.00
34267	Public Employees - Retirement	Retirement Plan - PERS	Retirement - 04/08/17 - 04/21/17	12,265.03
34268	Process Pump Sale's, Inc.	Repair Parts Expense	Drive shaft, casing, and o-ring kit	1,124.66
34269	Procopio Cory Hargreaves	Services - Legal	General - March	3,158.56
34270	ReadyRefresh	Supplies - Lab	Kitchen and lab supplies	1,168.15
34271	Roesling Nakamura Terada Architects	Services - Professional	Equipment enclosure	3,052.00
34272	Rohan & Sons, Inc.	Services - Maintenance	Preventive maintenance	385.00
34273	San Diego Gas & Electric	Utilities - Gas & Electric	Gas and electric - 03/07/17 - 04/05/17	48,964.52
34274	Sun Life Financial	Life Insurance/Disability	Life and disability insurance - May	1,542.70
34275	Sunbelt Rentals	Equipment Rental/Lease	Manlift	1,802.44
34276	Test America	Services - Laboratory	Testing water samples	1,365.00
34277	Thatcher Company of California	Supplies - Chemicals	Aluminum Sulfate	6,092.02
34278	Michael Thornton	Subsistence - Travel/Rm & Bd	WaterReuse conference	331.11
34279	Trussell Technologies, Inc.	Services - Engineering	Treatment plant upset	5,526.25
34280	Unifirst Corporation	Services - Uniforms	Uniform service	304.58
34281	USA Bluebook	Repair Parts Expense	Plumbing parts and submersible pump	736.74
34282	Vallecitos Water District	Prepaid - Other	Employee assistance program	677.88
34283	Vantagepoint Transfer Agents	EE Deduction Benefits	ICMA - 457	6,844.47
34284	Vantagepoint Transfer Agents	ICMA Retirement	ICMA - 401a	3,071.65
34285	Verizon Wireless	Utilities - Telephone	03/11/17 - 04/10/17	247.23
34286	Verizon Wireless	Utilities - Telephone	Cell phone service - 03/08/17 - 04/07/17	754.19
34287	VWR International, Inc.	Supplies - Lab	Laboratory supplies	517.98
34288	Watson Bros. Inc.	Services - Maintenance	Service Mettlers	360.00
	San Elijo Payroll Account	Payroll	Payroll - 04/14/2017	61,835.11
	San Elijo Payroll Account	Payroll	Payroll - 04/28/2017	72,564.65
				<u>\$ 479,154.99</u>

SAN ELIJO JOINT POWERS AUTHORITY

PAYMENT OF WARRANTS SUMMARY

**For the Months of March and April 2017  
As of April 30, 2017**

PAYMENT OF WARRANTS		\$ 479,154.99
Reference Number	17-05	

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.



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Paul F. Kinkel  
Director of Finance & Administration

STATEMENT OF FUNDS AVAILABLE FOR PAYMENT OF WARRANTS  
AND INVESTMENT INFORMATION  
As of April 30, 2017

FUNDS ON DEPOSIT WITH	AMOUNT
<b>LOCAL AGENCY INVESTMENT FUND</b> <i>(MARCH 2017 YIELD 0.821%)</i>	
RESTRICTED SRF RESERVE	\$ 630,000.00
UNRESTRICTED DEPOSITS	\$ 7,698,273.68
<b>CALIFORNIA BANK AND TRUST</b> <i>(MARCH 2017 YIELD 0.01%)</i>	
REGULAR CHECKING	\$ 62,496.44
PAYROLL CHECKING	\$ 5,000.00
 TOTAL RESOURCES	 \$ 8,395,770.12

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

May 8, 2017

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

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

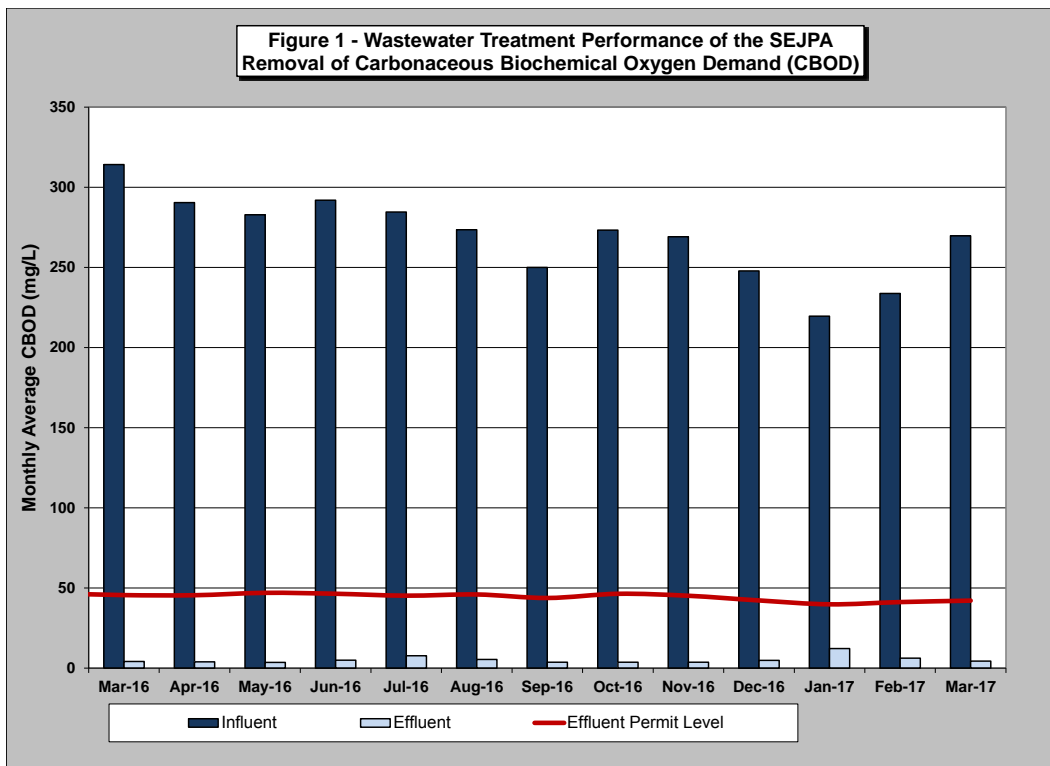
RECOMMENDATION

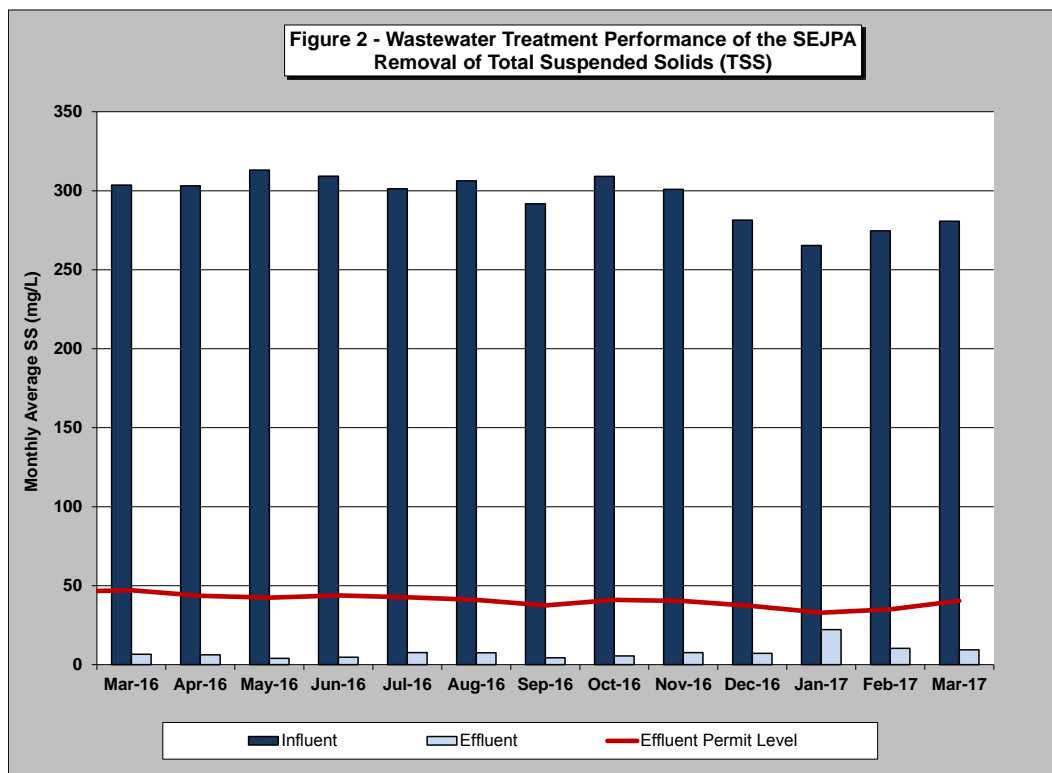
No action required. This memorandum is submitted for information only.

DISCUSSION

Monthly Treatment Plant Performance and Evaluation

Wastewater treatment for the San Elijo Joint Powers Authority (SEJPA) met all NPDES ocean effluent limitation requirements for the month of March 2017. 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. For the month of March, treatment levels for CBOD and TSS were 98.4 and 96.6 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 March. Average daily influent flows were recorded for each Member Agency. Total effluent flow was calculated for the San Elijo Water Reclamation Facility. January 2017 is the first month that the City of Del Mar pumped flow to SEJPA. However, due to the treatment process upset and high influent flows associated with the January rain events, the flow was diverted back to San Diego JPA Metro. Continuing high salinity infiltration problems in the Del Mar sewers have prevented SEJPA from accepting additional Del Mar flows.

	March	
	<u>Influent (mgd)</u>	<u>Effluent (mgd)*</u>
Cardiff Sanitary Division	1.215	0.856
City of Solana Beach	1.261	0.889
Rancho Santa Fe SID	0.170	0.120
City of Del Mar	0.000	0.000
<b>Total San Elijo WRF Flow</b>	<b>2.646</b>	<b>1.865</b>

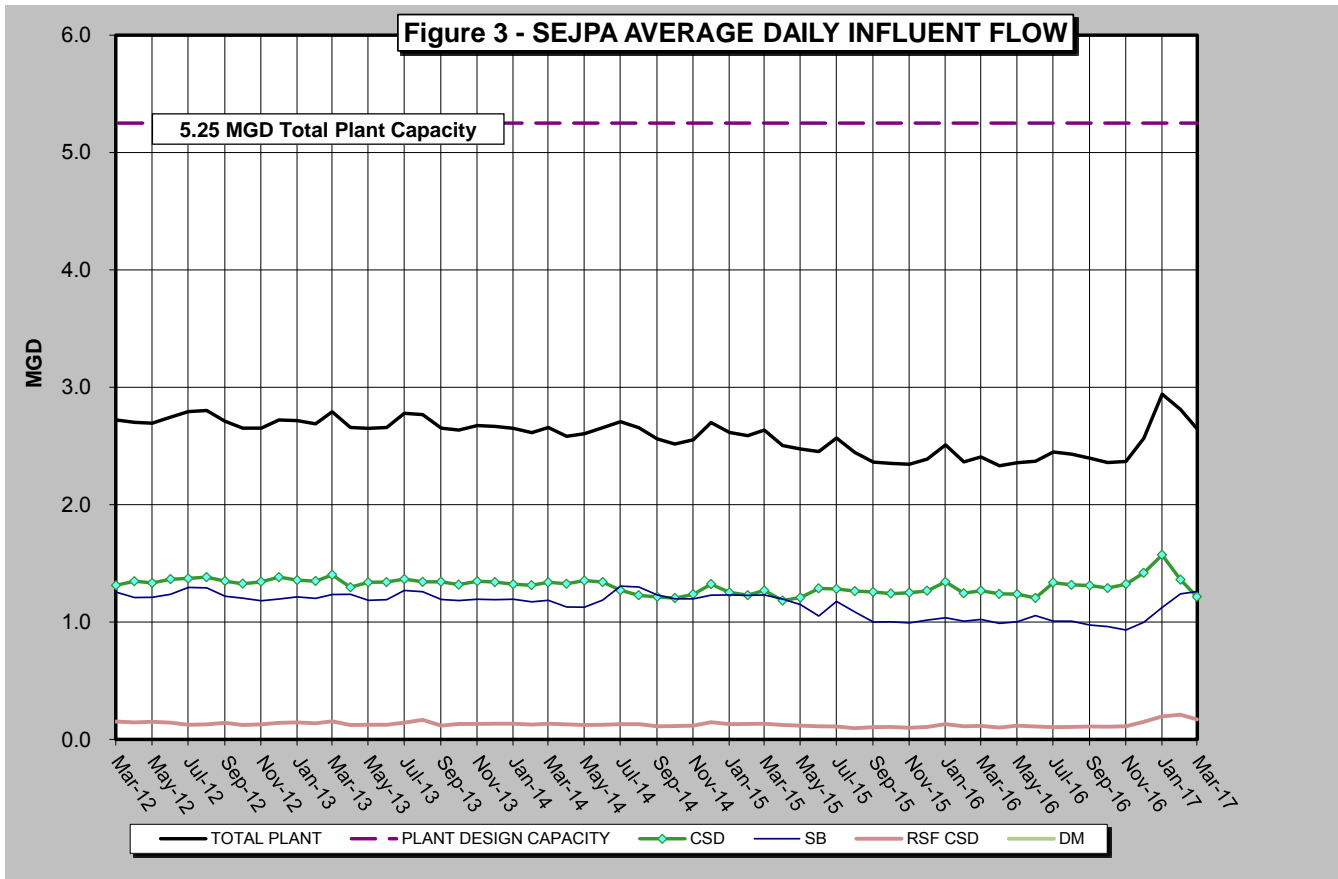
\* Effluent is calculated by subtracting the recycled water production from the influent wastewater.

Table 1 (next page) 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.





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 March 2017 from the City of Escondido Hale Avenue Resource Recovery Facility, which discharges through the San Elijo Ocean Outfall, is reported below.

	<b>Flow (mgd)</b>
Escondido (Average flow rate)	13.01
Escondido (Peak flow rate)	17.31

Connected Equivalent Dwelling Units

The City of Solana Beach updated the connected EDUs number that is reported to the SEJPA in July 2016. The City of Encinitas and Rancho Santa Fe CSD report their connected EDUs every month. The number of EDUs connected for each of the Member Agencies is as follows:

	<b>Connected (EDU)</b>
Cardiff Sanitary Division	8,413
Rancho Santa Fe SID	550
City of Solana Beach	7,683
San Diego (to Solana Beach)	337
City of Del Mar	1,716
<b>Total EDUs to System</b>	<b>18,698</b>

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

\*

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

May 8, 2017

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: SAN ELIJO RECYCLED WATER PROGRAM – MONTHLY REPORT

RECOMMENDATION

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

DISCUSSION

*Recycled Water Production*

For the month of March 2017, recycled water demand was 60.15 acre-feet (AF), which was met using 59.75 AF of recycled water and 0.40 AF of supplementation with potable water.

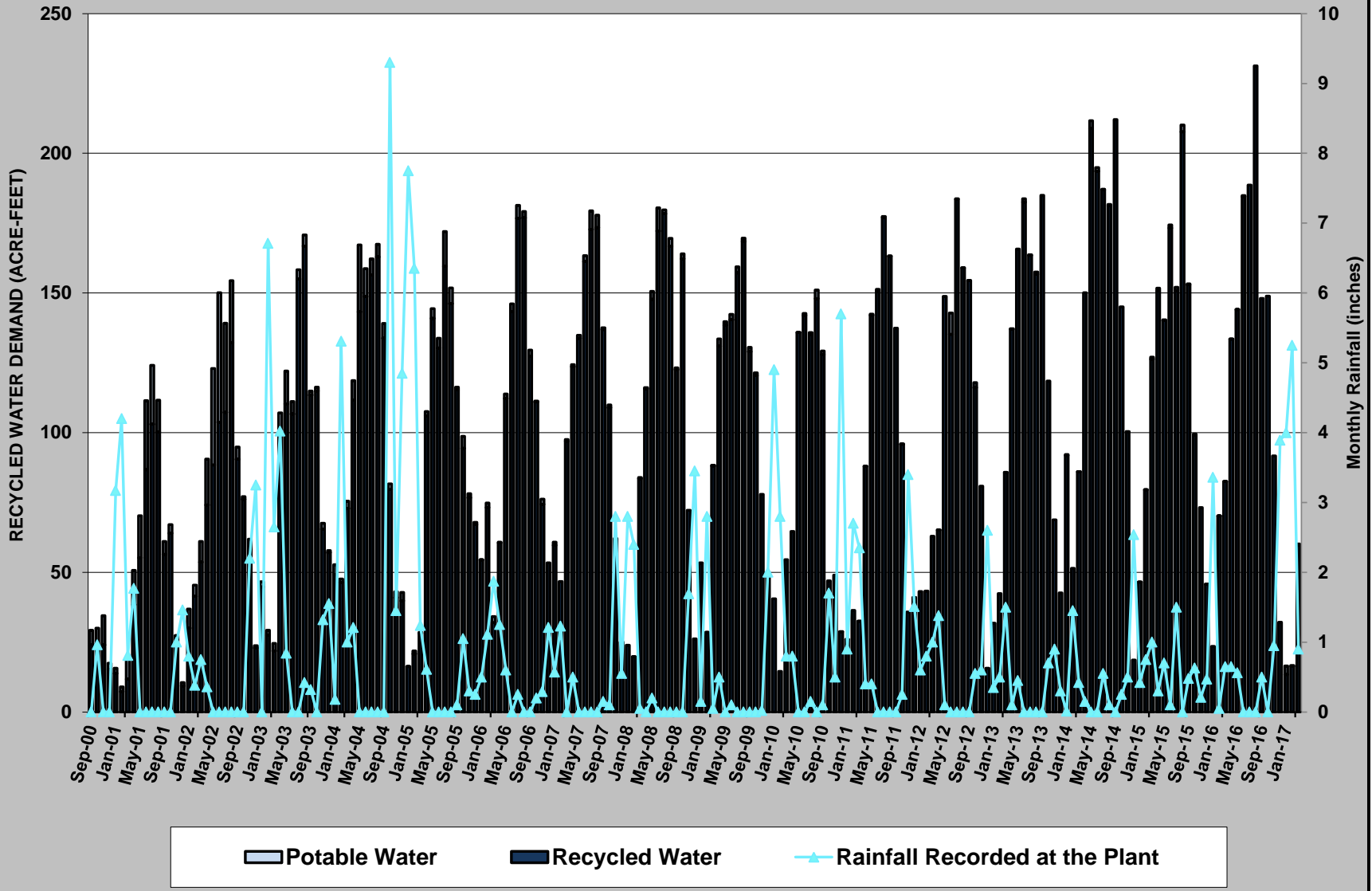
Figure 1 (attached) provides monthly supply demands for recycled water since September 2000. Figure 2 (attached) provides a graphical view of annual recycled water demand spanning sixteen fiscal years. Figure 3 (attached) shows the monthly recycled water demand for each March since the program began operating.

Respectfully submitted,

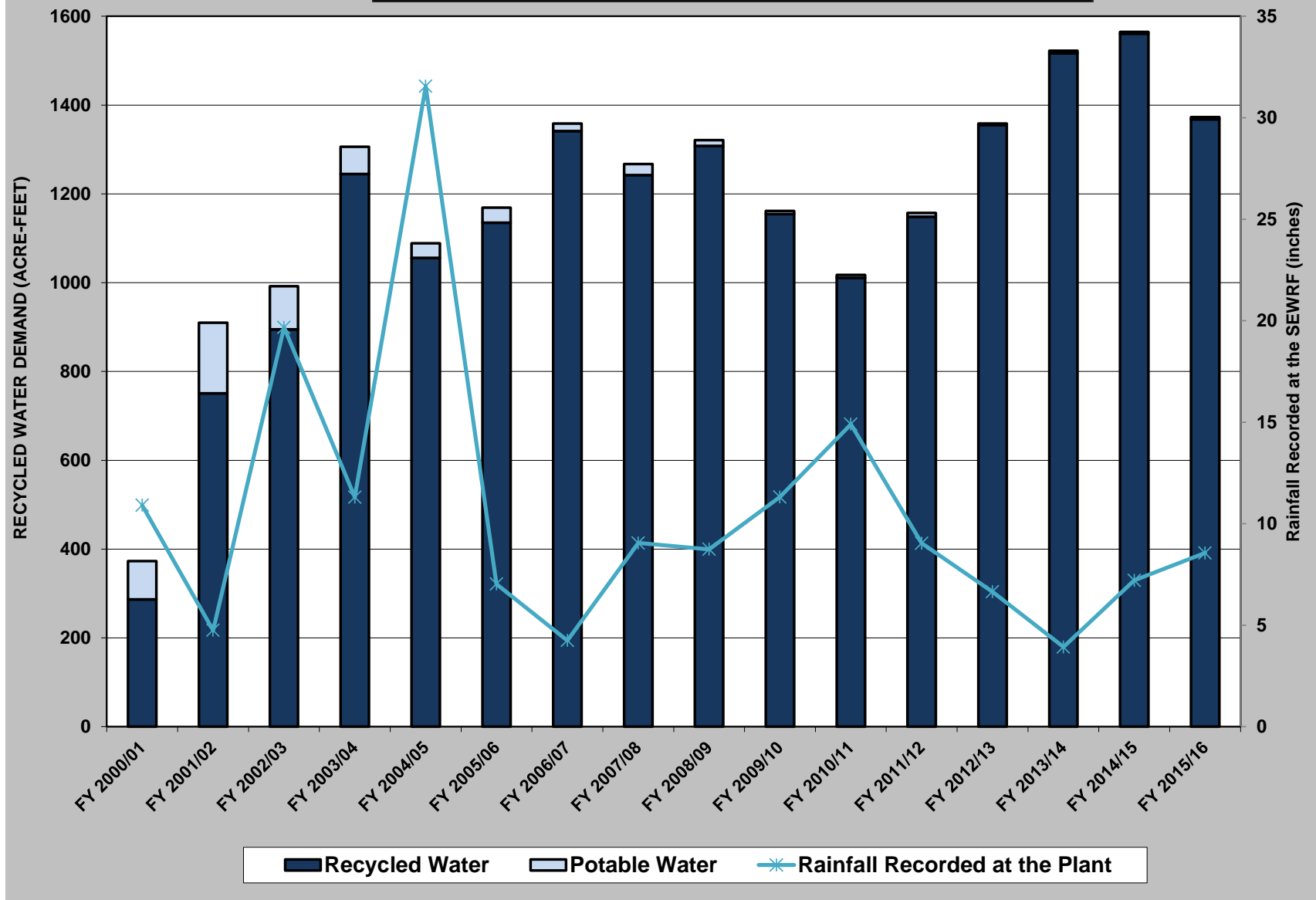


Michael T. Thornton, P.E.  
General Manager

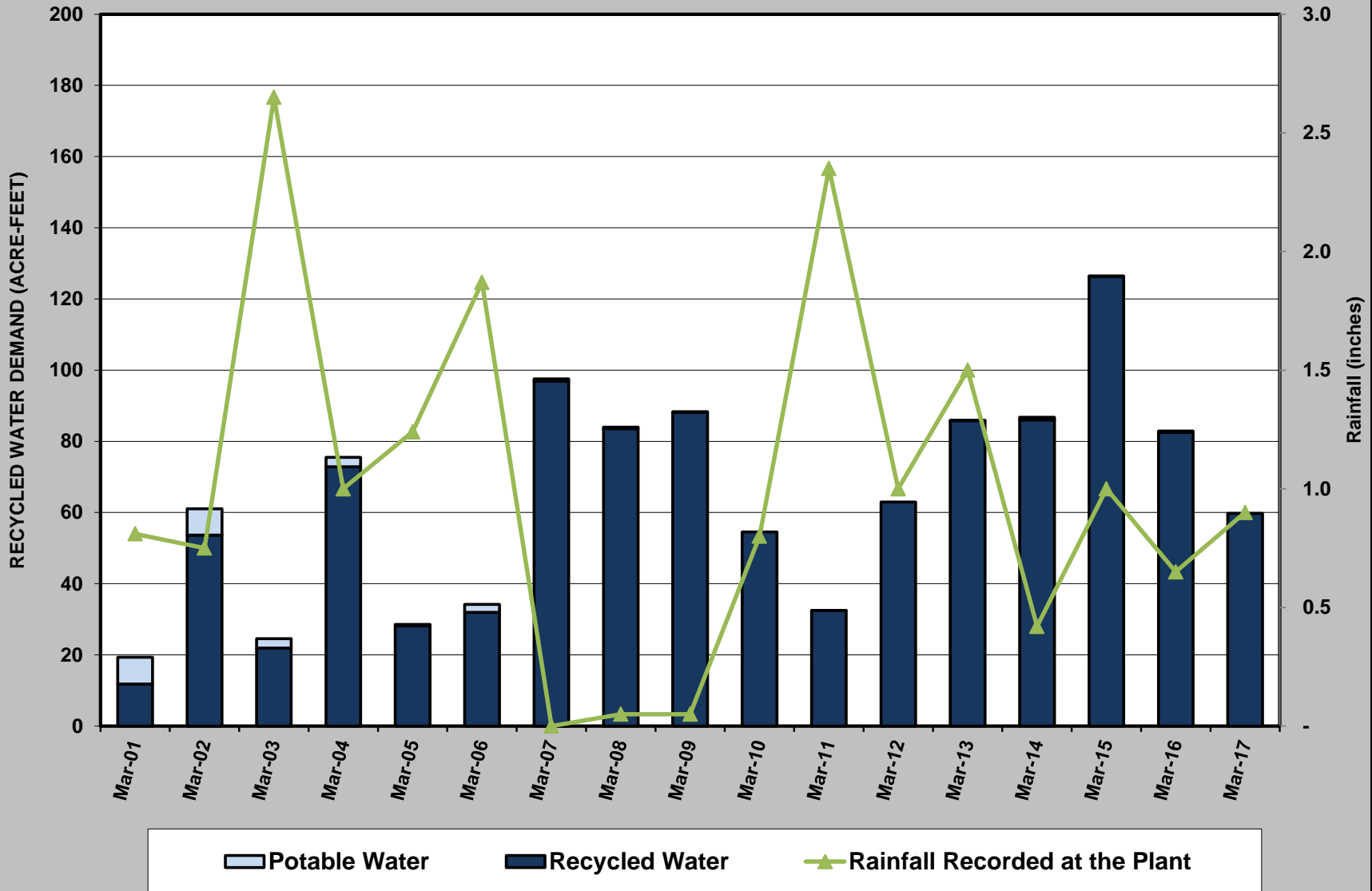
**Figure 1 - MONTHLY RECYCLED WATER DEMAND**



**Figure 2 - RECYCLED WATER DEMAND by FISCAL YEAR**



**Figure 3 - MARCH RECYCLED WATER DEMAND**



SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

May 8, 2017

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: Director of Finance/Administration

SUBJECT: SAN ELIJO JOINT POWERS AUTHORITY FISCAL YEAR 2017-18  
RECOMMENDED BUDGET UPDATE

RECOMMENDATION

It is recommended that the Board of Directors:

1. Discuss and take action as appropriate.

BACKGROUND

Each year, the San Elijo Joint Powers Authority (SEJPA) prepares a recommended budget for the upcoming fiscal year. This budget is presented to the Board in April, and becomes a public document for comments and suggested changes by the Board, Member Agencies, other government agencies that receive services from the SEJPA, and the public.

DISCUSSION

At the April 2017 SEJPA Board meeting, Staff presented the FY 2017-18 Recommended Budget to the Board of Directors for public review and comment. During the past month, SEJPA staff has discussed the budget with staff members from both Member Agencies to receive comments and/or suggested changes.

The City of Encinitas (Encinitas) has recommended an increase to the Cardiff Sanitary Division in the amount of \$344,650 to incorporate replacing the aging force main that conveys raw wastewater from the Cardiff Pump Station to the SEJPA. SEJPA Staff recommended this change to Encinitas because the Cardiff Force Main is in close proximity to the Land Outfall Replacement Project, thus economies of scale can be achieved in combining the construction. Staff will incorporate this change and present a revised Recommended Budget to the Board at the June 2017 meeting.

The Member Agencies support the FY 2017-18 Recommended Budget, and the budget is in line with expectation for their rate structures. There have been no other recommendations, changes, or comments from the other participating government agencies, and no public comments.

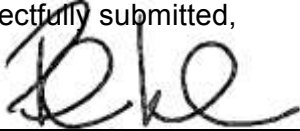


The budget will be presented to the Board of Directors for adoption at the June meeting along with the investment policy and appointment of SEJPA Treasurer. Any action from the current meeting will be incorporated into the budget before the June meeting.

It is, therefore, recommended that the Board of Directors:

1. Discuss and take action as appropriate.

Respectfully submitted,



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Paul F. Kinkel  
Director of Finance/Administration

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

May 8, 2017

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: Director of Finance/Administration

SUBJECT: 2017 BOND FINANCING UPDATE

RECOMMENDATION

It is recommended that the Board of Directors:

1. Discuss and take action as appropriate.

BACKGROUND

The San Elijo Joint Powers Authority (SEJPA) is preparing a bond issuance for the purpose of funding clean water (wastewater and recycled water) infrastructure projects. These projects include constructing new facilities as well as upgrading and modernizing existing infrastructure to allow the agency to achieve its mission of protecting the environment and public health, building sustainable practices, and proactively managing assets. The projects are anticipated to be completed in three phases over a four-year period.

The Bond Team is comprised of the following members:

Municipal Advisor:	Fieldman, Rolapp & Associates
Trustee:	MUFG Union Bank, N.A.
Bond and Disclosure Counsel:	Procopio, Cory, Hargreaves & Savitch LLP
Underwriter:	Hilltop Securities
Underwriter's Counsel:	Nixon Peabody LLP

The SEJPA is seeking a bond issuance that will generate approximately \$23.8 million in net proceeds. The actual net proceed value will be based on interest rate conditions at the time of the bond sale, which is planned for early June 2017.

## DISCUSSION

Staff is working with the bond team to finalize the required bond documents that will be presented to both Member Agencies' City Councils and SEJPA's Board. The documents include the following:

<b>Document</b>	<b>Description</b>
<b>Resolutions</b>	Authorization for the execution and delivery of loan agreement, approval for sale of bonds, official statement and official actions.
<b>Loan Agreements</b>	Provides a conduit between the SEJPA and the Member Agencies for bond payments. The Members' rate setting authority is the primary security for the bonds.
<b>Preliminary Official Statement</b>	Preliminary legally mandated document circulated to gauge the level of interest among prospective investors by providing broad information without the price of the issue.
<b>Continuing Disclosure Statement</b>	Provides information to the purchasers of the bonds and public markets.
<b>Purchase Contract</b>	An agreement between the issuer and the underwriter for the purchase and sale of the bonds including bond terms subject to the receipt of certain opinions, certificates, and other conditions.

### **Schedule & Actions**

SEJPA Staff has met with both Member Agencies' staff to communicate the bond plan and schedule. The following table lists the actions to be completed:

<b>Date</b>	<b>Action</b>
<b>May 18<sup>th</sup></b>	Solana Beach Budget & Finance Committee presentation
<b>May 24<sup>th</sup></b>	Member Agencies' City Council Meetings to approve bond documents
<b>June 12<sup>th</sup></b>	SEJPA Board Meeting to approve bond documents
<b>June TBD</b>	Sale of bonds

## FINANCIAL IMPACT

The 2017 Revenue Bonds are planned to be a 30-year issuance with the first 2 years as interest only payments. This is intended to avoid rate stress on the sewer customers, and fit within the Member Agencies' rate structures. Figures 1 and 2 below show the stability and consistency between the current and proposed future capital requests.

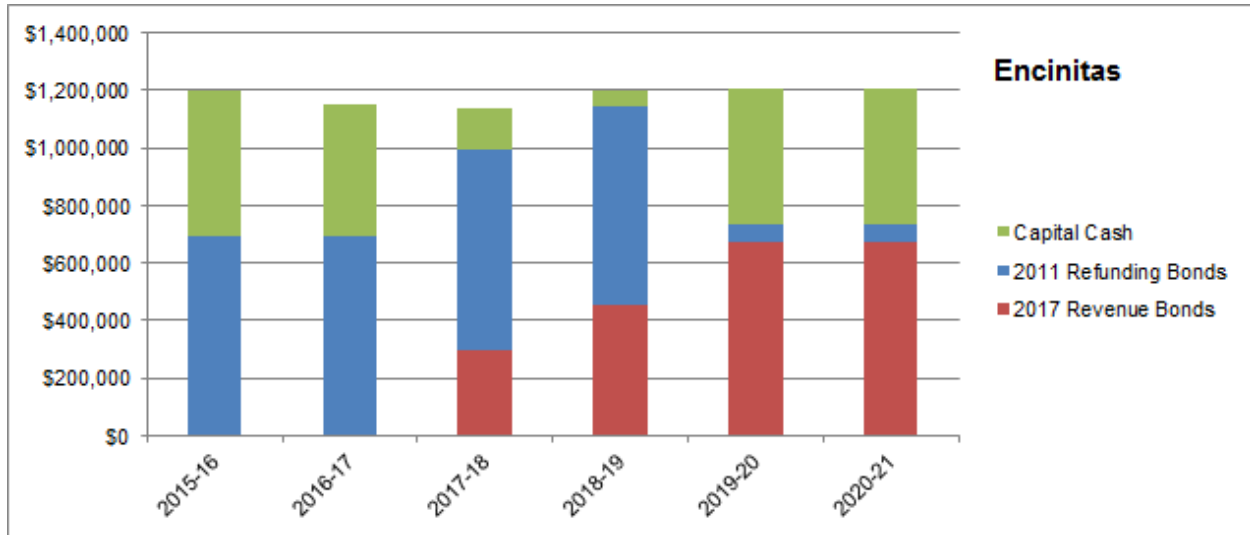


Figure 1. Encinitas Current and Projected Capital Cash and Bond Payments

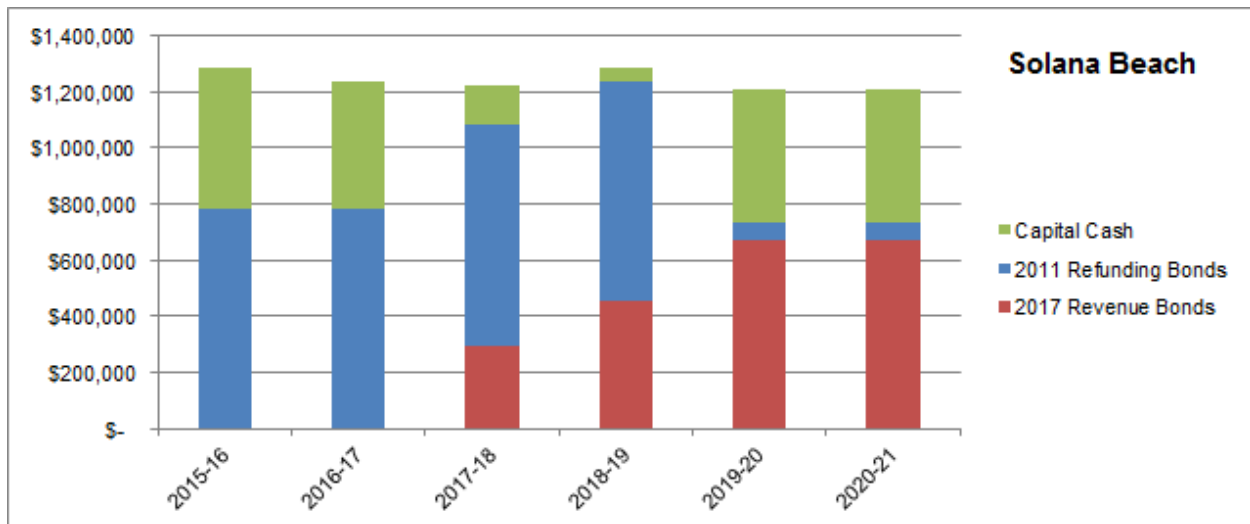


Figure 2. Solana Beach Current and Projected Capital Cash and Bond Payments

It is, therefore, recommended that the Board of Directors:

1. Discuss and take action as appropriate.

Respectfully submitted,

Paul F. Kinkel  
Director of Finance/Administration

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

May 8, 2017

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: AWARD CONSTRUCTION MANAGEMENT & ENVIRONMENTAL  
COMPLIANCE SERVICE

RECOMMENDATION

It is recommended that the Board of Directors:

1. Authorize the General Manager to award a professional services agreement to Black & Veatch for Construction Management and Environmental Compliance for an amount not to exceed \$979,669; and
2. Discuss and take action as appropriate.

BACKGROUND

The San Elijo Joint Powers Authority (SEJPA) has initiated Phase I of a multi-phased capital improvement program to construct a series of clean water related (wastewater and recycled water) infrastructure projects. These projects will contribute to the agency's mission of environmental protection, community sustainability, and proactive asset management.

Phase I includes the following projects:

- Land Outfall Replacement. This project will replace approximately 2,500 linear feet of aging 30-inch diameter asbestos-concrete pipeline originally installed in 1965. The land outfall is critical wastewater infrastructure because (a) there are no redundant facilities or systems, (b) it is in use 24 hours per day, every day of the year, and (c) it is essential for meeting environmental compliance.
- Preliminary Treatment Upgrades will increase peak flow wastewater acceptance and treatment by more than 50% to approximately 13.6 MGD from the current flow of 9 MGD. Although the average daily flow to the San Elijo Water Reclamation Facility is approximately 3 MGD, winter storms can increase peak flows for short durations to approximately 9 MGD. This project will increase the robustness and effectiveness of the Preliminary Treatment System to accept and treat peak flows up to 13.6 MGD, protecting the environment and public health from unintended spillage of raw sewage. Project elements include the installation of new treatment

and process monitoring equipment, construction of concrete channels, and replacement of aging chemical storage tanks.

- Odor and Gas Control Systems. This project will replace aging mechanical, electrical and other components associated with treatment odor control systems, which are necessary to sustain the capture and removal of odors and corrosive gases.

Phase I projects are ready for construction, with design work completed and all necessary permits obtained. The construction contract for the first project (Land Outfall Replacement) was awarded on April 28, 2017, and the notice to proceed is planned for May 2017. The second and third projects have been combined, and are being prepared for public advertising. Staff anticipates presenting the construction award recommendation to the Board at the July meeting.

## DISCUSSION

Capital projects are typically assigned a construction manager to oversee daily construction activities and ensure that a quality project is delivered safely and in accordance with the contract drawings and specifications. Environmental Compliance is required by the project permits and includes archeological, paleontological, bird nesting, critical habitat, and other required monitoring. Staff is seeking approval for Construction Management (CM) and Environmental Compliance services for Phase I Construction Projects.

Initially, Staff considered seeking individual CM teams for each project, but ultimately determined that utilizing a single team for all Phase I construction provides efficiencies, continuity, and opportunities for cost savings. Three engineering firms experienced in the design and inspection of horizontal directional drilling (HDD) and wastewater treatment facilities submitted proposals. Staff interviewed the firms on March 30, 2017 to discuss project team qualifications, approach, and project management. Two of the firms (Black & Veatch and Michael Baker International) were noted for their outstanding approach, proposed project team, and technical experience with complex HDD projects. These two firms were interviewed again to identify and discuss a tailored approach for efficiently and effectively completing CM for Phase I construction.

Black & Veatch and Michael Baker International both submitted scopes of work and fee proposals to complete Phase I Construction. Table 1 provides a brief summary of each firm's proposed effort and fee.

Table 1 - Construction Management (CM) Fee Proposal for Phase I

Firm	CM Fee
Black & Veatch	\$837,272
Michael Baker International	\$995,236

Staff recommends selecting Black & Veatch as their proposal provided the best combination of approach, experience, and value.

In addition to Construction Management, the projects also require Environmental Compliance with project permits for California Environmental Quality Act (CEQA) requirements. The Staff

engaged Helix Environmental to develop a scope of work and fee for conducting the required monitoring and reporting effort. Helix Environmental has been serving the SEJPA as the lead environmental consultant for the Land Outfall Replacement Project and assisted in obtaining the project permits. The negotiated fee for Phase I Environmental Compliance was \$142,397, which is distributed as \$113,872 for the Land Outfall Replacement Project and \$28,525 for the Preliminary Treatment Upgrades Project. Staff has combined the CM and Environmental Compliance into one agreement for effective coordination of monitoring with construction activities. The total Agreement value for these tasks is \$979,669.

### FINANCIAL IMPACT

The SEJPA capital program has adequate funding for the award of the proposed Phase I Construction Management and Environmental Compliance effort, which is for an amount not to exceed \$979,669.

The Land Outfall Replacement Project will be responsible for \$595,317, which is comprised of \$481,445 for CM and \$113,872 for environmental compliance.

The Preliminary Treatment and Odor Control Upgrades will be responsible for \$384,352, which is comprised of \$355,827 for CM and \$28,525 for environmental compliance.

The Preliminary Treatment and Odor Control Upgrades will only move forward if the SEJPA completes its planned 2017 Bond Financing or if another financing option is obtained.

It is recommended that the Board of Directors:

1. Authorize the General Manager to award a professional services agreement to Black & Veatch for Construction Management and Environmental Compliance for an amount not to exceed \$979,669; and
2. Discuss and take action as appropriate.

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

Attachment 1: Black & Veatch Proposal for the Land Outfall Replacement & Preliminary Treatment Upgrades Construction Management and Inspection Services, dated April 18, 2017



BLACK & VEATCH  
CORPORATION

300 RANCHEROS DR.  
SUITE 250  
SAN MARCOS, CA  
92069  
+1 760.621.8600 P  
+1 760.621.8602 F

April 18, 2017

Mr. Mike Konicke  
Associate Engineer  
San Elijo Joint Powers Authority  
2695 Manchester Avenue  
Cardiff-by-the-Sea, CA 92007

**Subject: Proposal for the Land Outfall Replacement & Preliminary Treatment Upgrades  
Construction Management and Inspection Services**

Dear Mr. Konicke:

Black & Veatch is pleased to present this proposal for the Land Outfall Replacement and Preliminary Treatment Upgrades Construction Management and Inspection Services. As requested, we have updated our proposal to include Environmental Monitoring services from Helix. Recognizing that you have options for selection, we would like to point out a few things that we believe set our team apart.

**Specialized Expertise.** As a leader in the design, construction, and construction management of trenchless technologies, particularly HDD, Black & Veatch has the perfect complement of experts to protect your risk and drive an on-time, on-budget project delivery while protecting all your interests. In addition, with Eric Sturtz as the CM, you have the right expertise to deliver both specialized projects. We provided updated team and experience descriptions to demonstrate Eric's unique experience with both trenchless construction and treatment plant upgrades, focusing on his expertise in keeping your plant operational during the construction projects. We also provided short descriptions of our local electrical and I&C inspection support for the project.

**Demonstrated Value.** We understand how to best flex your budget while providing the expertise needed to limit your risk. Our team is structured to leverage our team that is on site for both projects, delivering the right support when you need it, a service we can offer due to the unique experience of Eric Sturtz and Lafe Shaw. You will see additional key objectives in our approach section and associated scope of work that exemplify our understanding of the most important focus areas.

**Partnership.** We are your advocate, focusing our efforts on protecting your interests while keeping the projects on track. We are truly your partner to take ownership of the design following our constructability review and drive results without ever directing the contractor and assuming risk for SEJPA. This mindset results in the lowest risk to SEJPA.

Simply put, Black & Veatch has assembled and selected the right team to deliver timely, high quality projects. We appreciate the opportunity to present this proposal to you and look forward to working with you and your team on this important project.

Very truly yours,  
BLACK & VEATCH

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



March 22, 2017



# Land Outfall Replacement | Preliminary Treatment Construction Management and Inspection Services

## Identification of Responder

### Legal Name

Black & Veatch Corporation

### World Headquarters Address

11401 Lamar Ave.  
Overland Park, Kansas 66221

### Parent Company

None

### San Diego County Addresses

300 Rancheros Drive, Suite 250  
San Marcos, CA 92069

## We're close by



10089 Willow Creek Drive  
San Diego, CA 92021



## Experience and Technical Competence

### BLACK & VEATCH'S HDD CM EXPERIENCE

The Black & Veatch Team provides SEJPA Horizontal Directional Drilling (HDD) and Treatment Plant Upgrade construction project management by application of unparalleled knowledge of trenchless techniques, regulations, and successful implementation of similar HDD projects throughout the US and recent and local major wastewater treatment plan upgrades. Having recently completed projects just like yours, we will leverage the evaluations for technologies, and project developments to provide you thorough construction management with a modest investment. The following pages highlight a sampling of our world class experience and focus on projects here in Southern California.



Horizontal Directional Drilling (HDD) requires highly competent professionals with heavy civil experience to oversee the contractors work and perform quality assurance.

Year	Owner	Project Name and Location	Relevance	Services Provided by B&V
2016	Grand Rapids CSO	CSO 9-28 Supervised City and DTE Contractors (9 years total work)	Multiple Small diameter HDD for Water & Gas lines up to 20 inch diameter	CM
2014	Pacific Gas and Electric Company	ZA-1 Underground Cable Project Embarcadero to Potrero 230 kV Transmission Line, San Francisco, California	North and South HDD drives for 1,700 and 1,400 feet of three 12-inch and one 3-inch HDPE DR9 pipe conduits.	CD, DD, CM
2014	Southern California Edison	Chino Hills 500 kV Underground Transmission Project, Chino Hills, California	Electrical Transmission Conduits 900 and 2,000 feet long with six 36-inch diameter bore with four 10-inch, 6-inch, and 2-inch HDPE DR9 pipe bundle conduits	CD, DD, CM
2014	Southern Maryland Electric Cooperative	Patuxent River Crossing, Anne Arundel, MD	36" Electrical Transmission Conduits 4800 ft long HDD, 160' under the Patuxent River	CD,DD, CM*
2013	Lincoln Water Systems	Platte River Crossing, Ashland, NE	48-inch diameter, 1,600 feet long HDD under east channel of Platte River to carry raw water to the existing raw water collection main system.	CD, CM*

Year	Owner	Project Name and Location	Relevance	Services Provided by B&V
2011	City of Olathe	Kansas River Crossing, Olathe, KS	48-inch diameter, 1,750 feet long HDD installed under the Kansas River that pumps raw water from alluvial aquifers of the Kansas River	CD, DD, CM*
2009	City of Oak Island	Oak Island Force Main, Oak Island, NC	20-inch diameter, 1,500 feet long (composite curve) HDD installation under the Atlantic Intracoastal Waterway	CD, DD, CM
2009	City of Oak Island	Davis Canal Force Main, Oak Island, NC	14-inch diameter, 900 feet long HDD installation under Davis Canal	DD, CM
2009	Cape Fear Public Utilities Authority (CFPUA)	Raw Water Transmission Main, Cape Fear river Crossing, Wilmington, NC	36-inch, 2,500 feet long HDD emergency pipeline replacement	CD, DD, CM
2007	City of Wilmington	Livingston Creek Raw Water Pipeline Replacement, Wilmington, NC	36-inch, 1,100 feet long HDD emergency pipeline replacement	CD, DD, CM
2004	City of Grand Rapids	Thornapple Water Main Crossing, Grand Rapids, MI	20-inch diameter, 2,300 feet long HDD-installed force main under the river	DD, CM
2001	Naval Surface Warfare Center, Indian Head Division	Mattawomen Creek Crossing, Indian Head, MD	14-inch casing pipe, 4,410 feet long installed by HDD	CD, DD, CM
1996	Portland Water Bureau	Hayden Island Directional Drill, Portland, OR	20-inch diameter, 1,100 feet long HDD pipe under the North Portland Harbor	DD, CM
1994	Jefferson City Force Main	Jefferson City, MI	30-inch, 2,550 feet long HDD installation under the Missouri River	CD, DD, CM
1993	Kansas City Water Services Department	Line Creek Force Main, Kansas City, MI	30-inch, 2,200 feet long HDD installation under Missouri River	CD, DD, CM

Example Projects – The following projects are representative of our effort on the projects listed in the summary table above and for the execution of a large and complex wastewater treatment plant construction upgrade project nearby.

## Thornapple River Watermain Crossing

City of Grand Rapids and Cascade Township, Michigan

Black & Veatch provided study, design, and construction inspection services for the City of Grand Rapids for the successful completion of the horizontal directional drilling of 2,300 lineal feet of 20-inch diameter watermain crossing the Thornapple River in Cascade Township. The successful completion was critical because of a previous failed attempt in 1998 to construct an HDD water main crossing at a similar location.

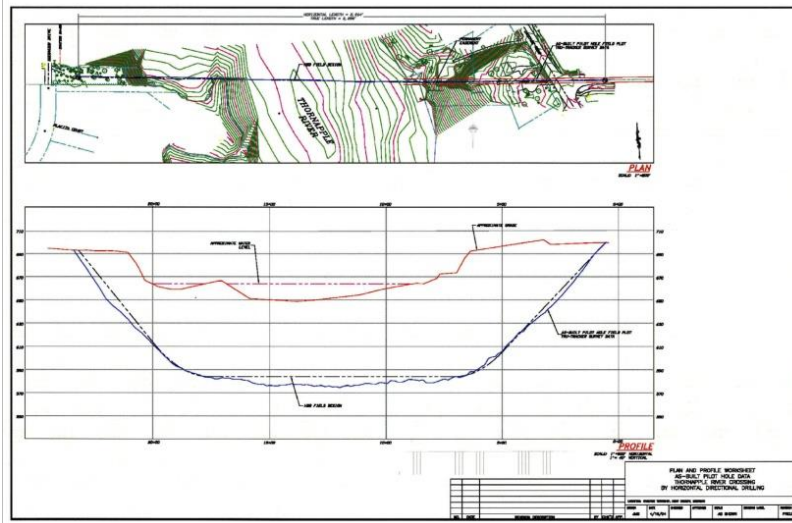


The Thornapple River Crossing project successfully installed a 20-inch water main under the river while protecting the environment and meeting all regulatory requirements.

### CONSTRUCTION PHASE

The Construction Phase consisted of the following:

- Preconstruction survey.  
Install/observe crack monitors/settlement markers to ensure structural integrity of existing homes.
- Full-time resident engineer to inspect construction.



## Biosolids Facility - Phase V Expansion

Encina Wastewater Authority, Carlsbad, CA

Black & Veatch provided planning, design, construction management and start-up services for the EWA's Biosolids Facility and Energy Management - Phase V Expansion project. This highly successful project is a key example of how our firm excels managing the CM for a complex plant project across a wide range of disciplines and design specifications. We understood EWA's priorities, assigned a capable team and successfully met all challenges on this project.

Highlights of the CM services include:

- Maintenance of plant operations co-developed with EWA operators
- Development of field engineered solutions for tight-quarters operations
- Equipment pre-procurement and construction schedule coordination
- Phased start-up plan and operations oversight

The phased approach to the work consisted of the installation of new solids dewatering centrifuges, drying equipment, demolition of existing belt presses, construction of a new sludge transfer pump station, digested sludge booster pump station, demolition and replacement of the chemically enhanced primary treatment polymer and ferric chloride storage and transfer facility, and related electrical control equipment, yard piping, grading, paving, and drainage work.

### CONSTRUCTION PHASE

The Construction Phase consisted of the following:

- Overall Construction Management
- Full-time resident engineer to inspect construction
- Start-up and Commissioning Services
- Electrical and I&C Inspection
- Scheduling Analysis of phased construction
- Change Order Evaluation
- Cost Estimating

### CLIENT RECOGNITION

*"Despite over 100 planned and unplanned plant shutdowns during a multi-year project which entirely replaced the Encina Water Pollution Control Facilities' dewatering and cogeneration infrastructure, Black & Veatch's careful attention to our operational requirements and skill as construction managers allowed EWA and its partners to complete this complex project while maintaining compliance with all ocean discharge, air emission and storm water management permits."*

- Kevin Hardy, General Manager Encina Wastewater Authority



Shown here is the completed Encina Phase V Expansion Biosolids Building. Eric Sturtz served as the Construction Manager for this award winning project.

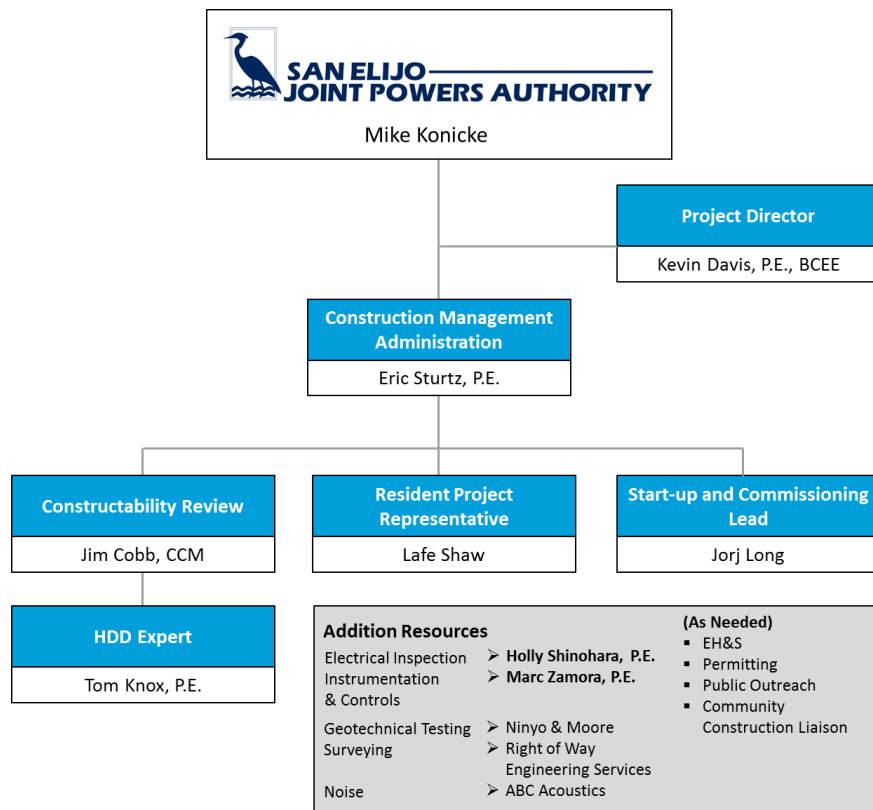
## Project Organization and Key Personnel

Black & Veatch’s trenchless experience encompasses planning, design, construction, rehabilitation and maintenance solutions with a strong focus on life-cycle efficiency and economy. Our experience includes a variety of trenchless techniques including microtunneling (MT), pilot tube microtunneling (PTMT), HDD, horizontal auger boring (HAB), and pipe bursting. As engineers and constructors, Black & Veatch understands that designing and executing construction of trenchless solutions need to address reliability, security, schedule, safety, life cycle, and economic goals.

**Black & Veatch is the recipient of the North American Society of Trenchless Technology, 10-year Anniversary Award, recognizing our contribution to the development of the trenchless technology field. This expertise will be applied to your project to support the contractor’s activities and protect your interests.**

Additionally, our team’s relevant and local experience recently executing a complex, multi-phased plant upgrade project will provide you with the right field experience needed to ensure the project gets constructed as designed, provide quick solutions and adjustments in response to an unforeseen condition, and ensure that plant shutdowns are executed in an effective, well-coordinated, and communicative manner.

This track record of demonstrated expertise will provide you confidence that Black & Veatch will shepherd the construction phase of your project by applying our lessons learned and engaging SME’s. Black & Veatch brings a qualified team with an established local office in San Diego County, backed by discipline experts with unmatched experience. We understand the complexities of the project and will work hand in hand with you to deliver a solution that meets short- and long-term goals while coordinating with the overarching master plan. This team is excited to work with your highly knowledgeable staff to address the key project drivers with value and flexibility in mind.



### *Primary Team Members*

**Lafe Shaw, Resident Project Representative (Horizontal Directional Drilling)** – Our RPR, Lafe Shaw has successfully led field construction teams as a construction superintendent and as an owner’s representative, including HDD projects in Arizona and Kansas. Lafe will be supported by a CM team of subject matter experts and local professionals familiar with the scope, location and SEJPA standard operating procedures. Eric Sturtz, a San Diego native will provide office and field support and will be responsible for contractor payment processing, and change management.

**Eric Sturtz, PE, Resident Project Representative (Preliminary Treatment Upgrades) Construction Management Administration (Overall both HDD and Preliminary Treatment)** – Eric will provide overall coordination of all project specialists as well as all project contract administrative support as required. Eric will also provide as-needed inspection services for the Preliminary Treatment Upgrade Project. By supporting both projects as the Construction Management Administrator, Eric’s time will be more efficiently utilized. At the height of construction activity it is expected that Eric will not be required to spend more than 75% of his time in support of both projects combined. This will help ensure SEJPA gets efficient service at a reduced cost as compared to the utilization of two separate CM contracts for two construction projects. Coordination between the two projects and the operation of the plant and its customers will be enhanced as well. Eric is a local Black & Veatch CM professional and will also provide support to Lafe as needed. When HDD project demands exceed Lafe’s ability to administer the project, Eric will provide overflow services as needed. Eric is also a registered Civil Engineer in the State of California and can provide specialty inspection as required.

**Kevin Davis, PE, Project Director** – Kevin will ensure Black & Veatch’s resources are made available to SEJPA. He will also provide coordination and support as needed and support any challenge that may arise during the project.

**Jim Cobb, HDD Constructability Expert** – Jim Cobb our HDD constructability expert has extensive experience in the analysis, planning, construction, and management of municipal public works, detention facilities, and other building structures in both the United States and countries abroad. He is fluent in constructability review and value engineering and has managed design build projects in excess of \$50 M from conception to completion. Jim having served in the US Marines, stationed in San Diego, knows the local geography and is sensitive to the logistics of completing this project along the proposed alignment. Jim will be a resource to SEJPA and Lafe and will bring his recent experience in managing a CSO program for the City of Grand Rapids, Michigan which included numerous small diameter HDD drives for installation of Gas and water piping.

**Tom Knox, HDD Expert** – Tom Knox, Our HDD Subject matter expert is a Senior Geotechnical Engineer – Providing HDD design engineering services for numerous B&V projects. Tom will provide support and QC of our field reports and progress documentation. Tom knows southern California’s unique geotechnical conditions having served as HDD design lead on projects in San Luis Obispo, Port Hueneme and Chino Hills.

**Jorj Long, Start Up and Commissioning Expert** – Jorj Long will lead our commissioning effort. Her experience in facility operation and maintenance, supervision, education, and training makes her a vital part of the Black & Veatch team. She holds the highest level of wastewater operator



certification in California, has obtained her EIT, and is also certified in water treatment, collections system operation, industrial waste, laboratory and mechanical maintenance.

**Holly Shinohara, P.E., Electrical Inspection** – As a registered electrical engineer, Holly has the needed expertise to provide electrical inspections, as she is currently providing on the \$100 million P1-101 Biosolids project for the Orange County Sanitation District and other local water and wastewater projects in Southern California. Holly is located here in Southern California, making it easy to have her on site when we need her.

**Marc Zamora, P.E, Instrumentation and Controls** – As a controls specialist, Marc will be ready to complement your internal I&C activities. Marc, like Holly, is located in Southern California and will be available when you need him. Marc has in-depth experience with wastewater SCADA systems, having worked on some of the most complex projects like the Metro Biosolids Center for the City of San Diego and the Encina Wastewater Authority's Phase V project.

### *Subconsultants*

**Ninyo & Moore** will provide testing and some specialized inspection services for the project as needed and in compliance with the contract documents.

**Right-of-Way Engineering Services** will provide surveying services as needed.

**ABC Acoustics** will provide sound monitoring and attenuation services as needed.

## Project Approach

### HORIZONTAL DIRECTIONAL DRILLING PROJECT

Our team provides SEJPA with the knowledge and expertise to address every challenge, whether concerned with the major elements of the pipeline or the work necessary to accommodate construction (geotechnical monitoring, quality control, safety management, environmental compliance, permitting, traffic control, coordination with third party agencies, and public outreach). Our approach to accomplish the scope of services and manage the technical elements of this project is based upon tested processes and procedures that our Construction Management professionals adhere to, unwaveringly. We will work hand in hand with your staff to implement SEJPA's vision, adhering closely to your capital delivery manual and always focused on risk reduction. Our motto will be: "How can we accomplish this with the minimum amount of risk and exposure to SEJPA and its rate payers?" Through this motto, we will work to enhance SEJPA's reputation as an environmental steward and careful guardian of scarce public funds.

Through thoughtful review of the RFP and BODR, our team has identified several critical success factors and offer demonstrable experience in mitigating these risks during the HDD work.

- Entry point - beach
- Congestions/ coordination with other projects & SANDAG  
Cal DOT North Coast Corridor Expansion of the I-5 & CalTrans coordination San Elijo Lagoon Double Track,
- Soil type
- Fish/ wildlife/ environmental (discharge permits)
- Site logistics – staging & haul roads
- Fusing of pipe
- Maintenance of operations and maintaining flow from outfall during construction

**Bore Path Design Constructability Reviews** – If desired, Black & Veatch's HDD experts can verify design profiles using HDD Design Software and provide feedback on construction impacts. We would focus our attention on the following:

- **Definition of drill path curves** – Sag bends, over bends, side bends, entry and exit points, and workspace considerations must all be evaluated properly.
- **Entry and exit angles** – Entry and exit angles are important to maintain appropriate depths and maximize the potential curve radii.
- **Depth of Cover** – This parameter is of concern in regards to drilling fluid frac-out to the surface as well as the maximum pull stress determination. Generally speaking, as depth increases so does maximum pull stress. Conversely, as depth decreases, the frac-out potential increases.
- **Design radius of curvature** – This is an important factor in the design of an HDD crossing, appropriate to the pipe type used, and to facilitate pull pressures. One of the most important factors in the design of an HDD crossing is the radius of curvature. This is of greater importance when steel pipe is used. A general rule of thumb in the design process is 1,200 times the

diameter of the product pipe. For high density polyethylene (HDPE) pipe, much tighter radii can be used.

- **Steering and drill rod constraints**–The planned drill path must be compatible with the steering capability and allowable radius of curvature of the steel drill rods (the evaluated bending stresses on drill rods).
- **Pipe stress criteria**–considerations for bending stresses and pulling tension will be considered.

**Horizontal Directional Drilling** – Horizontal Directional Drilling (HDD) is a trenchless method where generally all work is done above ground and large below grade entry and exit pits are not required. It is critical that the CM understand the process and follow prescribed procedures to monitor and inspect the project.

Installation of a pipeline by HDD is generally accomplished in three stages. First, a small diameter pilot hole is drilled along a designed directional path. Next, this pilot hole is enlarged to a diameter that will accommodate the pipeline. Finally, the pipeline is pulled into the enlarged hole. We anticipate that the beach entry point will provide a flexible staging area. However, the logistics of access, material delivery and equipment staging will require a concerted coordination with multiple agencies and stake holders during the construction period. The Short Spur from the SEWRF to the pressure regulating valve along Manchester will have similar access challenges and the BV team is prepared to provide construction oversight with a focus on protecting the public, traffic controls, and efficient environmental controls while maintaining the high quality expectations of SEJPA. We will bring lessons learned from our Chino Hills project where we successfully addressed a congested entry location between residences utilizing sound walls.

During the 9 years of managing the CSO program and other pipeline work for Grand Rapids Michigan, B&V coordinated with the City, other local Municipalities, the County and Michigan Department of Transportation. All traffic rerouting and detours were coordinated together to reduce the impact on the public and businesses.



Sound walls were installed to provide mitigation to local residents during construction of the HDD for the Chino Hills project

Some of the efforts resulted in a cost savings to the owner by having work shifted to be done in concert with other organizations proposed work. Jim Cobb, our proposed constructability reviewer, added significant value to this project by proposing the underground work be scheduled at the same time the County was scheduled to resurface the road. This resulted in a reduced cost to the city and also less disruption to the public and businesses.

**Agency Coordination** - We are prepared to coordinate with several other important projects anticipated to be ongoing during the proposed construction period. The North Coast Corridor Expansion of the I-5 & construction of the San Elijo Lagoon Double Track are important project to the region and will require consistent communication and coordination with SANDAG, Cal Trans, North County Transit District, CAL DOT – among others.

Lafe Shaw, our proposed Resident Project Representative and Jim Cobb have direct experience in coordinating interstate and rail road crossing of HDD pipe installations and will approach this project with careful planning and coordination to obtain required permits. They will also provide local coordination to plan crossing drives when minimal or zero traffic is expected.

**Pilot Hole** – The pilot hole directional control is achieved by using a non-rotating drill string with an asymmetrical leading edge. The asymmetry of the leading edge creates a steering bias while the non-rotating aspect of the drill string allows the steering bias to be held in a constant position while directionally drilling. If a change in direction is required, the drill string is rolled so that the direction of bias is the same as the desired change in direction. Leading edge asymmetry is typically accomplished with a bent sub or bent motor housing located behind the bit. Tom Knox and Jim Cobb bring considerable HDD design and Construction experience and will ensure that the Contractor is prepared and ready to complete the curved trenchless installation under the lagoon. Black & Veatch will utilize land surveyors to check critical hydraulic elevations and contractor’s control to the extent necessary. Also, surveyors will be available to respond to unforeseen conditions that may require design modifications in order to expedite resolution.



A mud motor and bit is shown here for soft soils.

In soft soils like we will see on your project, drilling progress can be achieved by hydraulic cutting with a jet nozzle. If hard spots are encountered, the drill string may be rotated to drill without directional control until the hard spot has been penetrated. Mechanical cutting action required for harder soils is provided by a positive displacement mud motor which converts hydraulic energy from drilling fluid to mechanical energy at the drill bit. This allows for bit rotation without drill string rotation. A mud motor is shown in here.

If jetting is employed, the BV team will pay particular care in ensuring that discharges are properly permitted and that best management practices and SWPPP requirements for run off of surface water is followed. When working in and under the lagoon, our RPR – Lafe will pay special attention to environmental requirements to protect the lagoon and its inhabitant fish and wildlife.

Black & Veatch will work closely with Town, County, and Federal permitting agencies to develop close working relationships. These close working relationships and sharing of technical information allowed portions of the work to be installed under federally delineated wetland areas thus decreasing length of the drill, impact to the community, overall impact to the environment.

In grand rapids, during Saddleback Sewer line installation (over 3 years and multiple locations) We worked closely with the DNR on Stream crossings as to not disrupt the Salmon Spawning time periods and the trout events.

If desired, Black & Veatch can provide technical support for preparation of the environmental impact report and the environmental permits required from State Coastal Commission, State Lands Commission, Army Corps of Engineers and Regional Water Quality Control Board to construct the project.

**Monitoring the Pilot Hole** - The actual path of the pilot hole is monitored during drilling using a steering tool positioned near the bit. The steering tool provides continuous readings of the inclination and azimuth at the leading edge of the drill string. These readings, in conjunction with measurements of the distance drilled, are used to calculate the horizontal and vertical coordinates of the steering tool relative to the initial entry point on the surface.

HDD pilot holes may be tracked using surface monitoring systems. Surface monitoring systems determine the location of the steering tool downhole by inducing a magnetic field of known location and intensity from surveyed points on the surface. The steering tool senses its location relative to the induced magnetic field.

Measured data from downhole steering tools is normally communicated to the operator at the surface through a data cable running within the drill pipe. These methods allow the contractor and the CM to monitor and verify the alignment during construction.

**Pre-reaming** – Enlarging the pilot hole is usually accomplished using pre-reaming passes prior to pipe installation. Reaming tools generally consist of a circular array of cutters and drilling fluid jets and are often custom-made by contractors for a particular hole size or type of soil. Examples of different types of reaming tools are shown in here.

For a typical pre-reaming pass, a reamer attached to the drill string at the exit point is rotated and drawn to the drilling rig thus enlarging



Flycutter



Barrel Reamer



Hole Opener

Reaming tools are used to enlarge the pilot hole and ready the tunnel

the pilot hole. Drill pipe is added behind the reamer as it progresses toward the drill rig to ensure that a string of pipe is always maintained in the drilled hole. It is also possible to ream away from the drill rig, in which case a reamer fitted into the drill string at the rig is rotated and advanced to the exit point. Equipment is often placed at the exit point to pull the reamer and maintain tension on the drill pipe.

**Pullback** – Pipeline installation is accomplished by attaching the prefabricated pipeline behind a reaming assembly at the exit point and pulling the reaming assembly and pipeline back to the drilling rig. A swivel is employed to connect the pull section to the reaming assembly to minimize torsion transmitted to the pipeline. The pull section is supported using some combination of roller stands, pipe handling equipment, or a flotation ditch to minimize tension and prevent damage to the pipeline. Pullback operations are shown here.

Uplift forces resulting from the buoyancy of larger diameter lines as they are pulled into a fluid filled hole can be substantial. High pulling forces may be required to overcome drag resulting from buoyancy uplift. Because of this drag, contractors will often implement measures to control the buoyancy of the pipe. The most common method of controlling buoyancy is to fill the pipe with water as it enters the hole.

This requires an internal fill line to discharge water at the leading edge of the pull section (after the breakover point). The CM will need to verify this operation is completed in accordance with Regional Board requirements. An airline may also be required to break the vacuum which may form at the leading edge as the pull section is pulled up to the rig. The amount of water placed in the pipe is controlled to provide the most advantageous distribution of buoyant forces. Some contractors may choose to establish constant buoyancy. This can be accomplished by inserting a smaller diameter line into the pull section and filling the smaller line with water. The smaller line is sized to hold the volume of water required (per lineal foot) to offset the uplift forces.

On our Oak Island project in NC, Black & Veatch was also able to work with Town officials to amend local ordinances to allow for continuous twenty four hour work during the pipe pull-back portion of the project to minimize costs and overall disruption to the community.

HDPE fusing will be a specific QA focus for our team during this phase of the work. On the Thornapple crossing project B&V was retained to oversee a 2,300 linear feet of 20” diameter HDD installation after a previous failed attempt in 1998 to construct an HDD water main crossing at a similar location. Incomplete pipe



Pipe Handling Equipment

Proper laydown area is needed to accommodate equipment and materials for HDD construction.

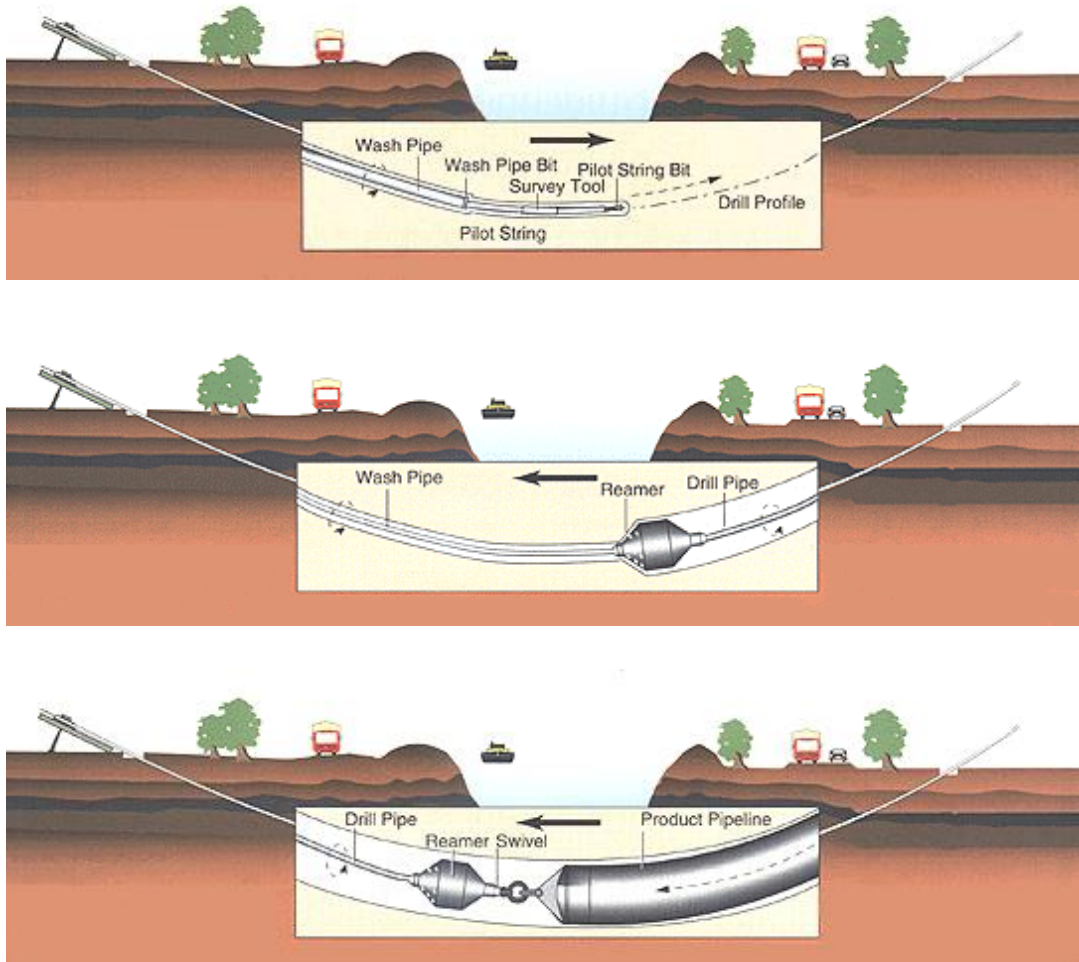


Pull section breakover

Crane and backhoe equipment must be properly planned and carefully coordinated to keep the project area safe.

fusing was determined to be the source of failure and we recommend that Pipe fusing should be supervised by an owner's representative for 100 % of the joints.

The closeout process can often be the biggest challenge faced by a project team. While closeout of the overall Program is an important measurement of success, the Black & Veatch team recognizes that the key to successfully completing an assignment of this size and complexity is to tackle each component as a unique project requiring closure and final acceptance. That methodology starts with clearly articulating expectations for the Project team (including the Contractor) for each Contract. Closeout will be on going during the construction phase and will ramp up as construction is completed. During the preconstruction and mobilization phases, all parties will acknowledge that closeout will begin before construction does. Through systematic compliance with SEJPA contract closeout requirements and requiring our CM team to initiate close out activities on day one of construction for each Contract.



## PRELIMINARY TREATMENT UPGRADES PROJECT

The San Elijo Water Reclamation Facility Preliminary Treatment Upgrades requires excellent planning and execution across a wide range of construction disciplines to deliver a multi-phased project with minimal downtime for facility operation. A proactive CM approach is critical for success. Ongoing dialogue with SEJPA's existing operation and maintenance staff, and management, will be critical for the accurate planning and timing of shutdowns to provide minimum impact to the plant operations. Working with the Contractor on the planning of outages and contingencies will be vital for overall success.

Our approach will achieve the following "Key Objectives":

- **Protecting SEJPA's Interests** – Being SEJPA's advocate throughout construction will ensure fluid communication between the Contractor, Designers, and SEJPA Professionals.
- **Maintaining Plant Operations** – This is vital. Teaming with you and leveraging our knowledge of your plant will help the Contractor plan successful outages.
- **Achieving Quality Construction** – Providing quality inspection throughout construction in tandem with our electrical and instrumentation specialists as needed will ensure critical materials and construction results are highly executed.
- **Meeting cost and schedule targets** – Minimizing change orders on behalf of SEJPA and expediting construction correspondence will keep the project on track. By identifying potential issues/conflicts early, and working towards their resolution, will lead to minimal cost and schedule impact. As timely procurement of equipment will be critical for the schedule of this project, we will lead regular meetings between all parties to ensure technical submittals are complete and equipment procurement is on schedule.
- **Delivering a zero injury project** – Instilling a safety culture throughout all project personnel is paramount.

### KEY OBJECTIVE #1: PROTECTING SEJPA'S INTERESTS

Throughout the course of construction, we will be SEJPA's advocate in the conduct of the CM services and enforce the Contract every step of the way on your behalf. We work for you and will take the lead in resolving sometimes contentious issues with the Contractor. In keeping with our CM philosophy, we will utilize our preconstruction services to develop intimate knowledge of the Contract specifications and design so that we can effectively enforce its requirements. We will forge an alliance with SEJPA's personnel and your design consultants to identify and address project risks and efficiently respond to construction issues.

### KEY OBJECTIVE #2: MAINTAINING PLANT OPERATIONS

#### *Preventing Disruptions to Plant and Distribution Operations*

*Maintaining reliable plant and systems operations throughout construction is of foremost importance.* Also critical is preventing construction impacts on your operations and maintenance staff such that their time can remain focused on their day-to-day work. Preventing operational disruptions is a twofold process:

1. Properly planning and executing needed shutdowns
2. Preventing any unplanned shutdowns



### ***Preventing Unplanned Shutdowns***

Black & Veatch's approach to avoiding inadvertent disruptions of plant operations begins by identifying the potential risks associated with the construction and then managing them in a systematic way. For each risk, we will develop a mitigation strategy in concert with SEJPA's staff shortly following the NTP for the CM Contract. These risks (and their mitigation) will be reviewed in monthly meetings with your team and the Contractor or as frequently as appropriate. For example, when the contractor makes connections to the force main bypass systems, these critical shutdowns will need advance notice to operations, all materials on site and prepped for installation, and contingency plans in place and communicated to all interested parties. Eric Sturtz will coordinate all activities so you can have confidence in a smooth operation and in on-line facilities as planned.

### **KEY OBJECTIVE #3: ACHIEVING QUALITY CONSTRUCTION**

Our CM Team will ensure that the project is constructed to stand the test of time and perform as intended. Eric Sturtz will apply his experience from Phase V Biosolids and other complex projects to collaborate with the Contractor on the development of viable work plans that are based on the approved submittal, RFI responses and current Contract Drawings. Eric also has the requisite experience and qualifications to verify all aspects of the work with specialty inspection required during the final electrical and instrumentation work.

### **KEY OBJECTIVE #4: MEETING COST AND SCHEDULE TARGETS**

Our approach to minimize construction cost growth and maintain project schedule is expected to include:

- Having a balanced Contractor Schedule of Values and Baseline Construction Schedule.
- Frequent coordination with the HDD contractor to ensure work areas are clearly identified and balanced as necessary for the success of both projects during critical periods.
- Avoiding change orders by proactively eliminating potential RFIs by working closely with your Engineer to resolve ambiguities prior to them impacting construction procurement/execution. Enforce potholing requirements as much as possible to reduce time and cost impact.
- Minimizing the cost of change orders by expediting review of all changes, pre-negotiate labor and equipment rates, prepare independent estimates and negotiate all changes, and seek cost reduction offsets.
- Keeping the work going by working with plant staff and designers to identify work-around should issues arise. Eric will coordinate with your team to provide quick resolution while construction proceeds.

### **KEY OBJECTIVE #5: DELIVERING A ZERO INJURY PROJECT**

Black & Veatch is committed to a zero injury goal for all project participants. Our staff has its current OSHA 10-hour certification, fall-hazard training and confined space training. We will prepare and implement our own project safety plan and also abide by the Contractor's. Through our commitment to contribute to the overall safety of the project by all workers, we will:

- Conduct weekly safety walks with Plant and Contractor representatives with an eye on construction housekeeping and OSHA compliance.
- Participate in Contractor pre-activity meetings to review hazards analysis and coordinate inspection.

## Fee Proposal

After reviewing the RFP, Black & Veatch prepared the following scope of work and related fee. As is the case with any project, we have used our best professional judgement to provide services in accordance with your needs and 9 month construction duration identified in the RFP, but we may need to clarify your needs and revise the scope and fee accordingly. It has been assumed that the Preliminary Treatment Upgrades will take approximately 13 months.

### Scope of Work

#### Pre-Award and Pre-Construction Services

##### 1. Mobilization

- a. Correspondence, Reports, and Other Forms of Communication
- b. Document Standards: Consultant will prepare project correspondence and other forms of communication.
- c. Document/Tracking Control: Consultant will manage the receipt, logging, control, tracking, and timely processing of project documents. Documents and correspondence related to the Project will be archived.
- d. Records: Consultant will maintain records of inspections, reports, and test results received from the Contractor, Design Engineer, manufacturers, and others.

##### 2. Site Conditions and Progress Visual Documentation

- a. Pre-Construction Video: Consultant will coordinate, review, and confirm the Contractor's videotape of preconstruction site conditions prior to beginning work. Consultant will meet with owners of pre-existing damage identified to document and confirm existing conditions. Consultant will document any damage to public and private improvements resulting from construction and meet with the owners following discovery of damage to resolve repair requirements and responsibilities.
- b. Progress and Other Photos: Consultant will maintain a digital photographic library of significant construction activities, differing site conditions, change order and claim items, and any special or unique conditions.

#### Services During Construction

##### 1. Meetings

- a. Weekly to Monthly Construction Progress Meetings: Consultant will schedule and conduct progress meetings with the Contractor and the SEJPA. Meeting agendas will be provided, action items will be identified, and minutes will be prepared to document the meetings.
- b. Other Meetings: Consultant will attend other construction-related meetings as requested by the SEJPA.

##### 2. Public Outreach

- a. Public Outreach: Consultant will manage the public outreach process for the Project. This includes reviewing the public outreach plan and coordinating with the agency and Contractor so deliverables are completed to meet Project requirements.

##### 3. Shop Drawing Submittals Reviews

- a. Submittal Reviews: Consultant will review the submittals from the Contractor for conformance with the Contract Documents. Consultant's review will be for general

conformity to the construction Contract Documents and will not relieve the Contractor of any of his contractual responsibilities. Such reviews will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs.

- b. Submittal Log and Status of Submittals: Consultant will log, route, track, and monitor shop drawings, calculations, data samples, submittals, and manuals from the Contractor as required by the construction Contract Documents.

#### **4. Plan and Specification Interpretation and Control**

- a. Requests for Information (RFI): Consultant will coordinate the RFI log and respond to the Contractor RFIs within five (5) calendar days. Changes will be recorded in the record specifications and drawings.
- b. Requests for Changes in Design: Consultant will review and respond to requests for design revisions by the Contractor.
- c. Field Orders: Consultant will initiate, review, and track field orders when a change in work is needed to maintain the design intent. The field order will be issued to the Contractor and the work monitored for compliance.
- d. Substitution Requests: Consultant will coordinate the evaluation of “or-equal” or product substitution requests with the Design Engineer, SEJPA, or others.
- e. Record Drawings and Specifications: Consultant will update the drawings and specifications as the work progresses based on modifications and changes from submittals, RFIs, VEs, field orders, extra work, or change orders.
- f. SWPPP: Consultant will enforce the Storm Water Pollution Prevention Program (SWPPP) prepared by the Contractor and will maintain documentation on behalf of the SEJPA.

#### **5. Construction Management Administration**

- a. Management: Consultant will oversee and coordinate construction management services as required by the progress of the work.
- b. Resolution of Day-to-Day Construction Issues: Consultant will lead resolution of day-to-day issues raised. Consultant will coordinate with the SEJPA, Design Engineer, and Contractor on technical issues of concern as well as interpretation of the design documents.

#### **6. Baseline Schedule and Schedule Updates**

- a. Consultant will work with the Contractor to meet the milestones on the baseline Gantt chart schedule developed by the Contractor. Updates to the schedule will be included in the monthly progress report.

#### **7. Progress Payments**

- a. Monthly Review: Consultant will conduct monthly schedule and progress payment meetings with the Contractor and coordinate and update the record drawings at this meeting.
- b. Monthly Progress Reports for the SEJPA staff: Consultant will prepare the monthly progress reports that will include the following:
  - Summary of the weekly reports for the month
  - Summary of the main accomplishments over the previous month
  - Highlight any unresolved issues discussed during the weekly meetings
  - Summary of current construction activities
  - Photographs of representative project activities

- Summary of progress payments, change orders, disputes, submittals, RFIs, and Notices of Noncompliance
- Identification of key problems, action items, and issues including recommendation for solutions
- Overall Contractor's conformance to the contract schedule and quality requirements
- Schedule updates as appropriate

## **8. Change Order Management**

- a. Identify and Track Changes: Consultant will identify, log, and track potential changes to the work from Contractor or SEJPA initiated changes to the work, extra work, or change orders.
- b. Requests for Cost Proposals: Consultant will request cost proposals from the Contractor for extra work and assist with cost negotiation.
- c. Justification for Extra Work or Change: Consultant will prepare written justification and cost estimates for each extra work or change order.
- d. Prepare Change Orders: Consultant will prepare and submit change orders in the SEJPA's format within seven (7) calendar days of final negotiations.
- e. Claims Management: Consultant will identify, prepare, log, and monitor Contractor claims.
- f. Resolution Alternative: Consultant will prepare a written explanation of each claim and recommendation for action.
- g. Negotiate and Resolve Claims: Consultant will assist and support the SEJPA in resolving claims and disputes.
- h. Private Party Claims: Consultant will investigate claims for damages from private parties and respond in writing within two (2) calendar days of receipt of the claim, after coordination with the SEJPA.

## **9. Quality Assurance**

- a. Inspection of the Work: Consultant will provide inspections as necessary so work has been completed in compliance with the Contract Documents.
- b. Reports: Consultant will prepare reports of the construction activities including: weather conditions, manpower, equipment, materials, visitors, delays, and deficiencies.
- c. Revisions to Contractor's Methods: Consultant will discuss appropriate revisions to the methods and procedures used in performing the work and will be resolved through the RFI process.
- d. Deviations in the Work: Consultant will document, track, and advise the SEJPA's Project Manager and the Contractor of deviations in the work.
- e. Pipeline Shutdowns and Bypassing: Consultant will coordinate necessary pipeline shutdowns and bypassing with SEJPA staff as required.
- f. Pump Station Shutdowns: Consultant will coordinate necessary pump station shutdowns with SEJPA staff as required.
- g. Acoustical Monitoring Services: Consultant will provide an acoustician to monitor construction noise when specifications have sound limitations.
- h. Water Quality Monitoring Services: Consultant will provide a trained water quality/erosion control specialist (QSP or QSD certified) to monitor construction site BMPs and erosion protection devices.  
HDPE Construction: Consultant will provide inspection staff with experience in HDPE construction.

**10. Material Testing Services**

- a. General Requirements: Consultant will provide specialized services for geotechnical testing, coating testing, materials testing including concrete and asphalt concrete, and corrosion protection testing.

**11. Startup, Closeout, and Acceptance Services**

- a. Operation Testing Plan: Consultant will review and recommend the operational testing plan that is developed in consultation with the SEJPA, Design Engineer, Contractor, and the appropriate vendors.
- b. Punch List: Consultant will prepare a project punch list at substantial completion of the project. Consultant will provide confirmation of the Contractor's compliance on work items specifically requested by the SEJPA.
- c. Final Walk-Through: Consultant will schedule, coordinate, and conduct a final walk-through and project review prior to acceptance of the work with the SEJPA.
- d. Recommended Acceptance: Consultant will recommend acceptance of the work in writing in preparation for the issuance of the Certificate of Substantial Completion and/or Notice of Completion.
- e. Closing out Contract: Consultant will take the lead in negotiating and closing out the construction contract and will prepare a memorandum to the SEJPA recommending acceptance of the project and the Notice of Completion.
- f. Final Project Records and Documents: Consultant will provide the final project records and documents to the SEJPA upon completion of the project.

**12. Post Construction**

- a. Operations and Maintenance Manuals: Consultant will deliver the Operations and Maintenance Manuals and any spare parts and equipment upon acceptance of the project by the SEJPA.
- b. Record Drawings Certification: Consultant will review and confirm that the Contractor's project record drawings are complete and accurate. The drawings will be provided to the Design Engineer.
- c. Final Payment: Consultant will recommend final payment in the form of release of retention to the Contractor in accordance with the Contract Documents. Consultant will confirm that the Contractor has made all payments to the subcontractors and vendors and that any stop notices or liens have been released. Consultant will obtain an Unconditional Waiver of Lien as appropriate from the Contractor prior to recommending final payment.

**13. Safety**

- a. Safety Program: Consultant will adhere to a construction services safety program prepared by Consultant for the Consultant personnel and will adhere to the safety program prepared by the Contractor for the Contractor personnel.
- b. Safety Program Meeting and Instruction: Consultant will attend Contractor Safety Program meeting to understand the Safety Programs.

**14. Extended Services (by separate request)**

- a. Extended Services: Consultant will provide other miscellaneous specialty services as required during construction. These services could include mechanical, electrical, structural, and civil supplemental engineering design; witness testing; factory inspections; and air quality monitoring services; as well as the following:
  - i. Services necessary due to the default of the Contractor.

- ii. Services related to damages caused by terrorism, vandalism, fire, flood, earthquake, or other acts of God.
- iii. Services related to the SEJPA's operation and use of the completed project other than as specifically provided this scope of work.
- iv. Services for professional participation in litigation or alternative dispute resolution of claims, not related to Consultant's errors and omissions.
- v. Preparation for and serving as a witness in connection with any public or private hearing or other forum related to the project, not related to Consultant's errors and omissions.
- vi. Services to support the SEJPA in any legal proceeding including dispute review boards, mediation, and arbitration.
- vii. Services related to public relations, including community meetings, regarding the Project, its community impact, schedule, or other publicity. This includes presentation preparation, display materials, mailings, surveys, or other forms of communication or notice.
- viii. Any additional field geotechnical, surveying, or field testing services.
- ix. Any other services in this scope of work designated as additional services.
- x. Drill Path Verification - If needed, Black & Veatch HDD design software can be used to verify the drill path in consideration with applicable design loads associated with the given criterion. The most critical design component of HDD crossings is the maximum pull stress. This parameter may determine the type of pipe required, HDD rig to be used, and ultimately determine the feasibility of the project.

## 15. Environmental Compliance

### LO Task 1

**Nesting Bird Plan (NBP)** – HELIX will prepare an NBP for approval prior to initiating project activities, including site preparation and staging, in accordance with permit requirements. At a minimum, the NBP will include the following: target species, monitoring protocols, survey timing and duration, copies of survey and nest monitoring datasheets, and procedures for submittal. Figures and photographs will be appended to the NBP, as applicable. This task includes draft and final copies of the NBP.

### LO Task 2

**Pre-Construction Bird Surveys & Letter Report** – HELIX will conduct a pre-construction survey for nesting birds, including sensitive bird species, to confirm the presence/absence of active bird nests on and within 500 feet of project impact areas, where feasible. The survey will follow methodologies described in the NBP from Task 1 above and will be conducted no more than three days prior to the start of construction, unless otherwise required by the agencies in the final NBP. A brief letter report of findings will be prepared to document the pre-construction survey effort. To account for unexpected delays in construction activities and/or unexpected requirements from the agencies, this task includes up to ten pre-construction nesting bird survey efforts, assuming surveys for common nesting birds and raptors, coastal California gnatcatcher, least Bell's vireo, Ridgway's rail, western snowy plover, and/or California least tern. In

the unexpected event that active nests are discovered within impact areas, the locations will be flagged and mapped in the field and provided to Client with recommendations for additional measures. Establishment of avoidance buffers, temporary fencing, monitoring, and other support services regarding nesting birds would be included as monitoring support under LO Task 4.

#### LO Task 3

**Worker Environmental Awareness Program (WEAP)** – HELIX will WEAP education program materials to be used to train contractors and employees during construction of the project in accordance with permit requirements. At a minimum, the program will include materials covering the following topics: occurrence of the sensitive species and general ecology, sensitivity of the species to human activities, legal protection, penalties for violations of federal and state laws, reporting requirements, and project features designed to reduce the impacts and promote the long-term survival of the species. Hard hat stickers, photographs, and figures will be included in the materials, as applicable.

#### LO Task 4

**Biological Construction Monitoring** – Under this task, HELIX will provide biological monitoring during construction to help ensure project compliance with environmental permits and approvals. Included in this construction monitoring are the following tasks to be carried out by HELIX:

- a. Attend up to three pre-construction meetings;
- b. WEAP training to contractor(s);
- c. Monitor the delineation of project boundaries and staging areas with stakes, flags, and/or temporary construction fencing, where appropriate;
- d. Monitor activities that result in the clearing of sensitive habitat as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas;
- e. Help ensure that construction activities and staging areas are restricted to the approved areas;
- f. Help ensure impacts and loss of native vegetation are minimized;
- g. Monitor construction activities in wildlife habitat areas that may contain nesting birds, listed species, critical habitat for listed species, and other special biological resources and help ensure they are avoided;
- h. Verify that the area outside the established limits of disturbance remains free of trash, parking, or other construction-related activities; and
- i. Prepare and submit to Client e-mail memoranda as documentation of monitoring and compliance.

#### LO Task 5

**Archaeological/Native American Construction Monitoring** – HELIX will provide archaeological monitoring during construction to include: Principal Investigator (PI) and

Native American monitor attend a pre-construction meeting, provide an archaeological monitor for grading/trenching/ground-disturbing activity, arrange for a Native American monitor for grading/trenching/ground-disturbing activity, and submit a letter report at the conclusion of monitoring. Native American monitors (Red Tail Monitoring and Research) are included as a subcontractor to HELIX.

#### LO Task 6

**Paleontological Construction Monitoring** – As a subconsultant to HELIX, the San Diego Natural History Museum will provide paleontological monitoring during construction to include: monitor attendance at a pre-construction meeting, monitoring of trenching, and submit a letter report at the conclusion of monitoring. LO Task 7

**Compliance Reporting** – HELIX will prepare and submit compliance reporting required by the environmental agencies, including the required Annual Report, Completion Report, and Post-Project Implementation Memo. The Annual Report will include photo documentation, summary of compliance monitoring activities, and other documentation required to demonstrate compliance with relevant permits. The Project Completion Report will also include photo documentation, survey results, avoidance/minimization measures implemented, and maps depicting work areas, surveyed areas and locations of any sensitive species or nests observed. Similarly, the Post-Project Implementation Memo with dates worked, summary of compliance, before and after photos, as-built drawings, and a signed certification of compliance with 45 days of completion of work. This task assumes draft and final copies of the compliance reports.

#### LO Task 8

**As-Needed Regulatory Compliance Support/Permit Amendments** – HELIX will provide as-needed regulatory support during project construction, including, but not limited to, required pre- and post-notifications to agencies, processing of Coastal Zone Management Act consistency certifications, and preparation and processing of permit amendments, if required. HELIX will serve as the primary point of contact for the regulatory agencies and will lead coordination efforts. Specific support tasks expected to be provided by HELIX if requested by Client may also include assisting with outreach to the agencies via phone and e-mail correspondence and coordinating with Client regarding additional information needs during permit processing. (\$4,800 allowance provided in fee)

#### LO Task 9

**Project Management/Coordination** – HELIX's Project Manager and Operations Manager will coordinate task implementation, monitor the cost and schedule of the associated work, provide quality assurance reviews of deliverables, and provide monthly updates (on project invoices) on project status to Client.



## San Elijo Water Reclamation Facility Upgrades Environmental Tasks

### WRF Task 1

**Pre-Construction Bird Surveys & Letter Report.** HELIX will conduct a pre-construction survey for nesting birds, including sensitive bird species, to confirm the presence/absence of active bird nests on and within 500 feet of project impact areas, where feasible. The survey will be conducted no more than seven days prior to the start of construction in accordance with MM-BIO-4 from the San Elijo Water Reclamation Facility Mitigation Monitoring and Reporting Program (MMRP). A brief letter report of findings will be prepared to document the pre-construction survey effort. To account for unexpected delays in construction activities, this task includes up to five pre-construction nesting bird survey efforts, assuming surveys for common nesting birds and raptors, and potentially coastal California gnatcatcher. In the unexpected event that active nests are discovered within impact areas, the locations will be flagged and mapped in the field and provided to Client with recommendations for additional measures. Establishment of avoidance buffers, temporary fencing, monitoring, and other support services regarding nesting birds would be included as monitoring support under Task 3.

### WRF Task 2

**Biological Construction Monitoring.** Under this task, HELIX will provide biological monitoring during construction to help ensure project compliance with environmental permits and approvals. Included in this construction monitoring are the following tasks to be carried out by HELIX:

- a. Attend up to three pre-construction meetings;
- b. Deliver WEAP training to contractor(s);
- c. Monitor the delineation of project boundaries and staging areas with stakes, flags, and/or temporary construction fencing, including Torrey Pine trees, California sagebrush, and coastal California gnatcatcher critical habitat, where appropriate;
- d. Monitor activities that result in the clearing of sensitive habitat as well as grading, excavation, and/or other ground-disturbing activities in sensitive areas;
- e. Help ensure that construction activities and staging areas are restricted to the approved areas;
- f. Help ensure impacts and loss of native vegetation are minimized;
- g. Monitor construction activities in wildlife habitat areas that may contain nesting birds, listed species, critical habitat for listed species, and other special biological resources and help ensure they are avoided;
- h. Verify that the area outside the established limits of disturbance remains free of trash, parking, or other construction-related activities; and
- i. Prepare and submit to Client e-mail memoranda as documentation of monitoring and compliance.

### WRF Task 3

**Archaeological/Native American Construction Monitoring.** HELIX will provide archaeological monitoring during construction to include: Principal Investigator (PI) and Native American monitor attend a pre-construction meeting, provide an archaeological monitor for grading/trenching/ground-disturbing activity, arrange for a Native American monitor for grading/trenching/ground-disturbing activity, and submit a letter report at the conclusion of monitoring. Native American monitors (Red Tail Monitoring and Research) are included as a subcontractor to HELIX.

### WRF Task 4

**Paleontological Construction Monitoring.** As a subconsultant to HELIX, the San Diego Natural History Museum will provide paleontological monitoring during construction to include: monitor attendance at a pre-construction meeting, monitoring of trenching, and submit a letter report at the conclusion of monitoring.

### WRF Task 5

**As-Needed Environmental Monitoring.** HELIX, Red Tail Monitoring and Research, and/or San Diego Natural History Museum will provide as-needed environmental monitoring under this task in the event that additional monitoring is required above and beyond that covered within WRF Tasks 2 through 4 above. (\$500 allowance provided in fee)

### WRF Task 6

**Project Management/Coordination.** HELIX's Project Manager and Operations Manager will coordinate task implementation, monitor the cost and schedule of the associated work, provide quality assurance reviews of deliverables, and provide monthly updates (on project invoices) on project status to Client.

**Project Management/Coordination for Helix -** HELIX's Project Manager and Operations Manager will coordinate task implementation, monitor the cost and schedule of the associated work, provide quality assurance reviews of deliverables, and provide monthly updates (on project invoices) on project status to Client.

### **ASSUMPTIONS AND ADDITIONAL LIMITATIONS ON SCOPE OF SERVICES FOR ENVIRONMENTAL COMPLIANCE**

- The scope and fee does not include preparation or implementation of a Drilling Fluid Release Monitoring and Contingency Plan or additional compliance tasks in the unexpected event that restoration, remediation, mitigation plan preparation, and/or other measures are required to mitigate a frac-out or drilling fluid release into environmentally sensitive areas. These services can be provided under a contract augment.
- The scope and fee does not include preparation or implementation of a Final Public Access Plan. These services can be provided under a contract augment. If

necessary, general support services can be provided within the budgetary limits assumed under LO Task 8.

- The scope and fee does not include preparation or implementation of a Construction Best Management Plan. If necessary, general support services, including monitoring of BMPs, can be provided within the budgetary limits assumed under LO Task 4.
- The scope and fee does not include preparation or implementation of a Final Storage and Staging Plan or Final Construction Schedule and Integration Plan.
- Costs associated with focused species surveys above and beyond LO Task 2 and WRF Task 1, California Environmental Quality Act (CEQA) documentation, and/or fieldwork, studies and reports (“additional work”) not described above in LO Task 1 through WRF Task 6 are not included within the scope and fee.

## Fee Estimate Summary Table

## Summary

	Total Hours	Total Salary	Total Direct Expenses	Total Sub Expenses	Total Fee
HDD CM	2196	\$ 414,770	\$ 24,675	\$ 42,000	\$ 481,445
HDD Environmental				\$ 114,186	\$ 114,186
HDD Subtotal					\$ 595,631
Headworks CM	2010	\$ 349,737	\$ 5,775	\$ -	\$ 355,512
Headworks Environmental				\$ 28,525	\$ 28,525
Headworks Subtotal					\$ 384,037
<b>Grand Total</b>					<b>\$ 979,669</b>



List of Tasks	Scheduled Duration (calendar weeks)	Project Director/Exec (Principle)	Construction Management Administrator (PM) & Elect/IEC Inspection	HDD QA/QC	Constructability	RPR	Start-up & Commissioning	Special Inspection	ABC Acoustics	Right of way Survey	Total Hours	Total Salary	Total Direct Expenses	Total Sub Expenses	Total Fee	
																KD
Staff Initials																
Billing Rate		\$ 300	\$ 156	\$ 225	\$ 176	\$ 178	\$ 205	Allow	Allow	Allow						
<b>Engineering/Design</b>		-	-	-	-	8	-	-	-	-	8	\$ 1,494	\$ -	\$ -	\$ 1,494	
		-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Design review	8	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Constructability Review	3	-	-	-	-	8	-	-	-	-	8	\$ 1,494	\$ -	\$ -	\$ 1,494	
<b>CM Setup</b>		-	40	-	-	80	-	-	-	-	120	\$ 21,488	\$ -	\$ -	\$ 21,488	
Review Plans	2	-	8	-	-	80	-	-	-	-	88	\$ 16,247	\$ -	\$ -	\$ 16,247	
Prepare Internal PMP	2	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Establish Project Controls	2	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Write/Approve Safety Plan	2	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Site Visit (1 trip)	1	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
<b>CM During Construction</b>		-	148	40	40	1,480	-	-	-	-	1708	\$ 317,422	\$ 3,150	\$ 42,000	\$ 362,572	
Construction Management	37	-	-	40	40	-	-	-	-	-	80	\$ 16,857	\$ -	\$ 10,500	\$ 27,357	
Construction Observation/RPR	37	-	-	-	-	1,480	-	-	-	-	1480	\$ 276,323	\$ 3,150	\$ 31,500	\$ 310,973	
Const. Contract Administration	37	-	74	-	-	-	-	-	-	-	74	\$ 12,121	\$ -	\$ -	\$ 12,121	
Project Controls	37	-	74	-	-	-	-	-	-	-	74	\$ 12,121	\$ -	\$ -	\$ 12,121	
Electrical Inspection	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
I&C Support	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Non-Overlapping CM time (assumes 17 weeks)	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
<b>Engineering During Construction/Environmental M</b>		-	-	40	80	-	100	-	-	-	220	\$ 45,807	\$ 13,650	\$ -	\$ 59,457	
Engineering During Constr	39	-	-	-	80	-	40	-	-	-	120	\$ 23,431	\$ 3,150	\$ -	\$ 26,581	
Site Visit(s)	39	-	-	40	-	-	60	-	-	-	100	\$ 22,376	\$ 10,500	\$ -	\$ 32,876	
Land Outfall Environmental Services	39	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Preliminary Treatment Environmental Services	39	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
<b>Project Close</b>		-	56	-	-	8	-	-	-	-	64	\$ 10,666	\$ 525	\$ -	\$ 11,191	
Prepare Final Documents	4	-	40	-	-	8	-	-	-	-	48	\$ 8,046	\$ -	\$ -	\$ 8,046	
Review Record Drawings	4	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Archive Doc System	4	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ 525	\$ -	\$ 1,835	
<b>Project Management</b>		-	36	40	-	-	-	-	-	-	76	\$ 17,892	\$ 3,150	\$ -	\$ 21,042	
Project Management/Administration	37	36	20	-	-	-	-	-	-	-	56	\$ 14,616	\$ 3,150	\$ -	\$ 17,766	
Invoicing (9 invoices)	37	-	20	-	-	-	-	-	-	-	20	\$ 3,276	\$ -	\$ -	\$ 3,276	
<b>Indirect Costs</b>		-	-	-	-	-	-	-	-	-	0	\$ -	\$ 4,200	\$ -	\$ 4,200	
Relocation	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ 2,100	\$ -	\$ 2,100	
Misc Expenses (PSE, tools...)	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ 1,050	\$ -	\$ 1,050	
mileage	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Contingency	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ 1,050	\$ -	\$ 1,050	
<b>TOTAL</b>		36	284	80	120	1576	100	0	0	0	2196	\$ 414,770	\$ 24,675	\$ 42,000	\$ 481,445	
Environmental Compliance	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ 114,186	\$ 114,186	
Land Outfall Environmental Services	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 114,186	\$ 114,186	
Preliminary Treatment Environmental Services	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	
<b>TOTAL</b>		36	284	80	120	1,576	100	-	-	-	2,196	\$ 414,770	\$ 24,675	\$ 156,186	\$ 595,631	

List of Tasks	Scheduled Duration (calendar weeks)	Project Director/Exec (Principle)	Construction Management Administrator (PM) & Elec/I&C Inspection	HDD QA/QC	Constructability	RPR	Start-up & Commissioning	Special Inspection	ABC Acoustics	Right of way/ Survey	Total Hours	Total Salary	Total Direct Expenses	Total Sub Expenses	Total Fee	
	KD	ES/HS/MZ	TK	JC	LS	JL	Allow	Allow	Allow							
Staff Initials																
Billing Rate	\$ 300	\$ 156	\$ 225	\$ 176	\$ 178	\$ 205										
<b>Engineering/Design</b>	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Design review	8	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Constructability Review	3	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
<b>CM Setup</b>	-	-	58	-	-	-	-	-	-	-	58	\$ 9,500	\$ -	\$ -	\$ 9,500	
Review Plans	2	-	22	-	-	-	-	-	-	-	22	\$ 3,604	\$ -	\$ -	\$ 3,604	
Prepare Internal PMP	2	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Establish Project Controls	2	-	12	-	-	-	-	-	-	-	12	\$ 1,966	\$ -	\$ -	\$ 1,966	
Write/Approve Safety Plan	2	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Site Visit (1 trip)	1	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
<b>CM During Construction</b>	-	-	1,692	-	-	-	-	-	-	-	1692	\$ 277,150	\$ -	\$ -	\$ 277,150	
Construction Management	37	-	518	-	-	-	-	-	-	-	518	\$ 84,848	\$ -	\$ -	\$ 84,848	
Construction Observation/RPR	37	-	444	-	-	-	-	-	-	-	444	\$ 72,727	\$ -	\$ -	\$ 72,727	
Const. Contract Administration	37	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Project Controls	37	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Electrical Inspection	-	-	40	-	-	-	-	-	-	-	40	\$ 6,552	\$ -	\$ -	\$ 6,552	
I&C Support	-	-	10	-	-	-	-	-	-	-	10	\$ 1,638	\$ -	\$ -	\$ 1,638	
Non-Overlapping CM time (assumes 17 weeks)	-	-	680	-	-	-	-	-	-	-	680	\$ 111,384	\$ -	\$ -	\$ 111,384	
<b>Engineering During Construction/Environmental Monitoring</b>	-	-	-	-	-	-	40	-	-	-	40	\$ 8,617	\$ -	\$ -	\$ 8,617	
Engineering During Constr	39	-	-	-	-	-	40	-	-	-	40	\$ 8,617	\$ -	\$ -	\$ 8,617	
Site Visit(s)	39	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Land Outfall Environmental Services	39	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Preliminary Treatment Environmental Services	39	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
<b>Project Close</b>	-	-	56	-	-	-	-	-	-	-	56	\$ 9,173	\$ 525	\$ -	\$ 9,698	
Prepare Final Documents	4	-	40	-	-	-	-	-	-	-	40	\$ 6,552	\$ -	\$ -	\$ 6,552	
Review Record Drawings	4	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ -	\$ -	\$ 1,310	
Archive Doc System	4	-	8	-	-	-	-	-	-	-	8	\$ 1,310	\$ 525	\$ -	\$ 1,835	
<b>Project Management</b>	-	124	40	-	-	-	-	-	-	-	164	\$ 45,612	\$ 3,150	\$ -	\$ 48,762	
Project Management/Administration	37	124	20	-	-	-	-	-	-	-	144	\$ 42,336	\$ 3,150	\$ -	\$ 45,486	
Invoicing (9 invoices)	37	-	20	-	-	-	-	-	-	-	20	\$ 3,276	\$ -	\$ -	\$ 3,276	
<b>Indirect Costs</b>	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ 2,100	\$ -	\$ 2,100	
Relocation	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Misc Expenses (PSE, tools...)	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ 1,050	\$ -	\$ 1,050	
mileage	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ -	\$ -	\$ -	
Contingency	-	-	-	-	-	-	-	-	-	-	0	\$ -	\$ 1,050	\$ -	\$ 1,050	
<b>TOTAL</b>		124	1846	0	0	0	40	0	0	0	2010	\$ 349,737	\$ 5,775	\$ -	\$ 355,512	
Environmental Compliance	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ 28,525	\$ 28,525	
Land Outfall Environmental Services	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	
Preliminary Treatment Environmental Services	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ 28,525	\$ 28,525	
<b>TOTAL</b>		124	1,846	-	-	-	40	-	-	-	2,010	\$ 349,737	\$ 5,775	\$ 28,525	\$ 384,037	