

**AGENDA
IRVINE RANCH WATER DISTRICT
BOARD OF DIRECTORS
ADJOURNED REGULAR MEETING**

May 22, 2019 - 8:00 A.M.

CALL TO ORDER Irvine Ranch Water District
Baker Water Treatment Plant Operation Building
21082 Wisteria, Lake Forest, California

Directions to the Baker Plant: Access to the site via Civic Center Drive from the 5/405 freeway: Exit Baker Parkway and head northeast to Commercentre Drive, turn right. Continue to Civic Center Drive and turn right. Proceed through the on-going construction for the City of Lake Forest Civic Center. Follow the road through the round-a-bout and into the Baker WTP property, past the buried circular reservoirs. Turn right and follow the road to the Baker Treatment entrance gate. Proceed into the site and park in any available parking stalls or along the main treatment building.

ROLL CALL Directors Reinhart, Matheis, Swan, Withers, and President LaMar

COMMUNICATIONS TO THE BOARD

1. A. Written:
- B. Oral:

PRESENTATION / TOUR

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| <div data-bbox="136 1129 1109 1201" data-label="List-Group"><ol style="list-style-type: none">2. <u>BAKER WATER TREATMENT PLANT TOUR WITH PROJECT PARTNERS</u></div> | |
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The Board of Directors and staff, along with the Baker Plant Project Partners, will tour the Baker Water Treatment Plant.

CONSENT CALENDAR

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| <div data-bbox="136 1440 1162 1512" data-label="List-Group"><ol style="list-style-type: none">3. <u>RATIFY / APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS</u></div> | |
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Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Mary Aileen Matheis, Peer Swan, and John Withers.

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| <div data-bbox="136 1656 1094 1694" data-label="List-Group"><ol style="list-style-type: none">4. <u>OCTA PIPELINE CROSSING OC-272 LICENSE AGREEMENT</u></div> | |
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Recommendation: That the Board authorize the General Manager to execute the OCTA License OC-272 for the recycled water pipeline and sewer pipeline crossings within the future Marine Way extension within the Great Park development.

CONSENT CALENDAR (Continued)

5. MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDER

Recommendation: That the Board approve Contract Change Order No. 103 in the amount of \$136,584.96, with Filanc/Balfour Beatty for Biosolids site work including concrete sidewalks, swales, and other site improvements.

6. SAND CANYON PROFESSIONAL CENTER – PHASE II CONTRACT CHANGE ORDER NO. 4

Recommendation: That the Board authorize the General Manager to execute Contract Change Order No. 4 in the amount of \$165,158.85 with KPRS Construction Services for the Sand Canyon Professional Center Phase II, Project No. 06210.

OTHER BUSINESS

7. Closed Sessions

A. CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL — EXISTING LITIGATION - Pursuant to Government Code Section 54956.9(d)(1): *SCADA and Control Systems, Inc. v. Delta Systems Engineering, LLC, et al.*, Case No. 30-2018-01039707-CU-BC-CJC.

B. CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL — EXISTING LITIGATION - Pursuant to Government Code Section 54956.9(d)(1): *Filanc-Balfour Beatty, JV v. IRWD*, Case No. 30-2019-01048770-CU-BC-CXC

C. CLOSED SESSION CONFERENCE WITH LABOR NEGOTIATORS – Pursuant to Government Code Section 54957.6(a):
Agency designated representatives: Paul Cook and Jenny Roney
Unrepresented employee: Managers, Supervisors and Confidential Employees

8. Open Session

A. Report of any action in Closed Session.

9. Adjournment

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Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Irvine Ranch Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Board Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the Baker Water Treatment Plant. This agenda can be obtained in alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

May 22, 2019
Prepared and
submitted by: K. Swan
Approved by: Paul A. Cook



CONSENT CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

SUMMARY:

Pursuant to Resolution 2006-29 adopted on August 28, 2006, approval of attendance of the following events and meetings are required by the Board of Directors.

Events/Meetings

Steven LaMar

June 19	Chapman University's Annual Economic Forecast
July 30-31	California Environmental Dialogue Plenary, San Diego

Mary Aileen Matheis

September 17-20	Water Education Foundation 2019 Santa Fe Symposium
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Peer Swan

May 5	ACWA/ACWA Joint Powers Insurance Authority Spring Conference
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John Withers

June 19	Chapman University's Annual Economic Forecast
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RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE MEETINGS AND EVENTS FOR STEVEN LAMAR, MARY AILEEN MATHEIS, PEER SWAN, AND JOHN WITHERS AS DESCRIBED HEREIN.

LIST OF EXHIBITS:

None.

May 22, 2019

Prepared by: R. Thatcher / E. Akiyoshi

Submitted by: K. Burton

Approved by: Paul A. Cook



CONSENT CALENDAR

OCTA PIPELINE CROSSING OC-272 LICENSE AGREEMENT

SUMMARY:

FivePoint Communities is constructing IRWD facilities that cross the Orange County Transportation Authority (OCTA) railroad right-of-way. This is the third of three recycled water and sewer gravity main crossings for the Great Park development. All railroad crossings require these agreements since OCTA is unwilling to provide an easement for IRWD facilities such as pipelines. Staff recommends that the Board authorize the General Manager to execute the OCTA License Agreement for crossing OC-272.

BACKGROUND:

Under a reimbursement agreement with IRWD, FivePoint Communities is constructing the Reach C sewer gravity main and a recycled water transmission pipeline for the Great Park development in the future Marine Way extension. A location map is attached as Exhibit "A". FivePoint is building these capital facilities ahead of the Marine Way extension and grade separation at the OCTA railroad crossing. The pipeline construction is estimated to start this summer, and staff plans to recommend Board approval of the pipelines construction award in the coming months.

OCTA is only willing to execute license agreements for pipelines, regardless of whether facilities will be within a future street or whether the improvements have not yet been accepted by IRWD. Additionally, the former Atchison, Topeka, and Santa Fe (ATSF) railroad required (and its successor maintains) similar licenses for all crossings in IRWD's service area. IRWD currently maintains seven similar license agreements with OCTA and more than two dozen with ATSF. Those licenses involved processing fees and similar conditions.

OCTA License Agreement:

The OCTA License Agreement, designated "OC-272" and attached as Exhibit "B", contains a one-time fee of \$1,500 plus the base license fee of \$1,120 required with the issuance of the license. The conditions of the license are materially the same as the previous licenses. One of the items is the "month-to-month" term with annual renewals. Although IRWD staff attempted to negotiate this out of the agreement, OCTA staff stated that this is a condition of all of its license agreements regardless of the utility and will not change. Based on internal research, the other OCTA and ATSF license agreements contain very similar terms dating back to the early 1970s. While OCTA understands that IRWD's facilities are considered permanent, it will not change the term of the agreement. Staff recognizes that easements or other forms of property interests are preferable to licenses; in this instance staff recommends execution of this license agreement.

FISCAL IMPACTS:

The initial license execution and subsequent renewals of the license will be paid through the operating budgets of the respective distribution systems.

ENVIRONMENTAL COMPLIANCE:

Construction of capital domestic water, sewer, and recycled water facilities for the Great Park Development is subject to CEQA. In conformance with the California Code of Regulations Title 14, Chapter 3, Article 7 an Environmental Impact Report was certified by the City of Irvine, the lead agency on April 4, 2012 (SCH# 2002101020).

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE THE OCTA LICENSE OC-272 FOR THE RECYCLED WATER PIPELINE AND SEWER PIPELINE CROSSINGS WITHIN THE FUTURE MARINE WAY EXTENSION WITHIN THE GREAT PARK DEVELOPMENT.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – OCTA OC-272 Pipeline License

EXHIBIT "A"



OCTA OC-272 LICENSE AREAS

**ORANGE COUNTY TRANSPORTATION AUTHORITY
LICENSE AGREEMENT**

This LICENSE AGREEMENT ("Agreement") is made and entered into as of March 25, 2019, by and between the ORANGE COUNTY TRANSPORTATION AUTHORITY, a public entity ("OCTA"), and IRVINE RANCH WATER DISTRICT ("IRWD"), a California Water District organized under and existing pursuant to Section 34000 et seq. of the California Water Code ("Licensee"), upon and in consideration of the agreements, covenants, terms and conditions below:

PART I. - BASIC LICENSE PROVISIONS

1. Description of License Property: A portion of the OCTA railroad right of way located near Milepost 185.16 in the City of Irvine, CA as shown and described on Exhibits "A", "B", "A-1", and "B-1" attached.

Approximate area 1,000 +/- square feet.
2. Use of License Property: Underground sewer pipeline and an underground recycled water pipeline subject to all the terms, conditions and limitations as set forth in Part II of this Agreement.
3. Commencement Date: Effective as of the date this Agreement is fully executed.
4. Term: Month-to-Month
5. License Fees:
 - A. Base License Fee: \$1,120.00 payable annually in advance
 - B. One Time Fee: \$1,500.00
 - C. Base License Fee Adjustment Dates: Annually based on CPI per Section 2.2.1 Annual CPI Adjustment, General License Provisions.
6. Insurance Requirements: Insurance requirements are detailed in Section 16, Insurance, page 8, attached hereto and incorporated herein by reference.
7. OCTA's Address:

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. Main Street
P. O. Box 14184
Orange, CA 92863-1584

8. Licensee's Address:

Ray Thatcher, R/W Agent
Irvine Ranch Water District
15600 Sand Canyon Ave.
Irvine, CA 92618

9. Facility: 18-inch PVC Sewer pipeline within a 36-inch steel casing and a 16-inch PVC Recycled Water Zone B pipeline within a 24-inch steel casing.

The foregoing Basic License Provisions and the General License Provisions set forth in attached Part II are incorporated into and made part of this Agreement.

PART II - GENERAL LICENSE PROVISIONS

1. License/Term.

License. OCTA hereby grants to Licensee a non-exclusive license to use the real property owned by OCTA described on the attached Exhibit "A" and incorporated herein by reference, and described in Item 1 of the Basic License Provisions (the "License Property"), for the limited purpose of construction, installation, operation, alteration, maintenance, reconstruction and/or removal of the Facility described in Item 9 of the Basic License Provisions, and any usual, necessary and related appurtenances thereto (the "Facility"), for the purposes described in Item 2 of the Basic License Provisions, together with rights for access and entry onto the License Property as necessary or convenient for the use of the Facility. In connection with this license, Licensee, its employees, agents, customers, visitors, invitees, licensees and contractors (collectively, "Licensee's Parties"), subject to the provisions hereof, may have reasonable rights of entry and access onto the License Property. The License Property, adjoining real property (or any interest therein) of OCTA and personal property of OCTA located thereon shall hereinafter collectively be referred to as OCTA Property ("OCTA Property").

1.2 Term of Agreement. The term ("Term") of this Agreement shall commence on the "Commencement Date" specified in Item 3 of the Basic License Provisions. Unless a specific term of this Agreement is filled in at Item 4 of the Basic License Provisions, this Agreement shall continue in full force and effect on a month-to-month basis as provided in Item 4 of the Basic License Provisions until terminated by either party on thirty (30) days' prior written notice. If Item 4 of the Basic License Provisions provides for a specific term, then this Agreement shall be a license for the term specified in said Item 4; provided, however, that OCTA shall have the absolute right to terminate this Agreement prior to the date specified in Item 4 in its sole discretion by delivering thirty (30) days' prior written notice to Licensee.

1.3 Condition of Premises. Licensee acknowledges that it has inspected and accepts the License Property in its present condition as suitable for the use for which this license is granted. Execution of this Agreement by Licensee shall be conclusive to establish that the License Property is in a condition which is satisfactory to Licensee as of the Commencement Date.

2. Payments

2.1 License Fee. As consideration for the rights given hereunder, Licensee agrees to pay to OCTA the Base License Fee specified in Item 5 of the Basic License Provisions, as such amount may

be adjusted as set forth in Section 2.2, and the Additional License Fee specified in Item 5 of the Basic License Provisions. The one-time Additional License Fee and the first year's Base License Fee are due and payable upon execution of this Agreement. Thereafter, the Base License Fee, as such fee may be adjusted pursuant to the provisions of Section 2.2, shall be due and payable, without demand, on or before one year after the Commencement Date and in each year as the case may be thereafter. The Base License fee for any fractional period at the end of the Term shall be prorated on a daily basis and shall be due and payable without demand.

2.2 License Fee Adjustment.

2.2.1 Annual CPI Adjustment. The Base License Fee shall be increased, but not decreased, as provided below on the first day of each month during which an annual anniversary of the Commencement Date occurs unless another date(s) is provided in Item 5 of the Basic License Provisions (the "Adjustment Date"). The adjusted Base License Fee as of each Adjustment Date shall be the greater of the Base License Fee on the day preceding that Adjustment Date or that amount multiplied by a fraction, the numerator of which is the CPI figure for the third month preceding the month during which the particular Adjustment Date occurs and the denominator of which is the CPI figure for the month that is three (3) months prior to the month containing the prior Adjustment Date or, if none, the Commencement Date. As used in this section, the "CPI" means the Consumer Price Index for Urban Wage Earners and Clerical Workers, Los Angeles/Anaheim/Riverside, all items (1982-84 = 100), published by the U.S. Department of Labor, Bureau of Labor Statistics, or if such index is no longer published, the U.S. Department of Labor's most comprehensive official index then in use that most nearly corresponds to the index named above. If it is calculated from a base different from the base period 1982-84 = 100, figures used for calculating the adjustment shall first be converted to the base period used under a formula supplied by the Bureau. If a comparable index shall no longer be published by the U.S. Department of Labor, another index generally recognized as authoritative shall be substituted by OCTA.

2.2.2 Fair Market Adjustment. At intervals of not less than three (3) years, the Base License Fee (as such fee may be adjusted by Section 2.2.1, above) payable under this Section 2 shall be increased, but not decreased, in order to adjust the fee to the then fair market rental value of the License Property as determined by OCTA in good faith discretion. Such increases shall be effective on an anniversary date of the Commencement Date. OCTA shall give Licensee written notice of the date and amount of any such adjustment not less than thirty (30) days prior to the applicable anniversary date. If no adjustment is made on the third anniversary of the Commencement Date, an adjustment may nevertheless be made on subsequent anniversary date and thereafter at intervals of not less than three (3) years apart. Any such adjustment may take into consideration the increase in fair market rental value since the last adjustment.

2.3 Late Charge. Licensee acknowledges that late payment by Licensee of any payment owed to OCTA under this Agreement will cause OCTA to incur costs not contemplated by this Agreement. Therefore, if any payment due from Licensee is not received by OCTA within five (5) days of the date when due, Licensee shall pay to OCTA an additional sum of ten percent (10%) of the overdue payment as a late charge, up to a maximum amount of \$500 for each late payment. The parties agree that this late charge represents a fair and reasonable estimate of the administrative costs that OCTA will incur by reason of a late payment by Licensee. Acceptance of any late payment charge shall not constitute a waiver of Licensee's default with respect to the overdue payment and shall not prevent OCTA from exercising any of the other rights and remedies available to OCTA under this Agreement, at law or in equity, including, but not limited to, the interest charge imposed pursuant to Section 24.5.

3. Taxes. Licensee shall be liable for and agrees to pay promptly and prior to delinquency, any tax or assessment, including but not limited to any possessory interest tax, levied by any governmental authority: (a) against the Facility and its operations the License Property and/or any personal property, fixtures or equipment of Licensee used in connection therewith, or (b) as a result of the Licensee's parties' use of the License Property, or the Facility.

4. Construction. All Construction work performed or caused to be performed by Licensee on the Facility or the License Property shall be performed (a) at Licensee's sole cost and expense; (b) in accordance with any and all applicable laws, rules and regulations (including the OCTA's rules and regulations), and (c) in a manner which (i) meets or exceeds the then applicable standards of the industry for such Construction work, and (ii) is satisfactory to OCTA. Prior to commencement of any construction, maintenance, reconstruction, installation, restoration, alteration, repair, replacement or removal (other than normal maintenance) (hereinafter, "Work") on the License Property, Licensee shall submit work plans to OCTA for review and approval. Any such Construction Work must be carried out pursuant to work plans approved in writing by OCTA. In addition, Licensee shall provide OCTA and all holders of underground utility facilities located within the License Property with at least 10 calendar days' written notice prior to commencement of any Work on the License Property or the Facility, except in cases of emergency, in which event Licensee shall notify OCTA's representative personally or by phone prior to commencing any Construction Work. Unless otherwise requested by OCTA, upon completion of any Construction Work, Licensee shall restore the OCTA Property to its condition immediately preceding the commencement of such Construction Work.

5. Contractors--Approval and Insurance. Any contractors of Licensee performing Work on the Facility or the License Property shall first be approved in writing by OCTA. With respect to such Work, Licensee shall, at its sole cost and expense, obtain and maintain in full force and effect, throughout the term of such Work, insurance, as required by OCTA, in the amounts and coverages specified on, and issued by insurance companies as described Section 16, attached hereto and incorporated herein by reference. Additionally, Licensee shall cause any and all of its contractors and subcontractors which may (a) be involved with such Work, or (b) may, for any reason, need to enter onto the License Property, to obtain and maintain in full force and effect during the Term of this Agreement, or throughout the term of such Work (as applicable), insurance, as required by OCTA, in the amounts and coverages specified on, and issued by insurance companies as described in Section 14, attached hereto and incorporated herein by reference. OCTA reserves the right, throughout the Term of this Agreement, to review and change the amount and type of insurance coverage it requires in connection with this Agreement on the Work to be performed on the License Property.

6. Reimbursement. Licensee agrees to reimburse OCTA for all reasonable costs and expenses incurred by OCTA in connection with Construction Work on or maintenance of the License Property or the Facility, including, but not limited to, costs incurred by OCTA in furnishing any materials or performing any labor, reviewing Licensee's Work plans and/or inspecting any Construction Work, installing or removing protection beneath or along OCTA's tracks, furnishing of watchmen, flagmen and inspectors as OCTA deems necessary and such other items or acts as OCTA in its sole discretion deems necessary to monitor or aid in compliance with this Agreement.

7. Liens. Licensee will fully and promptly pay for all materials joined or affixed to Facility or the Licensed Property, and fully and promptly pay all persons who perform labor upon said Facility or the Licensed Property. Licensee shall not suffer or permit to be filed or enforced against the Licensed Property or the Facility, or any part thereof, any mechanics', materialmen's, contractors', or subcontractors' liens or stop notices arising from, or any claim for damage growing out of, any testing, investigation, maintenance or Construction Work, or out of any other claim or demand of any kind. Licensee shall pay or cause to be paid all such liens, claims or demands, including sums due with respect to stop notices, together with attorney's fees incurred by OCTA with respect thereto, within ten

(10) business days after notice thereof and shall indemnify, hold harmless and defend OCTA from all obligations and claims made against OCTA for the above described work, including attorney's fees. Licensee shall furnish evidence of payment upon request of OCTA. Licensee may contest any lien, claim or demand by furnishing a statutory lien bond or equivalent with respect to stop notices to OCTA in compliance with applicable California law. If Licensee does not discharge any mechanic's liens or stop notice for works performed for Licensee, OCTA shall have the right to discharge same (including by paying the claimant), and Licensee shall reimburse OCTA for the cost of such discharge within ten (10) business days after billing. OCTA reserves the right at any time to post and maintain on the OCTA Property and on the Licensed Property such notices as may be necessary to protect OCTA against liability for all such liens and claims. The provisions of this Section shall survive the termination of this Agreement.

8. Maintenance and Repair. Licensee, at Licensee's sole expense, shall maintain the License Property and the Facility in a condition satisfactory to OCTA during the Term of this Agreement and shall perform all maintenance and clean-up of the License Property and the Facility as necessary to keep the License Property and the Facility in good order and condition, to OCTA's satisfaction and in accordance with applicable Licensee codes. Licensee shall be responsible for any citations issued by any agency having jurisdiction as a result of Licensee's failure to comply with local codes. If any portion of the OCTA Property, including improvements or fixtures, suffers damage by reason of the access to or use of the License Property, by Licensee, Licensee's Parties or by Licensee's partners, officers or directors, including but not limited to damage arising from any test or investigations conducted upon the License Property, Licensee shall, at its own cost and expense, immediately repair all such damage and restore the OCTA Property to as good a condition as before such cause of damage occurred. Repair of damage shall include, without limitation, regrading and resurfacing of any holes, ditches, indentations, mounds or other inclines created by an excavation by Licensee or Licensee's Parties.

9. Landscaping and Protective Fencing. If required by OCTA, Licensee, at its sole cost and expense, shall install barrier fencing and/or landscaping to shield the railroad track area from public access and/or the Facility from public view. OCTA shall have the right to review and approve fencing and/or landscaping plans prior to installation. All fencing and/or landscaping work shall be done in accordance with the provisions of Sections 4 and 5 above and will be subject to the maintenance and repair provisions of Section 8 above.

10. Use. The License Property and the Facility shall be used only for the purposes specified in Item 2 of the Basic License Provisions and for such lawful purposes as may be directly incidental thereto. No change shall be made by Licensee in the use of the License Property or the Facility without OCTA's prior written approval.

11. Abandonment. Should Licensee at anytime abandon the use of the Facility or the License Property, or any part thereof, or fail at any time for a continuous period of ninety (90) days to use the same for the purposes contemplated herein, then this Agreement shall terminate to the extent of the portion so abandoned or discontinued, and in addition to any other rights or remedies, OCTA shall immediately be entitled to exclusive possession and ownership of the portion so abandoned or discontinued, without the encumbrance of this Agreement. OCTA, at its option, may remove any improvements remaining on the abandoned property, at Licensee's expense.

12. Breach. Should Licensee breach, or fail to keep, observe or perform any agreement, covenant, term or condition on its part herein contained, then, in addition to any other available rights and remedies, OCTA at its option may:

(a) perform any necessary or appropriate corrective work at Licensee's expense, which Licensee agrees to pay to OCTA upon demand, or

(b) with or without written notice or demand, immediately terminate this Agreement and at any time thereafter, recover possession of the License Property or any part thereof, and expel and remove therefrom Licensee or any other person occupying the License Property, by any lawful means, and again repossess and enjoy the License Property and the Facility, without prejudice to any of the rights and remedies that OCTA may have under this Agreement, at law or in equity by reason of Licensee's default or of such termination.

13. Surrender. Upon termination of this Agreement, unless otherwise requested in writing by OCTA prior to the date of termination, Licensee, at its own cost and expense, shall immediately remove the Facility and restore the OCTA Property as nearly as possible to the same state and condition as existed prior to the construction, reconstruction or installation of said Facility. Should Licensee fail to comply with the requirements of the preceding sentence, OCTA may at its option (a) perform the same at Licensee's expense, which costs Licensee agrees to pay to OCTA on demand, or (b) assume title and ownership of said Facility. No termination hereof shall release Licensee from any liability or obligation hereunder, whether of indemnity or otherwise, resulting from any acts, omissions or events happening prior to the date the Facility is removed and the OCTA Property is restored.

14. Indemnification. Licensee, on behalf of itself and its successors and assigns, agrees to indemnify, defend (by counsel reasonably satisfactory to OCTA, provided that such acceptance shall not be unreasonably withheld), and hold harmless OCTA, Southern California Regional Rail Authority, and its subsidiaries, officers, commissioners, employees, agents, successors and assigns (individually and collectively, "Indemnitees"), to the maximum extent allowed by law, from and against that portion of all loss (including, without limitation, damage to or loss of use of property; and bodily injury to or death of any person, including employees of Indemnitees), liability, claims, demands, suits, liens, claims of lien, damages (including consequential damages), costs and expenses (including, without limitation, any fines, penalties, judgments, litigation expenses, and experts' and attorneys' fees) that are incurred by or asserted against Indemnitees for that portion of Licensee's negligence arising directly out of the acts, or omissions to act, of the Licensee, or its officers, directors, affiliates, Licensee's Parties, anyone directly or indirectly employed by Licensee, or anyone for whose acts Licensee is liable (collectively, "Personnel") in connection with Licensee's use of License Property, including those Claims and Expenses (a) for bodily injury or death of any person (including employees of Indemnitees) or damage to or loss of use of property or (b) in connection with the non-performance or breach by Licensee or its Personnel of any term of condition of this Agreement, in each case whether the Claims and Expenses and/or events giving rise thereto occur during the Term of this Agreement or thereafter.

The foregoing indemnity shall be effective regardless of any negligence (whether active, passive, derivative, joint, concurring or comparative) on the part of Indemnitees, unless caused solely by the negligence or willful misconduct of Indemnitees; shall survive termination of this Agreement; and is in addition to any other rights or remedies which Indemnitees may have under the law or under this Agreement. Upon request of OCTA, Licensee shall provide insurance coverage for possible claims or losses covered by the indemnification and defense provisions of this Agreement.

Claims against the Indemnitees by Licensee or its Personnel shall not limit the Licensee's indemnification obligations hereunder in any way, whether or not such claims against Indemnitees may result in any limitation on the amount or type of damages, compensation, or benefits payable by or for Licensee or its Personnel under workers' compensation acts, disability benefit acts or other employee benefit acts or insurance.

15. Assumption of Risk and Waiver. To the maximum extent allowed by law, Licensee assumes any and all risk of loss, damage or injury of any kind to any person or property, including, without limitation, the Facility, the License Property and any other property of, or under the control or custody of, Licensee, which is on or near the License Property. Licensee's assumption of risk shall include, without limitation,

loss or damage caused by defects in any structure or improvement on the OCTA Property, accident, fire or other casualty on the OCTA Property, or electrical discharge, noise or vibration resulting from OCTA's transit operations on or near the OCTA Property. The term "OCTA" as used in this section shall include: (a) any transit or rail-related company validly operating upon or over OCTA's tracks or other property, and (b) any other persons or companies employed, retained or engaged by OCTA. Licensee, on behalf of itself and its Personnel (as defined in Section 14) as a material part of the consideration for this Agreement, hereby waives all claims and demands against OCTA for any such loss, damage or injury of Licensee and/or its Personnel. **In that connection, Licensee waives the benefit of California Civil Code Section 1542, which provides as follows:**

A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.

Licensee accepts the risk that the facts or the law may later turn out to be different than Licensee understands them to be at this time and acknowledges that this assumption of risk and waiver will not be affected by such different state of facts or law. The provisions of this Section shall survive the termination of this Agreement.

16. Insurance.

A. Licensee shall procure and maintain insurance coverage or evidence of self-insurance during the entire term of this Agreement. Licensee shall provide the following coverage:

1. Commercial General Liability, to include Products/Completed Operations Independent Contractors', Contractual Liability, and Personal Injury Liability with a minimum of \$2,000,000.00 of coverage;

2. Automobile Liability Insurance with combined single limits of a minimum of \$1,000,000.00

3. Workers' Compensation with limits as required by the State of California; with a waiver of subrogation rights;

4. Employers' Liability with limits of a minimum of \$1,000,000; and

5. Railroad Protective Liability insurance will also be purchased at the following levels: \$2,000,000 per occurrence, combined single limits, for coverage and for losses arising out of injury or death of all persons, and for physical loss or damage to or destruction of Property, including the loss of use thereof and a \$6,000,000 annual aggregate.

B. Proof of such coverage, in the form of a letter of self-insurance evidencing sufficient assets to meet the aforementioned requirements or an insurance company issued policy endorsement and a broker-issued insurance certificate, must be received by OCTA within ten (10) calendar days from the date of execution of the Agreement; with the Orange County Transportation Authority, its officers, directors, employees and agents designated as additional insurers. Furthermore, OCTA reserved the right to request certified copies of all related insurance policies.

C. Licensee shall include on the face of the certificate of Insurance the Agreement Number; and, attention to the Right of Way Department.

17. Tests and Inspection. OCTA shall have the right at any time to inspect the License Property and the Facility so as to monitor compliance with the terms of this Agreement. OCTA shall be permitted to conduct any tests or assessments, including but not limited to environmental assessments, of, on or about the License Property, as it determines to be necessary in its sole judgment or useful to evaluate the condition of the License Property. Licensee shall cooperate with OCTA and its agents in any tests or inspections deemed necessary by OCTA. Licensee shall pay or reimburse OCTA and appropriate regulatory agencies, as appropriate, for all reasonable costs and expenses incurred due to the tests, inspections or any necessary corrective work and inspections thereafter.

18. Hazardous/Toxic Materials Use and Indemnity. Licensee shall operate and maintain the License Property in compliance with all applicable federal, state and local environmental, health and/or safety-related laws, regulations, standards, decisions of the courts, permits or permit conditions, currently existing or as amended or adopted in the future which are or become applicable to Licensee or the License Property ("Environmental Laws"). Licensee shall not cause or permit or allow any of Licensee's Parties to cause or permit, any Hazardous Materials to be brought upon, stored, used, generated, treated or disposed of on or about the brought upon, stored, used, generated, treated or disposed of on the License Property or the OCTA Property. As used herein, "Hazardous Materials" means any chemical, substance or material which is now or becomes in the future listed, defined or regulated in any manner by any Environmental Law based upon, directly or indirectly, its properties or effects.

Licensee shall indemnify, defend (by counsel acceptable to OCTA) and hold harmless the Indemnitees (as defined in Section 14) from and against all loss, liability, claim, damage, cost or expense (including without limitation, any fines, penalties, judgments, litigation expenses, attorneys' fees, and consulting, engineering, and construction fees and expenses) incurred by Indemnitees as a result of (a) Licensee's breach of any prohibition or provision of this Section or (b) any release of Hazardous Materials upon or from the Facility or the License Property or contamination of the Licensed Property or adjacent property (i) which occurs due to the use and occupancy of the Facility or the Licensed Property by Licensee or Licensee's Parties, or (ii) which is made worse due to the act or failure to act of Licensee or Licensee's Parties.

The foregoing indemnity shall be effective regardless of any negligence (whether active, passive, derivative, joint, concurring or comparative) on the part of Indemnitees, unless caused solely by the negligence or willful misconduct of Indemnitees; shall survive termination of this Agreement; and is in addition to any other rights or remedies which Indemnitees may have under the law or under this Agreement.

In addition, in the event of any release on or contamination of the License Property, the OCTA Property and/or any adjacent property, whether or not owned by OCTA, Licensee, at its sole expense, shall promptly take all actions necessary to clean up all such affected property and to return the affected property to the condition existing prior to such release or contamination, to the satisfaction of OCTA and any governmental authorities having jurisdiction thereover.

Upon the termination of this Agreement at any time and for any reason, Licensee shall, prior to the effective date of such termination, clean up and remove all Hazardous Materials in, on, under and/or about the License Property or OCTA Property, in accordance with the requirements of all Environmental Laws and to the satisfaction of OCTA and any governmental authorities having jurisdiction thereover.

19. Underground Storage Tanks. NEITHER LICENSEE NOR LICENSEE'S PARTIES SHALL INSTALL OR USE ANY UNDERGROUND STORAGE TANKS ON THE LICENSE PROPERTY.

20. Subordinate Rights. This Agreement is subject and subordinate to the prior and continuing right and/or obligation of OCTA, its successors and assigns, to use the OCTA Property in the exercise of its

powers and in the performance of its duties, or for any other purpose including but not limited to those as a public transportation body. Accordingly, there is reserved and retained unto OCTA, its successors, assigns and permittees, the right to construct, reconstruct, maintain and use existing and future rail tracks, facilities and appurtenances and existing and future transportation, communication, pipeline and other facilities and appurtenances in, upon, over, under, across and along the OCTA Property, and to otherwise use the OCTA Property, and in connection therewith the right of OCTA, its successors and assigns, to grant and convey to others, rights to and interests in the OCTA Property on the License Property and in the vicinity of the Facility. This Agreement is subject to all licenses, leases, easements, restrictions, conditions, covenants, encumbrances, liens, claims and other matters of title ("title exceptions") which may affect the OCTA Property now or hereafter, and no provision of this Agreement shall be construed as a covenant or warranty against the existence of any such present or future title exceptions, whether or not arising out of the actions of OCTA, its successors or assigns. OCTA makes no representations or warranties of any kind with regard to title to the License Property.

21. Compliance with Laws. Licensee shall comply with all applicable federal, state and local laws, regulations, rules and orders in its work on, or maintenance, inspection, testing or use of, the Facility and the License Property. OCTA may enter the License Property to inspect the Facility at any time, upon provision of reasonable notice of inspection to Licensee. Licensee shall obtain all required permits or licenses required by any governmental authority for its use of the License Property and the Facility, at its sole cost and expense.

22. Condemnation. In the event all or any portion of the License Property shall be taken or condemned for public use (including conveyance by deed in lieu of or in settlement of condemnation proceedings), Licensee shall receive compensation (if any) from the Condemnor only for the taking and damage to the Facility. Any other compensation or damages arising out of such taking or condemnation awarded to Licensee are hereby assigned by Licensee to OCTA.

23. Markers. Project markers in form and size satisfactory to OCTA, identifying the Facility and its owners, will be installed and constantly maintained by and at the expense of Licensee at such locations as OCTA shall designate. Such markers shall be relocated or removed upon request of OCTA without expense to OCTA. Absence of markers in or about the License Property and OCTA Property does not constitute a warranty by OCTA of the absence of subsurface installations.

24. General Provisions.

24.1 Notices. All notices and demands which either party is required to or desires to give to the other shall be made in writing by certified mail, return receipt requested, postage prepaid, and addressed to such party at its address set forth in the Basic License Provisions. Either party may change its address for the receipt of notice by giving written notice thereof to the other party in the manner herein provided. Notices shall be effective on the date delivered to custody of U.S. Postal Service.

24.2 Non-Exclusive License. The license granted hereunder is not exclusive and OCTA specifically reserves the right to grant other licenses within the License Property.

24.3 Governing Law. This Agreement shall be governed by the laws of the State of California.

24.4 Severability. If any term, covenant, condition or provision of this Agreement, or the application thereof to any person or circumstance, shall to any extent be held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, covenants, conditions, or provisions of this Agreement, or the application thereof to any person or circumstance, shall remain in full force and effect and shall in no way be affected, impaired or invalidated thereby.

24.5 Interest on Past-Due Obligations. Except as expressly herein provided, any amount due to OCTA which is not paid when due shall bear interest, from the date due, at the maximum rate then allowable by law. Such interest will be due OCTA as it accrues. Payment of such interest shall not excuse or cure any default by Licensee under this Agreement. Interest shall not be payable on late charges incurred by Licensee.

24.6 Survival of Obligations. All obligations of Licensee hereunder not fully performed as of the expiration or earlier termination of the Term of this Agreement shall survive the expiration or earlier termination of this Agreement, including without limitation, all payment obligations with respect to License Fees and all obligations concerning the condition of the License Property and the Facility.

24.7 Waiver of Covenants or Conditions. The waiver by one party of the performance of any covenant or condition under this Agreement shall not invalidate this Agreement nor shall it be considered a waiver by it of any other covenant or condition under this Agreement.

24.8 Amendment. This Agreement may be amended at any time by the written agreement of OCTA and Licensee. All amendments, changes, revisions, and discharges of this Agreement in whole or in part, and from time to time, shall be binding upon the parties, so long as the same shall be in writing and executed by the parties hereto.

24.9 Assignment. This Agreement and the license granted hereunder are personal to the Licensee. Licensee shall not assign or transfer (whether voluntarily or involuntarily) this Agreement in whole or in part, or permit any other person or entity to use the rights or privileges granted hereunder, without the prior written consent of OCTA, which may be withheld in OCTA's sole and absolute discretion, and any attempted act in violation of the foregoing shall be void and without effect and grant OCTA the right to immediately terminate this Agreement.

24.10 Attorney's Fees. In any judicial or arbitration proceeding involving performance under this Agreement, or default or breach thereof, the prevailing party shall be entitled to its reasonable attorney's fees and costs.

24.11 Nondiscrimination. Licensee certifies and agrees that all persons employed and any contractors retained, by either Licensee or Licensee's affiliates, subsidiaries, or holding companies, with respect to the License Property, are and shall be treated equally without regard to or because of race, religion, ancestry, national origin, disability or sex, and in compliance with all federal and state laws prohibiting discrimination in employment, including but not limited to the Civil Rights Act of 1964; the Unruh Civil Rights Act; the Cartwright Act; and the California Fair Employment Practices Act.

24.12 Further Acts. At OCTA's sole discretion but at the sole expense of Licensee and without a Licensee claim for reimbursement, Licensee agrees to perform any further acts and to execute and deliver any documents which may be reasonably necessary to carry out the provisions of this Agreement, including the relocation of the Facility and the license granted hereunder.

24.13 Waiver of Relocation Rights. Licensee hereby acknowledges that if OCTA asks licensee to vacate the property, then licensee is not entitled to any relocation benefits under this agreement or by virtue of state or federal law. Further, licensee agrees it is not entitled to loss of good will or moving expenses from OCTA.

24.14 Time of Essence. Time is of the essence in the performance of this Agreement.

24.15 No Recording. Licensee shall not record or permit to be recorded in the official records of the county where the License Property is located any memorandum of this Agreement or any other document giving notice of the existence of this Agreement or the license granted hereunder.

24.16 Revocable License. Licensee agrees that notwithstanding the improvements made by Licensee to the License Property or other sums expended by Licensee in furtherance of this Agreement, the license granted hereunder is revocable by OCTA in accordance with the terms of this Agreement.

24.17 Entire Agreement. This Agreement and Exhibits hereto constitute the entire agreement between the Parties with respect to the subject matter hereof and supersede all prior verbal or written agreements and understandings between the Parties with respect to the items set forth herein.

24.18 Captions. The Captions included in this Agreement are for convenience only and in no way define, limit, or otherwise describe the scope or intent of this Agreement or any provisions hereof, or in any way affect the interpretation of this Agreement.

24.19 Additional Provisions. Those additional provisions set forth in Exhibit "C" are hereby incorporated by this reference as if fully set forth herein.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the date first written above.

ORANGE COUNTY TRANSPORTATION AUTHORITY

By: _____
James G. Beil, Executive Director,
Capital Programs

Date: _____

APPROVED AS TO FORM:

By: _____
James M. Donich
General Counsel

LICENSEE

IRVINE RANCH WATER DISTRICT

By: _____

Date: _____

Name: Paul Cook

Title: General Manager

APPROVED AS TO FORM:

By: _____

Name: _____

Title: _____

EXHIBITS "A", "B", "A-1" and "B-1"

Legal Descriptions and Drawings

Attached

EXHIBIT "A"
LEGAL DESCRIPTION
SEWER PIPELINE LICENSE AGREEMENT OC-272
WITHIN OCTA RIGHT OF WAY

A strip of land 10.00 feet wide, in the City of Irvine, County of Orange, State of California, being a portion of the Orange County Transportation Authority right of way, shown as Atchison, Topeka and Santa Fe Railway Company right of way, lying within Lot 283, Block 155 of Irvine's Subdivision, recorded in Book 1, Page 88 of Miscellaneous Record Maps, as shown on Record of Survey No. 2011-1042, filed in Book 254, Pages 21 through 36, inclusive of Records of Survey, both in the Office of the County Recorder of said County, the centerline of said strip being described as follows:


Commencing at the southeasterly terminus of that certain course "N49°20'26" W 3125.23'" shown along the centerline of Barranca Parkway on Parcel Map No. 2014-122, filed in Book 384, Pages 1 through 10, inclusive of Parcel Maps in said Office of County Recorder; thence along said centerline North 49°20'26" West 919.37 feet; thence leaving said centerline, perpendicular North 40°39'34" East 615.24 feet to a point on the southwesterly line of said Orange County Transportation Authority Right of Way, said point being the **True Point of Beginning**; thence perpendicular to said right of way as shown on said Record of Survey, North 40°39'39" East 100.00 feet to the northeasterly line of said right of way and the point of terminus.

The sidelines of said strip to terminate northeasterly in said northeasterly line of said right of way and terminate southwesterly in said southwesterly right of way.

Containing an area of 1,000 square feet, more or less.

Subject to covenants, conditions, reservations, restrictions, rights, rights of way and easements of record, if any.

As shown on Exhibit "B", attached hereto and by this reference made a part hereof.

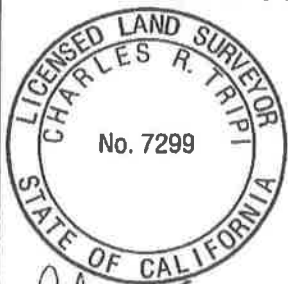
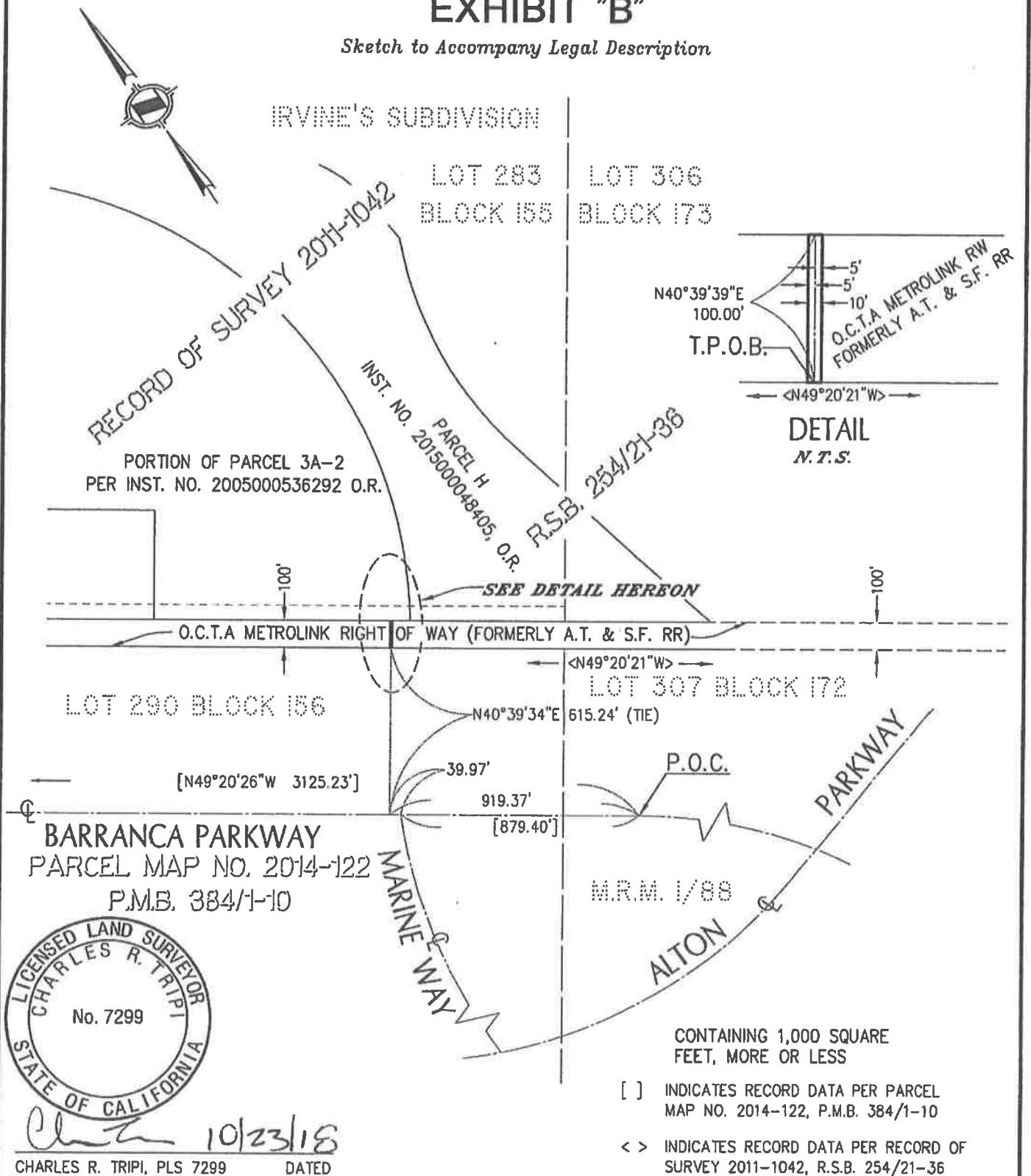

Charles R. Tripi, PLS 7299
Date: 10/23/18



Revised: October 23, 2018
May 29, 2018
WO No. 1855-682X
Page 1 of 1
H&A Legal No. 9366
By: C. Tripi
Checked By: R. Wheeler

EXHIBIT "B"

Sketch to Accompany Legal Description



CHARLES R. TRIPI, PLS 7299

DATED



HUNSAKER & ASSOCIATES
IRVINE, INC.
PLANNING • ENGINEERING • SURVEYING
Three Hughes • Irvine, CA 92618 • PH: (949) 583-1010 • FX: (949) 583-0759

EXHIBIT "B"
SEWER PIPELINE LICENSE AGREEMENT OC-272
WITHIN OCTA RIGHT OF WAY
CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA

DATE: 5/29/18	REV. DATE: 10/23/18	DWG. By: C. TRIPI	CK'd By: R. WHEELER	SCALE: 1"= 500'	W.O. 1855-618X
FILE: I:\HeritageFields\LD\9366 SewerC\SH01.dwg				H&A LEGAL No. 9366	SHEET 1 OF 1

**EXHIBIT A-1
LEGAL DESCRIPTION
RECYCLED WATER PIPELINE LICENSE AGREEMENT OC-272
WITHIN OCTA RIGHT OF WAY**

A strip of land 10.00 feet wide, in the City of Irvine, County of Orange, State of California, being a portion of the Orange County Transportation Authority right of way, shown as Atchison, Topeka and Santa Fe Railway Company right of way, lying within Lot 283, Block 155 of Irvine's Subdivision, recorded in Book 1, Page 88 of Miscellaneous Record Maps, as shown on Record of Survey No. 2011-1042, filed in Book 254, Pages 21 through 36, inclusive of Records of Survey, both in the Office of the County Recorder of said County, the centerline of said strip being described as follows:


Commencing at the southeasterly terminus of that certain course "N49°20'26" W 3125.23'" shown along the centerline of Barranca Parkway on Parcel Map No. 2014-122, filed in Book 384, Pages 1 through 10, inclusive of Parcel Maps in said Office of County Recorder; thence along said centerline North 49°20'26" West 932.37 feet; thence leaving said centerline, perpendicular North 40°39'34" East 615.24 feet to a point on the southwesterly line of said Orange County Transportation Authority Right of Way, said point being the **True Point of Beginning**; thence perpendicular to said right of way as shown on said Record of Survey, North 40°39'39" East 100.00 feet to the northeasterly line of said right of way and the point of terminus.

The sidelines of said strip to terminate northeasterly in said northeasterly line of said right of way and terminate southwesterly in said southwesterly right of way.

Containing an area of 1,000 square feet, more or less.

Subject to covenants, conditions, reservations, restrictions, rights, rights of way and easements of record, if any.

As shown on Exhibit B-1, attached hereto and by this reference made a part hereof.

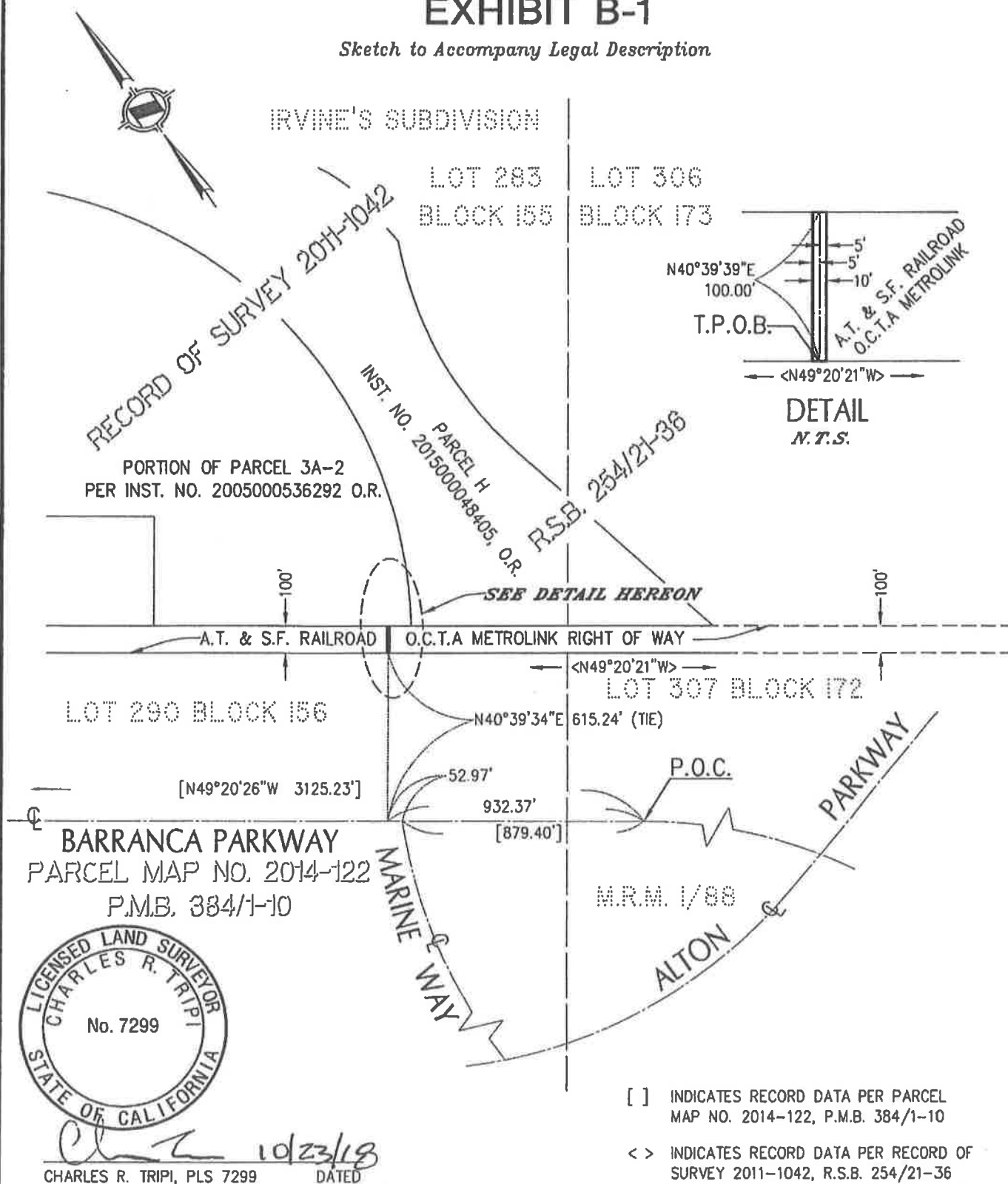

Charles R. Tripi, PLS 7299
Date: 10/23/18



*Revised: October 23, 2018
May 29, 2018
WO No. 1855-682X
Page 1 of 1
H&A Legal No. 9367
By: C. Tripi
Checked By: R. Wheeler*

EXHIBIT B-1

Sketch to Accompany Legal Description



CHARLES R. TRIPI, PLS 7299

DATED



HUNSAKER & ASSOCIATES
IRVINE, INC.
PLANNING ■ ENGINEERING ■ SURVEYING
Three Hughes • Irvine, CA 92618 • PH: (949) 583-1010 • FX: (949) 583-0759

EXHIBIT B-1
RECYCLED WATER PIPELINE LICENSE AGREEMENT OC-272
WITHIN OCTA RIGHT OF WAY
CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA

DATE: 5/29/18	REV. DATE: 10/23/18	DWG By: C. TRIPI	CK'd By: R. WHEELER	SCALE: 1" = 500'	W.O. 1855-618X
FILE: I:\HeritageFields\LD\9367 WaterC\SHD01.dwg				H&A LEGAL No. 9367	SHEET 1 OF 1

EXHIBIT "C"

This License is subject to the following additional terms and conditions:

1. The Licensee agrees to execute and deliver to SCRRA, prior to commencing any work within the rail right-of-way, SCRRA Temporary Right-of-Entry agreement (Form No. 6), and deliver and secure approval of the insurance required by the two exhibits attached to SCRRA Form No. 6. If the Licensee retains a contractor to perform any of work within the rail right-of-way, then the Licensee shall incorporate in its contract documents SCRRA Form No. 6 and Rules and Requirements for Construction on Railway Property (SCRRA Form No. 37 https://www.metrolinktrains.com/globalassets/about/engineering/scrra_form_no_37.pdf). Mr. Christos Sourmelis with SCRRA's Right-of-Way Encroachments Office can be reached at (909) 392-8463. These forms can be accessed through SCRRA's website www.metrolinktrains.com, ("About Us", "Engineering and Capital MGMT", and "Manuals").
2. The Licensee agrees to comply and to ensure that its contractor complies with instructions of SCRRA's Employee-In-Charge (EIC) and representatives, in relation to the proper manner of protection of the tracks and the traffic moving thereon, pole lines, signals and other property of SCRRA or its member agency tenants or licensees at or in the vicinity of the work, and shall perform the work at such times as not to endanger or interfere with safe and timely operation of SCRRA's track and other facilities.
3. Licensee's contractor, at its sole cost and expense, shall obtain and maintain, in full force and effect, insurance as required by SCRRA during the entire construction period. The contractor shall furnish copies of the insurance certificates to all affected operating railroads.
4. Licensee's contractor shall contact Ms. Marty Jimenez, SCRRA's Interim Third Party Safety Instructor, at 213-272-8168 to arrange for third party safety training. Allow 24 to 72 hours from the request for safety training to arrange the training.
5. Licensee's contractor shall contact SCRRA's consultant/contractor at (213) 305-8424 to arrange for flagging services. Flagging service is dependent on the Employee-In-Charge (EIC) availability and may require a minimum of fifteen working days prior to beginning work. Prior notification of flagging services does not guarantee the availability of the EIC for the proposed date of work.
6. The Licensee shall be responsible for the location, protection, relocation and removal of any and all public or private surface, sub-surface and overhead lines and structures. The Licensee shall not damage, destroy or interfere with any existing encumbrances, licenses and rights (whether public or private), granted upon or relating to the railroad right-of-way.
7. If there will be ANY excavation on railroad property and/or with the SCRRA RR ROW, before excavating, the Contractor must determine whether any underground pipe lines, electric wires, or cables, including fiber optic cable systems, are present and located within the Project work area by calling the Southern California Underground Service Alert at 811.
8. Licensee's contractor shall call SCRRA's Signal Department at (909) 592-1346 a minimum of five days prior to beginning construction to mark signal and communication cables and conduits. To assure cables and conduits have been marked, no work may proceed until you have been provided with an SCRRA dig number. In case of signal emergencies or grade crossing problems, the contractor shall call SCRRA's 24-hour signal emergency number 1-888-446-9721. SCRRA is not a member of DIGALERT.
9. The Licensee shall obtain permission from any fiber optic, gas or oil lines that may be located along or across the right-of-way.
10. Any and all excavation will adhere to SCRRA's Excavation Support Guidelines." SCRRA's Excavation Support Guidelines can be found on our website at: https://www.metrolinktrains.com/globalassets/about/engineering/scrra_excavation_support_guidelines.pdf
11. For any pipeline that is bored or jacked under the track, the Contractor must guarantee the work against

settlement for two years after the completion of the work, and must furnish a performance bond against failure or settlement of the soil around the jacked pipe or casing in the amount of \$180,000.00 as per SCRRRA requirements shown in Form 37.

12. The boring, tunneling or jacking operation shall be progressed on a 24-hour basis without stoppage when the casing is 20 feet from the centerline of the nearest track.
13. The face of all jacking and receiving pits shall be located outside of Right-of-Way, or a minimum of 25 feet from the center line of the nearest track, measured at right angle to the track, whichever is greater unless otherwise approved by SCRRRA. The use of trench boxes may be permitted for jacking and receiving pits, however, trench boxes, shields, and hydraulic shores are not acceptable inside the zone of influence from railroad loading. Design of the temporary supports for the jacking and receiving pits must be conform to the requirements of SCRRRA "Excavation Support Guidelines."
14. Carrier pipe and Steel Casing shall conform to the requirements of SCRRRA ES 5001.
15. If SCRRRA requires Licensee to relocate or modify its facilities for any railroad safety or operational reasons, Licensee agrees to relocate or modify at its own expense upon receipt of appropriate notice.
16. For a period of two years following the first operation of trains by SCRRRA over its tracks, the Licensee shall reimburse SCRRRA for any costs incurred by SCRRRA in correcting slides, settlements and/or erosion caused by the instability of the cut slopes or embankments, potholes, and for costs incurred by SCRRRA in maintaining its tracks and other facilities, to the extent that said costs exceed such normal expense of maintenance work as would have been necessary if there had been no track work.
17. **Please Note: Once the project has gone out to bid and a contractor selected they will need to provide (in one complete submittal):**

1. A completed Site Specific Work Plan (SSWP) that can be found on our website at:

https://www.metroinktrains.com/globalassets/about/engineering/site_specific_work_plan.pdf

2. Shoring and Excavation Plans (meeting SCRRRA requirements/standards)

3. Daily Schedule of Activities

4. Completed SCRRRA Form 6 along with Insurance Certificates meeting SCRRRA Parameters of Coverage as outlined on pages 9-13 of the Form 6 + Performance Bond. SCRRRA's Form 6 may be found on our website at:

https://www.metroinktrains.com/globalassets/about/engineering/scrra_form_no_6.pdf

5. Monies to cover; continued plan review, continued administration fee, contingency, (EIC) Flagging Services, 3rd Party Safety Training, Cable Signal Marking. These costs are outlined on our ROE Schedule of Fees that may be found on our website at:

https://www.metroinktrains.com/globalassets/about/engineering/scrra_schedule_of_fees_for_third_party_construction.pdf

Finally, PLEASE ADVISE THE CONTRACTOR TO REACH OUT TO ME (Christos Sourmelis, sourmelisc@scrra.net or 909-392-8463) REFERENCING SCRRRA PROJECT #: 881696 PRIOR TO SUBMITTAL AND I WILL GLADLY WALK THEM THROUGH THE PROCESS AND ANSWER ANY QUESTIONS THEY MAY HAVE.

May 22, 2019

Prepared by: S. Malloy

Submitted by: K. Burton

Approved by: Paul A. Cook



CONSENT CALENDAR

MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDER

SUMMARY:

Filanc/Balfour-Beatty (FBB) is constructing the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities (Biosolids Project). The Biosolids Project is scheduled to be extended to June 30, 2020. Staff recommends that the Board approve Contract Change Order (CCO) No. 103 in the amount of \$136,584.96 for Biosolids sitework including concrete sidewalks, swales, and other site improvements.

BACKGROUND:

Construction of the Biosolids Project was awarded to FBB in March 2013 in the amount of \$163,465,940. The Biosolids Project will provide biosolids digestion, dewatering, energy production, and on-site sludge drying. The project includes excavation for subsurface structures; installation of 3,009 foundation piles; three egg-shaped digesters; a state-of-the-art odor control system; a biogas conditioning system and power generation using micro-turbines; a fats, oil and grease receiving station; and new utility services. These facilities are being constructed on the land north of IRWD's existing Operations Center, maintenance shops, water quality laboratory, and warehouse.

Change Order No. 103

To meet operational and aesthetic requirements, it was necessary to modify the biosolids sitework plans. These site improvements involved increases in concrete sidewalks, curb and gutter, and miscellaneous site work.

After extensive negotiations with FBB over the past two years, staff has been unable to mutually agree to a final cost involving the biosolids site concrete sidewalks, swales and other site improvements. Although FBB and IRWD have mutually agreed to the scope of the items involved in the change order, FBB and IRWD have been unable to agree to the unit costs of individual work items involved in the change order. In the best interest of the project, staff used their best judgement and applied known cost factors to assess the overall cost of CCO No. 103.

CCO No. 103 is in the amount of \$136,584.96 and includes the following items:

- Concrete sidewalks
- Concrete swales
- Concrete curb and gutter
- Concrete apron

- Trench drains
- Bollards
- Irrigation Pipe Sleeves

CCO No. 103 is attached as Exhibit “A”.

The construction change order summary is attached as Exhibit “B”. The following is a summary of categories of the change orders:

Category	Total Amount	% of Original Contract
A - District Convenience/Initiation - Project Related	\$ 4,301,780.77	2.63%
B - Differing Site Conditions	\$13,193,034.49	8.07%
C - Design Oversight	\$ 3,795,907.49	2.32%
D - District Convenience/Initiation - Non-Project Related	\$ -	0.00%
E - Contractor Convenience/Initiation	\$ 132,684.74	0.08%
F - Contractor Requested Inspection Overtime	\$ (318,010.00)	(0.19%)
TOTAL (All Items A - F)	\$21,105,397.49	12.91%

ENVIRONMENTAL COMPLIANCE:

The MWRP Biosolids and Energy Recovery Facilities is subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, a Supplemental Environmental Impact Report, SCH # 2011031091, was certified by IRWD on October 22, 2012. The City of Irvine Planning Commission approved a conditional use permit for the IRWD Biosolids Project on December 6, 2012.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on May 21, 2019.

RECOMMENDATION:

THAT THE BOARD APPROVE CONTRACT CHANGE ORDER NO. 103 IN THE AMOUNT OF \$136,584.96, WITH FILANC/BALFOUR BEATTY FOR BIOSOLIDS SITEWORK INCLUDING CONCRETE SIDEWALKS, SWALES, AND OTHER SITE IMPROVEMENTS.

LIST OF EXHIBITS:

Exhibit “A” – Contract Change Order No. 103 with Filanc/Balfour-Beatty
Exhibit “B” – Change Order Log

CONTRACT CHANGE ORDER**EXHIBIT "A"****Irvine Ranch Water District**

15600 Sand Canyon Avenue
 P.O. Box 57000
 Irvine, CA 92619-7000
 (949) 453-5300

C.O. No. 103☐ FinalProject No. 04286

MWRP Biosolids and Energy Recovery Facilities

Project Title

Date: 05/03/2019

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	\$ ADDITIONS	\$ DELETIONS	DAYS \pm
1. MWRP Biosolids Concrete Flatwork and Miscellaneous Site Improvements (CR-331B) PR 04286 Task 5.29	\$136,584.96	\$0.00	See Notes
Notes: 1. For all items noted above, the Contractor reserves the right to compensable and/or excusable time extensions provided that time impacts to the Project's critical path are demonstrated to be beyond the Contractor's control. 2. Contractor reserves any and all rights it has and otherwise does not waive or release any claims it may have for additional compensation related to impact, including but not limited to the cumulative effect of the number, nature, or extent of any changes or design clarifications. 3. The project completion date of October 31, 2017 per CCO No. 45 is unchanged by this Change Order.			
TOTAL	\$136,584.96	\$0.00	0

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.


CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

CSG-02

DAYS +

1. NET AMOUNT THIS CHANGE ORDER	=	\$136,584.96	0
2. ORIGINAL CONTRACT AMOUNT	=	\$163,465,940.00	1,278
3. TOTAL PREVIOUS CHANGE ORDER(S)	=	\$20,968,812.53	368
4. TOTAL BEFORE THIS CHANGE ORDER (2+ 3)	=	\$184,434,752.53	1,646
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	=	\$184,571,337.49	1,646

We hereby agree to make the above change subject to the terms of this change order for the sum of: _____
 -----One Hundred Thirty-Six Thousand Five Hundred Eighty-Four and 96/100 -----Dollars

Date _____ Contractor <u>Filanc/Balfour-Beatty</u>		By: <u>Omar Rodea, President</u>	
SIGNATURE	DATE	APPROVAL LEVEL REQUIRED	
	<u>5-13-19</u>	Department Director Approval Required <input type="checkbox"/>	
IRWE Engineer or Consulting Engineer	Date	Executive Director Approval Required <input type="checkbox"/>	
<u>Steve Malloy</u>	<u>5-13-19</u>	General Manager Approval Required <input type="checkbox"/>	
Principal Engineer	Date	Board Approval Required <input checked="" type="checkbox"/>	
<u>David J. Burt</u>	<u>5/7/19</u>		
Executive Director of Engineering & Water Quality	Date		
General Manager	Date	Purchase Order No. _____	

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

EXHIBIT "B"

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:	
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
1		Approved by Exe. Director of Engineering and Water Quality Approved on October 24, 2013				\$20,202.42	\$0.00	\$20,202.42	0.01%	\$163,486,142.42	0	0	0	1,278	10/28/2016
	1.1	Modifications to Road to Development Area - Delete AC to Triangle, add AB to Michelson (CR-004)	A	IRWD	\$ 20,202.42					0					
2		Approved by Exe. Director of Engineering and Water Quality Approved on November 13, 2013				\$12,475.08	\$20,202.42	\$32,677.50	0.02%	\$163,498,617.50	0	0	0	1,278	10/28/2016
	2.1	Street Light Conduit Modifications (CR-007)	B	IRWD	\$ 12,475.08					0					
3		Approved by Board of Directors Approved on March 10, 2014				\$745,503.00	\$32,677.50	\$778,180.50	0.48%	\$164,244,120.50	0	0	0	1,278	10/28/2016
	3.1	Bid Quantity Adjustment of Bid Item 8.6 Pre-Drill	B	FBB	\$ 745,503.00					0					
4		Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014				\$23,029.22	\$778,180.50	\$801,209.72	0.49%	\$164,267,149.72	0	0	0	1,278	10/28/2016
	4.1	Installation of Five Additional Groundwater Wells and Monitoring – (CR-006) PR 21146 (4286) Task 3505	A	IRWD	\$11,047.81					0					
	4.2	Brace Bay Modifications at the FOG Station – (CR-015) PR 21146 (4286) Task 3505	C	FBB	\$2,977.81					0					
	4.3	Grounding Extension at Nitrogen and Mineral Oil System (CR-025) PR 21146 (4286) Task 3510	C	IRWD	\$9,003.60					0					
5		Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014				\$24,851.73	\$801,209.72	\$826,061.45	0.51%	\$164,292,001.45	0	0	0	1,278	10/28/2016
	5.1	Unidentified Utility - Meter Shop Discharge (CR-008) PR 21146 (4286) Task 3505	B	IRWD	\$15,225.75					0					
	5.2	Connection Beam Modifications at Solids Handling Facility (CR-014) PR 21146 (4286) Task 3235	C	FBB	\$8,270.86					0					
	5.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505	C	FBB	\$1,355.12					0					
6		Approved by General Manager Approved on March 20, 2014				\$31,815.00	\$826,061.45	\$857,876.45	0.52%	\$164,323,816.45	0	0	0	1,278	10/28/2016
	6.1	Additional Costs to Install Piles to the Design Tip (CR-033) PR 21146 (4286) Task 3505	B	FBB	\$31,815.00					0					

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
7		Approved by Exe Dir of Eng & Water Quality Approved on April 21, 2014				\$24,725.00	\$857,876.45	\$882,601.45	0.54%	\$164,348,541.45	0	0	0	1,278	10/28/2016
	7.1	Meter Shop Discharge Pipe Leak Investigation and Repair (CR-013) PR 21146 (4286) Task 3505	B	IRWD	\$2,542.00						0				
	7.2	Additional Reinforcement and Lifting Eyes for Removable Slabs at Solids Handling Building (CR-021) PR 21146 (4286) Task 3505	C	FBB	\$14,059.00						0				
	7.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505Additional Conductance Probe Materials for Relay Level Switches for Various Sumps Located at the Microturbine Area PR 21146 (4286) Task 3510	C	FBB	\$8,124.00						0				
8		Approved by General Manager Approved on April 21, 2014				(\$49,990.00)	\$882,601.45	\$832,611.45	0.51%	\$164,298,551.45	0	0	0	1,278	10/28/2016
	8.1	Cost Sharing for Project Partnering (CR-	A	IRWD	(\$14,611.00)						0				
	8.2	Credit for Primavera 7.0 Project Portfolio Management Software (CR-002) PR 21146 (4286) Task 3235	A	IRWD	(\$2,700.00)						0				
	8.3	Deletion of Concrete Pad near Development Area (CR-004A) PR 21146 (4286) Task 3235	A	IRWD	(\$3,865.00)						0				
	8.4	Deletion of Ground Test Device (CR-034) PR 21146 (4286) Task 3210	A	IRWD	(\$15,579.00)						0				
	8.5	Deletion of Existing T-4 Switchgear Level Indicating Switch (CR-035) PR 21146 (4286) Task 3210	A	IRWD	(\$9,167.00)						0				
	8.6	Change to NEMA 4X Panels and Modification to NEMA 4X Bar Graph Display (CR-046) PR 21146 (4286) Task 3210	A	IRWD	(\$4,068.00)						0				
9		Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				\$24,840.17	\$832,611.45	\$857,451.62	0.52%	\$164,323,391.62	0	0	0	1,278	10/28/2016
	9.1	Additional Circuits for Gas Monitors and Re-route of Conduits in Solids Handling Facility (CR-028) PR 21146 (4286) Task 3510	C	FBB	\$1,187.49						0				
	9.2	Cantilevered Beam Support Modifications in the Solids Handling Facility (CR-049) PR 21146 (4286) Task 3505	C	FBB	\$4,605.30						0				
	9.3	Additional Ethernet Switches (CR-062) PR 21146 (4286) Task 3510	C	IRWD	\$19,047.38						0				
10		Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				\$21,398.99	\$857,451.62	\$878,850.61	0.54%	\$164,344,790.61	0	0	0	1,278	10/28/2016
	10.1	Additional Grace Ports for Various PLCs (CR-030) PR 21146 (4286) Task 3510	C	IRWD	\$8,580.62						0				
	10.2	Provide H-20 Rated Hatches at WAS Pump Station and Valve Vault (CR-061) PR 21146 (4286) Task 3505	C	IRWD	\$12,818.37						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
11		Approved by Exe. Director of Eng. & Water Quality Approved on June 4, 2014				\$24,739.76	\$878,850.61	\$903,590.37	0.55%	\$164,369,530.37	#REF!	0	#REF!	#REF!	10/28/2016
	11.1	Waste Activated Sludge (WAS) Pump Station Structural Modifications (CR-023) PR 21146 (4286) Task 3505	C	IRWD	\$12,905.49						0				
	11.2	Removable Slab Modifications on the Second Floor of Solids Handling Building (CR-064) PR 21146 (4286) Task 3505	C	IRWD	\$11,834.27						0				
12		Approved by Board of Directors Approved on July 21, 2014				\$156,580.22	\$903,590.37	\$1,060,170.59	0.65%	\$164,526,110.59	0	0	0	1,278	10/28/2016
	12.1	Final Bid Quantity Adjustment for Bid Item No. 5.2 – Undocumented Fill (suitable) – Remedial Grading – Remove and Re-compact a net increase of 8,104.7 CY from 51,700 CY to 59,804.7 CY at \$5/CY. PR 21146 (4286) Task 3505	B	N/A	\$40,523.37						0				
	12.2	Final Bid Quantity Adjustment for Bid Item No. 5.5 - Undocumented Fill (not suitable) - Remedial Grading - Remove and Export Offsite, a net increase of 60 CY, from 1,800 CY to 1,860 CY at \$25 /CY. PR 21146 (4286) Task 3505	B	N/A	\$1,500.00						0				
	12.3	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at \$0.40/SF. PR 21146 (4286) Task 3505	B	N/A	(\$2,165.60)						0				
	12.4	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at \$0.40/SF. PR 21146 (4286) Task 3505	B	N/A	(\$6,523.33)						0				
	12.5	Final Bid Quantity Adjustment for Bid Item No. 5.8 - Undocumented Fill - Deep Foundations – Removal, a net increase of 966 CY, from 21,650 CY to 22,616 CY at \$5.50/CY. PR 21146 (4286) Task 3505	B	N/A	\$5,313.00						0				
	12.6	Final Bid Quantity Adjustment for Bid Item No. 5.9 - Alluvium - Remedial Grading - Removal and Export Offsite, a net increase of 2,076 CY, from 28,154 CY to 30,230 CY at \$35/CY. PR 21146 (4286) Task 3505	B	N/A	\$72,665.98						0				
	12.7	Final Bid Quantity Adjustment for Bid Item No. 5.10 - Undocumented Fill Deep Foundations - Compaction of stockpiled materials, a net increase of 3,117 CY, from 11,400 CY to 14,517 CY at \$15/CY. PR 21146 (4286) Task 3505	B	N/A	\$46,755.00						0				
	12.8	Final Bid Quantity Adjustment for Bid Item No. 5.11 - Undocumented Fill - Deep Foundations - Export excess offsite a net decrease of 2,151 CY, from 10,250 CY to 8,099 CY PR 21146 (4286) Task 3505	B	N/A	(\$30,114.00)						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

					Contract Amount					Contract Days				Original Completion Date:	
					Original Contract Amount: \$163,465,940.00					Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
	12.9	Final Bid Quantity Adjustment for Bid Item No. 5.12 - Geotextile Fabric - Deep Foundations, a net increase of 9,218 SF, from 51,500 SF to 60,718 SF at \$0.60/SF. PR 21146 (4286) Task 3505	B	N/A	\$5,530.80						0				
	12.10	Final Bid Quantity Adjustment for Bid Item No. 5.13 - Aggregate Base - Deep Foundations, a net increase of 513.2 CY, from 2,860 CY to 3,373.2CY at \$45/CY. PR 21146 (4286) Task 3505	B	N/A	\$23,095.00						0				
13		Approved by Exe. Director of Engineering & Water Quality Approved on July 10, 2014				\$10,129.18	\$1,060,170.59	\$1,070,299.77	0.65%	\$164,536,239.77	0	0	0	1,278	10/28/2016
	13.1	Modifications to Switchgear 16 (CR-070) PR 21146 (4286) Task 3510	A	FBB	\$10,129.18						0				
14		Approved by General Manager Approved on June 24, 2014				\$44,543.19	\$1,070,299.77	\$1,114,842.96	0.68%	\$164,580,782.96	0	0	0	1,278	10/28/2016
	14.1	Slide Gates Clarification Regarding Actuators (CR-039) PR 21146 (4286) Task 3520	A	IRWD	\$44,543.19						0				
15		Approved by General Manager Approval on July 31, 2014				\$45,214.40	\$1,114,842.96	\$1,160,057.36	0.71%	\$164,625,997.36	0	0	0	1,278	10/28/2016
	15.1	Provide Masonry Shelf Angle at Digester Control Building (CR-031) PR 21146 (4286) Task 3505	C	FBB	\$27,543.19						0				
	15.2	Beam Size Increase for Monorail Runway in Solids Handling Building - (CR-074) PR 21146 (4286) Task 3505	C	FBB	\$1,200.47						0				
	15.3	Upsize Odor Control Circulation Pump Motor Disconnects (CR-082) PR 21146 (4286) Task 3510	B	FBB	\$1,184.83						0				
	15.4	Additional Deck Support for the Solids Handling Building Roof (CR-044) PR 21146 (4286) Task 3505	C	FBB	\$15,285.91						0				
16		Approved by E&O Committee Approved on August 19, 2014				\$62,037.10	\$1,160,057.36	\$1,222,094.46	0.75%	\$164,688,034.46	0	0	0	1,278	10/28/2016
	16.1	Installation of Level 3 Diesel Particulate Filter (DPF) on the Standby Generator - (CR-073) PR 21146 (4286) Task 3520	B	IRWD	\$62,037.10						0				
17		Approved by Board of Directors Approved on August 25, 2014				(\$106,241.99)	\$1,222,094.46	\$1,115,852.47	0.68%	\$164,581,792.47	0	0	0	1,278	10/28/2016
	17.1	Modifications to Switchgear 16 (CR-070A) PR 21146 (4286) Task 3510	A	FBB	(\$106,241.99)						0				
18		Approved by Board of Directors Approved on August 25, 2014				\$108,087.55	\$1,115,852.47	\$1,223,940.02	0.75%	\$164,689,880.02	0	0	0	1,278	10/28/2016
	18.1	Stormwater Drainage System Modification (CR-017) PR 21146 (4286)	A	IRWD	\$108,087.55						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
19		Approved by Executive Director of Engineering & Water Quality Approved on September 30, 2014				\$72,572.86	\$1,223,940.02	\$1,296,512.88	0.79%	\$164,762,452.88	0	0	0	1,278	10/28/2016
	19.1	Modification to Switchgear 16 (CR-070B) PR 21146 (4286) Task 3510	A	IRWD	\$1,125.75						0				
	19.2	Alluvium Removal Due to 36-inch Storm Drain Installation (CR-085) PR 21146 (4286) Task 3520	B	N/A	\$14,140.00						0				
	19.3	Additional Structural Support for Fats, Oils, and Grease (FOG) Grinders (CR-081) PR 21146 (4286) Task 3505	C	FBB	\$8,323.99						0				
	19.4	Portable Lift Truck for 480V ABB Breakers (CR-108) PR 21146 (4286) Task 3510	A	IRWD	\$2,625.12						0				
	19.5	Retaining Wall North and West of Biosolids Site (CR-010) PR 21146 (4286) Task 3505	B	IRWD	\$46,358.00						0				
20		Approved by Executive Director of Engineering & Water Quality Approved on November 19, 2014				\$54,485.63	\$1,296,512.88	\$1,350,998.51	0.83%	\$164,816,938.51	0	0	0	1,278	10/28/2016
	20.1	Nitrogen Slab Modifications (CR-052) PR 21146 (4286) Task 3505	A	IRWD	\$24,855.80						0				
	20.2	Additional Conduits and Circuits for the Access Control Systems for the Solids Handling Building and the Digester Control Building (CR-082) PR 21146 (4286) Task 3505	A	IRWD	\$3,412.13						0				
	20.3	Digital Power Meters Change for SWGR-14 and SWGR-15 (CR-109) PR 21146 (4286) Task 3510	A	IRWD	\$3,863.22						0				
	20.4	Truck Unloading Panel Modifications (CR-115) PR 21146 (4286) Task 3510	A	IRWD	\$12,843.50						0				
	20.5	Switchgear SWGR-14 Modifications (CR-116) PR 21146 (4286) Task 3510	A	IRWD	\$9,510.98						0				
21		Approved by General Manager Approved on January 30, 2015				\$ 98,506.19	\$1,350,998.51	\$1,449,504.70	0.89%	\$164,915,444.70	0	0	0	1,278	10/28/2016
	21.1	Additional Anchorage for Methane Digesters (CR-051A) PR 21146 (4286) Task 3520	B	FBB	\$92,367.44						0				
	21.2	Additional Input/Outputs Review of Master I/O List (CR-136) PR 21146 (4286) Task 3510	C	FBB	\$6,138.75						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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22		Approved by Board of Directors Approved on February 9, 2015				\$964,324.51	\$1,449,504.70	\$2,413,829.21	1.48%	\$165,879,769.21	0	0	0	1,278	10/28/2016
	22.1	Electrical Conduit Overfill (CR-055) PR 21146 (4286) Task 3510	C	FBB	\$485,250.28						0				
	22.2	Heat Dryer Equipment Escalation Costs (CR-057) PR 21146 (4286) Task 3520	B	FBB	\$333,477.50						0				
	22.3	Glass-lining Sludge Density Meters (CR-067) PR 21146 (4286) Task 3510	A	IRWD	\$71,010.74						0				
	22.4	Switchgear-16 Enclosure (CR-040) PR 21146 (4286) Task 3510	C	FBB	\$56,882.30						0				
	22.5	Propane Gas Tank Foundation Demolition (CR-084) PR 21146 (4286) Task 3505	C	IRWD	\$2,004.98						0				
	22.6	Credit for travel costs related to inspection of centrifuges in Germany (CR-091) PR 21146 (4286) Task 3520	A	IRWD	(\$5,573.42)						0				
	22.7	Deletion of MMC Switchgear-14 Breaker (CR-092) PR 21146 (4286) Task 3510	A	IRWD	(\$5,032.00)						0				
	22.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	C	IRWD	\$23,269.61						0				
	22.9	Overtime to perform work in the Solids Handling electrical room (CR-103) PR 21146 (4286) Task 3510	A	IRWD	\$1,384.47						0				
	22.10	Credit for modification to the Uninterruptible Power System (CR-118) PR 21146 (4286) Task 3510	A	IRWD	(\$9,771.72)						0				
	22.11	Addition of Low Voltage Compartment in SCE Switch “C” (CR-160) PR 21146 (4286) Task 3510	A	IRWD	\$2,156.20						0				
	22.12	Addition of input/output points relating to sump pumps located at the Solids Handling Building (CR-161) PR 21146 (4286) Task 3510	A	FBB	\$9,265.57						0				

MWRP Biosolids and Energy Recovery Facilities
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23		Approved by General Manager Approved on February 26, 2015				\$97,005.10	\$2,413,829.21	\$2,510,834.31	1.54%	\$165,976,774.31	0	0	0	1,278	10/28/2016
	23.1	Additional Steel Reinforcement the Pellet Storage Silos Anchor Bolts (CR-094) PR 21146 (4286) Task 3505	B	FBB	\$5,514.57						0				
	23.2	Differential Pressure Transmitter (CR-094) PR 21146 (4286) Task 3510	A	IRWD	\$2,535.33						0				
	23.3	Additional Aluminum Trench Grating in Digester Control Building (CR-107) PR 21146 (4286) Task 3520	A	IRWD	\$7,552.11						0				
	23.4	Light Weight Concrete for Electrical Conduits Underneath the Solids Handling Building Electrical Room (CR-113) PR 21146 (4286) Task 3510	A	IRWD	\$30,535.94						0				
	23.5	Adding Energyjets Weir Plates to Dewatering Centrifuges – (CR-124) PR 21146 (4286) Task 3520	A	IRWD	\$11,139.25						0				
	23.6	Provide Angle Supports for the Removable Slabs at the Solids Handling Building – (CR-137) PR 21146 (4286) Task 3520	A	IRWD	\$20,671.61						0				
	23.7	Structural Modification at Solids Handling Building – (CR-140) PR 21146 (4286) Task 3520	C	FBB	\$1,109.42						0				
	23.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	A	IRWD	\$5,516.45						0				
	23.9	Steel Joist Framing Modifications at Digester Control Building (CR-151) PR 21146 (4286) Task 3505	C	FBB	\$2,286.29						0				
	23.10	WAS Valve Vault and Piping Modifications (CR-100) PR 21146 (4286) Task 3520	A	IRWD	\$10,144.13						0				
24		Approved by General Manager Approved on March 6, 2015				\$99,122.95	\$2,510,834.31	\$2,609,957.26	1.60%	\$166,075,897.26	0	0	0	1,278	10/28/2016
	24.1	Coating of WAS/Primary Sludge Pump Stations & Sludge Wetwells per RFI-0612A (CR-127) PR 21146 (4286) Task 3505	A	FBB	\$99,122.95						0				
25		Approved by Board of Directors Approved on March 23, 2015				\$280,575.97	\$2,609,957.26	\$2,890,533.23	1.77%	\$166,356,473.23	0	0	0	1,278	10/28/2016
	25.1	Lightning Protection for the Methane Digesters (CR-121) PR 21146 (4286) Task 3505	C	FBB	\$158,259.68						0				
	25.2	Deflagration Quench Tubes outside of the Dryer Room (CR-143) PR 21146 (4286) Task 3505	B	FBB	\$122,316.29						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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26		Approved by Exe. Dir. Of Engineering & Water Quality Approved on April 14, 2015				\$74,815.79	\$2,890,533.23	\$2,965,349.02	1.81%	\$166,431,289.02	0	0	0	1,278	10/28/2016
	26.1	UPS and Power Fail Alarms per RFI 357 (CR-056) PR 21146 (4286) Task 3510	C	FBB	\$3,646.82						0				
	26.2	I/O Points for Methane Digester Sump Pumps per RFI-356 (CR-077) PR 21146 (4286) Task 3510	C	FBB	\$6,489.00						0				
	26.3	Loss of Power Alarms to the SCADA Network per RFI-0393B (CR-093) PR 21146 (4286) Task 3510	A	FBB	\$20,297.16						0				
	26.4	FOG Flushing and Rock Trap Modifications per RFI-0534 (CR-101) PR 21146 (4286) Task 3510	A	IRWD	\$18,093.61						0				
	26.5	Install Grounding Pig Tails in Solids Handling Building Area Electrical Room per RFI 0594 (CR-105) PR 21146 (4286) Task 3510	A	IRWD	\$1,593.10						0				
	26.6	Additional Pushbuttons, Light and Relays for the FOG Receiving Control Panel (CR-114) PR 21146 (4286) Task 3510	A	IRWD	\$6,892.40						0				
	26.7	Changes to the HMI Enclosures at the Sludge Receiving Area (CR-133) PR 21146 (4286) Task 3510	A	IRWD	\$7,114.17						0				
	26.8	Provide Storage Shelf for Keyboard and Mouse to the HMI Enclosures at the Sludge Receiving Area (CR-135) PR 21146 (4286) Task 3510	A	IRWD	\$1,163.26						0				
	26.9	Dewatering Feed Pump Station Guardrail Additions (CR-142) PR 21146 (4286) Task 3520	C	FBB	\$4,204.00						0				
	26.10	Additional I/O Points for PLC-4300 (CR-156) PR 21146 (4286) Task 3510	C	FBB	\$3,035.28						0				
	26.11	Shoring Revision to Roof Slab of Dewatering Feed Pump Station (CR-189) PR 21146 (4286) Task 3510	B	FBB	\$1,286.99						0				
	26.12	Coating of the Sludge Receiving Bins (CR-199) PR 21146 (4286) Task 3520	A	FBB	\$1,000.00						0				
27		Approved by Board of Directors Approved on April 27, 2015				\$107,253.26	\$2,965,349.02	\$3,072,602.28	1.88%	\$166,538,542.28	0	0	0	1,278	10/28/2016
	27.1	Modifications to Human-Machine Interface (HMI) for the Microturbine Area (CR-078) PR 21146 (4286) Task 3510	A	IRWD	\$29,744.43						0				
	27.2	Modifications to the Piping and Automation Features at Fats, Oils, and Grease (FOG) Facility (CR-129) PR 21146 (4286) Task 3510	A	IRWD	\$35,771.81						0				
	27.3	Structural Support to the Monorail at the Dewatering Feed Pump Station (CR-152) PR 21146 (4286) Task 3505	C	FBB	\$13,697.51						0				
	27.4	Two Additional Magnetic Flowmeters at Polymer Feed System (CR-158) PR 21146 (4286) Task 3510	A	IRWD	\$9,522.81						0				
	27.5	Modifications to PLCs at Sludge Receiving Area (CR-180) PR 21146 (4286) Task 3510	A	IRWD	\$18,516.70						0				

MWRP Biosolids and Energy Recovery Facilities
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28		Approved by Exe. Dir. Of Eng. & Water Quality Approved on May 15, 2015				\$74,550.35	\$3,072,602.28	\$3,147,152.63	1.93%	\$166,613,092.63	0	0	0	1,278	10/28/2016
	28.1	Decanter Control Panel Modifications (CR-215) Task 3520	C	FBB	\$22,451.01						0				
	28.2	Additional Structural Support in the Solids Handling Building (CR-075) Task 3505	C	FBB	\$12,028.44						0				
	28.3	Additional Sump Pump Drain Line in the Bulk Polymer Storage Area (CR-119) Task 3520	C	FBB	\$1,433.86						0				
	28.4	Install Three 5-inch conduits on Southwest Side of the Biosolids Site (CR-120) Task 3510	C	FBB	\$16,033.58						0				
	28.5	Provide Power to Several Instruments Located at the Solids Handling Building and Digester Control Building (CR-154) Task 3520	C	FBB	\$3,454.91						0				
	28.6	Install Foam Separator Drain at Digester Control Building (CR-167) Task 3520	C	FBB	\$11,013.75						0				
	28.7	Install Support for 14-inch Plug Valve at Centrate Treatment Wetwell (CR-197) Task 3520	C	FBB	\$1,715.20						0				
	28.8	Trench Modifications at the Sludge Cake Load-Out Area of the Solids Handling Building (CR-123) Task 3505	C	FBB	\$6,419.60						0				
29		Approved by Board of Directors Approved on June 22, 2015				\$225,971.77	\$3,147,152.63	\$3,373,124.40	2.06%	\$166,839,064.40	0	0	0	1,278	10/28/2016
	29.1	Foul Air Pipe Supports in the Solids Handling Building Basement (CR-106) PR 21146 (4286) Task 3520	C	FBB	\$119,937.87						0				
	29.2	Secondary Circuit Breaker for Transformer T-14 (CR-185) PR 21146 (4286)) Task 3510	A	IRWD	\$106,033.90						0				

MWRP Biosolids and Energy Recovery Facilities
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30		Approved by Board of Directors Approved on July 27, 2015									0	0	0	1,278	10/28/2016
	30.1	Credit for Changing Storm Drain line from Ductile Iron to PVC (CR-042) PR 21146 (4286) Task 3520	A	IRWD	(\$1,890.92)						0				
	30.2	Installation of Additional Digester Anchorage (CR-051B) PR21146 (4286) Task 3505	B	FBB	\$118,335.54						0				
	30.3	Huber Screens I/O Modifications per RFI-0391 and RFI-0525A (CR-068) PR 21146 (4286) Task 3510	A	IRWD	\$12,579.20						0				
	30.4	Credit for FBB's Portion of Partnering (CR-090) PR 21146 (4286) Task	E	FBB	(\$81,948.33)						0				
	30.5	Deletion of Waterstops at Methane Digester Complex (CR-102) PR 21146 (4286) Task 3505	A	IRWD	(\$2,505.79)										
	30.6	Deletion of Bid Item No. 18.4 - Computers and Networking Hardware for the Control System (CR-138) PR 21146 (4286) Task 3510	A	IRWD	(\$200,000.00)						0				
	30.7	Electrical and Gas Modifications (CR-146) PR 21146 (4286) Task 3510	C	IRWD	\$363,978.41						0				
	30.8	Credit for Changing Heat Dryer Wet Material Mixer from A24 Steel to A36 Steel (CR-157) PR 21146 (4286) Task 3520	E	FBB	(\$2,392.66)						0				
	30.9	Credit for Travel Cost of On-Site Inspection for Acid Phase Digester (CR-175) PR 21146 (4286) Task 3520	B	IRWD	(\$683.39)						0				
	30.1	Heat Dryer I/O Modifications per RFI-0626 (CR-179) PR 21146 (4286) Task 3510	A	IRWD	\$11,191.41						0				
	30.11	Decant Trough I/O Modifications per RFI-0979 (CR-202) PR 21146 (4286) Task 3510	A	IRWD	\$9,960.55						0				
	30.12	Deletion of Interior Coating of Methane Digesters (CR-188) PR 21146 (4286) Task 3520	A	IRWD	(\$398,571.00)						0				
	30.13	Piping Modifications and Addition of Carbon Canisters (CR-218) PR 21146 (4286) Task 3520	A	IRWD	\$88,076.01						0				
	30.14	Pickling and Passivation of Sludge Mixers (CR-248) PR 21146 (4286) Task 3520	C	IRWD	\$73,997.23										
	30.15	IRWD Costs Associated to Repairing the Pile and Installing Couplers (CR-139) PR 21146 (4286) Task 3505	E	FBB	(\$38,102.85)						0				

MWRP Biosolids and Energy Recovery Facilities
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31		Approved by Exe. Dir. Of Eng. & Water Quality Approved on July 28, 2015				\$74,999.74	\$3,325,147.81	\$3,400,147.55	2.08%	\$166,866,087.55	0	0	0	1,278	10/28/2016
	31.1	Provide Circuit and Breaker for Standby Generator in the Microturbine Area (CR-170) PR 21146 (4286) Task 3510	C	FBB	\$4,296.86						0				
	31.2	Additional Pipe Support for 14-inch Air Line at the Centrate Facility (CR-226) PR 21146 (4286) Task 3520	C	FBB	\$893.78						0				
	31.3	Addition of E-stops (CR-128) PR 21146 (4286) Task 3510	A	FBB	\$57,916.71						0				
	31.4	Structural Support of Jib Crane at Dewatering Feed Pump Station Stairwell (CR-243) PR 21146 (4286) Task 3520	C	FBB	\$11,892.39						0				
32		Approved by Exe. Dir. Of Eng. & Water Quality Approved on August 31, 2015				\$74,682.96	\$3,400,147.55	\$3,474,830.51	2.13%	\$166,940,770.51	0	0	0	1,278	10/28/2016
	32.1	Additional Conduits and Circuits for Fire Alarm in the Solids Handling Building	A	IRWD	\$21,637.57						0				
	32.2	Additional Davit Bases at Centrate Treatment Facility (CR-111) PR 21146 (4286) Task 3520	A	IRWD	\$1,809.77						0				
	32.3	Additional Fire Alarm Panel in Digester Control Building (CR-169) PR 21146 (4286) Task 3510	A	IRWD	\$25,153.79						0				
	32.4	Modifications to FOG Sump Pumps Controls (CR-177) PR 21146 (4286) Task 3510	A	IRWD	\$5,690.83						0				
	32.5	Additional Truck Load-out Conveyor Input and Output (CR-201) PR 21146 (4286) Task 3510	A	IRWD	\$2,220.12						0				
	32.6	Additional Spare Conduits in the Microturbine Area (CR-229) PR 21146 (4286) Task 3510	A	FBB	\$14,602.41						0				
	32.7	Conduits for Electrical Disconnect Switch for Roll-Up Doors of the Digester Control Building (CR-230) PR 21146 (4286) Task 3510	A	IRWD	\$3,568.47						0				
33		Approved by Executive Director of Engineering & Water Quality Approved on September 30, 2015				\$58,247.75	\$3,474,830.51	\$3,533,078.26	2.16%	\$166,999,018.26	0	0	0	-	1/0/1900
	33.1	Realignment of 8-inch Reclaimed Water Line at Gate 2 (CR-225) PR 21146 (4286) Task 3520	B	FBB	\$24,017.48						0				
	33.2	Additional Conduits and Wires for Lighting Circuits to Minimize Voltage Drop (CR-228) PR 21146 (4286) Task 3510	C	IRWD	\$32,399.41						0				
	33.3	Cable and Conduit Changes at Solids Handling Building and Dewatering Feed Pump Station (CR-231) PR 21146 (4286) Task 3510	C	IRWD	\$1,830.86						0				

MWRP Biosolids and Energy Recovery Facilities
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34		Approved by Board of Directors Approved on October 26, 2015				\$164,775.28	\$3,533,078.26	\$3,697,853.54	2.26%	\$167,163,793.54	0	0	0	1,278	10/28/2016
	34.1	Credit for Third Submittal Review Through 05/31/2015 (CR-088) PR 21146 (4286) Task 1065	B	IRWD	(\$39,502.50)						0				
	34.2	Credit for Overtime Inspection Hours Through 05/31/2015 (CR-089) PR 21146 (4286) Task 3520	F	FBB	(\$80,850.00)						0				
	34.3	Credit for Special Inspections for Structural Anchors and Geotechnical Investigation (CR-295) PR 21146 (4286) Task 1065	A	IRWD	(\$27,500.00)						0				
	34.4	Change in Knife Gate Valve Manufacturer (CR-187) PR 21146 (4286) Task 3520	E	FBB	\$275,954.90						0				
	34.5	Credit for Changes in Low Voltage SWGR-14 Circuit Breaker (CR-163) PR 21146 (4286) Task 3510	A	IRWD	(\$1,978.00)						0				
	34.6	Change to Addressable Smoke Detectors (CR-220) PR 21146 (4286) Task 3510	B	IRWD	\$38,650.88						0				
35		Approved by General Manager Approved on November 25, 2015				\$97,980.57	\$3,697,853.54	\$3,795,834.11	2.32%	\$167,261,774.11	0	0	0	1,278	10/28/2016
	35.1	Change in Naming Convention for Storm Water Pump Station (Area 1500) SCADA Programming (CR-181) PR 21146 (4286) Task 3510	E	FBB	\$9,027.03						0				
	35.2	Valve Status Override Functionality (CR-182) PR 21146 (4286) Task 3510	E	FBB	\$38,999.08						0				
	35.3	Control Changes for Primary Sludge and Waste Activated Pump Stations (Area 1900) SCADA Programming (CR-184) PR 21146 (4286) Task 3510	A	IRWD	\$36,772.78						0				
	35.4	Motor Protection Relay (CR-239) PR 21146 (4286) Task 3510	A	IRWD	\$13,181.68						0				
36		Approved by General Manager Approved on December 3, 2015				\$86,007.50	\$3,795,834.11	\$3,881,841.61	2.37%	\$167,347,781.61	0	0	0	1,278	10/28/2016
	36.1	Light Weight Concrete for Underslab Conduits at Microturbine Area (CR-253) PR 21146 (4286) Task 3510	A	FBB	\$21,117.50						0				
	36.2	Outstanding CB&I Items (CR-099A) PR 21146 (4286) Task 3520 – This change order includes: CR-098 (Guard Rail at Biogas Storage Tank); CR-099 (Tube Steel Supports); additional Off-Site Storage Costs; and credit for Use of SS 308 in Lieu of SS 316L Welds.	B	FBB	\$64,890.00						0				

MWRP Biosolids and Energy Recovery Facilities
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37		Approved by Exe. Director of Engineering and Water Quality Approved on January 21, 2016				\$47,446.49	\$3,881,841.61	\$3,929,288.10	2.40%	\$167,395,228.10	0	0	0	1,278	10/28/2016
	37.1	Additional Pressure Relief Valves in the Digester Control Building Slab (CR-112) PR 21146 (4286) Task 3520	C	IRWD	\$1,065.72						0				
	37.2	Change Feeder Circuit Breaker Size in MCC-4102 (CR-165) PR 21146 (4286) Task 3510	C	IRWD	\$4,157.60						0				
	37.3	Change Feeder Circuit Breaker Size for the Primary Sludge Pump Variable Frequency Drive (CR-233) PR 21146 (4286) Task 3510	C	IRWD	\$2,430.59						0				
	37.4	SCADA Programming Changes Due to Change to Schweitzer Power Quality	A	FBB	\$16,814.00						0				
	37.5	Additional Labeling of Parallel Conduits and Cables (CR-262) PR 21146 (4286) Task 3510	A	IRWD	\$8,410.00										
	37.6	Change in Sludge Receiving Entrance Beacon Operation CR-263) PR 21146 (4286) Task 3510	A	IRWD	\$5,382.19						0				
	37.7	Anodize Aluminum Light Fixture Stanchions/Sun Shades (CR-283) PR 21146 (4286) Task 3510	A	IRWD	\$5,911.61						0				
	37.8	Hot Tap 8-Inch ACP Potable Water Line (CR-311) PR 21146 (4286) Task 3520	A	FBB	\$3,274.78						0				

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38		Approved by General Manager Approved on February 29, 2016				\$83,345.07	\$3,929,288.10	\$4,012,633.17	2.45%	\$167,478,573.17	0	0	0	1,278	10/28/2016
	38.1	Software Control Block Revision for Area 4300 – Dewatering (CR-211) PR 4286 Task 3510	C	FBB	\$18,908.76						0				
	38.2	Revised Master List of SCADA Templates (CR-247) PR 4286 Task 3510	C	FBB	\$47,274.54						0				
	38.3	Additional Overflow Alarms at Sludge Holding Tanks (CR-280) PR 4286 Task 3510	A	IRWD	\$9,654.54						0				
	38.4	Leak Detection at Sulfuric Acid Facility (CR-290) PR 21146 (4286) Task 3510	A	IRWD	\$5,499.97						0				
	38.5	Insulation for Acid Phase Gas Piping (CR-218A) PR 21146 (4286) Task 3520	A	IRWD	\$2,007.26						0				
39		Approved by General Manager Approved on March 7, 2016				\$98,006.46	\$4,012,633.17	\$4,110,639.63	2.51%	\$167,576,579.63	0	0	0	1,278	10/28/2016
	39.1	SCE Installation - Final Accounting of Work Items Between Negotiated Change Order and Actual Work (CR-146E) PR 4286 Task 3510	B	FBB	\$7,809.51						0				
	39.2	Installation of Southern California Gas (SCG) Boxes (CR-146F) PR 4286 Task 3510	A	FBB	\$3,479.81						0				
	39.3	Schweitzer SEL-735 Power Monitors for Centrifuge Panels (CR-207) PR 4286 Task 3510	A	IRWD	\$34,274.40						0				
	39.4	Hirschmann Ethernet Switches for Centrifuge Panels (CR-208) PR 4286 Task 3510	A	IRWD	\$9,569.15						0				
	39.5	Addition of Sample Pump Variable Frequency Drives for Thickening Centrifuges (CR-237) PR 4286 Task 3520	E	IRWD	\$24,496.55						0				
	39.6	Upgrade of Exit Signs and Ceiling Lights in the Gas Room of the Digester Control Building to NEC Class 1 Division 1 (CR-313) PR 4286 Task 352	A	IRWD	\$18,377.04						0				
40		Approved by General Manager Approved on April 20, 2016				\$97,287.05	\$4,110,639.63	\$4,207,926.68	2.57%	\$167,673,866.68	0	0	0	1,278	10/28/2016
	40.1	Brace Plates in Solids Handling Building (CR-069) PR 4286 Task 3505	C	FBB	\$40,216.76						0				
	40.2	Relocation of RIO-50 Panel (CR-186) PR 4286 Task 3510	B	FBB	\$4,818.64						0				
	40.3	Addition of Two Doors at the bases of the stairways at Methane Digesters Nos. 1 and No. 2 (CR-232) PR 4286 Task 3505	C	FBB	\$52,251.65						0				

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41		Approved By Board of Directors Approved on May 23, 2016				\$1,103,650.56	\$4,207,926.68	\$5,311,577.24	3.25%	\$168,777,517.24	0	0	0	1,278	10/28/2016
	41.1	Additional SCE and SCG Modifications (CR-146A) PR 4286 Task 3510	B	FBB	\$51,238.69						0				
	41.2	Additional Potholing Due to SCE and SCG Realignment (CR-146B) PR 4286 Task 3510	B	FBB	\$36,706.57						0				
	41.3	Additional Cameras at the Unloading/Loading Area of the Solids Handling Facility (CR-164) PR 4286 Task 3505	A	IRWD	\$61,731.96						0				
	41.4	Fire Sprinkler System Modifications – Mechanical (CR-174) PR 4286 Task 3520	B	IRWD	\$154,592.08						0				
	41.5	Fire Sprinkler System Modifications – Electrical (CR-166) PR 4286 Task 3510	B	IRWD	\$13,730.06						0				
	41.6	Fiber Optic System Modifications (CR-172/CR-306/CR-314) PR 4286 Task 3510	A	IRWD	\$178,879.46						0				
	41.7	T-15, T-16, and T-17 Secondary Breakers (CR-185A, CR-185B, and CR-185C) PR 4286 Task 3510	A	IRWD	\$254,941.66						0				
	41.8	Cable and Conduit Changes at the Sludge Receiving Area of the Solids Handling Building (CR-203) PR 4286 Task 3510	C	FBB	\$14,338.94						0				
	41.9	Concrete Surface Treatment (CR-222) PR 4286 Task 3505	A	IRWD	\$68,714.34						0				
	41.1	Heating Water Boiler Control Modifications (CR-246) PR 4286 Task 3510	A	IRWD	\$71,379.00						0				
	41.11	SCADA Control Modifications for the Acid Phase Digesters, Methane Digesters, and Sludge Holding Tank (CR-252) PR 4286 Task 3510	A	IRWD	\$50,540.23						0				
	41.12	Ambient Gas Analyzer Wiring Modification (CR-264) PR 4286 Task 3510	B	IRWD	\$19,734.51						0				
	41.13	Disconnect Switches for Flow Valves in the Solids Handling Building (CR-272) PR 4286 Task 3510	C	IRWD	\$25,550.26						0				
	41.14	Centrifuge Pedestal Modifications (CR-301) PR 4286 Task 3505	C	IRWD	\$30,603.14						0				
	41.15	SCADA, Instrumentation, and Electrical Modifications (CR-287, CR-294, and CR-322) PR 4286 Task 3510	A	IRWD	\$70,969.66						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
42		Approved By Board of Directors Approved on May 23, 2016				(\$199,771.09)	\$5,311,577.24	\$5,111,806.15	3.13%	\$168,577,746.15	0	0	0	1,278	10/28/2016
	42.1	Value Engineering of Chemical Pump Systems (CR-054) PR 4286 Task 3520	E	FBB	(\$48,549.90)						0				
	42.2	Change in Lightning Protection Installation for Egg-Shaped Digesters (CR-121A) PR 4286 Task 3510	E	FBB	(\$97,141.74)						0				
	42.3	Deletion of Seal Water Stations and Seal Water Piping (CR-214) PR 4286 Task 3520	A	IRWD	(\$10,557.28)						0				
	42.4	Deletion of Low Pressure Switches for Centrate Pumps (CR-257) PR 4286 Task 3510	A	IRWD	(\$1,748.17)						0				
	42.5	Centrifuge Seismic Restraint Design Costs (CR-345) PR 4286 Task 1065	A	IRWD	(\$24,064.00)						0				
	42.6	Credit for Overtime Inspection Hours From 6/1/2015 to Through 12/31/2015 (CR-089B) PR 4286 Task 1065	F	FBB	(\$17,710.00)						0				
43		Approved by Exe. Director of Engineering and Water Quality Approved on May 31, 2016				\$74,731.69	\$5,111,806.15	\$5,186,537.84	3.17%	\$168,652,477.84	0	0	0	1,278	10/28/2016
	43.1	Combustible Gas Detection System (CR-234) PR 21146 (4286) Task 3510	E	FBB	\$18,843.39						0				
	43.2	Additional Wires and Cables Between MCC-4102 and PLC-4000 (CR-278) PR 21146 (4286) Task 3510	C	FBB	\$1,775.13						0				
	43.3	SCADA Programming Modifications (CR-282) PR 21146 (4286) Task 3510	E	FBB	\$49,679.02										
	43.4	Change of Waste Gas Burner Feeder Circuit Breaker (CR-344) PR 21146 (4286) Task 3510	B	FBB	\$4,434.15						0				
44		Approved by Exe. Director of Engineering and Water Quality Approved on June 29, 2016				\$74,912.99	\$5,186,537.84	\$5,261,450.83	3.22%	\$168,727,390.83	0	0	0	1,278	10/28/2016
	44.1	Electrical and Telephonic Modifications for Elevators for Solids Handling Building and Digester Control Building (CR-037A) PR 4286 Task 3510	C	FBB	\$38,882.06						0				
	44.2	Odor Control Recirculation Pump Selector Switch SCADA Modifications (CR-343) PR 4286 Task 3510	A	IRWD	\$9,294.71						0				
	44.3	SCADA Valve Matrix Tables Animation Clarification for Milestone 1 (CR-353) PR 4286 Task 3510	A	IRWD	\$9,195.86						0				
	44.4	PLC Status Object Update (CR-234) PR 4286 Task 3510	B	FBB	\$4,783.14						0				
	44.5	Elevator Safety Beam in the Digester Control Building (CR-302) PR 4286 Task 3505	C	FBB	\$3,830.95						0				
	44.6	Masonry Changes to the North Retaining Wall (CR-365) PR 4286 Task 3505	B	IRWD	\$8,926.27						0				

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45		Approved by Board of Directors Approved on July 25, 2016/December 20, 2016				\$9,250,000.00	\$5,261,450.83	\$14,511,450.83	8.88%	\$177,977,390.83	368	0	368	1,646	10/31/2017
	45.1	Recovery Plan PR 4286 Task 3510	B	FBB	\$9,250,000.00						368				
46		Approved by General Manager Approved on January 27, 2017				\$94,696.76	\$14,511,450.83	\$14,606,147.59	8.94%	\$178,072,087.59	0	368	368	1,646	10/31/2017
	46.1	Additional Masonry Anchor in the Solids Handling Building (CR-200) PR 4286	C	IRWD	\$1,457.22						0				
	46.2	Additional Auto Dialer (CR-234A) PR 4286 Task 3510	A	IRWD	\$6,081.90						0				
	46.3	Grating and Handrail Modifications at Bulk Polymer Storage Platform (CR-300) PR 4286 Task 3505	A	IRWD	\$5,568.83						0				
	46.4	SCADA IP Address Update (CR-309) PR 4286 Task 3510	A	IRWD	\$1,227.96						0				
	46.5	Masonry Modifications at Solids Handling Building Stairwell (CR-324) PR 4286 Task 3505	C	FBB	\$5,939.45						0				
	46.6	Change in Valve Operator at the Centrate Treatment Facility (CR-329) PR 4286 Task 3520	A	IRWD	\$4,824.29						0				
	46.7	Boot Wash Landing Addition (CR-349) PR 4286 Task 3505	C	FBB	\$1,834.60						0				
	46.8	Updating Valve Analog SCADA Template (CR-354) PR 4286 Task 3510	A	IRWD	\$692.72						0				
	46.9	Additional Light Fixtures and Lamps (CR-355A) PR 4286 Task 3510	A	IRWD	\$8,508.46						0				
	46.10	Addition of Rebate Angle in the FOG Unloading Sump Area (CR-363) PR 4286 Task 3505	A	IRWD	\$763.62						0				
	46.11	MCC-4103 Hot Water Circulation Pump Breakers Change (CR-366) PR 4286 Task 3510	B	IRWD	\$2,316.03						0				
	46.12	MCC-4100/4101 Cake Transfer Pump Breakers Change (CR-370) PR 4286 Task 3510	B	IRWD	\$23,720.61						0				
	46.13	MCC-4102 Breaker Change (CR-374) PR 4286 Task 3510	B	IRWD	\$2,316.03						0				
	46.14	SCADA Programming Modifications During Benchtest No.1 for Areas 1900 and 2000 (CR-376) PR 4286 Task 3510	A	IRWD	\$24,092.32						0				
	46.15	Additional Light Fixture Above Door in Digester Control Building Gas Room (CR-399) PR 4286 Task 3510	A	IRWD	\$1,478.19						0				
	46.16	Change in Size of Disconnect Switches for Digested Sludge Mixers (CR-408) PR 4286 Task 3510	B	FBB	\$1,290.10						0				
	46.17	Additional Thickening Feed Grinder Control Panel Circuits (CR-438) PR 4286 Task 3510	B	IRWD	\$1,286.63						0				
	46.18	Thickness and Glazing Change for Windows (CR-438) PR 4286 Task 3510	C	IRWD	\$1,297.80						0				

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47		Approved by General Manager				\$96,414.36	\$14,606,147.59	\$14,702,561.95	8.99%	\$178,168,501.95	0	368	368	1,646	10/31/2017
		Approved on February 28, 2017													
	47.1	Relocation of Neutralization Tank Drainage Piping PR 4286 Task 3520	B	FBB	\$2,312.08						0				
	47.2	Modifications to Digester Control Building Door and Piping Due to Heating Water Expansion Tank Pad Adjustment (CR-221) PR 4286 Task 3505	C	FBB	\$5,500.74						0				
	47.3	PLC-3100 Changes (CR-284) PR 4286 Task 3510	C	FBB	\$1,070.38						0				
	47.4	Additional Angle Support to Acid Phase Digester Bridges (CR-298) PR 4286 Task 3505	C	FBB	\$4,986.21						0				
	47.5	Additional Potable Water Gate Valves (CR-332) PR 4286 Task 3520	A	IRWD	\$3,892.44						0				
	47.6	T-4 Kirk Key Interlock Installation (CR-335) PR 4286 Task 3510	B	IRWD	\$6,924.69						0				
	47.7	Solids Handling Building Dumpster Room Channel Frames Modifications (CR-338) PR 4286 Task 3505	C	FBB	\$5,093.87						0				
	47.8	PCS Server Configuration Clarification (CR-352) PR 4286 Task 3510	A	IRWD	\$6,824.35						0				
	47.9	Additional Anchorage Support for Ledgers of the Digester Control Building Roof (CR-361) PR 4286 Task 3505	C	FBB	\$13,794.95						0				
	47.10	Change of MCC-4103 Hot Water Circulation Pump Breakers (CR-366B) PR 4286 Task 3510	A	IRWD	\$1,336.13						0				
	47.11	Centrate Treatment Facility Pull Boxes Duct Bank Settlement (CR-383) PR 4286 Task 3510	B	FBB	\$3,300.13						0				
	47.12	Modifications to the MCC-4100/4101/4102/4103 (CR-405) PR 4286 Task 3510	B	FBB	\$7,418.52						0				
	47.13	Cake Storage Hopper Modifications (CR-421) PR 4286 Task 3510	C	FBB	\$2,250.67						0				
	47.14	Removing Installed Lighting in the Solids Handling Building (CR-427) PR 4286 Task 3510	A	IRWD	\$8,947.37						0				
	47.15	Electrical Changes for Generator MPC (CR-430) PR 4286 Task 3510	A	IRWD	\$10,950.14						0				
	47.16	Electrical Modifications to MCC-4100 and 4103 (CR-431) PR 4286 Task 3510	A	FBB	\$4,500.00						0				
	47.17	Occupancy Sensors in the Solids Handling Building Shower Areas (CR-444) PR 4286 Task 3510	C	FBB	\$1,601.36						0				
	47.18	Digester Gas Pre-Treatment In-Slab Conduit Size Change (CR-454) PR 4286 Task 3510	C	FBB	\$5,710.33						0				

MWRP Biosolids and Energy Recovery Facilities
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48		Approved by Board of Directors				\$728,237.74	\$14,702,561.95	\$15,430,799.69	9.44%	\$178,896,739.69	0	368	368	1,646	10/31/2017
		Approved on March 13, 2017													
	48.1	Structural Modifications of the Elevator Shafts (CR-037) PR 4286 Task 3505200) PR 4286 Task 3505	B	FBB	\$58,705.90						0				
	48.2	SCADA Programming Update of Polymer Feed and Storage System (CR-148A) PR 4286 Task 3510	A	FBB	\$23,685.14						0				
	48.3	Stairs and Platform at SHB Load-Out Area (CR-149) PR 4286 Task 3505	C	FBB	\$39,622.65						0				
	48.4	Additional Polymer Dilution Flow Meters and Associated Conduits and Cables (CR-159B) PR 4286 Task 3510	A	IRWD	\$38,978.70						0				
	48.5	Miscellaneous Andritz Items (CR-205) PR 4286 Task 3520	A	IRWD	\$41,246.71						0				
	48.6	RIO-4001 Changes (CR-286) PR 4286 Task 3510	A	IRWD	\$27,889.74						0				
	48.7	RIO-3102 Changes (CR-310) PR 4286 Task 3510	A	IRWD	\$18,280.62						0				
	48.8	Mini Power Center - Additional Outlet and Data Locations in the SHB (CR-419) PR 4286 Task 3510	A	IRWD	\$13,261.60						0				
	48.9	New Lighting in the SHB First Floor Area (CR-427A) PR 4286 Task 3510	A	IRWD	\$102,503.46						0				
	48.10	Additional Conduits and Cables for Thermocouples for Several Pumps (CR-424, CR-424A through CR-424F) PR 4286 Task 3510	B	FBB	\$54,982.68						0				
	48.11		C	FBB	\$128,000.00						0				
	48.12	Additional Wall Panel Framework at the SHB (CR-445) PR 4286 Task 3505									0				
48.12	Changes in Uninterruptible Power Supply Units (CR-162/CR-162A) PR 4286 Task 3510	A	IRWD	\$128,052.94						0					
48.13	Addition of Circuit Breaker at Transformer T-14 (CR-474) PR 4286 Task 3510	A	IRWD	\$53,027.60						0					

MWRP Biosolids and Energy Recovery Facilities
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49		Approved by Board of Directors				(\$47,099.20)	\$15,430,799.69	\$15,383,700.49	9.41%	\$178,849,640.49	0	368	368	1,646	10/31/2017
	49.1	Approved on March 13, 2017													
	49.1	Related Mechanical Piping Modifications Due to Change in Chemical Pumps in CCO No. 42 (CR-054A) PR 4286 Task 3520	E	FBB	(\$23,897.73)						0				
	49.2	Changing the Solids Handling Building Roofing from EPDM to PVC (CR-255) PR 4286 Task 3505	E	FBB	(\$9,000.00)						0				
	49.3	Net Reduction of Scope of Work in CR-353 – SCADA Valve Matrix Tables Animation Clarifications (CR-353B/353C) PR 4286 Task 3510	A	IRWD	(\$4,429.09)						0				
	49.4	Change in Starters for MCC-4100/4101 Cake Transfer Pump Breakers (CR-370A) PR 4286 Task 3510	A	IRWD	(\$4,047.43)						0				
49.5	Deletion of Insulation for the Solids Handling Building Foundation (CR-393) PR 4286 Task 3505	A	IRWD	(\$5,724.95)						0					
50		Approved by Executive Director of Engineering & Water Quality				\$72,150.89	\$15,383,700.49	\$15,455,851.38	9.46%	\$178,921,791.38	0	368	368	1,646	10/31/2017
	50.1	Approved on March 31, 2017													
	50.1	Electrical Modifications to FOG Local Control Panel 70-LCP-0710 (CR-304) PR 4286 Task 5.30	A	IRWD	\$6,614.77						0				
	50.2	Condensate Modifications at Digester Gas Pre-Treatment Area (CR-312) PR 4286 Task 5.31	C	FBB	\$9,826.09						0				
	50.3	Installation of Lindapters Instead of Eye Bolts (CR-413) PR 4286 Task 5.29	A	FBB	\$13,346.01						0				
	50.4	T-5 Connection to Biosolids Switch-14 (CR-480) PR 4286 Task 5.30	A	IRWD	\$35,170.26						0				
50.5	Polymer Feeder Blender Skids Flow Element Grounding Conductor (CR-482) PR 4286 Task 5.30	C	IRWD	\$7,193.76						0					
51		Approved by Executive Director of Engineering & Water Quality				(\$126,390.00)	\$15,455,851.38	\$15,329,461.38	9.38%	\$178,795,401.38	0	368	368	1,646	10/31/2017
	51.1	Approved on March 31, 2017													
	51.1	Credit for Overtime Inspection Hours From 1/1/2016 to Through 12/31/2016 (CR-089C) PR 4286 Task 4.0	F	IRWD	(\$97,570.00)						0				
51.2	Credit for Overtime Inspection Hours From 1/1/2017 to Through 03/31/2017 (CR-089D) PR 4286 Task 4.0	E	IRWD	(\$28,820.00)						0					

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52		Approved by General Manager Approved on April 28, 2017				\$98,342.16	\$15,329,461.38	\$15,427,803.54	9.44%	\$178,893,743.54	0	368	368	1,646	10/31/2017
	52.1	Removal of Unsuitable Alluvium (CR-146H) PR 4286 Task 5.29	B	FBB	\$3,564.32						0				
	52.2	Polymer Dilution Water Flowmeters (CR-159A) PR 4286 Task 5.31	A	IRWD	\$14,090.39						0				
	52.3	Aluminum Handrail and Guardrail Modifications at Liquid Chemical and Polymer Areas (CR-171) PR 4286 Task 5.30	A	IRWD	\$13,765.20						0				
	52.4	Modifications Due to Solids Handling Building Electrical Room Equipment Clearance Issues (CR-196) PR 4286 Task 5.30	C	FBB	\$9,382.01						0				
	52.5	Data and Telephone Outlets in Solids Handling Building (CR-261) PR 4286 Task 5.30	A	IRWD	\$27,620.21						0				
	52.6	HVAC Duct Modifications in Dewatering Feed Pump Station (CR-268) PR 4286 Task 5.31	C	FBB	\$16,023.50						0				
	52.7	Coating of 8 Roll-up doors (CR-358) PR 4286 Task 5.29	A	IRWD	\$5,710.32						0				
	52.8	Upsizing Wire Size of Dewatering Feed Pump Station Main Breaker Light Panel LP-3501 (CR-390) PR 4286 Task 5.30	A	IRWD	\$1,449.75						0				
	52.9	Modifications to the Roofs of the Solids Handling Building and Digester Control Building (CR-528) PR 4286 Task 5.29	A	IRWD	\$6,736.46						0				
53		Exe. Director of Water Quality and Engineering Approved on June 5, 2017				\$42,281.96	\$15,427,803.54	\$15,470,085.50	9.46%	\$178,936,025.50	0	368	368	1,646	10/31/2017
	53.1	Modifications to Regenerative Thermal Oxidizer (RTO) Drainage and Utility Water Piping (CR-267) PR 4286 Task 5.31	C	IRWD	\$33,814.80						0				
	53.2	Modifications to Liquid Chemical Feed Control Panel Wiring (CR-396) per RFI-1602 PR 4286 Task 5.30	C	FBB	\$8,467.16						0				
54		Approved by General Manager Approved on June 19, 2017				\$44,210.51	\$15,470,085.50	\$15,514,296.01	9.49%	\$178,980,236.01	0	368	368	1,646	10/31/2017
	54.1	Modifications to Thickening and Dewtering Platforms (CR-195) PR 4286 Task 5.29	C	FBB	\$44,210.51						0				
55		Approved by General Manager Approved on July 3, 2017				\$94,352.43	\$15,514,296.01	\$15,608,648.44	9.55%	\$179,074,588.44	0	368	368	1,646	10/31/2017
	55.1	Additional Pipe Supports of 54-Inch Fiberglass Reinforced Air Duct (CR-106A) PR 4286 Task 5.29	C	FBB	\$14,211.18						0				
	55.2	Natural Gas Step Down Manifolds and Gas Transition Piping (CR-146G) PR	B	IRWD	\$20,489.32						0				
	55.3	Modifications to the West End Stair Landing of the Solids Handling Building (CR-315) PR 4286 Task 5.29	B	IRWD	\$5,622.11						0				

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	55.4	Regenerative Thermal Oxidizer (RTO) Pad Modifications (CR-400) PR 4286 Task 5.29	C	FBB	\$8,471.16						0				
	55.5	Addition of Thin Client at the Dryer Facility (CR-485) PR 4286 Task 5.30	A	IRWD	\$36,874.10						0				
	55.6	Change in Size to 2 Check Valves in the Digester Control Building (CR-514) PR 4286 Task 5.31	C	FBB	\$8,684.56						0				
56		Approved by Board Approved on July 24, 2017				\$201,744.33	\$15,608,648.44	\$15,810,392.77	9.67%	\$179,276,332.77	0	368	368	1,646	10/31/2017
	56.1	Addition Of Stairs and Platform to RTO (CR-266) PR 4286 Task 5.29	A	IRWD	\$101,744.33						0				
	56.2	Microturbine CLC (ESC Capstone) per RFI 1141 (CR-277) PR 4286 Task 5.30	B	FBB	\$100,000.00						0				
57		Approved by General Manager Approval on August 5, 2017				\$98,886.90	\$15,810,392.77	\$15,909,279.67	9.73%	\$179,375,219.67	0	368	368	1,646	10/31/2017
	57.1	Additional Support at Digester Control Building (CR-342) PR 04286 Task 5.29	C	IRWD	\$2,522.47						0				
	57.2	Pipe and Duct Hanger Modifications (CR-362) PR 04286 Task 5.29	C	IRWD	\$4,083.12						0				
	57.3	Increase Wire Size of Main Breaker PP-3501 (CR-418) PR 04286 Task 5.30	C	FBB	\$696.66						0				
	57.4	Roof Vent at DCB Elevator/Stair Tower (CR-437) PR 04286 Task 5.29	B	IRWD	\$8,563.72						0				
	57.5	T-14 Fixed Type Manual Operator per Submittal 16443-0016A (CR-540) PR 04286 Task 5.31	C	IRWD	\$1,945.62						0				
	57.6	Area Classification at Methane Digesters to meet NFPA Table 6.2(a) - Plug Valves Limit Switches (CR-557) PR 04286 Task 5.30	C	FBB	\$64,195.15						0				
	57.7	Area Classification at Methane Digesters to meet NFPA Table 6.2(a) - Sump Pump Cable Retrofit PR 04286 Task 5.30	C	FBB	\$16,880.16						0				

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58		Approved by Board of Directors Approval on August 28, 2017				\$182,938.94	\$15,909,279.67	\$16,092,218.61	9.84%	\$179,558,158.61	0	368	368	1,646	10/31/2017
	58.1	Concrete Cap over Shallow Pipe Crossings (CR-348) PR 04286 Task 5.31	B	FBB	\$7,923.00						0				
	58.2	Additional Conduit and Wiring for Sludge Screen Moisture Sensors (CR-381) PR 04286 Task 5.30	C	FBB	\$8,355.32						0				
	58.3	SCADA Programming Modifications (CR-433/476/546/547/551) PR 04286 Task 5.30	A	IRWD	\$15,758.38						0				
	58.4	Polymer Storage Power Panels Wire and Breaker Modifications (CR-456) PR 04286 Task 5.30	C	FBB	\$24,238.65						0				
	58.5	Odor Control Starter Modifications (CR-466) PR 04286 Task 5.30	B	FBB	\$41,436.09						0				
	58.6	Odor Control Fan Remote Temperature Device Revisions (CR-522) PR 04286 Task 5.30	A	IRWD	\$52,484.50						0				
	58.7	Re-location of Digester Control Building Gas Room Local Control Panels (CR-534) PR 04286 Task 5.30	A	FBB	\$32,743.00						0				
59		Approved by Exe. Director of Water Quality and Engineering Approval on September 6, 2017				\$98,988.68	\$16,092,218.61	\$16,191,207.29	9.90%	\$179,657,147.29	0	368	368	1,646	10/31/2017
	59.1	Modifications to Building 101 (CR-212) PR 04286 Task 5.30	E	FBB	\$26,500.00										
	59.2	Change in Conduit Size in Area 20 (CR-292) PR 04286 Task 5.10	C	FBB	\$1,946.70						0				
	59.3	Centrifuge Discharge Cake Conveyors Schematic Modifications (CR-422) PR 04286 Task 5.10	C	FBB	\$6,410.04						0				
	59.4	Power Monitor Programming Modifications (CR-539) PR 04286 Task 5.10	A	IRWD	\$2,595.60						0				
	59.5	SCADA Programming Modifications (CR-547A) PR 04286 Task 5.10	A	IRWD	\$1,574.86						0				
	59.6	Change in Area Classification at Methane Digesters to meet NFPA Standards - MOVs (CR-557B) PR 04286 Task 5.10	C	FBB	\$54,736.73						0				
	59.7	FOG Heating Disconnect Switch Relocation (CR-559) PR 04286 Task 5.10	C	FBB	\$5,224.75						0				
60		Approved by Exe. Director of Water Quality and Engineering Approval on September 5, 2017				(\$34,540.00)	\$16,191,207.29	\$16,156,667.29	9.88%	\$179,622,607.29	0	368	368	1,646	10/31/2017
	60.1	Credit for Overtime Inspection Hours From 4/1/2017 Through 6/30/2017 (CR-089E) PR 04286 Task 4.0	F	FBB	(\$34,540.00)						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:	
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
61		Approved by Exe. Director of Water Quality and Engineering				(\$1,752.39)	\$16,156,667.29	\$16,154,914.90	9.88%	\$179,620,854.90	0	368	368	1,646	10/31/2017
	61.1	Approved on September 6, 2017 Credit for Bulk Polymer Storage Changes per RFI-0863 and Submittal 15140-013B (CR-168) PR 04286 Task 5.16	E	FBB	(\$1,752.39)						0				
62		Approved by Board of Directors				\$708,162.72	\$16,154,914.90	\$16,863,077.62	10.32%	\$180,329,017.62	0	368	368	1,646	10/31/2017
		Approved on October 9, 2017													
	62.1	Fats, Oil, and Grease (FOG) Modifications (CR-223A) PR 04286 Task 5.30	A	IRWD	\$52,174.90										
	62.2	Density Meter Conduit and Cabling Modifications (CR-326) PR 04286 Task 5.30	A	IRWD	\$52,518.11						0				
	62.3	Fiber Optic Modifications (CR-356) PR 04286 Task 5.30	A	IRWD	\$20,607.14						0				
	62.4	Sludge Screen Pneumatic Control Panel Conduit and Cabling (CR-380) PR 04286 Task 5.30	C	IRWD	\$8,859.95						0				
	62.5	Additional Circuits for Control of the Thickening Centrifuges (CR-386) PR 04286 Task 5.30	C	FBB	\$376,674.08						0				
	62.6	Upsize of Power Panel PP-8001 Circuit Breaker (CR-414) PR 04286 Task 5.30	A	IRWD	\$50,135.26						0				
											0				
	62.7	Electrical Power Feeders to Electric Water Heater (CR-426) PR 04286 Task 5.30	B	FBB	\$16,551.27						0				
											0				
	62.8	Chemical Sump Pump Control Panel Space Heater Wiring Modifications (CR-461) PR 04286 Task 5.30	A	IRWD	\$12,822.26						0				
	62.9	Relocate Electrical Feeders to Generator Bus (CR-462) PR 04286 Task 5.30	A	IRWD	\$22,785.74						0				
	62.10	Electrical and Instrumentation Related Components for the Installation of Thin Client at Dryer Facility (CR-485A) PR 04286 Task 5.30	A	IRWD	\$49,908.43						0				
	62.11	Polymer Room Eye Wash Station Flow Switches (CR-535) PR 04286 Task 5.30	A	IRWD	\$24,567.89						0				
											0				
	62.12	Chemical Storage and Feed Modifications (CR-563) PR 04286 Task 5.30	A	IRWD	\$13,055.18						0				
	62.13	PLC Redundancy Hot Standby Status Register (CR-568) PR 04286 Task 5.30	A	IRWD	\$7,502.51						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Design Engineer: Black & Veatch

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				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
63		Approved by General Manager Approved on October 2, 2017				\$91,766.09	\$16,863,077.62	\$16,954,843.71	10.37%	\$180,420,783.71	0	368	368	1,646	10/31/2017
	63.1	Electrical Modifications to RIO-2001 (CR-269) PR 04286 Task 5.30	C	IRWD	\$30,563.48						0				
	63.2	Modifications to RIO-4002 (CR-285) PR 04286 Task 5.30	C	FBB	\$14,563.39						0				
	63.3	Cap for 12-Inch Storm Drain (CR-351) PR 04286 Task 5.16	B	FBB	\$2,394.54						0				
	63.4	Access Hatch for Regenerative Thermal Oxidizer Pipe Chase (CR-473) PR 04286 Task 5.31	C	FBB	\$3,958.91						0				
	63.5	Electrical Upgrades to RIO-4002 (CR-447) PR 04286 Task 5.30	A	FBB	\$40,285.77						0				
64		Approved by Board of Directors Approved on October 23, 2017				\$231,100.22	\$16,954,843.71	\$17,185,943.93	10.51%	\$180,651,883.93	0	368	368	1,646	10/31/2017
	64.1	Modifications to Centrate Treatment Facility Stairs (CR-379) PR 04286 Task 5.29	B	FBB	\$9,758.16						0				
	64.2	Modifications to Ductwork in Solids Handling Building (CR-401) PR 04286 Task 5.31	C	FBB	\$9,537.05						0				
	64.3	Electrical Conduits and Wires for Additional Bridge Breakers for Cake Receiving Pumps (CR-416) PR 04286 Task 5.30	B	FBB	\$21,678.83						0				
	64.4	Handrail Modifications at the Methane Digesters (CR-472) PR 04286 Task 5.29	B	FBB	\$22,154.53						0				
	64.5	Electrical and Instrumentation Related Components for the Installation of Thin Client at Dryer Facility (CR-485B) PR 04286 Task 5.30	A	IRWD	\$53,090.84						0				
	64.6	Electrical Modifications at the Motor Control Centers for the Acid Phase Sludge Heating Recirculation Pumps (CR-517) PR 04286 Task 5.30	A	IRWD	\$47,611.11						0				
	64.7	FOG Receiving Pumps Thermocouple and Thermostat Wiring (CR-525) PR 04286 Task 5.30	C	FBB	\$37,826.58						0				
	64.8	SCADA Programming Changes (CR-537/570/573/573A) PR 04286 Task 5.30	A	IRWD	\$23,694.13						0				
	64.9	Change of Limit Switches for Buried Service (CR-560) PR 04286 Task 5.30	C	FBB	\$5,748.99						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
65		Approved by Board of Directors				\$149,591.14	\$17,185,943.93	\$17,335,535.07	10.60%	\$180,801,475.07	0	368	368	1,646	10/31/2017
	65.1	Approved on October 23, 2017													
	65.1	Additional Conduits and Wires for the Engine Generator, Switchgear-16, and Switchgear-16 Programmable Logic Controller (CR-204) PR 04286 Task 5.30	C	FBB	\$100,000.00						0				
	65.2	Modifications to Spirac Conveyor in the Solids Handling Building (CR-409) PR 04286 Task 5.31	B	FBB	\$13,641.00						0				
	65.3	Additional Metal Bridge Walkway Structural Support Angles (CR-420) PR 04286 Task 5.29	B	FBB	\$35,950.14						0				
66		Approved by General Manager				\$98,201.20	\$17,335,535.07	\$17,433,736.27	10.67%	\$180,899,676.27	0	368	368	1,646	10/31/2017
		Approved on November 30, 2017													
	66.1	SCADA Programming Modifications and Updates (CR-247A/CR-469/CR-485C/CR-571/CR-575A/CR-579/CR-580/CR-585) PR 04286 Task 5.30	A	IRWD	\$61,734.78						0				
	66.2	Installation of Sump Pump Floats (CR-452) PR 04286 Task 5.31	A	IRWD	\$17,228.56						0				
	66.3	Electrical Work Associated with Air Handling/Heating Units, Recycle Bin Feed Conveyor, and Recycle Bucket Elevator in the Solids Handling Building (CR-457/CR-529) PR 04286 Task 5.30	B	IRWD	\$11,003.85						0				
	66.4	Additional Wires and Conduits for FOG Receiving Valves (CR-565) PR 04286 Task 5.30	B	FBB	\$6,368.21						0				
	66.5	Additional Door Cover Plates for MCC-4100 and MCC-4101	B	IRWD	\$1,865.80						0				
67		Approved by Exe. Dir of Engineering and Water Quality				(\$53,626.83)	\$17,433,736.27	\$17,380,109.44	10.63%	\$180,846,049.44	0	368	368	1,646	10/31/2017
		Approved on November 30, 2017													
	67.1	Credit for Overtime Inspection Hours from 07/1/2017 to 09/30/2017 (CR-089F) PR 04286 Task 4.0	F	FBB	(\$19,140.00)						0				
	67.2	Credit for Additional Conduits and Wires for the Engine Generator, Switchgear-16, and Switchgear-16 Programmable Logic Controller (CR-204A) PR 04286 Task 5.30	E	FBB	(\$13,591.83)						0				
	67.3	Deletion of Pavement Prime Coat (CR-331D) PR 04286 Task 5.29	A	IRWD	(\$20,895.00)						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
68		Approved by Board of Directors Approved on December 11, 2017				\$569,553.19	\$17,380,109.44	\$17,949,662.63	10.98%	\$181,415,602.63	0	368	368	1,646	10/31/2017
	68.1	Fats, Oil, and Grease (FOG) Modifications (CR-223) PR 04286 Task 5.30	A	IRWD	\$83,648.47						0				
	68.2	Additional Electrical Outlets and Circuits in the Solids Handling Building (CR-453) PR 04286 Task 5.30	A	IRWD	\$44,054.83						0				
	68.3	Control Panel Modifications in the Methane Digester Complex (CR-545) PR 04286 Task 5.30	C	IRWD	\$55,414.03						0				
	68.4	Additional Electrical, Instrumentation, and Controls for the Heat Dryer System (CR-270 and CR-471A through CR-471G, CR-496, and CR-555) PR 04286 Task 5.30	B	FBB	\$386,435.86						0				
69		Approved by General Manager Approved on December 20, 2017				\$90,846.69	\$17,949,662.63	\$18,040,509.32	11.04%	\$181,506,449.32	0	368	368	1,646	10/31/2017
	69.1	Power Supply Failure Alarms for Acid Gas Boosters (CR-477) PR 04286 Task 5.30	A	IRWD	\$10,965.90						0				
	69.2	Addition of Waste Gas Burner Instrument Air Compressor System (Electrical) (CR-484A) PR 04286 Task 5.30	C	IRWD	\$8,046.52						0				
	69.3	Circuit Breaker for MOC-2034 (CR-541) PR 04286 Task 5.30	B	IRWD	\$2,389.56						0				
	69.4	Change in Limit Switches Located in the Methane Digester Complex Due Electrical Classification Change (CR-557D) PR 04286 Task 5.30	C	IRWD	\$37,744.12						0				
	69.5	Change in Limit Switches Located in the Methane Digester Complex Due Electrical Classification Change (CR-582) PR 04286 Task 5.30	C	IRWD	\$16,228.03						0				
	69.6	SCADA Programming Changes – Totalizers (CR-590) PR 04286 Task 5.30	A	IRWD	\$7,830.90						0				
	69.7	Control Panel Modifications in the Methane Digester Complex (CR-592) PR 04286 Task 5.30	A	IRWD	\$7,641.66						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
70		Approved by Exe. Dir of Engineering and Water Quality Approved on January 23, 2018				\$73,972.77	\$18,040,509.32	\$18,114,482.09	11.08%	\$181,580,422.09	0	368	368	1,646	10/31/2017
	70.1	Addition of Limit Switches on Gas Dryer Heat Exchanger (CR-303) PR 04286 Task 5.30	A	IRWD	\$17,367.32						0				
	70.2	Change of Electrical Classification of Valve Limit Switches at Acid Phase Digester Complex (CR-415) PR 04286 Task 5.30	C	IRWD	\$24,018.04						0				
	70.3	Power Source to the Solids Handling Building Bridge Cranes (CR-574) PR 04286 Task 5.30	C	IRWD	\$27,479.58						0				
	70.4	Investigation of Street Lights, South side of Biosolids Site (CR-613) PR 04286 Task 5.30	A	IRWD	\$1,204.20						0				
	70.5	Additional Switches in the Solids Handling Building (CR-625) PR 04286 Task 5.30	A	IRWD	\$3,903.63						0				
71		Approved by Exe. Dir of Engineering and Water Quality Approved on January 31, 2018				(\$12,210.00)	\$18,114,482.09	\$18,102,272.09	11.07%	\$181,568,212.09	0	368	368	1,646	10/31/2017
	71.1	Credit for Overtime Inspection Hours from 10/1/2017 to 12/31/2017 (CR-089G) PR 04286 Task 4.0	F	IRWD	(\$12,210.00)						0				
72		Approved by General Manager Approved on January 25, 2018				\$25,256.29	\$18,102,272.09	\$18,127,528.38	11.09%	\$181,593,468.38	0	368	368	1,646	10/31/2017
	72.1	Installation of Breakers for Power Panel PP-8001 (CR-414A) PR 04286 Task 5.30	A	IRWD	\$25,256.29						0				
73		Approved by Board of Directors Approved on March 12, 2018				\$150,755.29	\$18,127,528.38	\$18,278,283.67	11.18%	\$181,744,223.67	0	368	368	1,646	10/31/2017
	73.1	Additional Circuits for Control of the Dewatering Centrifuges (CR-386B) PR 04286 Task 5.30	B	FBB	\$150,755.29						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
74		Approved by General Manager				\$99,467.47	\$18,278,283.67	\$18,377,751.14	11.24%	\$181,843,691.14	0	368	368	1,646	10/31/2017
		Approved on February 22, 2018													
	74.1	Access Platform to Heat Dryer Acid Scrubber (CR-485D) PR 04286 Task 5.30	A	IRWD	\$14,637.02										
	74.2	Modifications to the FRP Ducting in the Solids Handling Building (CR-491) PR 04286 Task 5.31	A	IRWD	\$20,171.39										
	74.3	Power to Air Compressors and Pre-Action Panels of the Fire Sprinkler System (CR-526) PR 04286 Task 5.30	B	IRWD	\$24,442.16										
	74.4	Electrical and Instrumentation Revisions to the FOG System (CR-578) PR 04286 Task 5.30	A	IRWD	\$13,035.52										
	74.5	Addition of Centrate Air Purge System (CR-581) PR 04286 Task 5.30	A	IRWD	\$17,777.95										
	74.6	Addition of Flame Checks on Foam Separator Digested Sludge Line (CR-587) PR 04286 Task 5.3	A	IRWD	\$3,038.27										
	74.7	Modifications to 10-Ton Crane Stops (CR-589) PR 04286 Task 5.31	C	FBB	\$6,365.16						0				

MWRP Biosolids and Energy Recovery Facilities
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75		Approved by General Manager				\$98,698.78	\$18,377,751.14	\$18,476,449.92	11.30%	\$181,942,389.92	0	368	368	1,646	10/31/2017
		Approved on March 2, 2018													
	75.1	Electrical Modifications to the Acid Phase Digester and Methane Phase Digester System (CR-252C) PR 04286 Task 5.30	A	IRWD	\$31,492.38						0				
	75.2	Modifications to the Odor Control Panels (CR-382) PR 04286 Task 5.30	A	IRWD	\$12,726.70						0				
	75.3	Additional Lock-Out Switch for the Bridge Breaker (CR-384A) PR 04286 Task 5.30	B	IRWD	\$14,276.72						0				
	75.4	Additional On/Off Switch for Duct Fans (CR-384B) PR 04286 Task 5.30	A	IRWD	\$12,100.47						0				
	75.5	Aeration Blower MCC Modifications (CR-481) PR 04286 Task 5.30	C	IRWD	\$14,441.86						0				
	75.6	Addition of Level Switches and Solenoid Valves for Gas/Foam Separator Tanks (CR-566) PR 04286 Task 5.30	B	IRWD	\$7,568.99						0				
	75.7	SCADA Template Update (CR-622) PR 04286 Task 5.30	A	IRWD	\$2,775.05						0				
	75.8	Additional Lights in the Shower Stalls of the Solids Handling Building (CR-628) PR 04286 Task 5.30	C	FBB	\$1,639.80						0				
75.9	Relocation of Flow Switch in Sample Analysis Room (CR-637) PR 04286 Task 5.30	A	IRWD	\$1,676.81						0					
76		Approved by Board of Directors				\$150,690.04	\$18,476,449.92	\$18,627,139.96	11.40%	\$182,093,079.96	0	368	368	1,646	10/31/2017
		Approved on March 26, 2018													
	76.1	Power Feed to Microturbine CLCs (CR-289) PR 04286 Task 5.30	B	FBB	\$49,534.35						0				
	76.2	Upsizing of Electrical Cables related to the Heat Drying System (CR-510) PR 04286 Task 5.30	B	FBB	\$4,670.94						0				
	76.3	Additional Cables to MCC-1 (CR-538) PR 04286 Task 5.30	B	FBB	\$5,679.24						0				
	76.4	Electrical Code Area Classification Change in the Digester Control Building Gas Room (CR-582A) PR 04286 Task 5.30	C	IRWD	\$8,804.31						0				
	76.5	Addition of Water Source for the Foam Separator (CR-583) PR 04286 Task 5.31	C	FBB	\$8,418.23						0				
	76.6	SCADA Modifications on Solids Handling Polymer System (CR-620) PR 04286 Task 5.30	A	IRWD	\$7,761.00						0				
	76.7	3-Way Valve Graphical Modifications to SCADA (CR-621) PR 04286 Task 5.30	A	IRWD	\$22,540.18						0				
	76.8	SCADA Modifications on FOG System (CR-623) PR 04286 Task 5.30	A	IRWD	\$7,970.58						0				
	76.9	SCADA Modifications on the Digested Tank Level (CR-626) PR 04286 Task 5.30	A	IRWD	\$8,898.86						0				
76.10	Solids Handling Building Stair Modifications (CR-634) PR 04286 Task 5.29	C	FBB	\$26,412.35						0					

MWRP Biosolids and Energy Recovery Facilities
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77		Approved by General Manager Approved on April 30, 2018				\$94,371.12	\$18,627,139.96	\$18,721,511.08	11.45%	\$182,187,451.08	0	368	368	1,646	10/31/2017
	77.1	Modifications of Notching Shear Lugs - Solids Handling Building (CR-299A) PR 04286 Task 5.29	C	FBB	\$1,269.23						0				
	77.2	Cake Storage Hopper Conveyor Control Changes (CR-384C) PR 04286 Task 5.30	A	IRWD	\$30,869.71						0				
	77.3	Electrical Testing for Manual Transfer Switchgear SWGR-14 (CR-474A) PR 04286 Task 5.30	C	FBB	\$5,891.73						0				
	77.4	Additional HVAC Fan Coil Power Circuits (CR-593) PR 04286 Task 5.30	B	FBB	\$16,053.47						0				
	77.5	Modifications to Digester Control Building Roof Guardrail and Bridge Steps (CR-617) PR 04286 Task 5.29	B	IRWD	\$10,147.48						0				
	77.6	Electrical Modifications to the Condensing Unit and Heat Pumps in the Solids Handling Building (CR-635) PR 04286 Task 5.30	A	FBB	\$9,551.13						0				
	77.7	SCADA Control Logic Change in the Acid Phase Digester Area (CR-668) PR 04286 Task 5.30	A	IRWD	\$9,741.22						0				
	77.8	SCADA Control Logic Change in the Polymer Thickening Tank Area (CR-669) PR 04286 Task 5.30	A	IRWD	\$8,144.54						0				
	77.9	Hot Water Circuit Breaker (CR-366A) PR 04286 Task 5.30	A	IRWD	\$2,702.61						0				
78		Approved by Board of Directors Approved on April 26, 2018				\$344,006.55	\$18,721,511.08	\$19,065,517.63	11.66%	\$182,531,457.63	0	368	368	1,646	10/31/2017
	78.1	Operator Interface Terminal (OIT) Indusoft Licensing Cost (CR-244) PR 04286 Task 5.30	A	IRWD	\$4,618.13						0				
	78.2	Retaining Wall Modifications at Solids Handling Building (CR-331E) PR 04286 Task 5.29	C	IRWD	\$26,508.00						0				
	78.3	Andritz Air Compressor Equipment Pad Modifications (CR-550) PR 04286 Task 5.31	C	FBB	\$6,729.00						0				
	78.4	Waste Activated Sludge (WAS), Digested Sludge (DS), and Primary Sludge (PS) Piping Modifications (CR-594) PR 04286 Task 5.31	A	IRWD	\$28,967.68						0				
	78.5	Modifications to MWRP Biosolids Hardscape (CR-331K) PR 04286 Task 5.29	A	IRWD	\$277,183.74						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
79		Approved by General Manager Approved on May 17, 2018				\$89,123.41	\$19,065,517.63	\$19,154,641.04	11.72%	\$182,620,581.04	0	368	368	1,646	10/31/2017
	79.1	Addition of High Temperature Switches for the Primary Sludge/Waste Activated Sludge Wet Well Mixers (CR-377A) PR 04286 Task 5.30	C	FBB	\$12,145.12						0				
	79.2	Utility Line Modifications in the Solids Handling Building (CR-521) PR 04286 Task 5.31	A	IRWD	\$2,163.21						0				
	79.3	SCADA Programming Changes in the Methane Digester Area (CR-542) PR 04286 Task 5.30	A	IRWD	\$7,191.02						0				
	79.4	MCC-4100 Bridge Breaker Modifications in the Bulk Polymer Storage Area (CR-562) PR 04286 Task 5.30	B	IRWD	\$9,905.77						0				
	79.5	Electrical Modifications of Exhaust Air Unit in the Solids Handling Building (CR-618) PR 04286 Task 5.30	B	FBB	\$6,391.05						0				
	79.6	SCADA Programming Changes on the Biosolids Conveyor Distribution System (CR-630) PR 04286 Task 5.30	A	IRWD	\$7,226.35						0				
	79.7	Electrical Modifications to the Dewatering Conveyors in the Solids Handling Building (CR-672) PR 04286 Task 5.30	B	FBB	\$21,239.15						0				
	79.8	Additional Space Heater for Regenerative Thermal Oxidizer Draft Fan (CR-675) PR 04286 Task 5.30	A	FBB	\$9,351.07						0				
	79.9	SCADA Programming Update on the Acid Phase Sludge Transfer Pumps (CR-689) PR 04286 Task 5.30	A	IRWD	\$13,510.67						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Design Engineer: Black & Veatch

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80		Approved by Board of Directors Approved on May 29, 2018				\$313,076.14	\$19,154,641.04	\$19,467,717.18	11.91%	\$182,933,657.18	0	368	368	1,646	10/31/2017
	80.1	Modifications to MCC-4100, MCC-4101 and MCC-4102 (CR-384) PR 04286 Task 5.30	C	FBB	\$36,158.66					0					
	80.2	Modifications to MCC-4102 and MCC-4103 (CR-384D) PR 04286 Task 5.30	C	FBB	\$63,388.51					0					
	80.3	Separate Air Compressor System Electrical Panel for Waste Gas Burner (CR-484B) PR 04286 Task 5.3	B	FBB	\$50,723.04					0					
	80.4	Additional Power Monitoring Equipment for Self-Generation Incentive Program (CR-577) PR 04286 Task 5.30	A	IRWD	\$34,887.16					0					
	80.5	Electrical Modifications for the Gas Compressor Detector and Enclosure Fire Alarm Panel (CR-629) PR 04286 Task 5.30	A	IRWD	\$13,215.42					0					
	80.6	Additional Power Circuits for the Solids Handling Building Roll-Up Doors (CR-631) PR 04286 Task 5.30	C	IRWD	\$24,446.58					0					
	80.7	Modifications to Digested Sludge Line (CR-648) PR 04286 Task 5.31	C	FBB	\$17,023.42					0					
	80.8	Relocation of Local Control Panel in the Solids Handling Building (CR-676) PR 04286 Task 5.30	C	FBB	\$34,619.35					0					
	80.9	Additional Manual Valves and Components for Heat Dryer System (CR-683) PR 04286 Task 5.30	C	FBB	\$38,614.00					0					
81		Approved by Executive Director of Engineering and Water Quality Approved on June 1, 2018				\$2,566.55	\$19,467,717.18	\$19,470,283.73	11.91%	\$182,936,223.73	0	368	368	1,646	10/31/2017
	81.1	Modifications to Duct and Cable Tray Support in Dryer Room (CR-125) PR 04286 Task 5.30	A	FBB	\$2,566.55					0					
82		Approved by Executive Director of Engineering and Water Quality Approved on June 1, 2018				(\$75,950.64)	\$19,470,283.73	\$19,394,333.09	11.86%	\$182,860,273.09	0	368	368	1,646	10/31/2017
	82.1	Credit for Overtime Inspection Hours from 01/01/2018 to 3/31/2018 (CR-089H) PR 04286 Task 4.0	F	FBB	(\$3,740.00)					0					
	82.2	Odor Control Fan Platform Modifications (CR-334) PR 04286 Task 5.31	A	IRWD	(\$8,498.82)					0					
	82.3	Chemical Piping Modifications Between Chemical Storage and Odor Control Areas (CR-387) PR 04286 Task 5.31	A	IRWD	(\$20,197.71)					0					
	82.4	Ferric Chloride Piping Modifications in the Thickened Sludge Area (CR-388) PR 04286 Task 5.31	A	IRWD	(\$26,067.00)					0					
	82.5	Ferric Chloride Piping Re-Route South of the Solids Handling Building (CR-423) PR 04286 Task 5.31	A	IRWD	(\$17,447.11)					0					

MWRP Biosolids and Energy Recovery Facilities
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83		Approved by General Manager Approved on June 21, 2018				\$81,901.09	\$19,394,333.09	\$19,476,234.18	11.91%	\$182,942,174.18	0	368	368	1,646	10/31/2017
	83.1	Andritz Pellet Silo Structure Conflict (CR-554) PR 04286 Task 5.29	C	FBB	\$4,963.98						0				
	83.2	Additional Power Circuits for the Solids Handling Building Roll-Up Doors (CR-631A) PR 04286 Task 5.30	C	FBB	\$32,998.95						0				
	83.3	SCADA Programming Update – Gas Booster System (CR-670) PR 04286 Task 5.30	A	IRWD	\$14,981.13						0				
	83.4	Electrical Receptacles for Deionized Water System (CR-692A) PR 04286 Task 5.30	A	IRWD	\$4,546.34						0				
	83.5	Cable Work Related in MCC-1 to Harmonic Filters (CR-694) PR 04286 Task 5.30	A	IRWD	\$6,932.07						0				
	83.6	SCADA Update to Sludge Heat Transfer System Valve Matrix (CR-699) PR 04286 Task 5.30	A	IRWD	\$17,478.62						0				
84		Approved by Board of Directors Approved on June 25, 2018				\$105,492.90	\$19,476,234.18	\$19,581,727.08	11.98%	\$183,047,667.08	0	368	368	1,646	10/31/2017
	84.1	Electrical Modifications Due to the Addition of Grease Pumps (CR-619) PR 04286 Task 5.30	B	FBB	\$105,492.90						0				
85		Approved by Executive Director of Engineering and Water Quality Approved on July 30, 2018				(\$39,914.23)	\$19,581,727.08	\$19,541,812.85	11.95%	\$183,007,752.85	0	368	368	1,646	10/31/2017
	85.1	Credit for Overtime Inspection Hours from 04/01/2018 to 6/30/2018 (CR-089I) PR 04286 Task 4.0	F	FBB	(\$29,150.00)						0				
	85.2	Replacement of Network Communication Switches in the Solids Handling Building and Digester Control Building Server Rooms (CR-713) PR 04286 Task 5.30	B	IRWD	(\$10,764.23)						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

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Design Engineer: Black & Veatch

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Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
86		Approved by General Manager Approved on July 30, 2018				\$99,320.53	\$19,541,812.85	\$19,641,133.38	12.02%	\$183,107,073.38	0	368	368	1,646	10/31/2017
	86.1	Addition of Waste Gas Burner Instrument Air Compressor System (Material Cost Only) (CR-484) PR 04286 Task 5.31	C	IRWD	\$5,357.20						0				
	86.2	Modifications to Piping at the Bulk Liquid Chemical Area (CR-567) PR 04286 Task 5.31	A	IRWD	\$10,248.65						0				
	86.3	Modifications to 5-Ton Crane Stops (CR-589A) PR 04286 Task 5.31	C	IRWD	\$6,264.07										
	86.4	Additional Electrical Conduits and Wires to Connect Andritz Drum Motor (CR-691) PR 04286 Task 5.30	B	IRWD	\$4,419.83						0				
	86.5	SCADA Programming Changes to the Digester Gas Final Treatment System (CR-697) PR 04286 Task 5.30	A	IRWD	\$2,374.92						0				
	86.6	SCADA Programming Modifications to the Dewatering Feed and Conveyance Systems (CR-700) PR 04286 Task 5.30	A	IRWD	\$29,203.07						0				
	86.7	SCADA Programming Modifications to the Heating Water System (CR-703) PR 04286 Task 5.30	A	IRWD	\$22,303.18						0				
	86.8	SCADA Programming Modifications to the Centrate Treatment System (CR-705) PR 04286 Task 5.30	A	IRWD	\$17,197.62						0				
	86.9	Relocation of 6-Inch CRW Clean-out (CR-716) PR 04286 Task 5.31	A	IRWD	\$1,367.87						0				
	86.10	Modifications to Approach Curb in Microturbine Area (CR-718) PR 04286 Task 5.31	A	IRWD	\$584.12						0				

MWRP Biosolids and Energy Recovery Facilities
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87		Approval by General Manager Approved on August 31, 2018				\$98,063.60	\$19,641,133.38	\$19,739,196.98	12.08%	\$183,205,136.98	0	368	368	1,646	10/31/2017
	87.1	Electrical Work Related to Commissioning of the Solids Handling Building Elevator (CR-037C) PR 04286 Task 5.30	B	IRWD	\$8,180.42						0				
	87.2	Excavation Activities to Install Autodialer (CR-234B) PR 04286 Task 5.30	A	IRWD	\$951.88						0				
	87.3	Installation of Monitoring Ports for 54-Inch Foul Air Pipe in Solids Handling Building (CR-446) PR 04286 Task 5.31	B	IRWD	\$1,197.96										
	87.4	Additional Cladding for Methane Digesters (CR-584) PR 04286 Task 5.29	A	IRWD	\$4,893.64						0				
	87.5	SCADA Programming Changes to the Dewatering Centrifuge System (CR-677) PR 04286 Task 5.30	A	IRWD	\$21,537.93						0				
	87.6	Water Filter Drain Connections (CR-678) PR 04286 Task 5.31	C	IRWD	\$7,711.86						0				
	87.7	Additional Circuits for Dewatering Conveyor (CR-680) PR 04286 Task 5.30	A	IRWD	\$12,268.17						0				
	87.8	Dryer Cake Relief Line (CR-693) PR 04286 Task 5.31	A	IRWD	\$4,834.06						0				
	87.9	Filling of Abandoned Pipe Sleeves in SHB Elevator Mechanical Room (CR-701) PR 04286 Task 5.31	A	IRWD	\$1,166.06						0				
	87.10	FOG Receiving Pump Temperature Switch Modifications (CR-706) PR 04286 Task 5.30	A	IRWD	\$11,775.89						0				
	87.11	Temporary Natural Gas Piping to Flare (CR-709) PR 04286 Task 5.31	A	IRWD	\$6,536.47						0				
	87.12	SCADA Update to Acid Phase Digesters and Heating Water Loop Controls (CR-719) PR 04286 Task 5.30	A	IRWD	\$17,009.26						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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88		Approved by General Manager Approved on September 26, 2018				\$98,601.54	\$19,739,196.98	\$19,837,798.52	12.14%	\$183,303,738.52	0	368	368	1,646	10/31/2017	
	88.1	Additional Pipe Supports for 24-Inch Foul Air Ducting in the Solids Handling Building (CR-520) PR 04286 Task 5.31	B	IRWD	\$11,140.47						0					
	88.2	Electrical Modifications for Waste Gas Burner Control Panel (CR-524) PR 04286 Task 5.30	B	IRWD	\$9,840.13						0					
	88.3	Waste Activated Sludge (WAS), Digested Sludge (DS), and Primary Sludge (PS) Piping Modifications (CR-594A) PR 04286 Task 5.31	A	IRWD	\$24,216.24						0					
	88.4	Relocation of Scrubber Pipe and Pipe Support (CR-644) PR 04286 Task 5.31	B	IRWD	\$6,390.20											
	88.5	Update to SCADA Pipe Color Requirements (CR-704A) PR 04286 Task 5.30	C	IRWD	\$4,819.15						0					
	88.6	Routing of Microturbine Conduits (CR-711) PR 04286 Task 5.30	A	IRWD	\$6,420.74						0					
	88.7	Electrical Power to Heat Trace Panels and Truck Exhaust Fans (CR-714) PR	C	IRWD	\$22,038.62						0					
	88.8	HVAC Duct Modifications in the Digester Control Building Basement (CR-715) PR 04286 Task 5.31	C	IRWD	\$6,507.45						0					
	88.9	Revised Light Fixtures Types Located in Solids Handling Building Second Floor (CR-731) PR 04286 Task 5.30	A	IRWD	\$7,228.54						0					
89		Approved by General Manager Approved on October 17, 2018				\$96,405.88	\$19,837,798.52	\$19,934,204.40	12.19%	\$183,400,144.40	0	368	368	1,646	10/31/2017	
	89.1	Additional Pipe Cake Pipe Supports (CR-596) PR 04286 Task 5.31	C	IRWD	\$39,259.76						0					
	89.2	New Railings at the Solids Handling Building, Bulk Polymer Storage Facility, and Centrate Treatment Facility (CR-707) PR 04286 Task 5.29	A	IRWD	\$17,330.67						0					
	89.3	Modifications to Programmable Control Panels Controlling Digester Gas Treatment Process and Liquid Chemicals (CR-710) PR 04286 Task 5.30	A	IRWD	\$11,570.41						0					
	89.4	SCADA Modifications to the Acid Gas Boosters System (CR-721) PR 04286 Task 5.30	A	IRWD	\$8,047.39						0					
	89.5	Miscellaneous Time and Materials Items (CR-725) PR 04286 Task 5.31	B	IRWD	\$2,955.65						0					
	89.6	SCADA Modifications to the Cake Receiving Bins (CR-734) PR 04286 Task	A	IRWD	\$17,242.00						0					

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90		Approved by Board of Directors Approved on October 22, 2018				\$259,999.33	\$19,934,204.40	\$20,194,203.73	12.35%	\$183,660,143.73	0	368	368	1,646	10/31/2017
	90.1	Biosolids Site Modifications (CR-331L) PR 04286 Task 5.29	C	IRWD	\$40,726.48						0				
	90.2	Modifications to the Cake Receiving Bin LCP (CR-597) PR 04286 Task 5.30	A	IRWD	\$75,524.26						0				
	90.3	Architectural Modifications in the Centrifuge Area in the Solids Handling Building (CR-681) PR 04286 Task 5.29	A	IRWD	\$10,468.65						0				
	90.4	Modifications to the Bulk Polymer Access Platform (CR-708) PR 04286 Task 5.31	B	IRWD	\$53,407.62						0				
	90.5	Addition of Cake Hopper Platform (CR-720) PR 04286 Task 5.31	A	IRWD	\$59,714.23						0				
	90.6	Modifications to the Dryer System (CR-728) PR 04286 Task 5.30	A	IRWD	\$14,724.76						0				
	90.7	Modifications to the Cake Storage System (CR-730) PR 04286 Task 5.30	A	IRWD	\$5,433.33						0				
91		Approved by Executive Director of Engineering and Water Quality Approved on October 18, 2018				(\$20,460.00)	\$20,194,203.73	\$20,173,743.73	12.34%	\$183,639,683.73	0	368	368	1,646	10/31/2017
	91.1	Credit for Overtime Inspection Hours from 07/01/2018 to 9/30/2018 (CR-089J) PR 04286 Task 4.0	F	IRWD	(\$20,460.00)						0				

MWRP Biosolids and Energy Recovery Facilities
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92		Approved by Executive Director of Engineering and Water Quality Approved on November 12, 2018				\$73,782.76	\$20,173,743.73	\$20,247,526.49	12.39%	\$183,713,466.49	0	368	368	1,646	10/31/2017
	92.1	Addition of Oil Leak Detection Sensor at Nitrogen and Mineral Oil Area (CR-471H) PR 04286 Task 5.30	A	IRWD	\$1,989.71						0				
	92.2	Modifications at the Centrate Treatment Decant Wet Well (CR-576) PR 04286 Task 5.31	B	IRWD	\$4,285.46						0				
	92.3	Modifications to the Methane Digester Gas Line (CR-664) PR 04286 Task 5.31	A	IRWD	\$2,573.91						0				
	92.4	Addition of Cladding at Digester Control Building and Bridge to Methane Digester No. 1 (CR-674) PR 04286 Task 5.31	A	IRWD	\$15,067.18						0				
	92.5	Conduits and Wires for Hand Dryers in Solids Handling Building Restrooms (CR-724) PR 04286 Task 5.30	C	IRWD	\$6,617.91						0				
	92.6	Miscellaneous IRWD-Directed Work Items (CR-725B/725E) PR-04286 Task 5.30	A	IRWD	\$6,295.31						0				
	92.7	Additional Devices for Silo Dust Collector System (CR-729) PR 04286 Task 5.30	A	IRWD	\$8,208.65						0				
	92.8	SCADA Modifications to the Cake Storage System (CR-730A) PR 04286 Task 5.30	A	IRWD	\$1,561.76						0				
	92.9	Relocation of 2 Gas Lines (CR-732) PR 04286 Task 5.30	A	IRWD	\$5,117.41										
	92.10	Pipe Support Pedestal Modifications (CR-483) PR 04286 Task 5.29	C	IRWD	\$12,025.46										
	92.11	Removal of Installed Buried Valves at Centrate Facility (CR-560A) PR 04286 Task 5.31	A	IRWD	\$10,040.00						0				
93		Approved by Executive Director of Engineering and Water Quality Approved on November 12, 2018				(\$35,240.94)	\$20,247,526.49	\$20,212,285.55	12.36%	\$183,678,225.55	0	368	368	1,646	10/31/2017
	93.1	Deletion of Insulation on Selected Digester Gas Lines (CR-558) PR 04286 Task 5.31	A	IRWD	(\$30,454.98)						0				
	93.2	Deletion of Insulation on Selected Air Piping at Centrate Treatment Facility (CR-736) PR 04286 Task 5.31	A	IRWD	(\$4,785.96)						0				

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94		Approved by General Manager Approved on January 14, 2019				\$99,830.69	\$20,212,285.55	\$20,312,116.24	12.43%	\$183,778,056.24	0	368	368	1,646	10/31/2017
	94.1	Biosolids Site Paving Modifications (CR-331M) PR 04286 Task 5.29	A	IRWD	\$0.00						0				
	94.2	Addition of Waste Gas Burner Instrument Air Compressor System (Labor and Equipment Cost) (CR-484C) PR 04286 Task 5.31	C	IRWD	\$13,222.97						0				
	94.3	SCADA Programming Modifications to Programmable Control Panels Controlling Digester Gas Treatment Process and Liquid Chemicals (CR-710A) PR 04286 Task 5.3	A	IRWD	\$47,459.22						0				
	94.4	Additional Electrical Outlets in the Solids Handling Building and Digester Control Building (CR-717) PR 04286 Task 5.29	A	IRWD	\$2,877.70						0				
	94.5	Changes to Aeration Blower Control Panel Circuits (CR-722) PR 04286 Task 5.30	B	IRWD	\$5,998.43						0				
	94.6	Relocation of Conduit in the Dryer Area (CR-725D) PR 04286 Task 5.30	A	IRWD	\$1,784.08						0				
	94.7	SCADA Programming Modifications to Acid Gas Bypass Valve (CR-738) PR 04286 Task 5.30	A	IRWD	\$10,269.19						0				
	94.8	SCADA Programming Modifications to Valve Configuration Logic of the Dewatering Feed System (CR-740) PR 04286 Task 5.30	A	IRWD	\$18,219.10						0				
95		Approved by Exe. Dir. of Engineering and Water Quality Approved on January 15, 2019				(\$2,640.00)	\$20,312,116.24	\$20,309,476.24	12.42%	\$183,775,416.24	0	368	368	1,646	10/31/2017
	95.1	Biosolids Site Paving Modifications (CR-331M) PR 04286 Task 5.29	F	IRWD	(\$2,640.00)						0				
96		Approved by General Manager Approved on February 28, 2019				\$96,442.55	\$20,309,476.24	\$20,405,918.79	12.48%	\$183,871,858.79	0	368	368	1,646	10/31/2017
	96.1	Additional Recycled Pipe near the Methane Digester Area (CR-441) PR 04286	A	IRWD	\$30,547.94						0				
	96.2	Thickening Centrifuge Piping Modifications (CR-488) PR 04286 Task 5.31	B	IRWD	\$9,769.47						0				
	96.3	SCADA Control Logic Change in the Polymer Thickening Tank Area (CR-669A) PR 04286 Task 5.30	A	IRWD	\$17,462.04						0				
	96.4	Miscellaneous IRWD-Directed Work Items (CR-725G/725H/725I/725J/725K) PR 04286 Task 5.31	A	IRWD	\$25,706.09						0				
	96.5	Changes to Heat Dryer System Circuits (CR-737) PR 04286 Task 5.30	B	IRWD	\$4,099.24						0				
	96.6	Additional Circuit for Heat Dryer Equipment (CR-743) PR 04286 Task 5.30	B	IRWD	\$2,655.01						0				
	96.7	SCADA Programming Changes for Dewatering Biosolids Distribution System (CR-745) PR 04286 Task 5.30	A	IRWD	\$6,202.76						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:	
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
97		Approved by Exe Dir of Eng and Water Quality Approved on February 28, 2019				(\$56,137.59)	\$20,405,918.79	\$20,349,781.20	12.45%	\$183,815,721.20	0	368	368	1,646	10/31/2017
	97.1	Deletion of CR-232 Addition of Two Doors at the bases of the stairways at Methane Digesters Nos. 1 and No. 2 (CR-232A) PR 04286 Task 5.29	A	IRWD	(\$52,251.65)						0				
	97.2	Deletion of Cables for Truck Load-Out Control Panels (CR-685) PR 04286 Task 5.30	B	IRWD	(\$3,885.94)						0				
98		Approved by General Manager Approved on March 25, 2019				\$99,919.10	\$20,349,781.20	\$20,449,700.30	12.51%	\$183,915,640.30	0	368	368	1,646	10/31/2017
	98.1	Provide Hollow Metal Door at Digester Control Building (CR-037D) PR 04286 Task 5.29	E	FBB	\$1,747.70						0				
	98.2	Modifications to Truck Scale Ramp Area (CR-331A) PR 04286 Task 5.29	E	FBB	\$32,634.50						0				
	98.3	Sample Ports for AQMD Monitoring (CR-478) PR 04286 Task 5.31	B	IRWD	\$5,871.96						0				
	98.4	Modification of FRP Foul Air Line (CR-638/638A) PR 04286 Task 5.31	B	IRWD	\$14,067.70						0				
	98.5	New 208 V Power Source in the Solids Handling Building Sampling Room (CR-725F) PR 04286 Task 5.30	B	IRWD	\$17,725.27						0				
	98.6	Test Ports for Southern California Gas (CR-725L) PR 04286 Task 5.31	B	IRWD	\$7,947.83						0				
	98.7	Electrical Modifications for Conveyors in the Solids Handling Building (CR-742) PR 04286 Task 5.30	B	IRWD	\$6,903.78						0				
	98.8	Additional Light Fixtures in the Digester Control Building and Solids Handling Building (CR-747) PR 04286 Task 5.30	A	IRWD	\$12,425.53						0				
	98.9	Offset Saddles for Door Openings in the Solids Handling Building (CR-753) PR 04286 Task 5.29	B	FBB	\$594.83						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

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					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
99		Approved by Board of Directors Approved on March 25, 2019				\$330,609.60	\$20,449,700.30	\$20,780,309.90	12.71%	\$184,246,249.90	0	368	368	1,646	10/31/2017
	99.1	Regenerative Thermal Oxidizer Stack Bypass Re-route (CR-153) PR 04286 Task 5.31	A	IRWD	\$42,305.48						0				
	99.2	Additional Soil Remediation on the South Road of Biosolids Site (CR-327) PR 04286 Task 5.29	B	IRWD	\$43,444.97						0				
	99.3	Additional Base and Paving (CR-331C) PR 04286 Task 5.29	B	IRWD	\$21,619.30						0				
	99.4	Odor Scrubber Recirculation Piping and Pipe Support Modifications (CR-402/CR-402A) Task 5.31	B	IRWD	\$103,308.35						0				
	99.5	Electrical Modifications in the Control Room of the Solids Handling Building (CR-453A) PR 04286 Task 5.30	A	IRWD	\$9,371.28						0				
	99.6	Modifications to the Acoustical Panels in the Solids Handling Building (CR-723) PR 04286 Task 5.30	A	IRWD	\$14,704.14						0				
	99.7	New 480 V Power Source for Vacuum System in the Dryer Room (CR-733) PR 04286 Task 5.30	C	IRWD	\$9,995.96						0				
	99.8	Explosion Proof Duct Detector in the Digester Control Building Gas Room (CR-744) PR 04286 Task 5.30	C	IRWD	\$25,719.23						0				
	99.9	SCADA Programming Update to the Centrate Treatment Area (CR-748) PR 04286 Task 5.29	A	IRWD	\$38,467.14						0				
	99.10	SCADA Programming Update to Digester Gas System (CR-754) PR 04286 Task 5.29	A	IRWD	\$21,673.75						0				
100		Pending approval by Exe Dir of Eng and Water Quality Pending approval on April 22, 2019				\$0.00	\$20,780,309.90	\$20,780,309.90	12.71%	\$184,246,249.90		368	368	1,646	10/31/2017
	100.10	SCADA Programming Update to Digester Gas System (CR-754) PR 04286 Task 5.29	A	IRWD	\$0.00						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

					Contract Amount						Contract Days				Original Completion Date:
					Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
101		Approved by General Manager Approved on April 22, 2019				\$91,763.29	\$20,780,309.90	\$20,872,073.19	12.77%	\$184,338,013.19	0	368	368	1,646	10/31/2017
	101.1	Modifications to the Dryer Room Fan Support (CR-465) PR 04286 Task 5.30	B	IRWD	\$10,812.84						0				
	101.2	Electrical Power to Heat Trace Panels and Truck Exhaust Fans (CR-714A) PR 04286 Task 5.30	A	IRWD	\$26,487.96						0				
	101.3	Modifications to the Access Hatches at Truck Loading Area (CR-741.R1) PR 04286 Task 5.30	B	IRWD	\$15,340.36						0				
	101.4	Modifications to the Polymer Control Panels (CR-752) PR 04286 Task 5.30	B	IRWD	\$5,370.11						0				
	101.5	Electrical Modifications to the Make-Up Air Unit 32-MAU-101 (CR-755) PR 04286 Task 5.30	B	FBB	\$10,482.29										
	101.6	Modifications to the Andritz RIO-2111 Panel (CR-756) PR 04286 Task 5.30	B	IRWD	\$5,811.87						0				
	101.7	Modifications to the Centrifuge Cake Conveyors (CR-757) PR 04286 Task 5.30	B	FBB	\$2,093.32										
	101.8	Cyber Security Modifications to the Plant Control System (CR-758A) PR 04286 Task 5.30	A	IRWD	\$11,427.88						0				
	101.9	Modifications to the Resilient Flooring in the Solids Handling Building (CR-759) PR 04286 Task 5.29	B	FBB	\$3,936.66						0				
102		Pending Approval by General Manager Pending Approval on May 1, 2019				\$96,739.34	\$20,872,073.19	\$20,968,812.53	12.83%	\$184,434,752.53	0	368	368	1,646	10/31/2017
	102.1	Modifications to SCE Substation (CR-146D) PR 04286 Task 5.30	B	IRWD	\$5,091.51						0				
	102.2	Deionized Water System Modifications (CR-692) PR 04286 Task 5.30	A	IRWD	\$13,434.12						0				
	102.3	Acid Phase Recirculation Pump High Motor Temperature Switch Modification (CR-735.Rev 1) PR 04286 Task 5.30	B	IRWD	\$5,558.65										
	102.4	Cyber Security Modifications to the Plant Control System (CR-758.R1) PR 04286 Task 5.30	A	IRWD	\$39,841.55						0				
	102.5	Additional Gas Flow Meters for Boilers (CR-761) PR 04286 Task 5.30	B	IRWD	\$32,813.51						0				
103		Pending Approval by Board of Directors Pending Approval on May 21, 2019				\$136,584.96	\$20,968,812.53	\$21,105,397.49	12.91%	\$184,571,337.49	0	368	368	1,646	10/31/2017
	103.1	MWRP Biosolids Concrete Flatwork and Miscellaneous Site Improvements (CR-331B) PR 04286 Task 5.29	A	IRWD	\$136,584.96						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
Category				Total Amount	% of Original Contract									
A - District Convenience/Initiation - Project Related				\$ 4,301,780.77	2.63%									
B - Differing Site Conditions				\$ 13,193,034.49	8.07%									
C - Design Oversight				\$ 3,795,907.49	2.32%									
D - District Convenience/Initiation - Non-Project Related				\$ -	0.00%									
E - Contractor Convenience/Initiation				\$ 132,684.74	0.08%									
F - Contractor Requested Inspection Overtime				\$ (318,010.00)	-0.19%									
TOTAL (A + B + C + D + E + F)				\$ 21,105,397.49	12.91%									

Category	Total Amount	% of Original Contract
IRWD-Initiation/Driven	\$ 5,946,686.56	3.64%
FBB-Initiation/Driven	\$ 14,987,990.71	9.17%
N/A	\$ 170,720.22	0.10%
TOTAL	\$ 21,105,397.49	12.91%

May 22, 2019

Prepared by: R. Jacobson

Submitted by: C. Clary

Approved by: Paul A. Cook



CONSENT CALENDAR

SAND CANYON PROFESSIONAL CENTER – PHASE II CONTRACT CHANGE ORDER NO. 4

SUMMARY:

The Sand Canyon Professional Center Phase II project includes construction of a 70,000 square foot for-lease office building and a central outdoor area on vacant land owned by the District. Staff recommends that the Board authorize the General Manager to execute Contract Change Order (CCO) No. 4 in the amount of \$165,158.85 with KPRS Construction Services for Project No. 06210.

BACKGROUND:

Phase II of the Sand Canyon Professional Center includes construction of an approximate 70,000 square foot professional office building, related site work and completion of a central outdoor area on land adjacent to the District headquarters facility. The medical and professional office combination on the site was recommended in a land use study, and the resulting tenant diversification has been further supported by other local real estate professionals based on zoning, trip allocation constraints and market data for the area.

On October 22, 2018, the Board authorized the General Manager to award a construction contract to KPRS Construction Services in the amount of \$17,992,969 for the project. Construction of the building shell and related site work are expected to be completed in December 2019.

Contract Change Order No. 4:

The general contractor for the project has provided a contract change order, which includes additional work and costs, a credit and a change to the project completion date due to weather related delays. Additional costs and credits required to complete the project include the following:

- An upgrade to the planned covered parking carports providing structural support for future potential solar panel installations. The amount of the increase is \$73,097.86.
- Concrete curb and sound insulation for the rooftop HVAC units, related structural steel (joist, beam, camber and embed) modifications and increase to the roof screen height, based on plan revisions from the project architect. The amount of the increase for rooftop changes is \$108,716.13.
- Modifications to existing domestic and recycled pipelines due to differences between approved plans and actual pipeline locations vs. as-built plans. The amount of the increase is \$28,842.05.

- Added roofing and drainage requirements for trash and bicycle enclosure per city building code requirements. The amount of the increase is \$12,964.66.
- A credit for contractor recommended value engineering item substituting Berridge screen front facing roof panels for Architectural Louvers panels included in plans. The amount of the credit is \$105,000.00.
- A change in the scheduled construction completion date from November 19, 2019 to December 25, 2019 due to weather delays during the initial project period. Any potential cost for the delay is not included in this CCO and will be determined based on the actual completion date.

Staff and the District's construction manager, Newport Real Estate Services, have reviewed the costs and credits for the change order items and find them fair and reasonable. The complete CCO No. 4 in the net amount of \$165,158.85 is attached as Exhibit "A".

FISCAL IMPACTS:

Project 06210 is included in the FY 2018-19 Capital Budget with a total budget of \$20,355,630, which includes design, construction, permits/fees and other related costs. Based on the project budget contingency amount, the recommended CCO does not require a budget increase. The project is funded by the District's Replacement Fund.

ENVIRONMENTAL COMPLIANCE:

A Final Environmental Impact Report has been prepared, certified and the project approved by the County of Orange Environmental Management Agency in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on May 21, 2019.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE CONTRACT CHANGE ORDER NO. 4 IN THE AMOUNT OF \$165,158.85 WITH KPRS CONSTRUCTION SERVICES FOR THE SAND CANYON PROFESSIONAL CENTER PHASE II, PROJECT NO. 06210.

LIST OF EXHIBITS:

Exhibit "A" – Contract Change Order No. 4



KPRS Construction Services Inc.
2850 Saturn Street
Brea, California 92821
Phone: (714) 672-0800
Fax: (714) 672-0871

Project: 218073 - Sand Canyon Office Building
15550 Sand Canyon Avenue
Irvine, California 92618

Prime Contract Change Order #004: PCCO #004 = PCO 7-12-13-14R1-18-19-21-22-23-24-25-26 Added Scope Note PCO 14R1-18-24 & 25, Schedule Delay Impact (Time Only) GC Cost To Be Determined At Later Date

TO:	Irvine Ranch Water District 15600 Sand Canyon Avenue Irvine, California 92618	FROM:	KPRS Construction Services, Inc 2850 Saturn St Brea California 92821
DATE CREATED:	4/ 29 /2019	CREATED BY:	Sean Wisner (KPRS Construction Services, Inc)
CONTRACT STATUS:	Pending - In Review	REVISION:	1
DESIGNATED REVIEWER:	Sean Wisner	REVIEWED BY:	
DUE DATE:		REVIEW DATE:	
INVOICED DATE:		PAID DATE:	
SCHEDULE IMPACT:	54 days	EXECUTED:	No
CONTRACT FOR:	218073:Prime Contract	TOTAL AMOUNT:	\$ 165,158.85

DESCRIPTION:

This change order is for PCO 7-12-13-14R1-18-19-21-22-23-24-25-26 to provide the additional scope of work as directed by Owner. Please see each individual PCO for specific cost breakdown, inclusions, exclusions and notes as to cost impact and or schedule impact. The schedule is being extended as noted on PCO #14R1 (25 Days), PCO #18 (4 Days), PCO #24 (15 Days) and PCO #25 (10 Days). Per Owner request, KPRS has removed additional GC cost impact, and these costs will be determined at later date.

ATTACHMENTS:

[PCO #018 Bulletin #1 Plumbing Plans Changes Only.pdf](#), [PCO #026 RFI #077 Increase Roof Screen Structural Post Height.pdf](#), [PCO #024 HVAC Concrete Curb Added Scope RFI #38 & #69.pdf](#), [PCO #025 RFI #76 Added Scope & Revised Beams-Joists & Embeds.pdf](#), [PCO #021 Plumbing Submittal Revisions Sheet P5.0 Dated 3-15-2019.pdf](#), [PCO #023 RFI #56 Domestic & Reclaimed = APPROVED.pdf](#), [PCO #022 RFI #089 added Rebar Panel 7 - 11 & 41 - 48.pdf](#), [PCO #019 RFI #74 Added Trash & Bike Enclosure Roofing & Drain Scupper.pdf](#), [PCO #013 Contract VE #2 HVAC Screen Face Panel Berridge.pdf](#), [PCO #012 Contract Alt #2 Declined - Sanblast Alternative.pdf](#), [PCO #014R - Contract Schedule Delay Impact - Completion Date = 12-25-2019.pdf](#), [PCO #007 Solar Ready = APPROVED.pdf](#)

POTENTIAL CHANGE ORDERS IN THIS CHANGE ORDER:

PCO #	Title	Schedule Impact	Amount
007	CE #008 - Solar Ready Carport Structures		73,097.86
012	CE #015 - Contract Alternate #2 Front Entry Monument Sign Wall - Added Stone Veneer Declined, Provide Alternative Sand Blast Finish		7,424.89
013	CE #016 - Contract Value Engineering Item #2 HVAC Screen Berridge Front Face Panel		(105,000.00)
014	CE #018 - Contract Schedule Delay Impact - GC Cost To Be Determined At Later Date / New Completion Date 12-25-2019	25 days	0.00
018	CE #022 - Bulletin #1 Plumbing Plan Changes Only	4 days	26,852.88
019	CE #023 - RFI #074 Trash & Bike Enclosure Added Roofing & Drain Scupper		12,964.66
021	CE #025 - RPM Engineers Revised Sheep P5.0 Dated 3-15-2019 - Added Condensate Drains		8,352.31
022	CE #026 - RFI #89 Added Rebar Scope Panel 7 - 11 & 41 - 48		3,908.07
023	CE #029 - RFI #056 Domestic & Reclaimed Water Conflict		28,842.05
024	CE #027 - RFI #38 & #69 Concrete Curb & Sound Insulation Rooftop HVAC Units	15 days	87,891.06

025	CE #028 - RFI #076 Joist, Beam, Embed and Camber Changes	10 days	17,136.43
026	CE #030 - RFI #077 Roof Screen Height Increase - Structural Steel Material Cost Only		3,688.64
TOTAL:			\$ 165,158.85

The original (Contract Sum)	\$ 17,992,969.17
Net change by previously authorized Change Orders	\$ 37,125.76
The contract sum prior to this Change Order was	\$ 18,030,094.93
The contract sum would be changed by this Change Order in the amount of	\$ 165,158.85
The new contract sum including this Change Order will be	\$ 18,195,253.78
The contract time will be increased by this Change Order by 54 days	

Newport Real Estate Services, Inc.

Irvine Ranch Water District


KPRS Construction Services

Paul Cook

Sean Wisner


5.14.19
SIGNATURE DATE

SIGNATURE DATE


05/14/2019 3:50:36 PM
SIGNATURE DATE