

AGENDA
SAN ELIJO JOINT POWERS AUTHORITY
MONDAY OCTOBER 10, 2016 AT 9:00 AM
SAN ELIJO WATER RECLAMATION FACILITY – CONFERENCE ROOM
2695 MANCHESTER AVENUE
CARDIFF BY THE SEA, CALIFORNIA

1. CALL TO ORDER
2. ROLL CALL
3. PLEDGE OF ALLEGIANCE
4. ORAL COMMUNICATIONS (NON-ACTION ITEM)
5. PRESENTATION OF AWARDS
6. * **CONSENT CALENDAR**
7. * APPROVAL OF MINUTES FOR THE SEPTEMBER 12, 2016 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. * AWARD OF PROFESSIONAL SERVICE AGREEMENT TO TESCO FOR AS-NEEDED SCADA SUPPORT
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. **CAPITAL IMPROVEMENT PROJECT – ADDITIONAL PROFESSIONAL SERVICES FOR PRELIMINARY TREATMENT UPGRADES**

1. Authorize the General Manager to approve a contract amendment with Dudek for the additional design of Odor Control Improvements, Olivenhain Forcemain Extension, Site Improvements, and SCADA Upgrades for an amount not to exceed \$145,480; and
2. Discuss and take other action as appropriate.

Staff Reference: General Manager

14. **SAN ELIJO OCEAN OUTFALL 2016 ANNUAL INSPECTION REPORT**

1. Accept and file the San Elijo Ocean Outfall Year 2016 Annual Inspection Report prepared by Marine Taxonomic Services, Ltd.; and
2. Discuss and take action as appropriate.

Staff Reference: Director of Operations

15. **CLOSED SESSION**

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

A closed session will be held per Government Code Section 54957, Public Employee Performance Evaluation: General Manager.

16. **CONSIDERATION OF GENERAL MANAGER COMPENSATION PER CURRENT EMPLOYMENT AGREEMENT**

1. Discuss and take action as appropriate.

Staff Reference: General Manager

17. **GENERAL MANAGER'S REPORT**

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

18. **GENERAL COUNSEL'S REPORT**

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

19. 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.

20. ADJOURNMENT

The next regularly scheduled San Elijo Joint Powers Authority Board Meeting will be Monday, November 14, 2016 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. 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: October 5, 2016



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

SAN ELIJO JOINT POWERS AUTHORITY
MINUTES OF THE BOARD MEETING
HELD ON SEPTEMBER 12, 2016
AT THE
SAN ELIJO WATER RECLAMATION FACILITY

Catherine Blakespear, Chair

Ginger Marshall, Vice Chair

A meeting of the Board of Directors of the San Elijo Joint Powers Authority (SEJPA) was held Monday, September 12, 2016, 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 Blakespear called the meeting to order at 9:00 a.m.

2. ROLL CALL

Directors Present:

Catherine Blakespear
Ginger Marshall
Mark Muir
David Zito

Directors Absent:

None

Others Present:

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

Michael Thornton
Christopher Trees
Paul Kinkel
Mike Konicke
Carrie Cook
Jennifer Basco

SEJPA Counsel:

Procopio, Cory, Hargreaves & Savitch

Greg Moser

City of Solana Beach:

City Manager
Director of Engineering/Public Works

Greg Wade
Mohammad "Mo" Sammak

City of Encinitas:

Director of Engineering and Public Works
Public Works Management Analyst

Glenn Pruum
Bill Wilson

Santa Fe Irrigation District

General Manager

Michael Bardin

St. Francis Court HOA

Al Evans

3. PLEDGE OF ALLEGIANCE

Chair Blakespear led the Pledge of Allegiance.

4. ORAL COMMUNICATIONS

Al Evans, member of St. Francis Court HOA, addressed the Board of Directors regarding the SEJPA's potential recycled water rate increase. Mr. Evans thanked the Board and staff for their efforts in developing a successful recycled water program. He recommended that the Board consider reducing the proposed recycled water rate increase to less than 4% annually.

5. PRESENTATION OF AWARDS

None

6. CONSENT CALENDAR

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

Motion carried with unanimous vote of approval.

| | |
|--------------------|---|
| Agenda Item No. 7 | Approval of Minutes for the July 11, 2016 meeting and July 12, 2016 special meeting |
| Agenda Item No. 8 | Approval for Payment of Warrants and Monthly Investment Report |
| 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 |

11. ITEMS REMOVED FROM CONSENT CALENDAR

None

12. RECYCLED WATER COST OF SERVICE STUDY AND PROPOSED WHOLESALE RATE INCREASE

General Manager Thornton stated that the SEJPA retained Raftelis Financial Consultants (RFC) to prepare a recycled water cost of service report and to develop recommendations for future rate increases. The report provides the basis for the cost of recycled water service, which was developed through a detailed review of current and estimated future expenses including operational, capital, debt, and reserve requirements of the Recycled Water Program. The report included an analysis of the program's

current and estimated future recycled water sales, grants, and incentives, to determine adequacy of revenues to meet expenses. Mr. Thornton stated that although the report recommends 4% annual price increases for both the interruptible and non-interruptible customers through FYE 2020, it is Staff's recommendation to only extend this increase through FYE 2018. At that time, the need for further rate increases can be reviewed. The proposed rate increase is intended to provide adequate revenues to fund 90 days operating cash, one year of debt service, and begin funding asset repair and replacement reserves.

Moved by Board Member Muir and seconded by Board Member Zito to:

1. Accept and file the Raftelis Financial Consultants Recycled Water Rate Review and Update; and
2. Approve 4% annual Recycled Water Rate increase to Santa Fe Irrigation District (SFID), San Dieguito Water District (SDWD), Olivenhain Municipal Water District (OMWD), and the City of Del Mar beginning October 1, 2016 and again beginning July 1, 2017.

Motion carried with unanimous vote of approval.

13. SAN ELIJO JOINT POWERS AUTHORITY (SEJPA) RECYCLED WATER PROGRAM – PROPOSED WHOLESALE AGREEMENT AMENDMENT

General Manager Thornton gave a brief background on the SEJPA's wholesale water agreement with Santa Fe Irrigation District (SFID). The current agreement amendment is set to expire on January 1, 2017. The proposed agreement amendment has an end date of June 30, 2021. The amendment includes the allowance of annual price increases of no less than 2% and no more than 5% based on a cost-of-service methodology. Staff from SFID participated in the development of the agreement amendment and SFID is scheduled to present it to their Board for consideration on September 15, 2016.

Moved by Board Member Zito and seconded by Vice Chair Marshall to:

1. Approve the Fifth Amendment to the Agreement for Sale of Reclaimed Water to the Santa Fe Irrigation District by the San Elijo Joint Powers Authority.

Motion carried with unanimous vote of approval.

14. ENCINITAS RANCH RECYCLED WATER EXPANSION PROJECT

General Manager Thornton stated that the SEJPA works in partnership with local districts and cities to reduce potable water consumption by using recycled water, where applicable. The expansion of recycled water service to the Encinitas Ranch Community Association (ERCA), Encinitas Park Trails, and Fox Point Farms is estimated to conserve 45 acre-feet (14.6 million gallons) of potable water per year. The proposed project includes installing approximately 1.5 miles of small diameter recycled water pipe and a booster station to provide adequate water pressure to customers. The ideal location of the booster station is likely near Quail Gardens Drive and Paseo de Las Flores. The Encinitas Ranch Golf Authority (ERGA) has expressed a willingness to

negotiate a “no cost” easement for the pump station on golf course property in return for an extension of their recycled water service agreement. The current agreement with ERGA is set to expire in 2017. Staff has developed a draft agreement to extend recycled water service to ERGA for 7 years. The General Manager also stated that staff has developed a draft agreement with ERCA for cost sharing on the booster pump station and for utility easements. Both draft agreements are included as attachments to the staff report.

The estimated cost of the Encinitas Ranch Recycled Water Expansion Project is \$1.16 million. Grant funding and cost sharing by the project customers is approximately half of the project cost.

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

15. BUILDING IMPROVEMENT PROGRAM

The General Manager stated that in 2015, SEJPA initiated a Building Improvement Program to develop options to replace or modernize existing buildings due to significant deficiencies including seismic, fire suppression, ADA access, and other code issues. Working with RNT Architects, Staff prepared a Building Alternatives Analysis to examine potential building alternatives that would meet SEJPA building needs. After evaluating multiple building options and incorporating Board comments, Staff’s recommendation is to proceed with Alternative 1 – construction of a single building located near the SEWRF site entrance that co-locates Administration, Operations, and Laboratory functions. Mr. Thornton stated that Staff anticipates developing and advertising a Request for Proposal for the final design of the building within the next 60 days. The cost of final design is estimated at \$430,000. The SEJPA has collected \$565,000 of capital funding for project permitting and design.

Moved by Board Member Zito and seconded by Vice Chair Marshall to:

1. Approve building alternative selection; and
2. Authorize General Manager to request Proposals for Building Final Design.

Motion carried with unanimous vote of approval.

16. CONTRACT AMENDMENT FOR SAN ELIJO LAND OUTFALL FINAL DESIGN AND PERMITTING

The San Elijo Land Outfall Replacement is a priority capital project for the SEJPA based on environmental, financial, and social considerations. In 2015, the Board of Directors authorized the General Manager to initiate Preliminary Design of the Land Outfall Replacement and Permitting project with Kennedy/Jenks Consultants. Upon completion of the Preliminary Design, the Board awarded Final Design to Kennedy/Jenks. During final design, additional work was identified beyond the original agreement with Kennedy/Jenks. The new scope of work includes additional permit and easement support, as well as new design work due to conflicts with existing underground utilities. Funding for the proposed contract amendment is available in the Ocean Outfall Capital Program. Costs are shared based on capacity ownership of 21% SEJPA and 79% City of Escondido.

Moved by Board Member Muir and seconded by Vice Chair Marshall to:

1. Authorize the General Manager to compensate the County of San Diego in the amount of \$42,800 for the easement through parcel 261-191-03; and
2. Authorize amendment of the professional services agreement with Kennedy/Jenks Consultants for an amount not to exceed \$70,079.

Motion carried with unanimous vote of approval.

17. GENERAL MANAGER'S REPORT

General Manager Thornton reported to the Board of Directors that the Cadillac Tax issue (which was raised at a previous meeting) is scheduled to be effective in 2020, which is beyond the term of SEJPA's current Employee Agreement. Next, Mr. Thornton stated that he plans to step down from his position as the General Manager of the SEJPA and that he would work with the Board to develop an exit strategy.

18. GENERAL COUNSEL'S REPORT

Greg Moser updated the Board of Directors on an amendment to the Brown Act for 2017, which will require recommended changes in management compensation to be described in open session in detail prior to being voted on in open session.

19. BOARD MEMBER COMMENTS

None

20. 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".

21. ADJOURNMENT

The meeting adjourned at 10:15 a.m. The next Board of Directors meeting will be held on October 10, 2016.

Respectfully submitted,



Michael T. Thornton, P.E.
General Manager

SAN ELIJO JOINT POWERS AUTHORITY
PAYMENT OF WARRANTS
17-10
For the Months of August and September 2016

| Warrant # | Vendor Name | G/L Account | Warrant Description | Amount |
|------------------|-------------------------------------|-------------------------------|--|---------------|
| 33353 | Global Capacity | Utilities - Internet | T-1 service | 575.30 |
| 33354 | Chevron & Texaco Business Card | Fuel | Fuel - July | 836.02 |
| 33355 | State Water Resources Control | SRF Loan Principal & Interest | SRF Loan | 834,675.18 |
| 33356 | Abcana Industries | Supplies - Chemicals | Hydrochloric Acid | 734.41 |
| 33357 | Advanced Air & Vacuum | Services - Maintenance | Fix inlet valve | 150.00 |
| 33358 | Affordable Drain Services, Inc. | Services - Maintenance | Service drain | 209.00 |
| 33359 | Alfa Laval Ashbrook Simon-Hart | Repair Parts Expense | Slide plate and guide plate tensioning | 300.43 |
| 33360 | Amiad U.S.A., Inc. | Repair Parts Expense | Hydraulic seal | 147.47 |
| 33361 | AT&T | Utilities - Telephone | DSL - 07/10/16 - 08/09/16 | 105.25 |
| 33362 | AT&T | Utilities - Telephone | Phone service - 07/13/16 - 08/12/16 | 382.31 |
| 33363 | AT&T | Utilities - Telephone | DSL - 07/20/16 - 08/19/16 | 101.68 |
| 33364 | Atlas Pumping Service Inc. | Services - Grease & Scum | Grease and scum pumping | 554.88 |
| 33365 | Barracuda Networks, Inc. | Utilities - Internet | Network back-up | 50.00 |
| 33366 | Boyd Fasteners | Supplies - Shop & Field | Wedge anchors | 324.00 |
| 33367 | Brenntag Pacific, Inc. | Supplies - Chemicals | Sodium Hydroxide and Citric Acid | 3,764.41 |
| 33368 | Brithinee Electric | Repair Parts Expense | Motors | 1,713.94 |
| 33369 | Cable, Pipe & Leak Detection | Services - Maintenance | Leak detection service | 250.00 |
| 33370 | VOID | VOID | VOID | VOID |
| 33371 | City of Solana Beach | Accounts Receivable Control | 2011 refunding bond payment from Encinitas | 14,469.31 |
| 33372 | County of San Diego | Fees - Permits | Facility permit fees | 2,636.00 |
| 33373 | CS-Amsco | Repair Parts Expense | Gear with handwheel | 1,706.94 |
| 33374 | CWEA Membership | Dues & Memberships | Membership | 344.00 |
| 33375 | D&H Water Systems | Supplies - Chemicals | Acetate buffer | 226.80 |
| 33376 | Dept. of Parks and Recreation | Fees - Permits | Permit for land outfall replacement | 7,633.37 |
| 33377 | Dudek & Associates | Services - Professional | Encinitas Ranch RW, SWAP, and turbo blower | 32,428.20 |
| 33378 | EDCO Waste & Recycling Service | Utilities - Trash | August | 237.22 |
| 33379 | Encina Wastewater Authority | Service - EWA Support | HR resource sharing | 1,276.36 |
| 33380 | City of Encinitas | Service - IT Support | Admin network - August | 2,500.00 |
| 33381 | Forte of San Diego | Services - Janitorial | Service kitchen floor | 225.00 |
| 33382 | Golden State Overnight | Postage/Shipping | Mailing water samples | 59.95 |
| 33383 | Kemira Water Solutions, Inc. | Supplies - Chemicals | Ferric Chloride | 3,900.15 |
| 33384 | Casey Larsen | Subsistence - Travel/Rm & Bd | Blower replacement inspection | 72.20 |
| 33385 | Lomas Santa Fe Country Club | Other Personnel Cost | Employee holiday luncheon | 150.00 |
| 33386 | McMaster-Carr Supply Co. | Repair Parts Expense | Tube fittings, valves, gauge, PVC pipe, tubing | 396.28 |
| 33387 | MetLife - Group Benefits | Dental/Vision | Dental - September | 1,266.97 |
| 33388 | Miramar Bobcat, Inc. | Vehicle Maintenance | Loader preventive maintenance | 849.48 |
| 33389 | Napa Auto Parts | Vehicle Maintenance | Battery | 121.87 |
| 33390 | Olin Corp - Chlor Alkali | Supplies - Chemicals | Sodium Hypochlorite | 2,771.11 |
| 33391 | Olivenhain Municipal Water District | Services - Lobbying | Furman Group - recycled water | 11,993.29 |
| 33392 | Olivenhain Municipal Water District | Services - Professional | NSDCRRWP costs | 1,328.16 |
| 33393 | Eric ORiley | Dues & Memberships | Collections certificate | 155.00 |
| 33394 | Pacific Green Landscape | Services - Landscape | August | 2,975.00 |
| 33395 | Pacific Safety Center | Training - Safety | Forklift operator | 115.00 |
| 33396 | Public Employees- Retirement | Retirement Plan - PERS | Retirement - 08/13/16 - 08/26/16 | 11,830.44 |
| 33397 | ReadyRefresh | Supplies - Lab | Office and lab supplies | 251.87 |
| 33398 | Red Truck Fire & Safety Co. | Services - Maintenance | Annual maintenance and hydrotest service | 1,788.78 |
| 33399 | RSF Security Systems | Services - Alarm | Security - 09/01/16 - 11/30/16 | 1,353.00 |
| 33400 | Santa Fe Irrigation District | SFID Distribution Pipeline | Pipeline purchase payment - July | 1,541.32 |
| 33401 | San Diego Gas & Electric | Utilities - Gas & Electric | Gas and electric - 07/06/16 - 08/04/16 | 69,923.80 |
| 33402 | SWRCB-DWOCP | Dues & Memberships | Water treatment certification renewal | 55.00 |
| 33403 | Trussell Technologies, Inc. | Services - Engineering | Process engineering and evaluation | 4,468.00 |
| 33404 | Unifirst Corporation | Services - Uniforms | Uniform service | 1,359.30 |
| 33405 | UPS | Postage/Shipping | Shipping for parts | 215.23 |
| 33406 | Underground Service Alert/SC | Services - Alarm | Dig alert - August | 142.50 |
| 33407 | Vantagepoint Transfer Agents | EE Deduction Benefits | ICMA - 457 | 6,481.75 |
| 33408 | Vantagepoint Transfer Agents | ICMA Retirement | ICMA - 401a | 2,948.79 |

SAN ELIJO JOINT POWERS AUTHORITY**PAYMENT OF WARRANTS****17-10****For the Months of August and September 2016**

| Warrant # | Vendor Name | G/L Account | Warrant Description | Amount |
|------------------|-------------------------------------|--------------------------------|--|---------------|
| 33409 | Verizon Wireless | Utilities - Telephone | 07/11/16 - 08/10/16 | 221.76 |
| 33410 | VWR International, Inc. | Supplies - Lab | Glass filters, heat element, tubes | 1,117.49 |
| 33411 | County of San Diego | Fees - Permits | Easement - Land Outfall Replacement | 42,800.00 |
| 33412 | ABBA Pump Parts & Service | Capital Outlay | Pump | 10,628.00 |
| 33413 | Aflac | EE Deduction Benefits | Aflac - September | 832.14 |
| 33414 | Ag Tech, LLC | Services - Biosolids Hauling | Biosolids hauling - August | 12,011.29 |
| 33415 | All Tubes, Inc. | Repair Parts Expense | Hose reels | 995.00 |
| 33416 | Aquatic Bioassay | Services - Laboratory | NPDES Bioassays - Kelp germination | 1,040.00 |
| 33417 | Asbury Environmental Services | Fees - Disposal | Used oil disposal | 120.00 |
| 33418 | AT&T | Utilities - Telephone | Alarm service - September | 402.75 |
| 33419 | Atlas Pumping Service Inc. | Services - Grease & Scum | Grease and scum pumping | 1,297.23 |
| 33420 | BankCard Center | Various | Offices supplies, fuel, and repair parts | 1,739.82 |
| 33421 | Boot World, Inc. | Uniforms - Boots | Safety boots | 185.00 |
| 33422 | CDW Government | Licenses | Microsoft Access 2016 | 135.10 |
| 33423 | Chevron & Texaco Business Card | Fuel | Fuel - August | 261.94 |
| 33424 | Coast Waste Management, Inc. | Services - Grit & Screenings | Roll-off service | 1,095.40 |
| 33425 | Comoso | Repair Parts Expense | Oil | 133.60 |
| 33426 | Complete Office | Supplies - Office | Offices supplies | 105.58 |
| 33427 | Corodata | Rent | Record storage - August | 107.97 |
| 33428 | D&H Water Systems | Supplies - Chemicals | Acetate buffer | 226.80 |
| 33429 | Dudek & Associates | Services - Engineering & Prof. | Headworks design, SWAP Project, turbo blower | 55,601.46 |
| 33430 | Encina Wastewater Authority | Service - EWA Support | HR resource sharing | 491.95 |
| 33431 | City of Encinitas | Service - IT Support | Admin network - September | 2,500.00 |
| 33432 | Ferguson Waterworks | Repair Parts Expense | Gate valve | 954.60 |
| 33433 | Fisher Scientific | Supplies - Chemicals | Sodium Dodecylbenzenesulfonate | 336.90 |
| 33434 | Forté of San Diego | Supplies - Janitorial | Janitorial supplies | 327.94 |
| 33435 | Global Capacity | Utilities - Internet | T-1 Service | 317.62 |
| 33436 | Hach Company | Repair Parts Expense | Oxygen probes | 6,620.44 |
| 33437 | Harbor Freight Tools | Supplies - Shop & Field | Wrench, tool bags, blade, and various tools | 282.85 |
| 33438 | Jennifer Basco | Subsistence - Travel | Mileage | 84.81 |
| 33439 | Kennedy/Jenks Consultants | Services - Engineering | Land Ocean Outfall - final design | 25,072.63 |
| 33440 | Konica Minolta | Services - Maintenance | Copier maintenance service | 86.48 |
| 33441 | Lawson Products Inc. | Supplies - Shop & Field | Nuts and bolts | 70.97 |
| 33442 | The Lawton Group | Services - Intern Program | Weeks worked - 08/22/16 - 09/04/16 | 630.75 |
| 33443 | McMaster-Carr Supply Co. | Repair Parts Expense | AC motor, v-belts, and PVC pipe fitting | 570.33 |
| 33444 | Micro Motion, Inc. | Repair Parts Expense | Flow meter and cable | 1,792.99 |
| 33445 | Mine Safety Appliances Co. | Repair Parts Expense | Sensor | 480.63 |
| 33446 | Olin Corp - Chlor Alkali | Supplies - Chemicals | Sodium Hypochlorite | 2,673.60 |
| 33447 | Olivenhain Municipal Water District | Rent | Pipeline payment - August | 7,866.00 |
| 33448 | Pacific Safety Center | Training - Safety | Safety training | 45.00 |
| 33449 | Pall Corporation | Service - IT Support | Annual technical phone service | 2,650.00 |
| 33450 | Public Employees- Retirement | Retirement Plan - PERS | Retirement - 08/27/16 - 09/09/16 | 12,059.85 |
| 33451 | Preferred Benefit Insurance | Dental/Vision | Vision | 274.80 |
| 33452 | ProBuild Company, LLC | Supplies - Shop & Field | Painting supplies and maintenance supplies | 118.04 |
| 33453 | Procopio Cory Hargreaves | Services - Legal | General - August | 3,454.00 |
| 33454 | The Pun Group LLP | Services - Accounting | Audit progress billing | 15,000.00 |
| 33455 | San Diego Fluid System | Repair Parts Expense | Plumbing parts, tubing, and check valve | 558.58 |
| 33456 | San Dieguito Water District | Utilities - Water | Recycled water | 11,020.44 |
| 33457 | Santa Fe Irrigation District | Utilities - Water | Recycled water | 313.17 |
| 33458 | Santa Fe Irrigation District | SFID Distribution Pipeline | Pipeline purchase payment - August | 1,644.63 |
| 33459 | San Elijo Lagoon Conservancy | Fees - Permits | Land Outfall Easement | 21,300.00 |
| 33460 | Smart & Final | Supplies - Office | Kitchen supplies | 106.16 |
| 33461 | Spieß Construction Co., Inc. | Services - Contractors | Turbo Blower Project | 280,440.00 |
| 33462 | Sun Life Financial | Life Insurance/Disability | Life and disability insurance - October | 1,497.36 |
| 33463 | Technology Integration Group | Capital Outlay | Xerox machines | 16,893.48 |
| 33464 | Television 101 | Services - Professional | Education, training, and SOP's | 7,200.00 |

SAN ELIJO JOINT POWERS AUTHORITY**PAYMENT OF WARRANTS****17-10****For the Months of August and September 2016**

| Warrant # | Vendor Name | G/L Account | Warrant Description | Amount |
|------------------|------------------------------|-------------------------|--|-----------------------|
| 33465 | Test America | Services - Laboratory | Water samples testing | 601.00 |
| 33466 | Trussell Technologies, Inc. | Services - Engineering | Process engineering and evaluation | 3,038.00 |
| 33467 | Unifirst Corporation | Services - Uniforms | Uniforms service | 439.61 |
| 33468 | UPS | Postage/Shipping | Postage | 16.01 |
| 33469 | USA Bluebook | Repair Parts Expense | Tubes, roller assy and duckbill | 530.79 |
| 33470 | Vantagepoint Transfer Agents | EE Deduction Benefits | ICMA - 457 | 6,481.75 |
| 33471 | Vantagepoint Transfer Agents | ICMA Retirement | ICMA - 401a | 2,999.57 |
| 33472 | VWR International, Inc. | Supplies - Lab | Laboratory supplies | 528.32 |
| 33473 | WageWorks | Payroll Processing Fees | Administration and compliance fee - July | 134.00 |
| 33474 | Water Environment Federation | Dues & Memberships | Membership | 297.00 |
| 33475 | WEX Bank | Fuel | Fuel | 59.50 |
| 33476 | Whitaker Bros. | Services - Maintenance | Service office machine | 162.71 |
| | San Elijo Payroll Account | Payroll | Payroll - 09/02/16 | 62,667.37 |
| | San Elijo Payroll Account | Payroll | Payroll - 09/16/16 | 64,252.28 |
| | | | | <u>\$1,736,074.96</u> |

SAN ELIJO JOINT POWERS AUTHORITY

PAYMENT OF WARRANTS SUMMARY

**For the Months of August and September 2016
As of September 27, 2016**

PAYMENT OF WARRANTS \$ 1,736,074.96
Reference Number 17-10

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



Paul F. Kinkel
Director of Finance & Administration

STATEMENT OF FUNDS AVAILABLE FOR PAYMENT OF WARRANTS
AND INVESTMENT INFORMATION
As of September 27, 2016

| FUNDS ON DEPOSIT WITH | AMOUNT |
|--|---------------------|
| LOCAL AGENCY INVESTMENT FUND <i>(AUGUST 2016 YIELD 0.588%)</i> | |
| RESTRICTED SRF RESERVE | \$ 630,000.00 |
| UNRESTRICTED DEPOSITS | \$ 5,891,905.02 |
| CALIFORNIA BANK AND TRUST <i>(AUGUST 2016 YIELD 0.01%)</i> | |
| REGULAR CHECKING | \$ 260,683.09 |
| PAYROLL CHECKING | \$ 5,000.00 |
| TOTAL RESOURCES | \$ 6,787,588.11 |

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

October 10, 2016

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

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

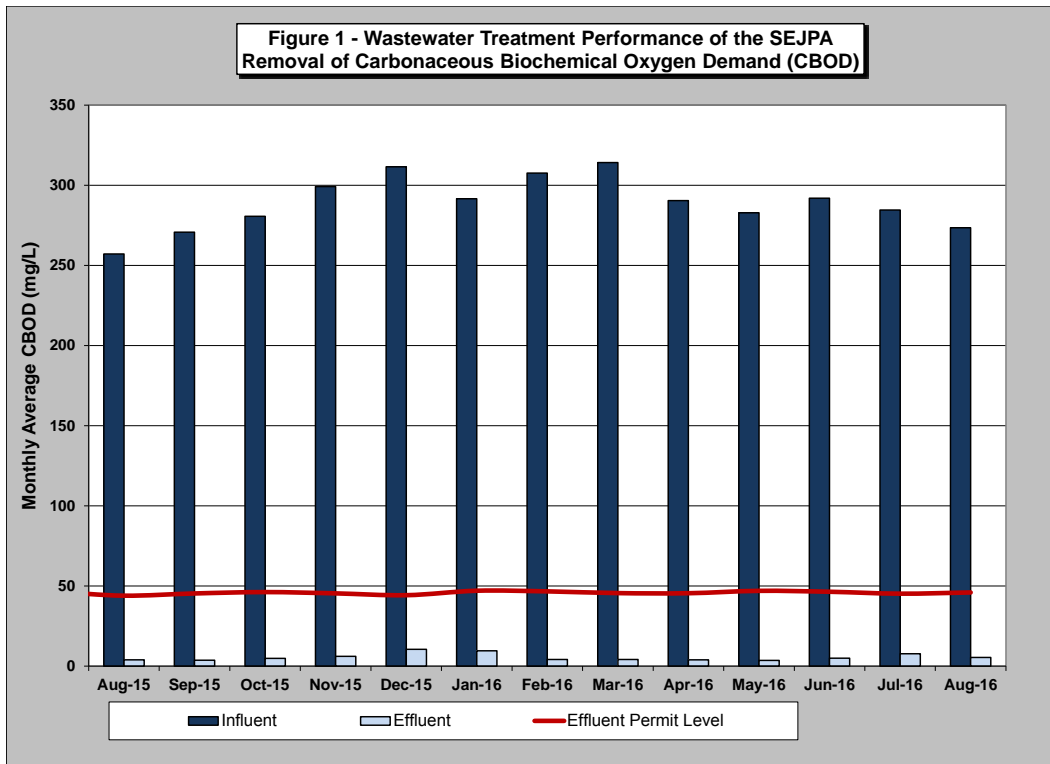
RECOMMENDATION

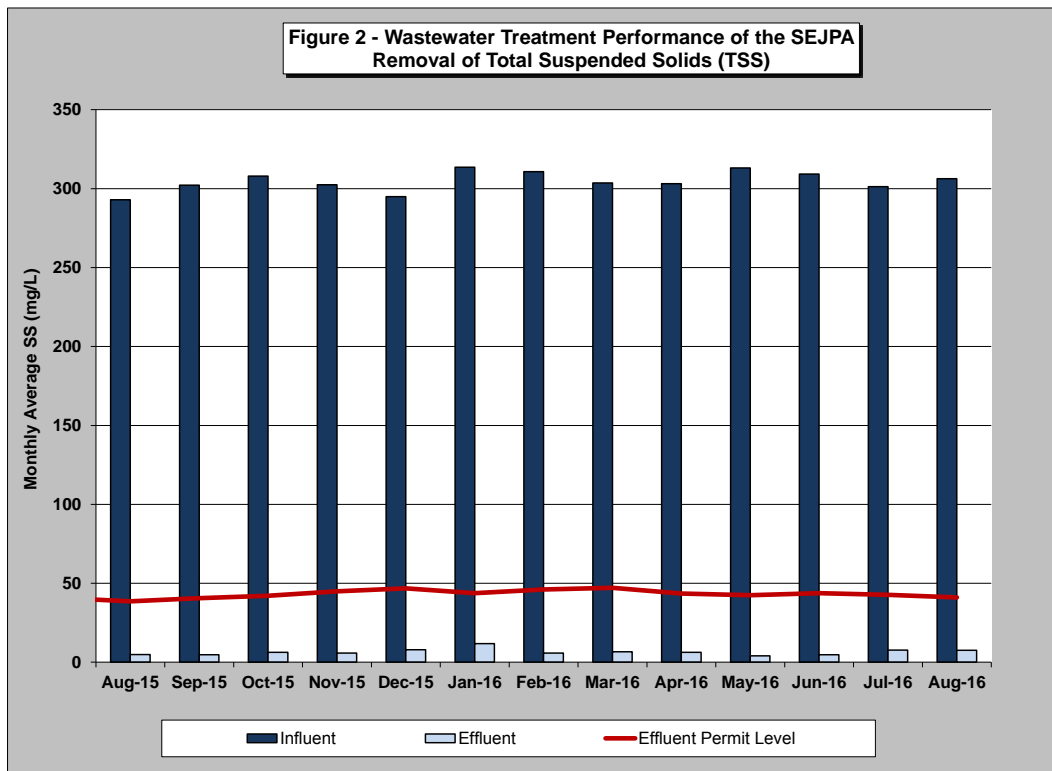
No action required. This memorandum is submitted for information only.

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 August 2016. 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 August, treatment levels for CBOD and TSS were 98.0 and 97.5 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 August. Average daily influent flows were recorded for each Member Agency. Total effluent flow was calculated for the San Elijo Water Reclamation Facility.

| | August | |
|---------------------------------|-----------------------|------------------------|
| | <u>Influent (mgd)</u> | <u>Effluent (mgd)*</u> |
| Cardiff Sanitary Division | 1.317 | 0.647 |
| City of Solana Beach | 1.007 | 0.495 |
| Rancho Santa Fe SID | 0.107 | 0.053 |
| Total San Elijo WRF Flow | 2.431 | 1.195 |

* 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.

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

| MONTH | AVERAGE DAILY INFLUENT FLOW RATE (MGD) | | | | AVERAGE DAILY EFFLUENT FLOW RATE (MGD) | | | | CONNECTED EDUs | | | | AVERAGE UNIT INFLUENT FLOW RATE (GAL/EDU/DAY) | | | | |
|--------|--|-------|-------|-------|--|-------|-------|-------|----------------|-------------|----------|--------------|---|------------|-----|-----|----|
| | CSD | RSF | CSD | SB | TOTAL PLANT | CSD | RSF | CSD | SB | TOTAL PLANT | CSD EDUS | RSF CSD EDUS | SB EDUS | TOTAL EDUS | CSD | RSF | SB |
| Jun-11 | 1.343 | 0.156 | 1.390 | 2.889 | 0.545 | 0.063 | 0.564 | 1.172 | 8,249 | 483 | 7,728 | 16,460 | 163 | 323 | 180 | 176 | |
| Jul-11 | 1.293 | 0.151 | 1.430 | 2.874 | 0.425 | 0.050 | 0.470 | 0.945 | 8,250 | 484 | 7,728 | 16,462 | 157 | 312 | 185 | 175 | |
| Aug-11 | 1.292 | 0.150 | 1.405 | 2.847 | 0.479 | 0.056 | 0.521 | 1.056 | 8,252 | 485 | 7,728 | 16,465 | 157 | 310 | 182 | 173 | |
| Sep-11 | 1.262 | 0.146 | 1.333 | 2.741 | 0.564 | 0.066 | 0.596 | 1.226 | 8,254 | 486 | 7,728 | 16,468 | 153 | 301 | 172 | 166 | |
| Oct-11 | 1.260 | 0.142 | 1.303 | 2.705 | 0.730 | 0.082 | 0.755 | 1.567 | 8,260 | 486 | 7,728 | 16,474 | 153 | 292 | 169 | 164 | |
| Nov-11 | 1.338 | 0.167 | 1.307 | 2.812 | 1.099 | 0.137 | 1.074 | 2.310 | 8,261 | 486 | 7,728 | 16,475 | 162 | 344 | 169 | 171 | |
| Dec-11 | 1.299 | 0.164 | 1.305 | 2.768 | 1.103 | 0.139 | 1.108 | 2.350 | 8,264 | 487 | 7,728 | 16,479 | 157 | 337 | 169 | 168 | |
| Jan-12 | 1.291 | 0.145 | 1.303 | 2.739 | 1.032 | 0.116 | 1.042 | 2.190 | 8,266 | 488 | 7,728 | 16,482 | 160 | 232 | 169 | 166 | |
| Feb-12 | 1.259 | 0.137 | 1.283 | 2.679 | 1.006 | 0.109 | 1.025 | 2.140 | 8,268 | 488 | 7,728 | 16,484 | 152 | 281 | 166 | 163 | |
| Mar-12 | 1.313 | 0.153 | 1.255 | 2.721 | 0.968 | 0.113 | 0.925 | 2.006 | 8,269 | 488 | 7,728 | 16,485 | 159 | 314 | 162 | 165 | |
| Apr-12 | 1.348 | 0.145 | 1.209 | 2.702 | 0.906 | 0.097 | 0.813 | 1.816 | 8,278 | 488 | 7,728 | 16,494 | 163 | 297 | 156 | 164 | |
| May-12 | 1.333 | 0.150 | 1.211 | 2.694 | 0.577 | 0.065 | 0.525 | 1.167 | 8,280 | 488 | 7,728 | 16,496 | 161 | 308 | 157 | 163 | |
| Jun-12 | 1.365 | 0.143 | 1.237 | 2.745 | 0.547 | 0.057 | 0.496 | 1.100 | 8,284 | 489 | 7,728 | 16,501 | 165 | 293 | 160 | 166 | |
| Jul-12 | 1.372 | 0.126 | 1.296 | 2.794 | 0.457 | 0.042 | 0.431 | 0.930 | 8,289 | 489 | 7,728 | 16,506 | 166 | 258 | 168 | 169 | |
| Aug-12 | 1.383 | 0.128 | 1.291 | 2.802 | 0.473 | 0.044 | 0.441 | 0.958 | 8,290 | 490 | 7,728 | 16,508 | 167 | 261 | 167 | 170 | |
| Sep-12 | 1.349 | 0.142 | 1.220 | 2.711 | 0.544 | 0.058 | 0.492 | 1.094 | 8,291 | 490 | 7,728 | 16,509 | 163 | 290 | 158 | 164 | |
| Oct-12 | 1.327 | 0.123 | 1.203 | 2.653 | 0.678 | 0.063 | 0.615 | 1.356 | 8,294 | 490 | 7,728 | 16,512 | 160 | 251 | 156 | 161 | |
| Nov-12 | 1.343 | 0.128 | 1.181 | 2.652 | 0.862 | 0.082 | 0.758 | 1.702 | 8,299 | 490 | 7,728 | 16,517 | 162 | 261 | 153 | 161 | |
| Dec-12 | 1.383 | 0.141 | 1.197 | 2.721 | 1.261 | 0.129 | 1.091 | 2.481 | 8,300 | 490 | 7,728 | 16,518 | 167 | 288 | 155 | 165 | |
| Jan-13 | 1.357 | 0.145 | 1.215 | 2.717 | 1.155 | 0.124 | 1.034 | 2.313 | 8,300 | 490 | 7,728 | 16,518 | 163 | 296 | 157 | 164 | |
| Feb-13 | 1.349 | 0.138 | 1.201 | 2.688 | 1.048 | 0.108 | 0.933 | 2.089 | 8,301 | 490 | 7,728 | 16,519 | 163 | 282 | 155 | 163 | |
| Mar-13 | 1.402 | 0.154 | 1.235 | 2.791 | 0.905 | 0.100 | 0.797 | 1.802 | 8,302 | 493 | 7,728 | 16,521 | 169 | 314 | 160 | 169 | |
| Apr-13 | 1.297 | 0.124 | 1.237 | 2.658 | 0.531 | 0.051 | 0.506 | 1.088 | 8,304 | 493 | 7,728 | 16,523 | 156 | 253 | 160 | 161 | |
| May-13 | 1.339 | 0.126 | 1.185 | 2.650 | 0.376 | 0.036 | 0.333 | 0.745 | 8,304 | 493 | 7,728 | 16,525 | 161 | 256 | 153 | 160 | |
| Jun-13 | 1.341 | 0.126 | 1.190 | 2.657 | 0.269 | 0.025 | 0.239 | 0.533 | 8,307 | 493 | 7,728 | 16,528 | 161 | 256 | 154 | 161 | |
| Jul-13 | 1.366 | 0.144 | 1.269 | 2.779 | 0.482 | 0.050 | 0.448 | 0.980 | 8,309 | 493 | 7,728 | 16,530 | 164 | 292 | 164 | 168 | |
| Aug-13 | 1.342 | 0.168 | 1.258 | 2.768 | 0.380 | 0.048 | 0.356 | 0.784 | 8,311 | 494 | 7,728 | 16,533 | 161 | 340 | 163 | 167 | |
| Sep-13 | 1.343 | 0.117 | 1.193 | 2.653 | 0.403 | 0.036 | 0.358 | 0.797 | 8,311 | 494 | 7,728 | 16,533 | 162 | 237 | 154 | 160 | |
| Oct-13 | 1.319 | 0.132 | 1.184 | 2.635 | 0.629 | 0.063 | 0.565 | 1.257 | 8,314 | 494 | 7,728 | 16,536 | 159 | 267 | 153 | 159 | |
| Nov-13 | 1.348 | 0.133 | 1.194 | 2.675 | 0.932 | 0.092 | 0.826 | 1.850 | 8,315 | 494 | 7,728 | 16,537 | 162 | 270 | 155 | 162 | |
| Dec-13 | 1.341 | 0.134 | 1.191 | 2.666 | 1.030 | 0.103 | 0.915 | 2.048 | 8,316 | 494 | 7,728 | 16,538 | 161 | 272 | 154 | 161 | |
| Jan-14 | 1.322 | 0.135 | 1.194 | 2.651 | 0.851 | 0.087 | 0.768 | 1.706 | 8,318 | 495 | 7,728 | 16,541 | 159 | 273 | 155 | 160 | |
| Feb-14 | 1.314 | 0.127 | 1.172 | 2.613 | 0.954 | 0.093 | 0.851 | 1.898 | 8,323 | 495 | 7,728 | 16,546 | 158 | 257 | 152 | 158 | |
| Mar-14 | 1.339 | 0.134 | 1.185 | 2.658 | 0.858 | 0.086 | 0.760 | 1.704 | 8,324 | 496 | 7,728 | 16,548 | 161 | 270 | 153 | 161 | |
| Apr-14 | 1.326 | 0.128 | 1.128 | 2.582 | 0.449 | 0.043 | 0.382 | 0.874 | 8,328 | 498 | 7,728 | 16,554 | 159 | 257 | 146 | 156 | |
| May-14 | 1.353 | 0.124 | 1.127 | 2.604 | 0.159 | 0.015 | 0.132 | 0.306 | 8,333 | 498 | 7,728 | 16,559 | 162 | 249 | 146 | 157 | |
| Jun-14 | 1.341 | 0.126 | 1.188 | 2.655 | 0.207 | 0.020 | 0.183 | 0.410 | 8,333 | 498 | 7,728 | 16,559 | 161 | 253 | 154 | 160 | |
| Jul-14 | 1.271 | 0.130 | 1.307 | 2.708 | 0.232 | 0.024 | 0.239 | 0.495 | 8,338 | 499 | 7,728 | 16,565 | 152 | 261 | 169 | 163 | |
| Aug-14 | 1.228 | 0.130 | 1.298 | 2.656 | 0.227 | 0.024 | 0.239 | 0.490 | 8,345 | 500 | 7,728 | 16,573 | 147 | 260 | 168 | 160 | |
| Sep-14 | 1.215 | 0.113 | 1.232 | 2.560 | 0.211 | 0.019 | 0.214 | 0.444 | 8,351 | 500 | 7,728 | 16,579 | 145 | 226 | 159 | 154 | |
| Oct-14 | 1.204 | 0.114 | 1.198 | 2.516 | 0.394 | 0.038 | 0.392 | 0.824 | 8,353 | 500 | 7,728 | 16,581 | 144 | 228 | 155 | 152 | |
| Nov-14 | 1.237 | 0.118 | 1.198 | 2.553 | 0.667 | 0.063 | 0.646 | 1.376 | 8,354 | 502 | 7,728 | 16,584 | 148 | 235 | 155 | 154 | |
| Dec-14 | 1.323 | 0.147 | 1.229 | 2.699 | 1.163 | 0.129 | 1.081 | 2.373 | 8,355 | 502 | 7,728 | 16,585 | 158 | 293 | 159 | 163 | |
| Jan-15 | 1.253 | 0.130 | 1.232 | 2.615 | 0.984 | 0.102 | 0.967 | 2.053 | 8,359 | 503 | 7,977 | 16,838 | 150 | 259 | 154 | 155 | |
| Feb-15 | 1.229 | 0.132 | 1.228 | 2.589 | 0.757 | 0.081 | 0.757 | 1.595 | 8,361 | 504 | 7,977 | 16,841 | 147 | 262 | 154 | 154 | |
| Mar-15 | 1.269 | 0.135 | 1.231 | 2.635 | 0.583 | 0.062 | 0.566 | 1.211 | 8,365 | 504 | 7,977 | 16,846 | 152 | 268 | 154 | 156 | |
| Apr-15 | 1.183 | 0.124 | 1.196 | 2.503 | 0.350 | 0.036 | 0.354 | 0.740 | 8,366 | 504 | 7,977 | 16,847 | 141 | 246 | 150 | 149 | |
| May-15 | 1.209 | 0.117 | 1.149 | 2.475 | 0.545 | 0.053 | 0.518 | 1.116 | 8,367 | 505 | 7,977 | 16,848 | 144 | 232 | 144 | 147 | |
| Jun-15 | 1.287 | 0.113 | 1.052 | 2.452 | 0.362 | 0.032 | 0.296 | 0.690 | 8,369 | 506 | 7,977 | 16,852 | 154 | 224 | 132 | 146 | |
| Jul-15 | 1.282 | 0.110 | 1.176 | 2.568 | 0.392 | 0.034 | 0.359 | 0.785 | 8,370 | 510 | 8,003 | 16,883 | 153 | 216 | 147 | 152 | |
| Aug-15 | 1.264 | 0.095 | 1.087 | 2.446 | 0.315 | 0.023 | 0.271 | 0.609 | 8,371 | 510 | 8,003 | 16,884 | 151 | 186 | 136 | 145 | |
| Sep-15 | 1.256 | 0.105 | 1.001 | 2.362 | 0.457 | 0.038 | 0.364 | 0.859 | 8,372 | 511 | 8,003 | 16,885 | 150 | 206 | 125 | 140 | |
| Oct-15 | 1.243 | 0.106 | 1.002 | 2.351 | 0.681 | 0.058 | 0.549 | 1.288 | 8,373 | 511 | 8,003 | 16,886 | 148 | 208 | 125 | 139 | |
| Nov-15 | 1.250 | 0.100 | 0.994 | 2.344 | 0.792 | 0.063 | 0.630 | 1.485 | 8,376 | 511 | 8,003 | 16,889 | 149 | 196 | 124 | 139 | |
| Dec-15 | 1.266 | 0.107 | 1.016 | 2.389 | 0.971 | 0.082 | 0.780 | 1.833 | 8,377 | 511 | 8,003 | 16,891 | 151 | 210 | 127 | 141 | |
| Jan-16 | 1.342 | 0.131 | 1.037 | 2.510 | 1.189 | 0.116 | 0.918 | 2.223 | 8,380 | 511 | 8,003 | 16,894 | 160 | 257 | 130 | 149 | |
| Feb-16 | 1.245 | 0.112 | 1.008 | 2.365 | 0.780 | 0.070 | 0.631 | 1.481 | 8,383 | 512 | 8,003 | 16,897 | 149 | 219 | 126 | 140 | |
| Mar-16 | 1.267 | 0.116 | 1.023 | 2.406 | 0.763 | 0.070 | 0.616 | 1.449 | 8,388 | 512 | 8,003 | 16,903 | 151 | 227 | 128 | 142 | |
| Apr-16 | 1.240 | 0.102 | 0.990 | 2.332 | 0.675 | 0.055 | 0.539 | 1.269 | 8,389 | 512 | 8,003 | 16,904 | 148 | 199 | 124 | 138 | |
| May-16 | 1.238 | 0.117 | 1.002 | 2.357 | 0.505 | 0.048 | 0.409 | 0.962 | 8,389 | 512 | 8,003 | 16,904 | 148 | 229 | 125 | 139 | |
| Jun-16 | 1.205 | 0.111 | 1.055 | 2.371 | 0.362 | 0.033 | 0.317 | 0.712 | 8,390 | 514 | 8,003 | 16,907 | 144 | 216 | 132 | 140 | |
| Jul-16 | 1.336 | 0.105 | 1.008 | 2.449 | 0.586 | 0.046 | 0.442 | 1.074 | 8,392 | 514 | 8,020 | 16,926 | 159 | 204 | 126 | 145 | |
| Aug-16 | 1.317 | 0.107 | 1.007 | 2.431 | 0.647 | 0.053 | 0.495 | 1.195 | 8,393 | 516 | 8,020 | 16,929 | 157 | 207 | 126 | 144 | |

CSD: Cardiff Sanitary Division

RSF CSD: Ranch Santa Fe Community Service District

SB: Solana Beach

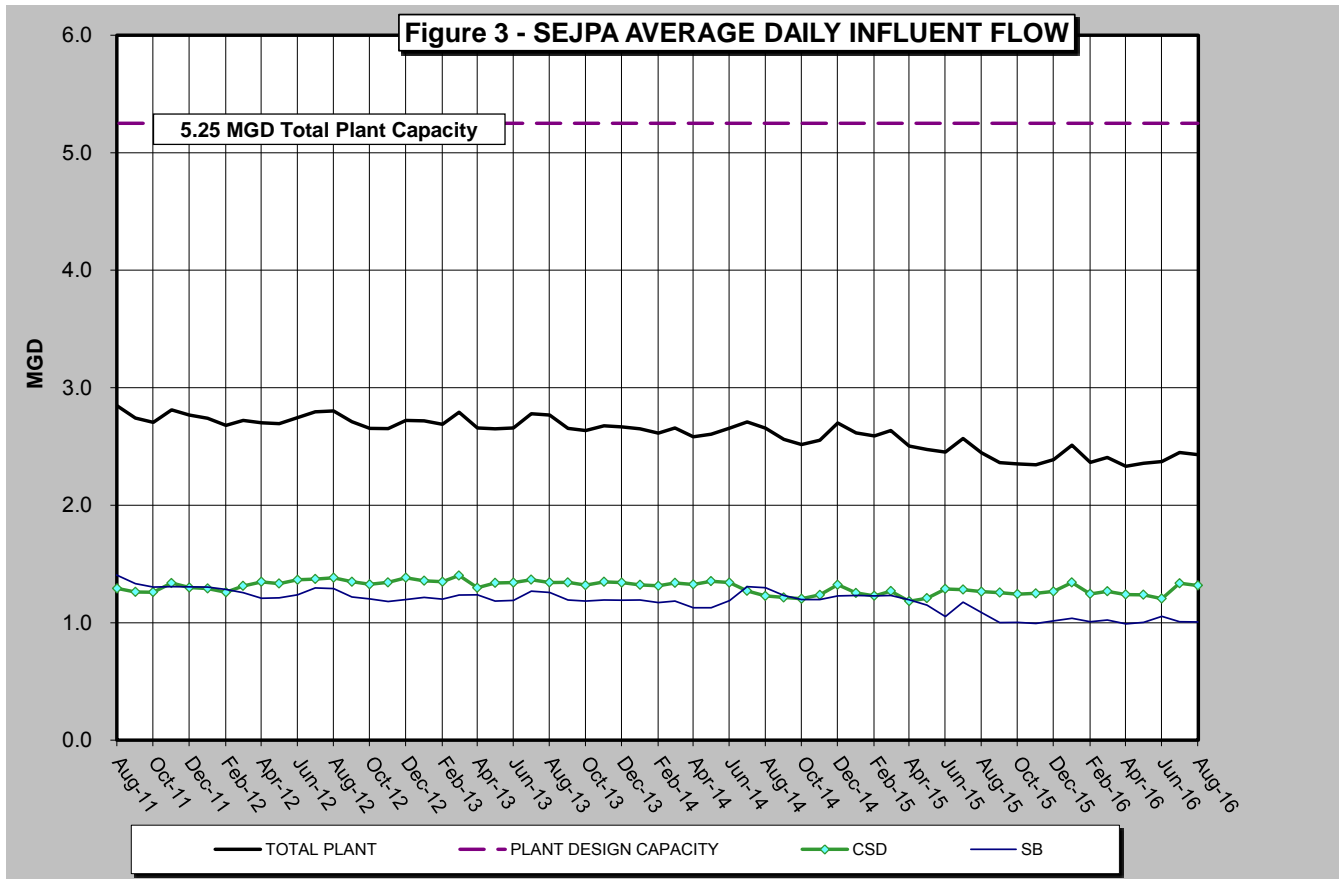
EDU: Equivalent Dwelling Unit

ASSUMPTIONS: SB average flow includes San Elijo Hills flow of 0.131 mgd

SB Connected EDUs includes 300 EDUs for the City of San Diego

EDU Numbers Revised by Dudek for March and April 2013

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 2.5 mgd, and Rancho Santa Fe Community Service District leases 0.25 mgd.



City of Escondido Flows

The average and peak flow rate from the City of Escondido Hale Avenue Resource Recovery Facility, which discharges through the San Elijo Ocean Outfall, is reported below. The following average flow rate and peak flow rate is reported by the City of Escondido for the month of August 2016.

| | Flow (mgd) |
|-------------------------------|-------------------|
| Escondido (Average flow rate) | 9.35 |
| Escondido (Peak flow rate) | 18.2 |

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:

| | Connected (EDU) |
|-----------------------------|------------------------|
| Cardiff Sanitary Division | 8,393 |
| Rancho Santa Fe SID | 516 |
| City of Solana Beach | 7,683 |
| San Diego (to Solana Beach) | 337 |
| Total EDUs to System | 16,929 |

Respectfully submitted,



Michael T. Thornton, P.E.
General Manager

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

October 10, 2016

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 August 2016, recycled water demand was 231.3 acre-feet (AF), which was met using 231.3 AF of recycled water and 0.00 AF of supplementation with potable water. The distribution system was designed to use potable water during peak demand days.

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 August since the program began operating.

Respectfully submitted,



Michael T. Thornton, P.E.
General Manager

Figure 1 - MONTHLY RECYCLED WATER DEMAND

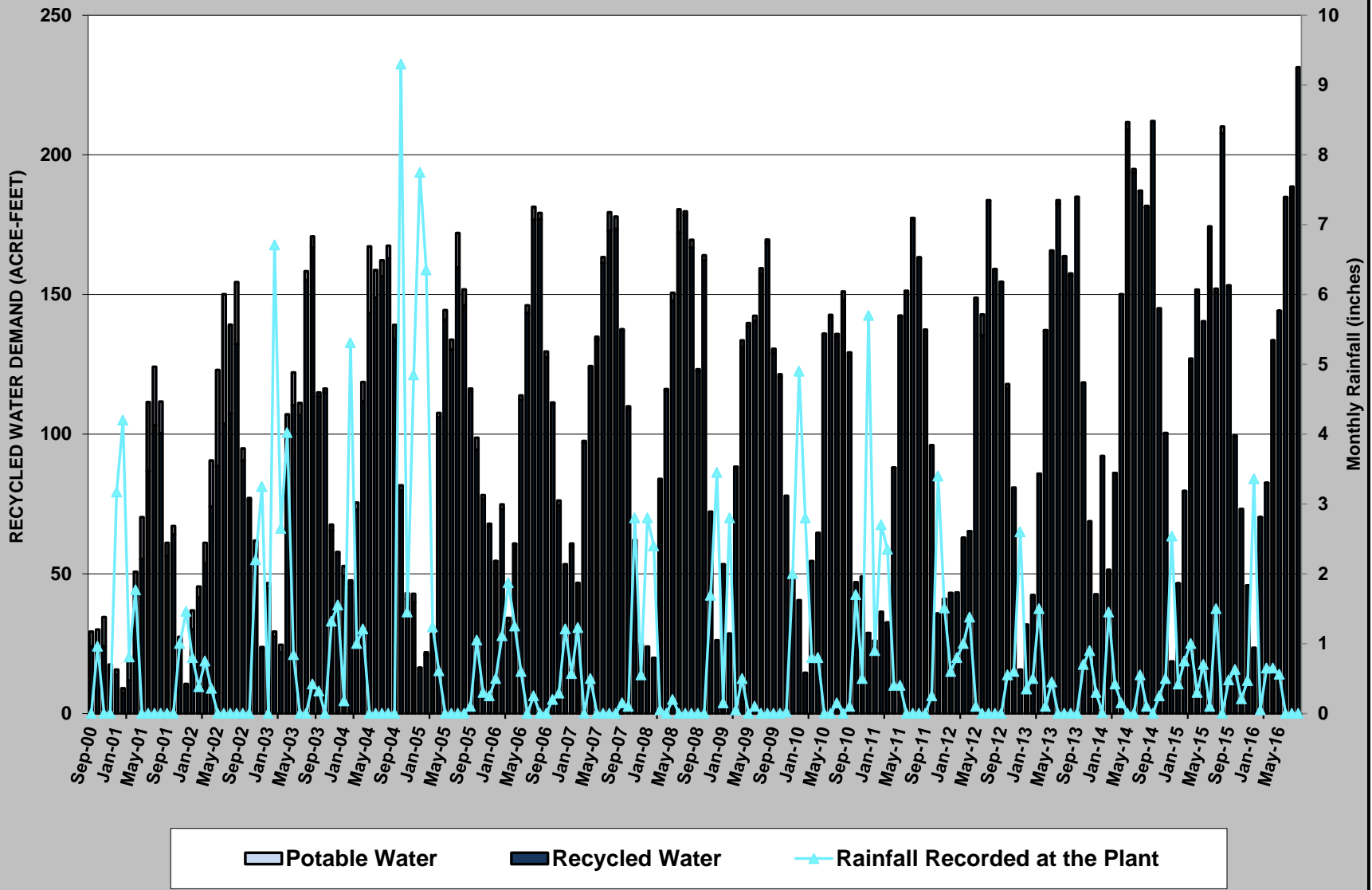


Figure 2 - RECYCLED WATER DEMAND by FISCAL YEAR

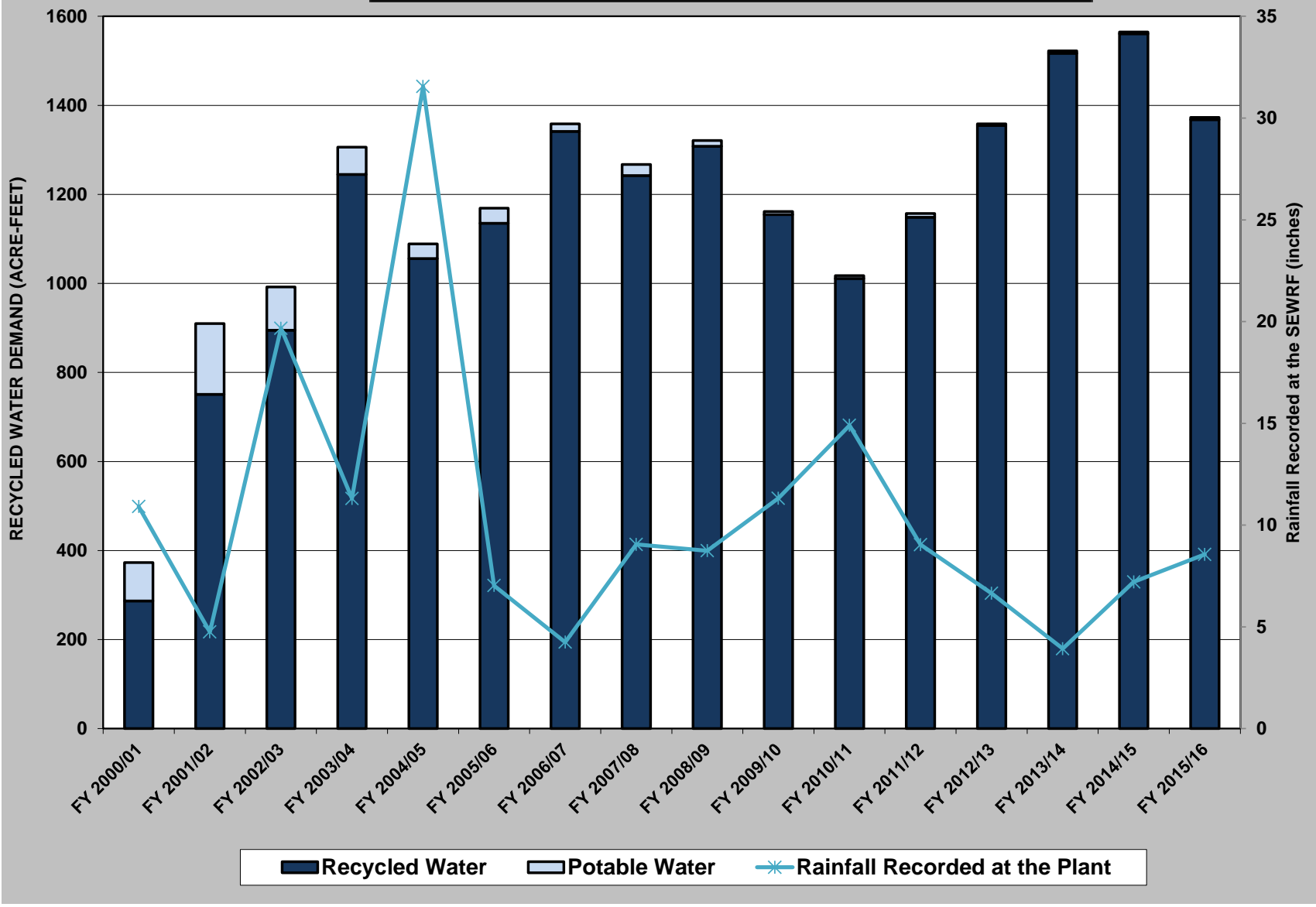
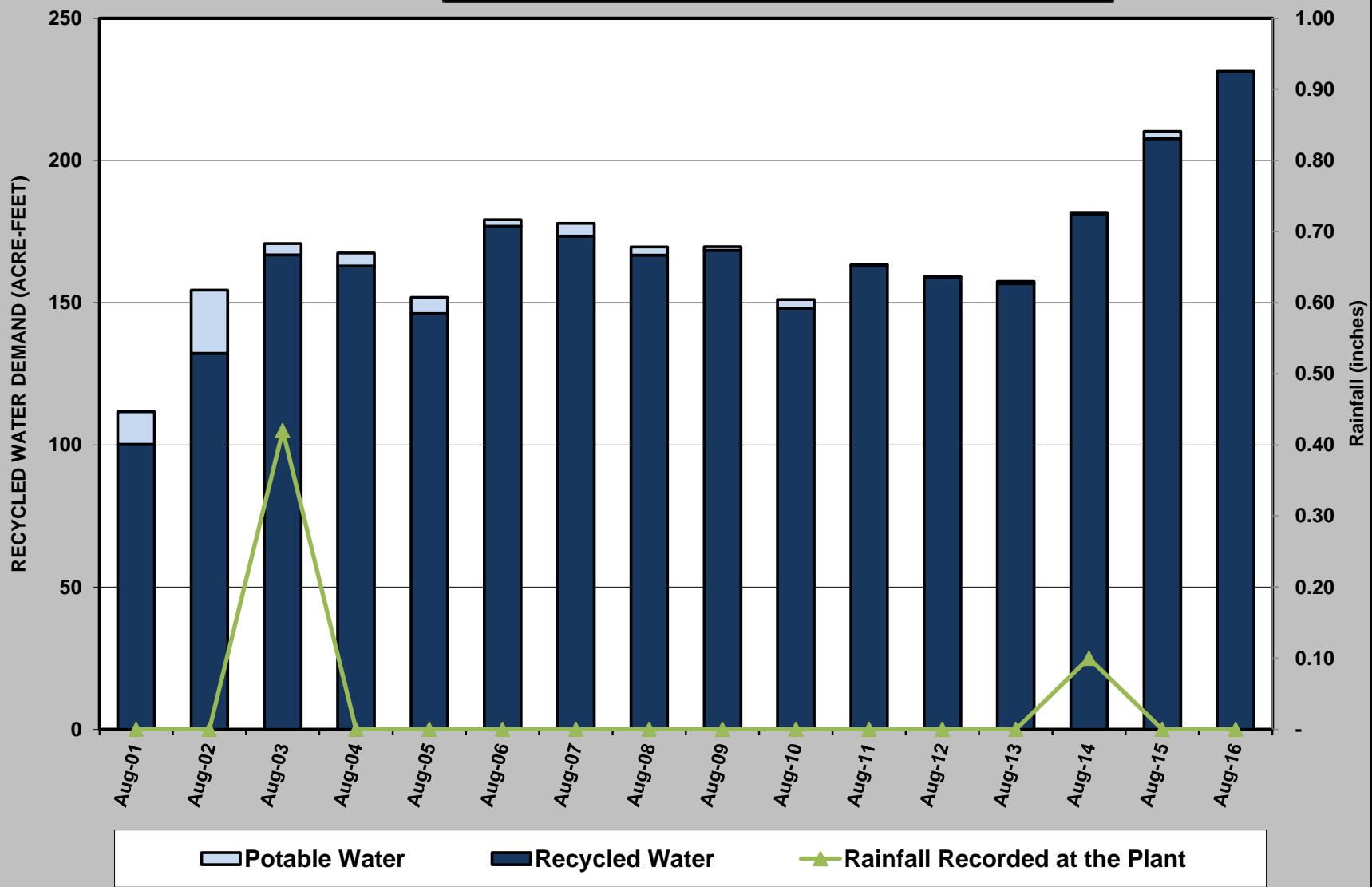


Figure 3 - AUGUST RECYCLED WATER DEMAND



SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

October 10, 2016

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: AWARD OF PROFESSIONAL SERVICE AGREEMENT TO TESCO
FOR AS-NEEDED SCADA SUPPORT

RECOMMENDATION

1. Authorize the General Manager to award a Professional Service Agreement to Tesco Controls, Inc. for \$23,750 for As-Needed SCADA Support; and
2. Discuss and take other action as appropriate.

BACKGROUND

San Elijo Joint Powers Authority (SEJPA) uses Supervisory Control and Data Acquisition (SCADA) system to monitor and operate recycled water and wastewater infrastructure. The SCADA system is comprised of computer hardware and software, which communicate by fiber optics, private cellular network, or wireless radio link to convey information and operational direction. The system allows staff to monitor facility operations and process performance in real-time either onsite or remotely. Treatment Operators utilize SCADA to adjust pump speeds; open and close valves; monitor flows, tank levels, and pump discharge pressures; and observe water quality measurements 24 hours a day. The SCADA system provides for reliable and efficient operation of treatment and conveyance systems.

SEJPA's 2015 Facility Plan identified SCADA's aging hardware in the main control room as a risk to the system, both due its antiquatedness and its susceptibility to cyber threats. Working with the City of Encinitas IT Department and third party consultants, short- and long-term improvements were identified to improve SCADA reliability and security.

DISCUSSION

In 2015, the Board provided approval for the expenditure of \$53,890 with Tesco Controls, Inc. for the assessing SCADA system vulnerabilities and for assisting in

implementing hardware and software upgrades. Critical immediate needs were addressed and system reliability has been improved.

Staff is now seeking an as-needed professional service agreement with Tesco for continued SCADA support and system integration services. This will aid the SEJPA in maintaining the existing SCADA system as well as addressing immediate issues as they arise.

As a separate effort, Staff is developing a request for proposal (RFP) for professional services to address long-term SCADA needs. It is anticipated that the RFP development will be completed within 90 days and that proposals will likely be received in early 2017.

FINANCIAL IMPACT

The cost for as-needed SCADA support agreement will be cost shared by the programs served, which includes Wastewater, Recycled Water, and Ocean Outfall. Funds are available in the respective programs for this agreement.

It is therefore recommended that the Board of Directors:

1. Authorize the General Manager to award a Professional Service Agreement to Tesco Controls, Inc. for \$23,750 for As-Needed SCADA Support; and
2. Discuss and take other action as appropriate.

Respectfully submitted,



Michael T. Thornton, P.E.
General Manager

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

October 10, 2016

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: CAPITAL IMPROVEMENT PROJECT – ADDITIONAL PROFESSIONAL SERVICES FOR PRELIMINARY TREATMENT UPGRADES

RECOMMENDATION

It is recommended that the Board of Directors:

1. Authorize the General Manager to approve a contract amendment with Dudek for the additional design of Odor Control Improvements, Olivenhain Forcemain Extension, Site Improvements, and SCADA Upgrades for an amount not to exceed \$145,480; and
2. Discuss and take action as appropriate.

BACKGROUND

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

The 2015 Facility Plan recommended Preliminary Treatment system improvements and equipment upgrades in 2016 to address hydraulic limitations, system wear, and aging equipment. The majority of the equipment and process tanks have more than 25 years of service, and much of the equipment and protective concrete liners are nearing the end of useful life.

Preliminary Treatment Upgrades design services were awarded to Dudek based on qualifications, project understanding, and value-based approach. The preliminary design report is complete and the preferred alternative is shown in Figure 1. Final design is currently underway.

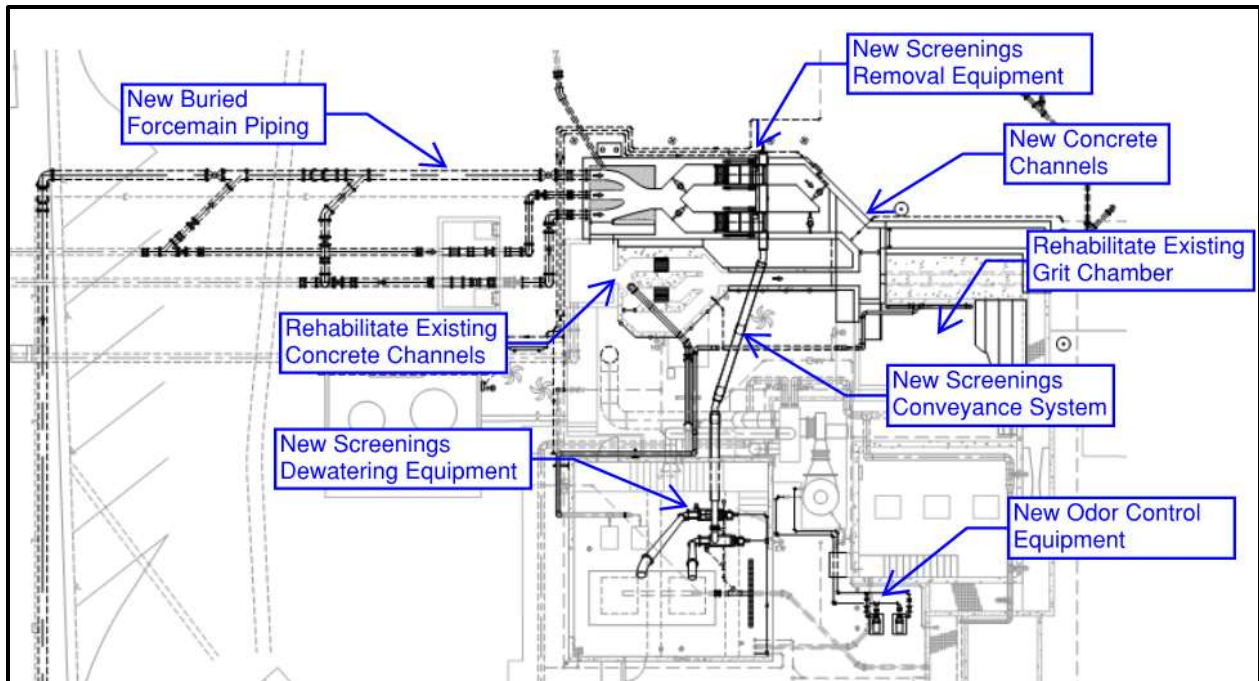


Figure 1. Preferred Alternative

DISCUSSION

As final design progressed, Staff identified opportunities to incorporate four closely related capital improvement projects into the Preliminary Treatment Upgrades project. The four projects were previously identified either by the City of Encinitas or the Facility Plan as necessary upcoming capital projects. Standalone, these improvements provide enhanced plant operation and permit compliance, system reliability, and improved asset management. Through project consolidation, it is possible to streamline contract administration, condense construction schedules, optimize construction phasing, and reduce overall project costs.

The first project recommended for design integration is improvements to Odor Control System No.1. This odor control system draws foul air from the preliminary treatment process, then sequesters and oxidizes odor-causing compounds. The original odor control system was installed in 1991 and many of its components are obsolete or in need of replacement. The proposed improvements will substantially improve odor management and permit compliance.

Staff also recommends the inclusion of the Olivenhain Forcemain extension design. The majority of this pipeline was replaced in 2013 by the City of Encinitas. Only a small portion (approximately 175 feet) of the original pipeline remains in service. At the time, the new forcemain was not connected to the existing headworks in anticipation of upcoming headworks modifications. Including the forcemain extension into this project will likely reduce the final tie-in cost to the City of Encinitas and expedite the completion of this work.

In addition, Staff recommends specific site improvements that will enhance storm water pollution control compliance. New regulations in the 2015 Industrial General Permit increased restrictions for storm water discharges from SEJPA property into the storm drain channel that discharges to

the San Elijo Lagoon, a 303(d) listed impaired body of water for sedimentation. Staff, working with Dudek and the City of Encinitas Clean Water program, has identified three elements that will improve storm water pollution prevention and permit compliance. The three elements include:

- Asphalt Rehabilitation and Maintenance
- Erosion and Sediment Control
- Storm Water Infiltration

The proposed site improvements provide a layered approach to improving storm water pollution control. First, the asphalt throughout the plant is in need of repair and sealing to extend its useful life and prevent damaged asphalt from entering the storm drain system. Furthermore, modifying hard and soft scape to employ storm water best management practices will help minimize the conveyance of sediment. Finally, construction of a storm water infiltration basin will help capture sediment, reduce site runoff, and promote infiltration of storm water. In addition, the construction of some of these improvements will likely qualify for Prop 84, Round 4 Integrated Regional Water Management (IRWM) grant that was secured by Staff.

Lastly, Staff recommends additional electrical design to include SCADA and electrical improvements associated with the project. The upgrades include rewiring and/or replacement of existing equipment and sensors and rerouting existing wiring from the Operations building to the new headworks PLC. This design will replace legacy equipment and improve power and data routing in the north area of the facility.

FINANCIAL IMPACT

Staff has negotiated with Dudek a fee of \$145,480 for the design of Odor Control Improvements forcemain extension, Site Improvements, and SCADA electrical upgrades (Attachment 1). Funding for this additional effort will be provided by Wastewater Capital (\$131,433) and Cardiff Sanitary Division (\$14,047) Programs. The Wastewater Capital Program has funds available within the current fiscal year. The Cardiff Sanitation Division (CSD) has contingency funding of \$14,900 within its pump station program budget. If these funds are not available at year end, then CSD will provide funding in the first quarter of the next fiscal year. As noted, the SEJPA has secured an IRWM grant which includes the stormwater infiltration project. Of the total grant award, the Project is targeted to receive approximately \$95,000.

It is therefore recommended that the Board of Directors:

1. Authorize the General Manager to approve a contract amendment with Dudek for the additional design of Odor Control Improvements, Olivenhain forcemain extension, Site Improvements, and SCADA Upgrades for an amount not to exceed \$145,480; and
2. Discuss and take action as appropriate.

Respectfully submitted,

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

Michael T. Thornton, P.E.
General Manager

Attachment 1: Dudek Proposal for Odor Control Improvements, Forcemain Extension, SCADA and Site Improvements associated with the Preliminary Treatment Upgrades Project, dated October 5, 2016

October 5, 2016

8981.0001

Christopher A. Trees, PE
Director of Operations
San Elijo Joint Powers Authority
2695 Manchester Avenue
Cardiff-by-the-Sea, CA 92007

Subject: Proposed Contract Amendment for Odor Control Improvements, Forcemain Extension, SCADA and Site Improvements associated with the Preliminary Treatment Upgrades Project

Dear Mr. Trees:

The Preliminary Treatment Upgrades project at the San Elijo Water Reclamation Facility (SEWRF) will improve screening and handling of solids at the headworks as well as improve the collection of odorous air from the headworks area. These improvements, along with future increases in flowrate to the SEWRF and increases in wastewater strength due to water conservation will increase hydrogen sulfide (H₂S) loading to the existing odor scrubber. It was determined during design development that incorporating additional odor control improvements such as adding sodium hypochlorite pumps/tanks and water softening equipment into the Preliminary Treatment Upgrades project will improve treatment of H₂S and reduce odors at the facility. Headworks odor control improvements are included in the SEWRF's 2015 Facility Plan. We are pleased to add Don King, PE of DHK Engineers to the design team to assist with odor control activities. Don will provide valuable odor control design expertise to the team.

In the vicinity of the headworks are two ribbon gutters which convey drainage to the large open concrete channel west of the SEWRF. Constructing infiltration basins at the ribbon gutter outlets will improve the water quality of the stormwater runoff leaving the SEWRF. The water quality runoff improvements will be designed by a qualified stormwater designer (QSD). Landscaping and irrigation around the infiltration basins will be designed by a licensed landscape architect experienced with using recycled water. Additionally, multiple areas of the asphalt pavement and un-paved surface treatments throughout the site have been identified to be in need of rehabilitation. These site improvements were included in the SEWRF's 2015 Facility Plan.

The Preliminary Treatment Upgrades project will be re-routing multiple flow meter signals to SCADA; additional existing signals around the headworks area have been identified to be routed to the new PLCs. These SCADA improvements were included in the SEWRF's 2015 Facility Plan.

Additional services include potholing to accurately locate existing underground utilities and design of the Olivenhain dual forcemain extension.

SCOPE OF WORK

The scope of work to provide professional engineering services for this Contract Amendment is presented below.

Odor Control Improvements

Meetings and Site Visits

- Attend one odor control needs meeting.
- Attend one technical memorandum review meeting.
- Attend one meeting to discuss APCD permit revisions.
- Dudek will perform one site visit to take measurements and verify chemical piping/equipment locations and points of connection.
- Dudek will perform an existing conditions assessment and operator interview to determine the odor control equipment/instrumentation needs.

Odor Control Technical Memorandum

- Document the basis for installing sodium hypochlorite and sodium hydroxide dosing and water softening equipment.
- Summarize strategy for foul air withdraw and conveyance to scrubber.
- Evaluate the H₂S loading to the existing scrubber system due to proposed foul air ducting and cover modifications and verify H₂S loading will not exceed existing scrubber system capacity.
- Verify H₂S levels are below screen manufacturer specifications.
- Perform makeup water alternative analysis for potable and recycled water.
- Estimate anticipated water softener system operation and maintenance costs.
- Determine chemical dosing rates.
- Identify required equipment and improvements including:
 - Size and select chemical pumps
 - Size water softener system
 - Determine make up water flowrates
 - Determine and identify required instruments and sensors

APCD Permit Revision

- The existing headworks APCD permit expires in October 2017, which will likely be before the construction of the new improvements are complete. Dudek will and DHK will coordinate with the APCD to prepare and submit a new permit application to match the proposed odor control design. Additional studies and/or negotiations with APCD can be provided separately if required.

Final Engineering

- Develop construction details, sizing, routing, and material selection of chemical piping, tanks, and pumps.
- Control panel design modifications including functional loop descriptions, manufacturer and SEJPA coordination, instrumentation diagrams, and coordination with other LCPs.

- Foul air ducting modifications.
- Chemical area lighting design.
- Plant water supply and reliability improvements.
- The estimated additional drawings required are as follows:
 - One demolition drawing
 - One civil drawing
 - Three mechanical drawings
 - Three process and instrument diagrams drawings
 - Two electrical drawings
- Dudek will prepare the following additional specifications:
 - Peristaltic metering pumps (including mounts, shade cover, and spill containment sump)
 - Oxidation-Reduction Potential (ORP) Sensors
 - pH sensors
 - Water softening system (anticipated to include a service agreement with supplier)
 - Chemical Tanks for sodium hypochlorite and sodium hydroxide
 - Recycled water pressure reducing valve and flow meter
 - Control Panel (revise existing specification to incorporate requirements of odor control system).
 - Functional loop description (add new language to existing specification)

Olivenhain Forcemain Extension

- Research utilities in vicinity of forcemain extension.
- Hydraulic calculations
- Design and draft alignment of dual forcemain extension.
- Provide planning, coordination, and inspection for potholing of utilities.
- Provide one additional mechanical drawing and revise one existing demolition and mechanical drawing

Potholing

- Procure services of Underground Solutions Inc. to pothole existing utilities around headworks area using air excavation.
- Coordinate with Pothole contractor including preparation of pothole plan, scheduling, and pre-pothole site walk.
- Provide inspection during potholing and field measurements of utilities.
- Refine CAD files and design based on potholed/measured utility locations.

SCADA Integration

- Reroute power and signal to new HW PLC area for the following flow meters
 - Influent flow meter (flume)
 - Olivenhain Main Flow Meter
 - Cardiff Gravity Flow Meter
 - Grit Flow Meter
- The level transmitter for the influent flume flow meter will be replaced

Site Improvements

Stormwater Infiltration Basin Design

- Document basis of design and alternative analysis (up to 3 alternatives) in technical memorandum (8 - 10 pages) and discuss the following:
 - Project description/drivers, regulatory review, and applicable permitting, water quality requirements, geotechnical evaluation, basin sizing methodology/criteria,
 - Grading, feasibility and recommendation, utility/site constraints,
 - Plant selection, irrigation plan, ongoing BMP maintenance, etc.
- A geotechnical report will be provided by San Elijo during preliminary design. The report is necessary to determine infiltration rates.
- Survey site around drainage paths to determine flowline elevations
- Design of landscaping and irrigation around the infiltration basins
- To clarify the Contractor's scope of activities for storm water WDR compliance, a sediment and erosion control plan, notes, and specifications will be prepared as part of the bid documents.
- Provide four additional civil drawings and four additional landscape drawings

Paving Rehabilitation

- Site visit to perform quantity takeoffs of pavement repair areas
- Determine necessary rehabilitation method
- Provide two additional civil drawing to show areas of pavement repair, limits of seal coat/slurry seal, areas of gravel road rehabilitation, and associated details.

Cost Opinion

Dudek will revise the Engineer's opinion of probable construction cost to include the construction costs for improvements covered by this Contract Amendment.

FEE ESTIMATE

We propose to complete the scope of work on a time and materials fee not to exceed \$145,480 as itemized in the attached work breakdown structure fee estimate.

We appreciate the opportunity to provide SEJPA with these engineering services, and look forward to the notice to proceed. Please feel free to contact me at 760.479.4124 or by email at mhill@dudek.com if there are any questions or if additional information is required.

Respectfully Submitted,

DUDEK



Steve Jepsen
Principal

Att: Fee Estimate



Michael Hill, PE
Senior Engineer

San Elijo Joint Powers Authority

San Elijo WRF Preliminary Treatment Upgrades Project
 Odor Control Improvements, Forcemain Extension, and SCADA and Site Improvements
 DUDEK FEE ESTIMATE

10/5/2016

| | Project Team Role: | PIC QA/QC | Project Manager | Senior Engineer/ QSD | Senior Engineer | Project Engineer | Project Engineer | Landscape Architect | CAD Designer | CAD Drafter | Admin | TOTAL HOURS | DUDEK LABOR COST | Subconsultant Fees | | | | OTHER DIRECT COSTS | TOTAL FEE |
|--|---|-----------|-----------------|----------------------|-----------------|------------------|------------------|---------------------|--------------|-------------|-----------|-------------|-------------------|--|---|---------------------------------|------------------------|--------------------|-------------------|
| | | | | | | | | | | | | | | Electrical & I/C Engineering Moraes-Pham & Associates | Odor Control Engineering DHK Engineers | Potholing Underground Solutions | Survey ROW Engineering | | |
| | | | | | | | | | | | | | | Fee | Fee | Fee | Fee | | |
| | Team Member: | M. Wablé | S. Jepsen | N. Rieger | M. Hill | B. Tran | - | P. Walsh | N. Hunter | K. King | M. Kinney | | | | | | | | |
| | Billable Rate : | \$225 | \$195 | \$175 | \$155 | \$135 | \$105 | \$160 | \$140 | \$110 | \$80 | | | | | | | | |
| Task 1 - Odor Control Improvements | | | | | | | | | | | | | | | | | | | |
| 1-A | Project Management, Meetings (2), and Admin | | 6 | | 6 | | | | | | 1 | 13 | \$ 2,180 | | \$604 | | | | \$ 2,784 |
| 1-B | Site visit and operator interview | | | | 4 | | | | 2 | | | 6 | \$ 900 | \$575 | | | | | \$ 1,475 |
| 1-C | Potholing, coord., inspection & measurements | | 1 | | 6 | | 6 | | | | | 13 | \$ 1,755 | | | \$3,112 | | \$ 4,867 | |
| 1-D | Odor Control Technical Memorandum | 1 | 1 | | 8 | 16 | | | | | 1 | 27 | \$ 3,900 | | \$8,251 | | | \$ 12,151 | |
| 1-E | APCD Permit renewal assistance | 1 | 2 | | 6 | 12 | | | | | | 21 | \$ 3,165 | | \$3,610 | | | \$ 6,775 | |
| 1-F | Plant water supply and reliability improvements | 1 | 1 | | 8 | 4 | | | | | | 14 | \$ 2,200 | | | | | \$ 2,200 | |
| 1-G | Control design and panel modifications | 1 | 1 | | 12 | | | | | | | 14 | \$ 2,280 | \$2,300 | | | | \$ 4,580 | |
| 1-H | Additional drawings | 2 | 6 | | 26 | 24 | 2 | | 40 | 42 | | 142 | \$ 19,320 | \$5,175 | \$805 | | | \$ 25,300 | |
| 1-I | Additional specifications | 1 | 2 | | 8 | 12 | | | | | 1 | 24 | \$ 3,555 | \$2,300 | \$805 | | | \$ 6,660 | |
| 1-J | Additional final design engineering | 1 | 6 | | 20 | 20 | 4 | | | | | 51 | \$ 7,615 | \$1,150 | | | | \$ 8,765 | |
| | Subtotal Task 1 | 8 | 26 | | 104 | 88 | 12 | | 42 | 42 | 3 | 325 | \$ 46,870 | \$ 11,500 | \$ 14,075 | \$ 3,112 | \$ - | \$ - | \$ 75,557 |
| Task 2 - Olivenhain Forcemain Extension | | | | | | | | | | | | | | | | | | | |
| 2-A | Project Management, Meetings (1), and Admin | | 2 | | 2 | | | | | | 1 | 5 | \$ 780 | | | | | | \$ 780 |
| 2-B | Utility research and design alignment | 1 | 2 | | 8 | | | | 4 | | | 15 | \$ 2,415 | | | | | | \$ 2,415 |
| 2-C | Potholing, coord., inspection & measurements | | | | 2 | | 2 | | | | | 4 | \$ 520 | | | \$3,112 | | \$ 3,632 | |
| 2-D | Hydraulic calculations | 1 | 1 | | 4 | 4 | | | | | | 10 | \$ 1,580 | | | | | \$ 1,580 | |
| 2-E | Drawings and specifications | 1 | 1 | | 8 | 8 | | | 16 | 6 | | 40 | \$ 5,640 | | | | | \$ 5,640 | |
| | Subtotal Task 2 | 3 | 6 | | 24 | 12 | 2 | | 20 | 6 | 1 | 74 | \$ 10,935 | \$ - | \$ - | \$ 3,112 | \$ - | \$ - | \$ 14,047 |
| Task 3 - SCADA Improvements | | | | | | | | | | | | | | | | | | | |
| 3-A | Connect flow meter signals to SCADA | | 2 | | 10 | | | | | | | 12 | \$ 1,940 | \$5,750 | | | | | \$ 7,690 |
| | Subtotal Task 3 | | 2 | | 10 | | | | | | | 12 | \$ 1,940 | \$ 5,750 | \$ - | \$ - | \$ - | \$ - | \$ 7,690 |
| Task 4 - Site Improvements | | | | | | | | | | | | | | | | | | | |
| 4-A | Stormwater Basins Prelim Design & Memo | 4 | 4 | 36 | 2 | 12 | | 2 | | 14 | 1 | 75 | \$ 11,850 | | | | \$2,461 | | \$ 14,311 |
| 4-B | Stormwater Basins Memo Review Meeting | | 2 | 3 | | | | | | | | 5 | \$ 915 | | | | | | \$ 915 |
| 4-C | Stormwater Basins Plans and specs | 1 | 4 | 28 | 2 | 24 | | | 12 | 48 | 1 | 120 | \$ 16,495 | | | | | | \$ 16,495 |
| 4-D | Stormwater Basins Landscape & Irrigation | 1 | 2 | 2 | | | | 24 | | 30 | | 59 | \$ 8,105 | | | | | | \$ 8,105 |
| 4-E | Paving rehabilitation site visit and takeoffs | 4 | | 4 | | | | | | 4 | | 12 | \$ 2,040 | | | | | | \$ 2,040 |
| 4-F | Paving rehabilitation plan and specifications | 2 | 2 | 14 | 2 | | | | | 24 | 1 | 45 | \$ 6,320 | | | | | | \$ 6,320 |
| | Subtotal Task 4 | 12 | 14 | 87 | 6 | 36 | | 26 | 12 | 120 | 3 | 316 | \$ 45,725 | \$ - | \$ - | \$ - | \$ 2,461 | \$ - | \$ 48,186 |
| | Total Non-Optional Hours and Fee | 23 | 48 | 87 | 144 | 136 | 14 | 26 | 74 | 168 | 7 | 727 | \$ 105,470 | \$ 17,250 | \$ 14,075 | \$ 6,224 | \$ 2,461 | \$ - | \$ 145,480 |
| | Percent of Hours: | 3% | 7% | 12% | 20% | 19% | 2% | 4% | 10% | 23% | 1% | 100% | | | | | | | |

SAN ELIJO JOINT POWERS AUTHORITY
MEMORANDUM

October 10, 2016

TO: Board of Directors
San Elijo Joint Powers Authority

FROM: Director of Operations

SUBJECT: SAN ELIJO OCEAN OUTFALL 2016 ANNUAL INSPECTION REPORT

RECOMMENDATION

It is recommended that the Board of Directors:

1. Accept and file the San Elijo Ocean Outfall Year 2016 Annual Inspection Report prepared by Marine Taxonomic Services, Ltd.; and
2. Discuss and take action as appropriate.

BACKGROUND

The San Elijo Ocean Outfall was commissioned in 1965 to discharge treated effluent from the San Elijo Water Reclamation Facility. The outfall was upgraded and expanded in 1974 to include discharge capacity for the City of Escondido's Hale Avenue Resource Recovery Facility. The length of the outfall from the shoreline into the ocean is 8,000 feet, with an end depth of approximately 150 feet below mean sea level. The diffuser section of pipe is composed of 1,176 feet of 48-inch pipe with 200 individual 2-inch diameter diffuser ports. The discharge of treated wastewater to the ocean is subject to strict environmental regulations that stipulate dilution requirements, distance from shore, and depth of water for which the effluent is discharged. To ensure that the ocean outfall is in sound operating condition and that environmental regulations are being met, the San Elijo Joint Powers Authority (SEJPA) inspects the outfall annually.

DISCUSSION

The SEJPA contracted with Marine Taxonomic Services, Ltd (MTS) to complete the 2016 annual outfall inspection. Dive operations were conducted in early July 2016. Diving staff conducted a general inspection of the outfall corridor from approximately the 115-foot ocean depth level to the shore where the pipeline becomes fully buried. Inspection activity was attentive to the following:

- Evidence of surface failure of exposed concrete;
- Cracks or other deficiencies in the outfall;

- Joint integrity;
- Leaks or evidence of degradation;
- Attrition or the loss of the ballast materials as a result of physical, biological, or geologic processes;
- Scour of the nearby marine sediments;
- Inspection of exposed portholes and pile supports;
- Inspection of diffuser flow;
- Evaluation of cathodic protection at exposed anodes; and
- Clearing kelp that hindered inspection activities or threatened ballast material.

MTS reports that the San Elijo Ocean Outfall was found to be in excellent overall condition. Offshore areas of the outfall were stable and showed no signs of ballast movement; inshore ballast rock showed no significant signs of movement since the last re-ballasting project completed in 2005. The outfall showed no signs of spalling, rust staining, cracking, or other deficiencies in the concrete pipe. All observed joints were in alignment with no evidence of leaks. The near shore inspection revealed kelp growth on the pipeline and the surrounding ballast. Because kelp has considerable buoyancy, it was cleared to minimize the threat of ballast movement.



Figure 1 - Porthole cover with zinc @ approximately 60% remaining life expectancy.

The outfall was constructed with five access portholes that have metal covers. These covers use sacrificial zinc anodes for corrosion protection. The anodes on Portholes 1, 2, 3, 4, and 5 appear to have considerable mass remaining. The last anode installed was on porthole 4 in 2011.

During each annual inspection, efforts are made to inspect the 35 pile supports that secure the inshore section of the ocean outfall. Typically, these pile supports are covered by sand and cannot be inspected. This year, 10 of the pile supports were exposed and able to be inspected. All of the exposed pile supports have good, working anodes attached.

SUMMARY AND RECOMMENDATIONS

The following points summarize the major findings of this outfall inspection:

- In general, the San Elijo Ocean Outfall was found to be in excellent overall condition.
- Ballast rock shows no significant sign of movement since the last re-ballasting project.
- The outfall showed no signs of spalling, rust staining, or cracking and there was no leakage observed from pipe joints or any other location on the outfall.
- Anodes that were visible that could be inspected were in good condition and have considerable mass remaining.
- Overgrown kelp was removed from the pipeline.
- The exposed pile supports surveyed during this inspection were found to be completely protected.
- Some biofouling was observed in the diffuser ports. It is recommended that the biofouling be cleared when it starts to affect flow. This can be easily cleaned in one day by rebreather divers with hand held brushes.



Figure 2 – Pipe Joint



Figure 3 – Diffuser Port

The following items are recommendations for continued structural integrity and environmentally safe operation of the San Elijo Ocean Outfall:

- Complete a Remote Operated Vehicle (ROV) or rebreather dive survey of the diffuser section of the outfall pipe at least every two years.
- Annually continue to remove kelp from pipeline and ballast pile to minimize movement.
- Annually monitor and inspect all visible pile support structures.
- Perform "rapid response" overview inspections after periods of extremely high surf or earthquakes in order to identify damage and potential for failure due to scour, high-velocity currents, or major seafloor movement.
- During future inspections, anodes should be replaced when they become ineffective against preventing corrosion to pipe and pile structures.
- Continue preventative maintenance and detailed annual inspections of the entire pipeline using SCUBA, rebreather, and/or ROV surveys.

The full report and a video of the dive inspection is available at the SEJPA office.

It is therefore recommended that the Board of Directors:

1. Accept and file the San Elijo Ocean Outfall Year 2016 Annual Inspection Report prepared by Marine Taxonomic Services, Ltd; and
2. Discuss and take action as appropriate.

Respectfully submitted,



Christopher A. Trees, P.E.
Director of Operations

Attachment: San Elijo Ocean Outfall Year 2016 Annual Inspection Project Summary,
Marine Taxonomic Services, Ltd., August 2016

PROJECT SUMMARY

Marine Taxonomic Services, Ltd. (MTS) performed the Year 2016 San Elijo Ocean Outfall annual inspection at the request of the San Elijo Joint Powers Authority (SEJPA) in early July 2016. MTS is an environmental consulting firm committed to providing innovative solutions to help our clients create valuable scientific knowledge while promoting growth in a sustainable manner. MTS provides its clients with a full range of services in marine environments along with technical dive and inspection services. The inspection involved diver examination of the outfall from the 115' isobaths to burial at shore, evaluation of exposed portholes, evaluation of cathodic protection at exposed anodes, a pile support survey, kelp clearing, and a multibeam survey with generated pipeline cross sections.

Photo and video documentation were collected along the entire outfall. The purpose of the inspection was to look for evidence of spalling of the exposed concrete surfaces, cracks or other signs of wear or degradation of the outfall structure. This includes inspecting joint integrity for leaks or evidence of degradation, inspecting diffuser flow, evaluating for other potential hazards and checking attrition or the loss of efficacy of the pipe ballast material.

In general, the San Elijo Ocean Outfall was found to be in excellent overall condition. All areas of the pipeline were stable and the ballast showed minimal signs of movement based on the diver and multibeam data. The outfall showed no signs of spalling, rust staining, or cracking and there was no leakage detected from pipe joints or any other locations on the outfall. Anodes on the exposed manholes were in good condition and have greater than 50% remaining life expectancy. The pile support section of the outfall was about two-thirds buried with sand. All exposed metallic structures are currently protected.