

# **NOTICE OF MEETING**

---

**OF THE**

**ENGINEERING, OPERATIONS,  
AND BIOSOLIDS MANAGEMENT  
COMMITTEE**

**OF THE  
BOARD OF DIRECTORS  
OF THE**



*Inland Empire Utilities Agency*  
A MUNICIPAL WATER DISTRICT

**IS SCHEDULED FOR  
WEDNESDAY, SEPTEMBER 9, 2015  
10:00 A.M.**

***Or immediately following the  
Public, Legislative Affairs, and Water Resources  
Committee Meeting***

**AT THE ADMINISTRATION HEADQUARTERS  
6075 Kimball Avenue, Building A  
Chino, CA 91708**



**ENGINEERING, OPERATIONS, AND  
BIOSOLIDS MANAGEMENT  
COMMITTEE MEETING  
OF THE BOARD OF DIRECTORS  
INLAND EMPIRE UTILITIES AGENCY\*  
AGENCY HEADQUARTERS, CHINO, CALIFORNIA**

**WEDNESDAY, SEPTEMBER 9, 2015  
10:00 A.M.**

*Or immediately following the  
Public, Legislative Affairs, and Water Resources  
Committee Meeting*

**CALL TO ORDER**

**PUBLIC COMMENT**

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to complete and submit to the Board Secretary a "Request to Speak" form which is available on the table in the Board Room. Comments will be limited to five minutes per speaker. Thank you.

**ADDITIONS TO THE AGENDA**

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

**1. ACTION ITEMS**

**A. MINUTES**

The Committee will be asked to approve the Engineering, Operations, and Biosolids Management Committee meeting minutes from the August 12, 2015 meeting.

**B. ENGINEERING SERVICES CONTRACT AMENDMENT FOR THE RECYCLED WATER PROGRAM, SOUTHERN PROJECT AREA**

It is recommended that the Committee/Board:

1. Approve an engineering services contract amendment for Stantec Consulting, Inc. for the Recycled Water Program, Southern Project Area, for the not-to-exceed fee of \$48,746; and
2. Authorize the General Manager, subject to non-substantial changes, to execute the agreements.

**C. TASK ORDER NO. 1 - CHANGE ORDER REQUEST FOR RP-1 FLARE NEW IRON SPONGE INSTALLATION**

It is recommended that the Committee/Board:

1. Approve a Task Order Change Order for the RP-1 Flare System Improvements, new iron sponge installation, Project No. EN13046, to W.A. Rasic Construction for the lump sum amount of \$160,279; and
2. Authorize the General Manager to finalize and execute the Change Order.

**D. CONTRACT AWARD TO UNIVAR USA, INC. FOR 25% SODIUM BISULFITE**

It is recommended that the Committee/Board:

1. Approve Contract No. 4600001974 to Univar USA, Inc. establishing a two-year contract for the supply of 25% Sodium Bisulfite with options for three additional one-year extensions, for a potential total contract term for five years; and
2. Authorize the General Manager or his designee to execute the contract with three potential contract extensions.

**E. CONSTRUCTION CONTRACT FOR THE NRW COLLECTION SYSTEM MANHOLE UPGRADES FY 2015/16 AND FOR THE COLLECTION SYSTEM MANHOLE UPGRADES FY 2015/16**

It is recommended that the Committee/Board:

1. Approve the construction contract award for the NRW Collection System Manhole Upgrades FY 2015/16, Project No. EN15046 and Collection System Manhole Upgrades FY 2015/16, Project No. EN15045, to Genesis Construction for their low bid of \$594,777; and

2. Authorize the General Manager to execute the contract.

2. **INFORMATION ITEM**

A. **ENGINEERING AND CONSTRUCTION MANAGEMENT PROGRAM  
MANAGEMENT PLAN (WRITTEN/POWERPOINT)**

**RECEIVE AND FILE INFORMATION ITEM**

B. **ENGINEERING AND CONSTRUCTION MANAGEMENT MONTHLY  
UPDATE (POWERPOINT)**

3. **GENERAL MANAGER'S COMMENTS**

4. **COMMITTEE MEMBER COMMENTS**

5. **COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS**

6. **ADJOURN**

\*A Municipal Water District

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary (909-993-1736), 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

Proofed by: gk

**DECLARATION OF POSTING**

I, April Woodruff, Board Secretary of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of the agenda has been posted by 5:30 p.m. in the foyer at the Agency's main office, 6075 Kimball Ave., Building A, Chino, CA on Thursday, September 3, 2015.

  
\_\_\_\_\_  
April Woodruff

**ACTION  
ITEM  
1A**



*Inland Empire Utilities Agency*

A MUNICIPAL WATER DISTRICT

## MINUTES

### ENGINEERING, OPERATIONS, AND BIOSOLIDS MANAGEMENT COMMITTEE MEETING INLAND EMPIRE UTILITIES AGENCY\* AGENCY HEADQUARTERS, CHINO, CA

WEDNESDAY, AUGUST 12, 2015  
10:00 A.M.

#### **COMMITTEE MEMBERS PRESENT**

Michael Camacho, Chair  
Terry Catlin

#### **STAFF PRESENT**

Jasmin A. Hall, Director  
Chris Berch, Executive Manager of Engineering/AGM  
Ernest Yeboah, Executive Manager of Operations/AGM  
Adham Almasri, Senior Engineer  
Kathleen Baxter, Supervisor of Contracts & Programs Administrator  
Kathy Besser, Manager of External Affairs  
Pietro Cambiaso, Senior Engineer  
Andy Campbell, Deputy Manager of Planning and Environmental Resources  
Connie Campbell, Accounting Supervisor  
Nel Groenveld, Manager of Laboratories  
Matthew Melendrez, Deputy Manager of Operations  
David Mendez, Deputy Manager of Construction Management  
Matt Poeske, Construction Project Manager-PE  
Craig Proctor, Pretreatment & Source Control Supervisor  
John Scherck, Acting Deputy Manager of Construction Management  
Ken Tuliau, Manager of Maintenance  
Teresa Velarde, Manager of Internal Audit  
April Woodruff, Board Secretary/Office Manager

#### **OTHERS PRESENT**

Shawn Perumean, CVWD

The meeting was called to order at 10:04 a.m. There were no public comments received or additions to the agenda.

General Manager Joseph Grindstaff requested that the Committee approve an addition to the Agenda, which will become Action Item I, Construction Change Order for the Wineville Extension Recycled Water Pipeline, Segment B, Project No. EN13025. It was the consensus of the Committee to add this Action Item I to the Agenda.

**ACTION ITEMS**

The Committee:

- ◆ Approved the Engineering, Operations, and Biosolids Management Committee meeting minutes of July 8, 2015.
- ◆ Recommended that the Board:
  1. Approve the agreements with California Steel Industries, Auto Club Speedway, Prologis, City of Fontana, and Fontana Water Company to provide wastewater and recycled water services to a portion of the unincorporated area of San Bernardino County; and
  2. Authorize the General Manager, subject to non-substantial changes, to execute the agreements;

as an Action Item on the August 19, 2015 Board meeting agenda.

- ◆ Recommended that the Board:
  1. Award a professional service contract for the preparation of a Program Environmental Impact Report (PEIR) to Tom Dodson and Associates (TDA), for a not-to-exceed amount of \$330,000; and
  2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the August 19, 2015 Board meeting agenda.

- ◆ Recommended that the Board:
  1. Approve the Memorandum of Understanding (MOU) and Term Sheet between Inland Empire Utilities Agency and Advanced Microgrid Solutions, Inc. (AMS) for an Energy Storage Services Agreement; and
  2. Authorize the General Manager, subject to non-substantial changes, to execute the MOU;

as an Action Item on the August 19, 2015 Board meeting agenda.

- ◆ Recommended that the Board:
  1. Approve Contract No. 4600001952 to California Water Technologies, LLC, establishing a two-year contract for the supply of bulk ferric chloride with options for three additional one-year extensions, for a potential total contract term of five years; and
  2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the August 19, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the award of Master Service Contracts to perform painting services for the Agency's facilities and process piping systems for a total aggregate not-to-exceed amount of \$300,000 over a five-year period to the following:
  - KCC Painting (Contract No. 4600001946)
  - U.S. National Corporation (Contract No. 460001949)
  - Tony Painting (Contract No. 400001947); and
2. Authorize the General Manager to execute the contracts;

as a Consent Calendar Item on the August 19, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the sole-source purchase of one (1) John Deere Model #617R cab Tractor for \$160,408;
2. Approve the sole-source purchase of one (1) Brown Bear model PTOA35E-10.5 compost aerator product number 105607 rototiller aerator for \$51,526; and
3. Authorize the General Manager to execute the purchases;

as a Consent Calendar Item on the August 19, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve a construction contract change order with Mike Bubalo Construction for the Wineville Extension Recycled Water Pipeline, Segment B, Project No. EN13045, for the not-to-exceed amount of \$280,510.66;
2. Authorize an amendment to the master contract with Butier Engineering, Inc. for the On-Call Construction Management and Inspection Services, Task Order No. 2, for the not-to-exceed amount of \$95,000;
3. Authorize the General Manager to execute the construction contract change order; and
4. Authorize the General Manager to execute the amendment;

as a Consent Calendar Item on the August 19, 2015 Board meeting agenda.

**INFORMATION ITEMS**

The following information items were presented or received and filed by the Committee:

- ◆ Regional Pretreatment Program Local Limits Evaluation
- ◆ Semi-Annual Laboratory Update
- ◆ Engineering and Construction Management Monthly Update



**GENERAL MANAGER'S COMMENTS**

General Manager Joseph Grindstaff no additional comments.

**COMMITTEE MEMBER COMMENTS**

There were no Committee Member comments.

**COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS**

There were no Committee Member requested future agenda items.

With no further business, the meeting adjourned at 11:15 a.m.

Respectfully submitted,

April Woodruff  
Board Secretary/Office Manager

\*A Municipal Water District

**APPROVED: AUGUST 12, 2015**

**ACTION  
ITEM  
1B**



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Date: September 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(09/09/15)

From: *JK* P. Joseph Grindstaff *WJ*  
General Manager

Submitted by: Chris Berch *CB*  
Executive Manager of Engineering/Assistant General Manager

David Mendez *DM*  
Acting Deputy Manager of Engineering

Subject: Engineering Services Contract Amendment for the Recycled Water Program, Southern Project Area

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### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve an engineering services contract amendment for Stantec Consulting, Inc. for the Recycled Water Program, Southern Project Area, for the not-to-exceed fee of \$48,746; and
2. Authorize the General Manager to finalize and execute the contract amendment.

### **BACKGROUND**

The Southern Project Area includes the design and construction of the 930 Zone Recycled Water Reservoir, 930 Zone Recycled Water Pipeline and the expansion of the recycled water pump stations at RP-1, RP-5, and CCWRF. The construction of all projects has been completed.

Stantec's scope for the design engineering and construction support services of the CCWRF Recycled Water Pump Station Expansion did not include the creation of an Operation & Maintenance (O&M) Manual with Standard Operating Procedures (SOPs). The original scope was based on the assumption that there was an existing O&M manual for the pump station prior to the expansion and the scope was accordingly limited to inserting the new equipment

information to an existing manual. The Agency started implementing the creation of the O&M manuals for the newly constructed facilities since 2011.

Engineering staff requested Stantec to provide a proposal to prepare an O&M Manual with SOPs. The O&M manual will provide specific instruction to the Operators and Maintenance staff on the unit process control procedures, troubleshooting, safety information and precautions, spare parts list, chemicals Manufacturer Safety and Data Sheets (MSDS), start-up and shutdown procedures, and instructions during an emergency/abnormal operation. Staff reviewed the proposal provided by Stantec and determined that the fees reflect a reasonable level of effort and the rates are within industry standards.

The CCWRF Recycled Water Expansion project is part of the Agency's Water Reliability Business Goal to develop and implement an integrated water resource management plan that promotes cost-effective, reliable, efficient and sustainable water use along with economic growth within the IEUA Service Area.

### **PRIOR BOARD ACTION**

On July 17 2013, the Board approved the engineering services contract amendment for Stantec Consulting, Inc. for the Recycled Water Program, Southern Project Area

On February 20, 2013, the Board approved the award of construction contract for the 930 Zone Recycled Water Pipeline to MNR Construction.

On December 16, 2012, the Board approved the award of construction contract for the 930 Zone Recycled Reservoir to Paso Robles Tanks, Inc.

On September 19, 2012, the Board approved the award of construction contract for the CCWRF Recycled Water Pump Station Expansion to Norman A. Olsson Construction, Inc.

On April 18, 2012; the Board approved the termination of the construction contract for the CCWRF Recycled Water Pump Station Expansion to Norman A. Olsson Construction, Inc. and approved the rejection of all bids received towards the first advertisement.

On September 21, 2011, the Board approved the design-build contract with Spectrum Engineering and Surveying for the 930 West Reservoir's Communication Monopole.

On July 16, 2008, the Board approved the engineering services contract with Stantec Consulting, Inc. for the Recycled Water Program, Southern Project Area.

On May 21, 2008, the Board approved the engineering services consultant selection for the Business Plan and the engineering services contract award to MWH Americas, Inc. for the Northwest Area Recycled Water Projects.

Engineering Services Contract Amendment for the  
Recycled Water Program, Southern Project Area  
September 16, 2015  
Page 3 of 3

On February 20, 2008, the Board approved the engineering services consultant selection for the Business Plan and the engineering services contract award to RMC for the 1630 East, Segment A Pipeline Project.

On December 19, 2007, the Board approved the Recycled Water Three Year Business Plan.

### **IMPACT ON BUDGET**

Stantec's contract Amendment for the Recycled Water Program, Southern Project Area in the amount of \$48,746 is within the total project budget of \$15,945,933 and the annual budget of \$91,355.00 under EN13023 in the Recycled Water (WC) Fund.

PJG:CB:DM:aa

**DRAFT**



**AMENDMENT NUMBER: 4600000199-028**

**FOR**

**RECYCLED WATER PROGRAM SOUTHERN PROJECT AREA**

THIS AMENDMENT NUMBER TWENTY-EIGHT to Contract Number 4600000199 is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2015 by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency") and Stantec Consulting, Inc., and shall revise the Contract as amended:

**REVISE SECTION 4., SCOPE OF WORK AND SERVICES TO ADD THE FOLLOWING ITEM:**

Provide an Operations and Maintenance (O&M) manual in accordance with the Consultant's fee proposal dated July 17, 2015, referenced herein as **Exhibit A**, attached hereto, and made a part hereof by this reference.

**REVISE SECTION 6., COMPENSATION, THIRD PARAGRAPH, TO ADD:**

In compensation for the additional work represented by this contract amendment, Agency shall pay Consultant a NOT-TO-EXCEED maximum total of **\$2,625,199.00** for all services provided basis the Consultant's proposal, attached hereto, referenced herein, and made a part hereof as **Exhibit A**.

(Note: This amendment represents a net increase of **\$48,746.00** to the Contract.)

**SRF LOAN AND GRANT REQUIREMENTS LAST PROVIDED IN AMENDMENT -014 REMAIN UNCHANGED. ALL OTHER PROVISIONS OF THIS CONTRACT REMAIN UNCHANGED.**

WITNESSETH, that the parties hereto have mutually covenanted and agreed as per the above amendment items, and in doing so have caused this document to become incorporated into the Contract documents.

INLAND EMPIRE UTILITIES AGENCY:

STANTEC CONSULTING, INC.:

\_\_\_\_\_  
P. Joseph Grindstaff (Date)  
General Manager

\_\_\_\_\_  
Robert Reid (Date)  
Senior Associate

# Exhibit A



July 17, 2015  
File: 2040466700

**Attention: Adham Almasri**  
Project Manager  
Inland Empire Utilities Agency  
6075 Kimball Avenue  
Chino, CA 91708

Dear Adham,

**Reference: Carbon Canyon WRF Recycled Water Pump Station  
Fee Proposal for O&M Manual**

Per your request, attached is Stantec's fee proposal to produce an O&M Manual with Standard Operating Procedures (SOPs) for the Carbon Canyon WRF Recycled Water Pump Station.

**Background:**

Stantec's scope for the design of the Carbon Canyon WRF Recycled Water Pump Station Expansion did not include producing an O&M Manual with Standard Operating Procedures (SOPs). Now that the Carbon Canyon Recycled Water Pump Station Expansion has been completed, IEUA would like an O&M Manual with SOPs produced for the pump station. IEUA has requested that Stantec provide a fee proposal to produce an O&M Manual with SOPs that is similar to the one Stantec produced for the RP-5 800 Zone and RP-1 930 Zone Recycled Water Pump Stations.

**Scope:**

1. Obtain existing O&M information from IEUA.
2. Obtain missing O&M information from Manufacturers.
3. Meet with Operators and obtain information for the Unit Process Control Procedure (UPCPs) and Standard Operating Procedures (SOPs).
4. Prepare draft O&M Manual including SOPs for the Carbon Canyon WRF Recycled Water Pump Station in accordance with attached outline and to the level of detail provided in the RP-5 800 Zone and RP-1 - 930 Zone Recycled Water Pump Station O&M Manuals. Submit draft for IEUA Review.
5. Meet with IEUA to review draft O&M Manual and SOPs.





July 17, 2015  
Adham Almasri  
Page 2 of 3

**Reference: Carbon Canyon WRF Recycled Water Pump Station  
Fee Proposal for O&M Manual**

6. Finalize O&M Manual and SOPs based on IEUA's comments.
7. Submit final O&M Manual and SOPs.

**Deliverables**

Based on the scope of services above, Stantec will provide the following deliverables:

1. Five (5) draft hard copies of the O&M Manual including SOPs, and associated photographs, illustrations, figures, and tables.
2. Five (5) final hard copies of the O&M Manual including SOPs, and associated photographs, illustrations, figures, and tables.
3. Two (2) CDs containing a complete PDF copy of the manual ready to print. CDs to include source files such as Word, Excel, etc.

**Assumptions**

The following assumptions have been incorporated into the preparation of the scope of services and fee:

1. O&M Manuals for existing equipment, if available, will be provided to Stantec in electronic format (pdfs).
2. One (1) day has been assumed to meet with Operators to obtain information regarding current operations of the Carbon Canyon WRF Recycled Water Pump Station.
3. One (1) meeting has been assumed to meet with IEUA to review the draft and receive all comments.
4. The O&M Manual, UPCPs, and SOPs are limited to the Carbon Canyon WRF Recycled Water Pump Station and its electrical and control systems. All processes and equipment upstream of the pump station wet well is excluded from this scope of work and fee.
5. Pump station controls from the 930 Zone Reservoir are included in this proposal.
6. The O&M Manual will not include operation of the Carbon Canyon WRF Sodium Bisulfite Chemical Metering Pumps.



July 17, 2015  
Adham Almasri  
Page 3 of 3

**Reference: Carbon Canyon WRF Recycled Water Pump Station  
Fee Proposal for O&M Manual**

7. Integration of the electronic version of the O&M Manual into IEUA's overall database-driven technical documentation system is by others and not included in this scope of work or fee.

**Schedule**

After notice-to-proceed, Stantec can provide a draft O&M Manual and SOPs within six (6) weeks. The final O&M Manual and SOPs can be provide within two (2) weeks of the review meeting and receipt of all of IEUA comments.

**Fee Estimate**

The proposed fee for providing the engineering services described above is **\$48,746**. See attached for fee breakdown.

We look forward to the opportunity to working with IEUA on this task. If you have questions or require additional information, please contact us at the numbers or e-mails below.

Regards,

**Stantec Consulting Services Inc.**

Bob Seeman, PE  
Senior Project Manager, Environment  
Phone: 949-923-6266  
Fax: 949-923-6121  
bob.seeman@stantec.com

Attachment: Fee Estimate

c. Chris Simko, Stantec  
Eric Bolstad, Stantec

Inland Empire Utilities Agency  
 Estimated Fee for  
 Carbon Canyon WRF Recycled Water Pump Station  
 O&M Manual and Standard Operating Procedures



Classification	Bob Seeman, PE Project Manager		Chris Simko Start-up Engineer		Eric Bolstad Senior Engineer		Marty Armenta Electrical Engineer		CAD Technician		Administrative Assistant		TOTAL HOURS	TOTAL LABOR	Other Direct Costs	TOTAL
	15	13	10	13	15	8	8	8	7	7	7					
Hourly Rate	\$191	\$158	\$100	\$158	\$191	\$124	\$191	\$124	\$123	\$106	\$106					
1.0 Carbon Canyon WRF Recycled Water Pump Station O&M Manual	4	8	8	8	4	4	4	4	4	4	4	174	\$26,928	\$2,100	\$31,028	
1.1 Obtain Existing O&M Information from IEUA and Collate													\$2,108	\$700	\$2,808	
1.2 Obtain Missing O&M Material from Manufacturers													\$672		\$672	
1.3 Prepare Draft O&M Manual for IEUA Review	4	8	8	8	4	4	4	4	8	4	4	114	\$18,976	\$400	\$18,976	
1.4 Reproduction for Draft O&M Manual	2			2								8	\$1,142	\$600	\$1,542	
1.5 Meet with IEUA to Review Draft O&M Manual	4			8								12	\$2,108		\$2,708	
1.6 Finalize O&M Manual and Incorporate JPCPs and SOPs	4			8								14	\$2,444		\$2,444	
1.7 Incorporate IEUA Comments on Final Draft	2			2								2	\$336		\$336	
1.8 Reproduction for Final O&M Manual	2			2								4	\$1,142	\$400	\$1,542	
2.0 Carbon Canyon WRF Recycled Water Pump Station Standard Operating Procedure	8	88	0	0	2	2	2	2	0	0	0	102	\$17,116	\$600	\$17,716	
2.1 Meet with Operators / Field Investigation	4	8										12	\$2,108	\$600	\$2,708	
2.2 Prepare SOP	4	80			2	2	2	2			2	88	\$14,798		\$14,798	
2.3 Reproduction for Final Unit Process Control Procedures and SOP												2	\$212		\$212	
<b>TOTAL</b>	28	58		124	6	6	6	6	6	6	6	276	\$46,046	\$2,700	\$48,746	
<b>TOTAL (hours)</b>	28	58		124	6	6	6	6	6	6	6	276	\$46,046	\$2,700	\$48,746	
<b>TOTAL (positions)</b>	\$5,348	\$16,464		\$20,832	\$1,148	\$1,148	\$1,148	\$1,148	\$984	\$1,272	\$1,272					
	10.1%	35.5%		44.9%	2.2%	2.5%	2.2%	2.2%	2.9%	4.3%	4.3%					
	11.6%	35.8%		45.2%	2.5%	2.8%	2.5%	2.5%	2.1%	2.8%	2.8%					

# ENGINEERING SERVICES CONTRACT AMENDMENT Recycled Water Program Southern Area Projects

September 2015



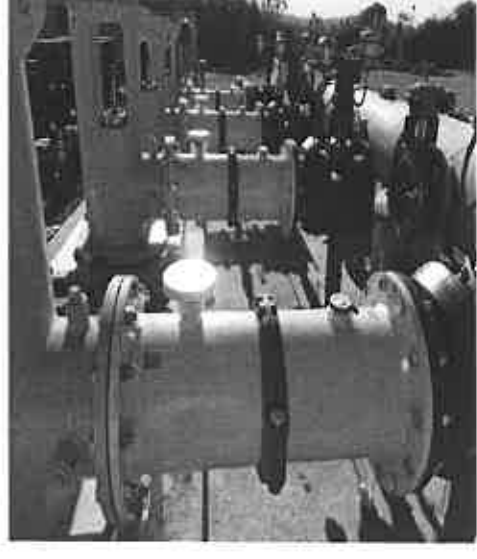
*Inland Empire Utilities Agency*  
**A MUNICIPAL WATER DISTRICT**

David Mendez  
Acting Deputy Manager of Engineering

Adham Almasri, P.E.  
Project Manager

# Project Request/Background

- Construction of 930 Zone RW projects have been completed
- Stantec's scope did not include delivery of an O&M manual
- A request for fees proposal was issued
- O&M manual with a SOP will include:
  - Instruction on the unit processes control procedures
  - Troubleshooting
  - Safety information, MSDS
  - Start-up and shutdown procedures
  - Emergency instructions



CCWRF Expanded Pump Station

# Schedule

<b>PROJECT PHASE</b>	<b>Completion</b>
Construction	Completed
Award Amendment	September 2015
O&M Manual Completion	November 2015

# Agency Goal/Recommendation

Staff recommends that the Board approve an engineering services contract amendment for Stantec Consulting, Inc. for the Recycled Water Program, Southern Project Area, for the not-to-exceed fee of \$48,746.

*The purchase is part of the Agency's Water Reliability Business Goal to develop and implement an integrated water resource management plan that promotes cost-effective, reliable, efficient and sustainable water use along with economic growth within the IEUA Service Area.*



**ACTION  
ITEM  
1C**



Date: September 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(09/09/15)  
Finance, Legal & Administration Committee  
(09/09/15)

From: P. Joseph Grindstaff *CPH*  
General Manager

Submitted by: Chris Berch *CB*  
Executive Manager of Engineering/Assistant General Manager

Ernest Yeboah *EY*  
Executive Manager of Operations/Assistant General Manager

John Scherck *JS*  
Acting Deputy Manager of Construction Management

Subject: Task Order Number 1- Change Order Request for RP-1 Flare New Iron  
Sponge Installation

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### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve a Task Order Change Order for the RP-1 Flare System Improvements, new iron sponge installation, Project No. EN13046, to W.A. Rasic Construction for the lump sum amount of \$160,279; and
2. Authorize the General Manager to finalize and execute the Change Order.

### **BACKGROUND**

The Agency's Regional Water Recycling Plant No. 1 (RP-1) has been in service for over 60 years. As part of the treatment process, the facility generates digester gas. Digester gas is produced within the digesters and conveyed via pipeline for several users within RP-1. The digester gas is consumed by the fuel cell for energy production and the boilers for digester heating. Excess and low quality gas generated by the digesters is sent to the waste gas flare.

RP-1's South Coast Air Quality Management District permit requires hydrogen sulfide removal which is completed in an iron sponge tank prior to being flared. Currently, the RP-1 flare system has only one iron sponge with no back-up or redundancy to maintain the required quality of the gas when the iron sponge is out of service for maintenance or during media replacement and/or regeneration (media replenishment) which imposes operational and maintenance constraints.

The Agency Maintenance Staff has procured a backup iron sponge (tank only) and has requested installation of the new iron sponge. W.A. Rasic Construction (Contractor) is currently working on upgrades of the digester gas piping system via Master Services contract 4600001745, Task Order Number 1. Due to the proximity and similar nature of the scope of work, the Agency requested that the Contractor provide a proposal for the installation of the pre-purchased iron sponge via RFD CO1. Following several document reviews and negotiations, the Contractor provided a proposal to complete this work for a not-to-exceed value of \$160,279. Authorizing the Contractor to amend his contract to include this additional scope will provide the desired operational flexibility and redundancy in an economical and timely manner.

The scope for the new iron sponge installation includes but is not limited to the following:

1. Iron sponge installation with proper seismic anchoring to existing concrete pad
2. Interconnecting piping and valves between the new iron sponge and existing iron sponge
3. Iron sponge vent piping with automatic pressure relief valve, flame arrestor and trap
4. Pipe supports and associated concrete footings
5. Miscellaneous condensate drain and water fill piping
6. Refurbishment of the existing air compressor, which will be used for iron sponge media regeneration
7. Installation of power supply cables, conduit, and circuit breaker for the regeneration air compressor
8. Installation of isolation valves and piping from the existing air regeneration system to the new iron sponge
9. Installation of eight (8) protective bollards around the new iron sponge on the adjacent road side

The addition of the new iron sponge will provide Operations and Maintenance staff the flexibility to remove an iron sponge from service to perform maintenance without an interruption to plant operations and will provide a level of redundancy that did not previously exist.

The following is a summary of projected costs for the project:

DESCRIPTION	COST
Design/Build Contract	\$406,600
New Iron Sponge System Installation (RFD)	\$160,279
Construction Management (IEUA Labor and Augmentation)	\$200,000
Contingency	\$80,000

<b>Total</b>	<b>\$846,879</b>
<b>Total Project Budget</b>	<b>\$3,600,000</b>

The overall project schedule is as follows:

<b>MILESTONE</b>	<b>COMPLETION</b>
Construction Contract Award	December 17, 2014
Design Completion	July 15, 2015
Construction Change Order Approval	September 16, 2015
Construction Completion	November 2015*

\* Construction completion will include 60 days associated with RFD 001

**PRIOR BOARD ACTION**

On December 17, 2014, the Board awarded the RP-1 Flare System Improvements construction contract to W.A. Rasic Construction.

**IMPACT ON BUDGET**

The new iron sponge system installation cost of \$160,279 and associated staff cost, as a result of this change order, brought the RP-1 Flare System Improvements, Project No. EN13046 cost to \$846,879, which is within the current total project budget of \$3,600,000, and annual appropriation of \$487,622 in the Regional Wastewater Capital Improvement (RC) Fund.

PJG:CB:DM:JS:jz



## CONSTRUCTION CONTRACT CHANGE ORDER

Project Title:	<u>New Iron Sponge Installation</u>	Project Number:	<u>EN13046</u>
Contractor Name:	<u>W. A. Rasic,</u>	Change Order No.:	<u>0001</u>
Location:	<u>Regional Plant No. 1</u>	Cost-Plus Basis/Lump Sum:	<u>Lump Sum</u>
Classification Code:	<u>200</u>		

### ***Original Condition:***

The Contractor was awarded a contract to perform modifications and improvements to the Regional Plant No. 1 (RP-1) Digester Gas System. The scope of these improvements included modifying the existing Digester Gas piping, new pipe supports, installation of a new flow meter, minor electrical and control work.

### ***Change Condition/Justification:***

The Agency's Maintenance Department procured two new iron sponges for the RP-1 facility and requested Construction Management Staff have the contractor install (1) at the RP-1 flare location as part of his contract.

The Contractor is directed to install the newly procured iron sponge and tie it into the existing iron sponge in a parallel configuration with necessary piping, fittings, valves, supports, and appurtenances similar to the existing iron sponge.

The new iron sponge will provide Operations Staff full redundancy for the digester gas treatment system. This Change Order reflects the cost of the work referenced within this document.

All work shall be performed in accordance with the original contract documents. The Contractor shall be granted a non-compensable time extension of his task order by the execution of this change order for a total amount of **forty-five calendar days**.

Total Change Order Amount \$160,279.16

*We, the undersigned contractor, have given careful consideration to the change proposed and hereby agree, if this proposal is approved, that we will provide all equipment, furnish all materials, except as may otherwise be noted, and perform all services necessary for the work specified, and will accept as full payment therefore the prices shown above. The compensation offered herein represents full and final compensation for all direct and indirect costs arising from this change.*

Contractor's Acceptance: \_\_\_\_\_ Date: \_\_\_\_\_

# CONSTRUCTION CONTRACT CHANGE ORDER

Project Title: New Iron Sponge Installation  
Contractor Name: W. A. Rasic,  
Location: Regional Plant No. 1  
Classification Code: 200

Project Number: EN13046  
Change Order No.: 0001  
Cost-Plus Basis/Lump Sum: Lump Sum

IEUA Owner's Approval:

Approval Recommended:  #1250  
Construction Project Coordinator/Inspector

Date: 9-3-2015

Approval Recommended:  #1099  
Construction Project Manager

Date: 9-3-2015

Approval Recommended:  #667  
Acting Deputy Manager of Construction Management

Date: 9.03.2015

Approval Recommended:  1311  
Manager of Engineering

Date: 9/3/15

Approval Recommended:  622  
Executive Manager of Engineering/Assistant General Manager

Date: 9/3/15

Approval: \_\_\_\_\_  
General Manager

Date: \_\_\_\_\_

# *CONSTRUCTION CONTRACT CHANGE ORDER DETAILS*

*Project Number:* EN13046`

*CO Number:* 0001

## **Change Order Details:**

Exhibit A: Contractor's Cost Proposal (1 Page)

Exhibit B: Cost Analysis (5 Pages)

Exhibit C: Cost Differential – RFD 0001 (2 Pages)

Exhibit D: Management Approval (3 Pages)

# EXHIBIT-A

Contractor's Cost Proposal  
1 Page



August 24, 2015

Inland Empire Utilities Agency  
6075 "B" Kimball Ave.  
Chino, CA 91708  
Attention: Mr. John Scherck

Reference: RFD 001 Iron Sponge Revision  
WAR Job 14TC-04

Dear Mr. Scherck,

Our price to construct the Iron Sponge per your RFD 001 revised documentation is \$163,510.00. This price is subject to the conditions and modifications from the original proposal dated August 12, 2015. A breakdown of our pricing is as follows:

1	Design Services & Survey	1	Each	\$10,030
2	Procure Piping and Valving Materials	1	Each	\$40,350
3	Install Iron Sponge, Purge, Tie-in	1	Each	\$39,500
4	Install SS Air Piping & Tie-in	1	Each	\$8,130
5	Install SS Condensate Piping, Change Exist to SS, Tie-In	1	Each	\$6,500
6	Install SS Press Relief Piping, Varc Flame, Relief Valve	1	Each	\$7,950
7	Install Pipe Supports, Pipe Bollards, Core Exist. Slab	1	Each	\$38,800
8	Electrical to Compressor	1	Each	\$12,250
	<b>TOTAL</b>			<b>\$163,510</b>

Sincerely,  
W.A. Rasic Construction Company, Inc.

Digitally signed by Shane Sato  
DN: cn=Shane Sato, o=W.A. Rasic Construction  
Company, Inc., ou>Select Division,  
email=ssato@warasic.com, c=US  
Date: 2015.08.24 17:15:23 -07'00'

Shane K. Sato  
Division Manager



# EXHIBIT-B

Cost Analysis  
5 Pages

**COST ESTIMATE**

CONTRACTOR NAME: W. A. RASIC CONTRACTING CO CHANGE ORDER NO: 1  
 PROJECT : EN13056 RP 1 FLARE BY PASS IMPROVEMENTS DATE OF INPUT: 8/25/2015  
 DESCRIPTION OF WORK: NEW IRON SPONGE INSTALLATION

**TOTAL COST SUMMARY, STANDARD MARK-UPS & SUBCONTRACTOR MARK-UPS**

Labor Costs (on sheet 2a, 2b, 2c)	\$	26,785.20
15% Mark-up	\$	4,017.78
<b>TOTAL LABOR COST</b>	\$	<b>30,802.98</b>
Equipment Costs (on Sheet 3a, 3b, 3c)	\$	25,387.60
5% Mark-up	\$	1,269.38
<b>TOTAL EQUIPMENT COST</b>	\$	<b>26,656.98</b>
Material Costs (on Sheet 4a, 4b, 4c)	\$	68,668.00
15% Mark-up	\$	10,300.20
<b>TOTAL MATERIAL COST</b>	\$	<b>78,968.20</b>
Subcontractor Costs (on Sheet 5)	\$	22,620.00
10% First \$2000.00 Mark-up	\$	200.00
5% Thereafter Mark-up	\$	1,031.00
<b>TOTAL SUBCONTRACTOR COST</b>	\$	<b>23,851.00</b>
<b>GRAND TOTAL</b>	\$	<b>160,279.16</b>

**EXTRA WORK BILL - LABOR SHEET**

DATE:

	CRAFT ID	NAME		REGULAR HOURS				PREMIUM HOURS (OT or Multishift)					
		LAST	FIRST	HOURS	RATE	*SURCH ARGE	COST	HOURS	RATE	*SURCH ARGE	COST		
1	OEFM	FOREMAN		120	\$ 67.57		\$ 8,108.40				\$ -		
2	LA05	LABORER		120	\$ 51.88		\$ 6,225.60				\$ -		
3	LA05	LABORER		120	\$ 51.88		\$ 6,225.60				\$ -		
4	LA05	LABORER		120	\$ 51.88		\$ 6,225.60				\$ -		
5							\$ -				\$ -		
6							\$ -				\$ -		
7							\$ -				\$ -		
8							\$ -				\$ -		
9							\$ -				\$ -		
10							\$ -				\$ -		
				TOTAL				\$ 26,785.20	TOTAL				\$ -

DATE:

	CRAFT ID	NAME		REGULAR HOURS				PREMIUM HOURS (OT or Multishift)					
		LAST	FIRST	HOURS	RATE	*SURCH ARGE	COST	HOURS	RATE	*SURCH ARGE	COST		
1							\$ -				\$ -		
2							\$ -				\$ -		
3							\$ -				\$ -		
4							\$ -				\$ -		
5							\$ -				\$ -		
6							\$ -				\$ -		
7							\$ -				\$ -		
8							\$ -				\$ -		
9							\$ -				\$ -		
10							\$ -				\$ -		
				TOTAL				\$ -	TOTAL				\$ -

DATE:

	CRAFT ID	NAME		REGULAR HOURS				PREMIUM HOURS (OT or Multishift)					
		LAST	FIRST	HOURS	RATE	*SURCH ARGE	COST	HOURS	RATE	*SURCH ARGE	COST		
1							\$ -				\$ -		
2							\$ -				\$ -		
3							\$ -				\$ -		
4							\$ -				\$ -		
5							\$ -				\$ -		
6							\$ -				\$ -		
7							\$ -				\$ -		
8							\$ -				\$ -		
9							\$ -				\$ -		
10							\$ -				\$ -		
				TOTAL				\$ -	TOTAL				\$ -

TOTAL LABOR COSTS

#####

ADDITIONAL COMMENTS/NOTES

**EXTRA WORK BILL - EQUIPMENT SHEET**

DATE:

	EQUIPMENT ID NUMBER	EQUIPMENT DESCRIPTION				REGULAR HOURS			OVERTIME HOURS			
		CLASS	MAKE	CODE	ATTACH	HOURS	RATE	COST	OT FACTOR	HOURS	RATE	COST
1	CREW TRUCK					120	\$95.68	\$ 4,281.60			\$ -	\$ -
2	MECHANICAL TRUCK					120	\$71.39	\$ 8,566.80			\$ -	\$ -
3	FORKLIFT					24	\$ 77.06	\$ 1,849.44			\$ -	\$ -
4	SMALL BACK HOE					120	\$ 40.55	\$ 4,866.00			\$ -	\$ -
5	CRANE					16	\$ 256.51	\$ 4,104.16			\$ -	\$ -
6	DUMP TRUCK					24	\$ 71.65	\$ 1,719.60			\$ -	\$ -
7								\$ -			\$ -	\$ -
8								\$ -			\$ -	\$ -
9								\$ -			\$ -	\$ -
10								\$ -			\$ -	\$ -
<b>TOTAL</b>								\$ 25,387.60		<b>TOTAL</b>	\$ -	\$ -

DATE:

	EQUIPMENT ID NUMBER	EQUIPMENT DESCRIPTION				REGULAR HOURS			OVERTIME HOURS			
		CLASS	MAKE	CODE	ATTACH	HOURS	RATE	COST	OT FACTOR	HOURS	RATE	COST
1								\$ -			\$ -	\$ -
2								\$ -			\$ -	\$ -
3								\$ -			\$ -	\$ -
4								\$ -			\$ -	\$ -
5								\$ -			\$ -	\$ -
6								\$ -			\$ -	\$ -
7								\$ -			\$ -	\$ -
8								\$ -			\$ -	\$ -
9								\$ -			\$ -	\$ -
10								\$ -			\$ -	\$ -
<b>TOTAL</b>								\$ -		<b>TOTAL</b>	\$ -	\$ -

DATE:

	EQUIPMENT ID NUMBER	EQUIPMENT DESCRIPTION				REGULAR HOURS			OVERTIME HOURS			
		CLASS	MAKE	CODE	ATTACH	HOURS	RATE	COST	OT FACTOR	HOURS	RATE	COST
1								\$ -			\$ -	\$ -
2								\$ -			\$ -	\$ -
3								\$ -			\$ -	\$ -
4								\$ -			\$ -	\$ -
5								\$ -			\$ -	\$ -
6								\$ -			\$ -	\$ -
7								\$ -			\$ -	\$ -
8								\$ -			\$ -	\$ -
9								\$ -			\$ -	\$ -
10								\$ -			\$ -	\$ -
<b>TOTAL</b>								\$ -		<b>TOTAL</b>	\$ -	\$ -

**TOTAL EQUIPMENT COSTS \$ 25,387.60**

ADDITIONAL COMMENTS/NOTES

**EXTRA WORK BILL - MATERIALS/SPECIAL SERVICE SHEET**

0

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	1
INVOICE DESCRIPTION	ELECTRICAL MATERIAL	UNIT COST	\$ 500.00
		<b>INVOICE TOTAL</b>	<b>\$ 500.00</b>

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	1
INVOICE DESCRIPTION	PIPING MATERIAL INCL VALVES	UNIT COST	\$ 41,500.00
		<b>INVOICE TOTAL</b>	<b>\$ 41,500.00</b>

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	10
INVOICE DESCRIPTION	PIPE SUPPORTS	UNIT COST	\$ 800.00
		<b>INVOICE TOTAL</b>	<b>\$ 8,000.00</b>

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	8
INVOICE DESCRIPTION	BOLLARDS	UNIT COST	\$ 800.00
		<b>INVOICE TOTAL</b>	<b>\$ 6,400.00</b>

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	1
INVOICE DESCRIPTION	PAINT / PRIMER ONLY	UNIT COST	\$ 2,800.00
		<b>INVOICE TOTAL</b>	<b>\$ 2,800.00</b>

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	1
INVOICE DESCRIPTION	MISC MATERIALS	UNIT COST	\$ 3,500.00
		<b>INVOICE TOTAL</b>	<b>\$ 3,500.00</b>

DATE OF INVOICE		INV #	
VENDOR NAME		UNITS	1
INVOICE DESCRIPTION	PURGING MATERIAL	UNIT COST	\$ 2,200.00
		<b>INVOICE TOTAL</b>	<b>\$ 2,200.00</b>

**TOTAL MATERIAL/SERVICES COST \$ 64,900.00**

**ADDITIONAL COMMENTS/NOTES**

**EXTRA WORK BILL - SUBCONTRACTOR SHEET**

0

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	1
SUB WORK	SURVEY	UNIT COST	\$ 5,280.00
<b>INVOICE TOTAL</b>			<b>\$ 5,280.00</b>

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	1
SUB WORK	ENGINEER	UNIT COST	\$ 4,440.00
<b>INVOICE TOTAL</b>			<b>\$ 4,440.00</b>

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	1
SUB WORK	ELECTRICAL	UNIT COST	\$ 4,900.00
<b>INVOICE TOTAL</b>			<b>\$ 4,900.00</b>

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	80
SUB WORK	WELDER	UNIT COST	\$ 100.00
<b>INVOICE TOTAL</b>			<b>\$ 8,000.00</b>

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	1
SUB WORK		UNIT COST	
<b>INVOICE TOTAL</b>			<b>\$ -</b>

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	1
SUB WORK		UNIT COST	
<b>INVOICE TOTAL</b>			<b>\$ -</b>

DATE OF INVOICE		INV #	
SUBCONTRACTOR		UNITS	1
SUB WORK		UNIT COST	
<b>INVOICE TOTAL</b>			<b>\$ -</b>

**TOTAL MATERIAL/SERVICES COST \$ 22,620.00**

**ADDITIONAL COMMENTS/NOTES**

# EXHIBIT-C

Request for Deviation No. 0001  
Cost Differential  
2 Pages

## Inland Empire Utilities Agency

### REQUEST FOR DEVIATION

**PROJECT NO.:** EN13046 **FILE:** 100.2.2.001.0001  
**PROJECT:** RP-1 FLARE SYSTEM IMPROVEMENTS **RFD NO:** 0001  
**SUBJECT:** New Iron Sponge **DATE:** 08/24/2015  
**CONTRACTOR:** WA Rasic

#### DESCRIPTION OF PROBLEM AND REQUEST(1):

The Agency has recently procured a new iron sponge to back up the existing iron sponge located within the RP-1 flare and digester gas piping system area.

The purpose of the iron sponge is to reduce the concentration of the hydrogen sulfide in the digester gas before it goes through the flare as required by South Coast Air Quality Management District. The Agency also installed a new 14"x14"x12" thick (contractor to verify) concrete pad for the new iron sponge as shown in the photos below.

The Contractor is requested to submit a lump sum cost proposal within **14 calendar days** utilizing the attached scope of work document, piping color chart and following description to install the new iron sponge and tie it into the existing iron sponge in a parallel configuration with necessary piping, fittings, valves, supports, and appurtenances similar to the existing iron sponge so the new iron sponge operates satisfactorily and provides full redundancy for the hydrogen sulfide treatment system.

The Contractor shall submit all necessary shop drawings and proposed layout and piping configuration to the Agency Staff for review and approval prior to starting the work.

The Agency will provide the available fabrication sheets for the new iron sponge to the Contractor.

All work shall be performed in accordance with the contract documents.

**PLEASE REPLY IN WRITING, VIA THIS FORM WITHIN 14 CALENDAR DAYS(2) THIS IS NOT A CHANGE ORDER. AUTHORIZATION TO PROCEED WITH ANY WORK SHALL BE BY MEANS OF A CHANGE ORDER ONLY.**

**ISSUED BY:** John Scherck **POSITION:** Construction Project Coordinator **CONTRACTOR/IEUA DEPT./CONSULTANT:** Owner

#### COMMENTS:

Construction Management staff has reviewed the Contractors proposal in response to RFD 001.

Construction Management Staff will request the Agency Board of Directors approval for a lump sum change order in the agreed amount of \$160,279.16

**BY:** John Scherck **DATE:** 08/25/2015

#### CONTRACTOR REPLY:

We have reviewed the above-proposed work and will complete these tasks as a change to the Contract with the IEUA for the price and time shown below. This price quotation will be held firm for 30 days from the date below pending the issue of a formal change order. A complete cost breakdown and revised schedule with justifications are attached for your review.

**CHANGE IN CONTRACT PRICE:** \$163,510.00

**AFFECTED ACTIVITY:**      **SUCCESSOR ACTIVITY:**     

**SUBMITTED BY:** Shane Sato **POSITION:** Contractor **DATE:** 08/24/2015

1. A complete description of the following shall be included or attached if necessary:

- a. Original contract requirements with references.
- b. Proposed revised contract requirements with thorough justification.
- c. An engineer's estimate, cost breakdown AND SCHEDULE impact.

2. Normal response period required shall be WITHIN 14 calendar days. ALL special requests shall be previously agree upon BY ALL parties involved.

Show/Hide Reviews





John Scherck (CPM)  
08/25/2015 12:36:12

Construction Management staff has reviewed the Contractors proposal in response to RFD 001.

Construction Management Staff will request the Agency Board of Directors approval for a lump sum change order in the agreed amount of \$160.279.16

**0001 Rev.0-5 Sent To: OE,CPM**

**Submit**

**Cost: \$163.510.00**



Shane Sato (Contractor)  
08/24/2015 16:35:03

**Affected Activity:**

**Successor Activity:**

Revised price for the Iron Sponge. Includes addition of two 8" DeZurik Valves at existing sponge with a pipe support. elimination of all coating other than primer.

**0001 Rev.0-4 Sent To: Contractor**

**Resubmit**



John Scherck (CPM)  
08/24/2015 14:00:56

The Contractor is requested to review the attached revised scope of work then submit a revised lump sum cost proposal.

The Agency requests a timely response to this request as time is of the essence.

**Attachments:**

RFD 001 RP-1 Flare System Improvements- New Iron Sponge Installation 4-28-15 J... (1).docx

**0001 Rev.0-3 Sent To: OE,CPM**

**Submit**

**Cost: \$163.000.00**



Shane Sato (Contractor)  
08/12/2015 15:24:17

**Affected Activity:**

**Successor Activity:**

Please let us know if you would like to sit down and discuss the scope for this price.

**Attachments: Iron Sponge Proposal Signed.pdf**

**0001 Rev.0-2 Sent To: Contractor**

**Email**

RFD details were emailed to ssato@warasic.com



Shane Sato (Contractor)  
07/29/2015 08:30:03

**0001 Rev.0-1 Sent To: Contractor**

**Send**

You have a new RFD



John Scherck (CPM)  
07/01/2015 11:24:22

**Attachments:**

Piping Color Code Chart and Labeling.xlsx  
RP-1 Flare System Improvements- New Iron Sponge Installation 4-28-15 J....docx

# EXHIBIT-D

Management Approval

3 Pages



Date: September 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(09/09/15)

From: P. Joseph Grindstaff  
General Manager

Submitted by: Chris Berch  
Executive Manager of Engineering/Assistant General Manager

Ernest Yeboah  
Executive Manager of Operations/Assistant General Manager

John Scherck  
Acting Deputy Manager of Construction Management

Subject: Task Order Number 1- Change Order Request for RP-1 Flare New Iron  
Sponge Installation

---

### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve a Task Order Change Order for the RP-1 Flare System Improvements, new iron sponge installation, Project No. EN13046, to W.A. Rasic Construction for the lump sum amount of \$160,279; and
2. Authorize the General Manager to finalize and execute the Change Order.

### **BACKGROUND**

The Agency's Regional Water Recycling Plant No. 1 (RP-1) has been in service for over 60 years. As part of the treatment process, the facility generates digester gas. Digester gas is produced within the digesters and conveyed via pipeline for several users within RP-1. The digester gas is consumed by the fuel cell for energy production and the boilers for digester heating. Excess and low quality gas generated by the digesters is sent to the waste gas flare.

RP-1's South Coast Air Quality Management District permit requires hydrogen sulfide removal which is completed in an iron sponge tank prior to being flared. Currently, the RP-1 flare system has only one iron sponge with no back-up or redundancy to maintain the required quality of the gas when the iron sponge is out of service for maintenance or during media replacement and/or regeneration (media replenishment) which imposes operational and maintenance constraints.

The Agency Maintenance Staff has procured a backup iron sponge (tank only) and has requested installation of the new iron sponge. W.A. Rasic Construction (Contractor) is currently working on upgrades of the digester gas piping system via Master Services contract 4600001745, Task Order Number 1, and IEUA has requested that they provide cost via RFD 001 for the installation of the said iron sponge and appurtenances, which was not part of the original Task Order's scope. The proposed costs have been reviewed and are fair and equitable.

The scope for the new iron sponge installation includes but is not limited to the following:

1. Iron sponge installation with proper seismic anchoring to existing concrete pad
2. Interconnecting piping and valves between the new iron sponge and existing iron sponge
3. Iron sponge vent piping with automatic pressure relief valve, flame arrestor and trap
4. Pipe supports and associated concrete footings
5. Miscellaneous condensate drain and water fill piping
6. Refurbishment of the existing air compressor, which will be used for iron sponge media regeneration
7. Install power supply cables, conduit, and circuit breaker for the regeneration air compressor
8. Install isolation valves and piping from the existing air regeneration system to the new iron sponge
9. Install eight (8) protective bollards around the new iron sponge on the adjacent road side

The addition of the new iron sponge will provide Operations and Maintenance staff the flexibility to remove an iron sponge from service to perform maintenance without an interruption to plant operations and will provide a level of redundancy that did not previously exist.

The following is a summary of projected costs for the project:

DESCRIPTION	COST
Design/Build Contract	\$406,600
New Iron Sponge System Installation (RFD)	\$160,279
Construction Management (IEUA Labor and Augmentation)	\$200,000
Contingency	\$80,000
<b>Total</b>	<b>\$846,879</b>
<b>Total Project Budget</b>	<b>\$3,600,000</b>

The overall project schedule is as follows:

<b>MILESTONE</b>	<b>COMPLETION</b>
Construction Contract Award	December 17, 2014
Design Completion	July 15, 2015
Construction Change Order Approval	September 16, 2015
Construction Completion	November 2015*

\* Construction completion will include 60 days associated with RFD 001

### **PRIOR BOARD ACTION**

On December 17, 2014, the Board awarded the RP-1 Flare System Improvements construction contract to W.A. Rasic

### **IMPACT ON BUDGET**

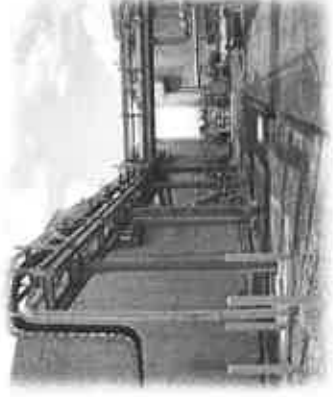
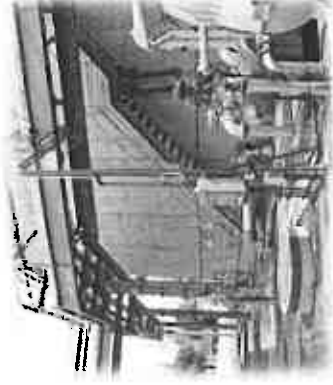
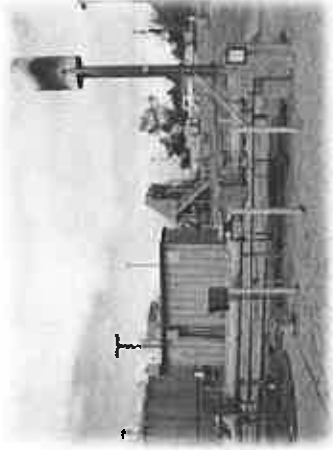
The new iron sponge system installation cost of \$160,279 and associated staff cost as a result of this change order brought the RP-1 Flare System Improvements, Project No. EN13046, cost to \$846,879, which is within the current total project budget of \$3,600,000 and annual appropriation of \$487,622 in the Regional Wastewater Capital Improvement (RC) Fund.

PJG:CB:DM:JS:jz

# RP-1 Flare System Improvements Task Order Change Order New Iron Sponge Installation

Project No. EN13046

September 2015

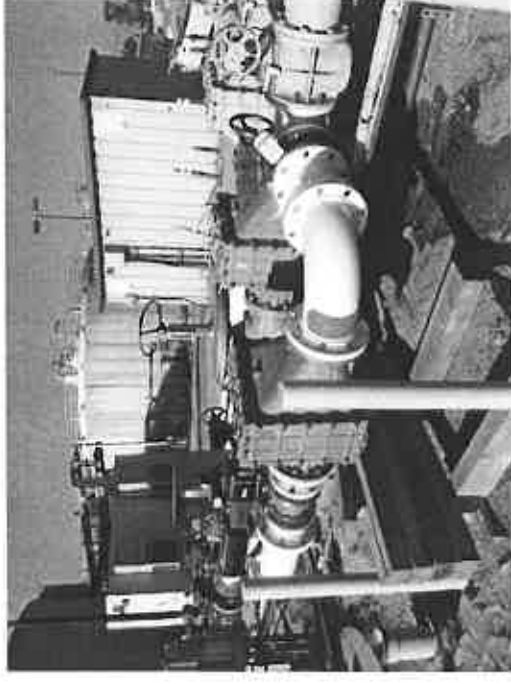


*Inland Empire Utilities Agency*  
A MUNICIPAL WATER DISTRICT

John Scherck  
Acting Deputy Manager of Construction Management  
Jamal Zughbi, P.E.  
Project Manager

# Project Background

- Agency retained W. A. Rasic (design/build contractor) in December 2014
- W. A. Rasic upgraded DG pressure regulation, piping, controls, etc.
- Excess DG must be scrubbed in an iron sponge before flaring (SCAQMD rule)
- Agency Ops staff procured new backup iron sponge and initiated request for scope change
- Existing iron sponge system has maintenance and operation constraints



RP-1 Flare DG Partial Piping

# Project Location



**Flare  
Area**

**General  
Digester  
Area**



# Scope of Work

- New iron sponge system installation and appurtenances
- Interconnecting piping and valves between new and existing iron sponges
- Pipe supports and concrete foundations
- Regeneration air compressor power supply



Existing Flare System

# Project Cost and Schedule

DESCRIPTION	COST
Design/Build Task Order	\$406,600
New Iron Sponge Change Order	\$160,279
Construction Management (IEUA Labor and Augmentation)	\$200,000
Contingency	\$80,000
Total	\$846,879
Total Project Budget	\$3,600,000
TASK	DATE
Construction Contract Award	December 17, 2014
Design Completion	July 15, 2015
Change Order Authorization	September 16, 2015
Construction Completion	November 2015

# Agency Goal/Recommendation

Staff recommends that the Board of Directors approve the request to award a change order to W.A. Rasic Construction for Project No. EN13046 for the lump sum amount of \$160,279, and also authorize the General Manager to execute the award.


*The project is part of the Agency's Wastewater Management Capacity Business Goals to maintain capacity within facilities to meet essential service demands and to protect public health and environment.*

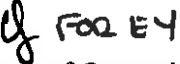
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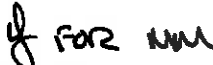
Date: September 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(09/09/15)  
Finance, Legal, and Administration Committee (09/09/15)

From:  P. Joseph Grindstaff  
General Manager

Submitted by: Ernest Yeboah   
Executive Manager of Operations/AGM

Matthew Melendrez   
Deputy Manager of Operations

Subject: Contract Award to Univar USA, Inc. for 25% Sodium Bisulfite

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### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve Contract No. 4600001974 to Univar USA, Inc. establishing a two-year contract for the supply of 25% Sodium Bisulfite with options for three additional one-year extensions, for a potential total contract term of five years; and
2. Authorize the General Manager or his designee to execute the contract with the three potential contract extensions.

### **BACKGROUND**

Sodium Bisulfite is used during the wastewater treatment process to neutralize chlorine in the plant effluent before it is discharged to a waterway. Neutralization of the chlorine is required for compliance with the Agency's National Pollutant Discharge Elimination System (NPDES) permit.

The current supply contract with Univar USA, Inc. will expire on September 30, 2015. A formal Request for Proposal was issued through The BidNet Network online solicitation system to 40 potential bidders. The bid closed on August 19, 2015 with one response from Univar USA, Inc.

Univar proposed the following prices:

Gallons Delivered	
> 4,500	< 4,500
\$0.2164	\$0.2527

The proposed full-load price from Univar is \$0.2164 per dry pound, which is approximately 3.5 cents per pound less (or 14%) than the current contract price of \$0.2516. Univar has met staff's expectations regarding performance. Given the favorable price offered and their satisfactory performance, staff recommends awarding the new two year contract to Univar USA, Inc.

### **PRIOR BOARD ACTION**

On September 15, 2010, the Board of Directors awarded a five-year contract to Basic Chemical Solutions, L.L.C., who was purchased by Univar USA, Inc. in 2011.

### **IMPACT ON BUDGET**

If approved, the anticipated chemical expenditures will be funded from the Fiscal Year 2015/16 Regional Wastewater Operations and Maintenance (RO) Fund's sodium bisulfite budget of \$266,105.



**CONTRACT NUMBER: 4600001974  
FOR  
SUPPLY OF SODIUM BISULFITE**

This CONTRACT (Contract) is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as Agency) and Univar USA, Inc., (hereinafter referred to as Supplier) for bulk supply and delivery of sodium bisulfite.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

- A. **CONTRACT ADMINISTRATOR:** All direction related to this Contract shall come from the designated Contract Administrator. Details of the Agency's assignment are as follows:

Contract Administrator: Roger Hughbanks  
Contracts and Programs Administrator  
Address: 6075 Kimball Ave.  
Chino, CA 91708  
Telephone: (909) 993-1679  
Email: [rhughbanks@ieua.org](mailto:rhughbanks@ieua.org)

- B. **SUPPLIER ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Supplier's Representative: Jennifer Perras  
Address: 8201 S. 212th Street  
Kent, WA 98032  
Telephone: (253) 872-5040  
E-mail: [muniteam-west@univarusa.com](mailto:muniteam-west@univarusa.com)

- C. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents. Where any conflicts exist between the general terms and conditions, addenda, attachment(s), or other contractual documents, the governing order of precedence shall be as follows:

1. Amendment(s) to Contract No. 4600001973
2. Contract No. 4600001974 Terms and Conditions
3. Agency's Request for Proposal No. RFP-RH-15-062
5. Supplier's Proposal dated 8/17/15

- D. **SCOPE OF WORK:** Supplier product, services, and responsibilities shall include and be in accordance with the following:

1. **GENERAL:** Bulk sodium bisulfite solution purchased under this contract shall comply in all respects with all federal, state, and local rules and regulations in effect at the time of delivery.

**2. SODIUM BISULFITE SOLUTION:** Sodium bisulfite solution shall consist of a solution of metabisulfite which meets the requirements of American Water Works Association (AWWA) standard specifications AWWA B601-88 dissolved in potable water.

The pH of the solution shall range between 3.5 and 5.5. The solution shall contain no more than 4.0 percent sodium sulfate and no more than 2.5 percent sodium sulfite by weight. The insoluble sodium bisulfite (Na HSO<sub>3</sub>) concentration shall be no greater than 90 mg/l in any one delivery and no more than 45 mg/l average through the term of any contract entered into by the Agency.

**3. CONCENTRATION:** The concentration of the solution delivered may vary from time to time between 25 and 30 percent sodium bisulfite. The concentration of the sodium bisulfite solution shall be requested separately for each specific delivery or group of deliveries. The delivered concentration shall be no more than 1.0 percent greater or less than the concentration requested for that delivery. The solution concentration shall be measured as the proportion of the solution which is sodium bisulfite by weight, expressed as a percentage.

**4. QUALITY CERTIFICATION:** Each delivery shall be accompanied by a certificate of compliance and a certified laboratory analysis which provides the concentration of total reducing compounds expressed as sodium bisulfite (Na HSO<sub>3</sub>) in pounds per gallon.

**5. ESTIMATED QUANTITIES:** It is anticipated that a single, successful bidder shall supply all bulk sodium bisulfite needed by the Agency throughout the term of any supply contract which results from this solicitation. It is estimated that the Agency's annual aggregate sodium bisulfite usage is approximately 1,752 tons. However, the Agency shall not be obligated to purchase any specific quantities and reserves the right to purchase either more or less product at the firm fixed price agreed to.

**6. SHIPPING INSTRUCTIONS:** Typical size of deliveries to Agency facilities should range between 4,000 to 5,000 gallons. It is a further condition that shipments shall be made within three calendar days from receipt of a verbal or written shipping order from the Agency. Orders will be placed on an "as-needed" basis to suit the Agency's requirements throughout the contract period. Deliveries shall be made between the hours of 8:00 am and 2:00 pm.

The Supplier shall provide all labor, equipment, and incidentals required to make deliveries. The Supplier shall provide and install the couplings necessary to mate the delivery truck to the Agency's receiving system. The Prado Park delivery location is an unmanned facility, therefore, the Supplier shall coordinate the delivery with the Agency's Deputy Manager of Operations at the Agency's Regional Plant No. 5 (phone: 909-993-1452), approximately 24 hours prior to delivery.

**7. DELIVERY LOCATIONS:** Deliveries of sodium bisulfite may be required at the following Agency facility locations:

Tertiary Plant No.1: 2 tanks, each 13,000 gallons  
2662 E. Walnut Ave., Ontario, CA 91761

Prado Regional Park: 2 tanks, each 5,300 gallons  
Dechlorination Station, 34 Johnson Avenue, Chino, CA 91708

Carbon Canyon Wastewater Recycling Facility: 2 tanks, each 5,000 gallons  
14950 Telephone Ave., Chino, CA 91708

Regional Plant No. 4: No current plans for SBS usage  
12811 6th Street, Rancho Cucamonga, CA 91729

Regional Plant No. 5: 2 tanks, each 5,000 gallons  
6063 Kimball Avenue, Chino, CA 91708



The Agency shall be responsible for maintenance of tanks and all appurtenant equipment. In addition, the Agency reserves the right to include any additional delivery destinations within its' service area, as may be required in the future. Any added delivery destinations shall receive the same product, service, pricing, etc., as required by the Contract.

**8. UNLOADING:** Upon arrival, the delivery person will report to the Operations Department personnel. Upon notification, an Agency operator will observe and approve all loading and unloading of shipments. The Supplier shall allow a reasonable period of time, up to one-half hour, between notification of personnel and approval by Agency operators to unload shipment. Procedures for loading and unloading of all shipments shall comply with Cal-OSHA and AWWA Standards. The Supplier's unloading crew must possess and wear appropriate personal protection equipment (PPE), compliant with OSHA regulations and safety data sheets, throughout each unloading process. Loading and unloading of all shipments will not commence without a Agency Operator present. The Supplier's delivery equipment **must** be fully compatible with Agency facilities and equipment. Deliveries shall be executed without any spillage of material. **Any** spilled material, however minor, shall immediately be contained and properly removed by the Supplier. Any damage or disfigurement to Agency property caused by a spill shall be corrected by the Supplier immediately.

**9. TERMINATION:** The Agency may reject delivery or terminate the contract if the quality of the delivered sodium bisulfite solution does not meet the product specifications. In the event that delivered product is rejected for failure to meet specifications, it shall be the sole responsibility of the Supplier to immediately remove said product and provide acceptable replacement product at the sole expense of the Supplier. The Agency may terminate the contract should two or more deliveries of product be rejected in a one year period.

**10. EMERGENCY PHONE NUMBER:** The Supplier shall provide a telephone number(s) where a representative of the Supplier may be contacted, 24/7/365, in the event of an emergency requiring their response.

**11. SAFETY DATA SHEETS:** The Supplier shall provide a copy of the associated Safety Data Sheet (SDS) to the Agency's Contract Administrator upon execution of any Contract entered into and whenever said document is revised or updated. Additionally, a copy of the product's SDS shall be submitted to the Agency Operator present at the time of each delivery.

**12. SAFETY TRAINING:** If requested, the Supplier shall provide training as to the safe and proper handling procedure of their product once per year. This training shall be provided at the Operations Center located at Regional Plant No. 1, 2450 E. Philadelphia Avenue, Ontario, CA, and Regional Plant No. 5, 6063 Kimball Ave., Chino, CA.

- E. **TERM OF CONTRACT / OPTIONS:** The initial term of this Contract shall be two years (10/1/15 through 9/30/17). Additionally, the Supplier shall agree to allow the Agency, at the Agency's sole discretion, to extend the Contract, in twelve month increments, for an additional period not-to-exceed 36 months; resulting in an aggregate potential total Contract term of five years. In the event the Agency desires to exercise any or all of the Contract extension options provided for in this Section, the Agency shall provide written notice to the Supplier prior to the expiration of the original Contract term, or any extension thereof.
- F. **OPTION PRICE ADJUSTMENTS:** In the event the Agency exercises any of the Contract extensions provided for in Section E above, pricing applicable to said extension(s) shall be derived through good-faith negotiations between the two parties and establish via formal contract amendment once a mutually-acceptable annual price adjustment is reached.
- G. **PAYMENT AND COMPENSATION:** The Agency shall pay Supplier's properly executed invoice(s) within thirty (30) calendar days following receipt of the invoice. Payment will be withheld for any product which does not meet the requirements of this Contract until such product is replaced and accepted by the Agency.

Supplier's invoices shall be submitted to: Inland Empire Utilities Agency  
Attn: Accounts Payable Department  
P.O. Box 9020  
Chino Hills, CA 91709

Or alternatively, invoices may be submitted via e-mail addressed to: APGroup@ieua.org

As compensation for product provided under this Contract, the Agency shall pay the Supplier as per the price schedule shown below.

**4,500 Gallon Load (or greater) Deliveries:**

<b>PRODUCT PRICE / <u>DRY POUND</u> (delivered)</b>	<b>\$ .2004</b>
<b>SALES TAX @ 8.0% / <u>DRY POUND</u></b>	<b>\$ .0160</b>
<b>TOTAL NET PRICE/ <u>DRY POUND</u> (delivered)</b>	<b>\$ .2164</b>

**Less Than 4,500 Gallon Load Deliveries:**

<b>PRODUCT PRICE / <u>DRY POUND</u> (delivered)</b>	<b>\$ .2340</b>
<b>SALES TAX @ 8.0% / <u>DRY POUND</u></b>	<b>\$ .0187</b>
<b>TOTAL NET PRICE/ <u>DRY POUND</u> (delivered)</b>	<b>\$ .2527</b>

**Split Load Charge:**

**(to be incurred for each stop after the first stop) \$ 75.00**

**H. FITNESS FOR DUTY:**

1. **Fitness:** Supplier and its Subcontract personnel on Agency property:
  - a. shall report for work in a manner fit to do their job;
  - b. shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the work is not affected thereby); and
  - c. shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of the Agency.
2. **Compliance:** Supplier shall advise all supplier and subcontractor personnel and associated third parties of the requirements of the Contract ("Fitness for Duty Requirements") before they enter on Agency property and shall immediately remove from Agency property any employee determined to be in violation of these requirements. Supplier shall impose these requirements on its Subcontractors. The Agency may cancel the Contract if Supplier violates these Fitness for Duty Requirements.

**I. REQUIRED INSURANCE:** During the term of this Contract, the Supplier shall maintain at Supplier's sole expense, the following insurance.

**A. Minimum Scope of Insurance:**

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number GL 00 01 10 01 covering Commercial General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be \$2,000,000.
  2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 10 01, covering Automobile Liability, including "any auto."
  3. Workers' Compensation and Employers Liability: Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident.
- B. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention (as respects the Agency), its officers, officials, employees, volunteers, property owners and engineers under contract to the Agency; or the Supplier shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- C. Other Insurance Provisions: The policies are to contain, or be endorsed to contain, the following provisions:
1. General Liability and Automobile Liability Coverage
    - a. The Agency, its officers, officials, employees, volunteers, property owners and any engineers under contract to the Agency are to be covered as additionally insureds, endorsement CG2010 1185, as respects: liability arising out of activities performed by or on behalf of the Supplier, products and completed operations of the Supplier, premises owned, occupied or used by the Supplier, or automobiles owned, leased, hired or borrowed by the Supplier. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees or volunteers. If Form CG 2010 10 93 or CG 2010 03 97 are issued in place of the CG 2010 11 85 form, then it is necessary to issue Form CG 2037 10 01 in addition to the 10 93 or 03 97 Forms.
    - b. The Supplier's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees, volunteers, property owners or engineers under contract to the Agency. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency shall be excess of the Supplier's insurance and shall not contribute with it.
    - c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency
    - d. The Supplier's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

- e. The Supplier may satisfy the limit requirements in a single policy or multiple policies. Any such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.

2. Workers' Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency for losses arising from work performed by the Supplier for the Agency.

3. All Coverages

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after ten (10) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

- D. Acceptability of Insurers: Insurance is to be placed with insurers with a Best's rating of no less than A:VII, and who are admitted insurers in the State of California.

- E. Verification of Coverage: Supplier shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.

- F. Submittal of Certificates: Supplier shall submit all required certificates and endorsements to the following:

Roger Hughbanks (E-mail address: rhughbanks@ieua.org )  
Inland Empire Utilities Agency  
P.O. Box 9020  
Chino Hills, CA 91709

J. **LEGAL RELATIONS AND RESPONSIBILITIES:**

- 1. Status Of Supplier: The Supplier is retained as an independent Supplier only, for the sole purpose of providing product as described herein, and not an employee of the Agency.
- 2. Observing Laws And Ordinances: The Supplier or any Subcontractor shall keep itself fully informed of all existing state and federal laws and all county and city ordinances and regulations which in any manner affect the supply of any product, conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Supplier or any Subcontractor shall at all times observe and comply with all such existing laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Supplier or its employees.
- 3. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the IEUA Contract Administrator.

4. **Indemnification:** Supplier shall indemnify the Agency, its directors, employees and assigns, and shall defend and hold them harmless from all liabilities, demands, actions, claims, losses and expenses, which arise out of or are related to:
  - A. The negligence, recklessness or willful misconduct of the Supplier, its directors, employees, agents and assigns, in the performance of work under this contract.
  - B. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or equity, or every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of the Supplier;
  - C. Any and all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs, including all costs of defense, which any of them may incur with respects to the failure, neglect, or refusal of Supplier to faithfully perform the work and all of the Supplier's obligations under the agreement. Such costs, expenses, and damages shall include all costs incurred by the indemnified parties in any lawsuit to which they are a party.
5. **Conflict Of Interest:** No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
6. **Equal Opportunity:** During the performance of this contract the Agency, the Supplier and any Subcontractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, marital status, national origin, or physical handicap.
7. **Disputes:**
  - a. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Supplier shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq., or their successor.
  - b. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Supplier shall comply, pursuant to the Agency Project Manager instructions. If the Supplier is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Supplier to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Supplier's written protests to the Chief Executive Officer/General Manager (CEO/GM), together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The CEO/GM shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Supplier is not satisfied with any such resolution by the CEO/GM, they may file a written request for arbitration with the Project Manager within seven (7) calendar days after receiving written notice of the CEO/GM's decision.

- c. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
- (1) The Demand for Arbitration shall include a list of five names of persons acceptable to the Supplier to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Supplier are acceptable and, if so, such person will be designated as Arbitrator.
  - (2) In the event that none of the names submitted by Supplier are acceptable to the Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Supplier a list of five names of persons acceptable to the Agency for appointment as Arbitrator. The Supplier shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.
  - (3) If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to reasonable attorneys' fees which shall be recoverable by the prevailing party.
- d. Joinder in Mediation/Arbitration: The Agency may join the Supplier in mediation or arbitration commenced by a Supplier on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Supplier.

- K. **INFRINGEMENT:** Supplier represents and warrants that Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violation of any Proprietary Rights of any person.

Supplier shall defend, indemnify and hold harmless, Agency, its officers, directors, agents, employees, successors, assigns, servants, and volunteers free and harmless from any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses arising out of any claim that use of the Work or Documentation, to replace or modify the Work and Documentation infringes upon any trade secret, trade mark, trade name, copyright, patent, or other Proprietary Rights.

Supplier shall, at its expense and at Agency's option, refund any amount paid by Agency under the Contract, or exert its best efforts to procure for Agency the right to use the Work and Documentation, to replace or modify the Work and Documentation as approved by Agency so as to obviate any such claim of infringement, or to put up a satisfactory bond to permit Agency's continued use of the Work and Documentation.

- L. **TAXES, FEES, AND CHARGES:** The Supplier, and any of its Subcontractors, shall pay all sales, consumer, use and other similar taxes, and pay all charges and fees required to be paid by the Supplier, or any of its Subcontractors, in accordance with state, county, and local laws and ordinances.

- M. **NOTICES**: Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green  
Manager of Contracts/Procurement & Facility Services  
Inland Empire Utilities Agency, A Municipal Water District  
P.O. Box 9020  
Chino Hills, CA 91709

Supplier: Jennifer Perras  
Municipal Specialist  
Univar USA, Inc,  
8201 S. 212th Street  
Kent, WA 98032

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

- N. **INTEGRATION**: The Contract Documents represent the entire agreement between the Agency and the Supplier as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered, or amended except by written mutual agreement by the Agency and the Supplier. (Government Code Section 4154)
- O. **GOVERNING LAW**: This Contract is to be governed by and constructed in accordance with the laws of the State of California.
- P. **SUCCESSORS AND ASSIGNS**: All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Supplier, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Supplier under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Contract Administrator and/or Agency; and any such purported or attempted assignment, transfer, or disposal without the prior written consent of the Contract Administrator and/or Agency shall be null, void, and of no legal effect whatsoever.
- R. **FORCE MAJEURE**: Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, acts of nature, etc.
- S. **TERMINATION**: The Agency reserves the right to, at any time, immediately suspend and/or terminate this Contract upon issuance of written notice to the Supplier. In the event of such termination, the Agency shall pay Supplier for all authorized and Supplier-invoiced product, approved by the Contract Administrator, up to the date of such termination.
- T. **CHANGES**: The Agency may, at any time, make changes to this Contract's Scope of Work; including additions, reductions and other alterations to any or all of the work. However, such changes shall only be made via written amendment to this Contract. The Contract Price and Work Schedule shall be equitably adjusted, if required, to account for such changes and shall be set forth within the Contract Amendment.
- U. **NOTICE TO PROCEED**: No services shall be performed or furnished under this Contract unless and until this Contract has been signed by both responsible parties and a Notice to Proceed has been issued by the Agency.

AS WITNESS HEREOF, the parties hereto have caused this Contract to be entered as of the day and year written above.

**INLAND EMPIRE UTILITIES AGENCY,  
A Municipal Water District:**

**UNIVAR USA, Inc. :**

\_\_\_\_\_  
P. Joseph Grindstaff  
General Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
Jennifer Perras  
Municipal Specialist

\_\_\_\_\_  
Date



**ACTION  
ITEM  
1E**



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Date: September 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(09/09/15)  
Finance, Legal, and Administration Committee  
(09/09/15)

From: P. Joseph Grindstaff *cbgr*  
General Manager

Submitted by: Chris Berch *cb*  
Executive Manager of Engineering/Assistant General Manager

David Mendez *DGM*  
Acting Deputy Manager of Engineering

Subject: Construction Contract for Manhole Upgrades

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### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve the construction contract award for the NRW Collection System Manhole Upgrades FY 2015/16, Project No. EN15046 and Collection System Manhole Upgrades FY 2015/16, Project No. EN15045, to Genesis Construction for their low bid of \$594,777; and
2. Authorize the General Manager to execute the contract.

### **BACKGROUND**

During their daily routine, the IEUA Collection Crew identified the Collection System and Non-Reclaimable Wastewater (NRW) System manholes that needed repair and provided the information to the Engineering Department. Once field investigations were performed, the Engineering and Collection/Maintenance Department identified the urgency to repair. The subject projects were established to repair the deficiencies identified in the Collection System and NRW Collection System during the past year.

There are a total of twenty-three (23) NRW Collection System manhole upgrades and a total of forty-four (44) Collection System manhole upgrades included under these projects. There are a total of sixteen (16) manholes that are buried, forty-four (44) manhole frames and covers that are deteriorated, six (6) manholes that are not accessible and one (1) manhole shell that is deteriorated. Additionally, there will be a modification of three (3) existing chain link fences into chain link gates in the cities of Chino Hills and Ontario. These gate and manhole upgrades will allow the Collection Crew to access and maintain our facilities.

The sites of work of the subject projects are located in the right-of-way of the cities of Ontario, Chino, Chino Hills, and Fontana as well as within the right-of-way of the San Bernardino Flood Control District, Army Corps of Engineers, and within the Agency's easements on private properties.

On June 30, 2015, Agency staff advertised the subject projects for construction to Pre-Qualified Contractors. On July 30, 2015, the following bids were received:

<b>Bidder's Name</b>	<b>Bid Amount for Project No. EN15046</b>	<b>Bid Amount for Project No. EN15045</b>	<b>Bid Amount for EN15046 &amp; EN15045</b>
Hemet Manufacturing Co. Inc., DBA Genesis Construction	\$202,000	\$392,777	\$594,777
W.A. Rasic Construction Co. Inc.	\$214,975	\$464,500	\$679,475
Mike Bubalo Construction Co. Inc.	\$250,000	\$430,000	\$680,000
<b>Engineer's Estimate</b>	<b>\$240,000</b>	<b>\$370,000</b>	<b>\$610,000</b>

Genesis Construction (California Class A License No. 433661) was the lowest responsive bidder, and they are a pre-qualified contractor by the Agency. In addition, they are in good standing with their license.

The following is the projected project cost:

<b>Project Phase</b>	<b>Total Cost for EN15045 and EN15046</b>
Design (In house design )	\$250,000
Construction	\$594,777
Construction Management	\$120,000
Construction Contingency (15%)	\$107,217
<b>Total Project Cost</b>	<b>\$1,072,000</b>

NRW Collection System Manhole Upgrades FY15/16  
Construction Contract Award  
September 16, 2015  
Page 3 of 3

The following is the project schedule:

<b>PROJECT PHASE</b>	<b>DATE</b>
Construction Contract Award	September 2015
Construction Completion	March 2016

The NRW Collection System Manhole Upgrades FY 2015/16, Project No. EN15046, and the Collection System Manhole Upgrades FY 2015/16, Project No. EN15045, are part of the Agency's Collection System Business Goal to maintain capacity within collection system, meet essential service demands and to safeguard public health and the environment.

**PRIOR BOARD ACTION**

None.

**IMPACT ON BUDGET**

The construction contract for the NRW Collection System Manhole Upgrades FY15/16, Project No. EN15046 in the amount of \$202,000 is within the total project budget of \$436,086 in the Non-Reclaimable Wastewater (NC) Fund.

The construction contract for the Collection System Manhole Upgrades FY15/16, Project No. EN15045, in the amount of \$392,777 is within the total project budget of \$620,000 in the Regional Wastewater Capital (RC) Fund.

PJG:CB:DM:nm

## SECTION D - CONTRACT AND RELEVANT DOCUMENTS

### 1.0 CONTRACT

THIS CONTRACT, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2015, by and between Hemet Mfg. Co. Inc., DBA Genesis Construction, hereinafter referred to as "Contractor," and The Inland Empire Utilities Agency, a Municipal Water District, located in San Bernardino County, California, hereinafter referred to as "Agency".

#### **WITNESSETH:**

That for and in consideration of the promises and agreements hereinafter made and exchanged, the Agency and the Contractor agree as follows:

1. Contractor agrees to perform and complete in a workmanlike manner, all work required under the bidding schedule of said Agency's specifications entitled SPECIFICATIONS FOR NRW Manhole Upgrades FY 15/16, Project No. EN15046 and Collection System Manhole Upgrades FY15/16, Project No. EN15045, in accordance with the specifications and drawings, and to furnish at their own expense, all labor, materials, equipment, tools, and services necessary, except such materials, equipment, and services as may be stipulated in said specifications to be furnished by said Agency, and to do everything required by this Contract and the said specifications and drawings.
2. For furnishing all said labor, materials, equipment, tools, and services, furnishing and removing all plant, temporary structures, tools and equipment, and doing everything required by this Contract and said specifications and drawings; also for all loss and damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties which may arise during the prosecution of the work until its acceptance by said Agency, and for all risks of every description connected with the work; also for all expenses resulting from the suspension or discontinuance of work, except as in the said specifications are expressly stipulated to be borne by said Agency; and for completing the work in accordance with the requirements of said specifications and drawings, said Agency will pay and said Contractor shall receive, in full compensation therefore, the price(s) set forth in this Contract.
3. That the Agency will pay the Contractor progress payments and the final payment, in accordance with the provisions of the contract documents, with warrants drawn on the appropriate fund or funds as required, at the



prices bid in the Bidding and Contract Requirements, Section C - Bid Forms and accepted by the Agency, and set forth in this below.

Total Bid Price \$594,777.00

FIVE Hundred Ninety-Four Thousand Seven Hundred Seventy-Seven Dollars

If this is not a lump sum bid and the contract price is dependent upon the quantities constructed, the Agency will pay and said Contractor shall receive, in full compensation for the work the prices named in the Bidding and Contract Requirements, Section C - Bid Forms.

4. The Agency hereby employs the Contractor to perform the work according to the terms of this Contract for the above-mentioned price(s), and agrees to pay the same at the time, in the manner, and upon the conditions stipulated in the said specifications; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.
5. The Notice Inviting Bids, Instructions to Bidders, Bid Forms, Information Required of Bidder, Performance Bond, Payment Bond, Contractors License Declaration, Specifications, Drawings, all General Conditions and all Special Conditions, and all addenda issued by the Agency with respect to the foregoing prior to the opening of bids, are hereby incorporated in and made part of this Contract, as if fully set forth.
6. The Contractor agrees to commence work under this Contract on or before the date to be specified in a written "Notice To Proceed" and to complete said work to the satisfaction of the Agency one hundred eighty (180) calendar days after award of the Contract. All work shall be completed before final payment is made.
7. Time is of the essence on this Contract.
8. Contractor agrees that in case the work is not completed before or upon the expiration of the contract time, damage will be sustained by the Agency, and that it is and will be impracticable to determine the actual damage which the Agency will sustain in the event and by reason of such delay, and it is therefore agreed that the Contractor shall pay to the Agency the amount of four thousand (\$4,000) dollars for each day of delay, which shall be the period between the expiration of the contract time and the date of final acceptance by the Agency, as liquidated damages and not as a penalty. It is further agreed that the amount stipulated for liquidated damages per day of delay is a reasonable estimate of the damages that would be sustained by the Agency, and the

Contractor agrees to pay such liquidated damages as herein provided. In case the liquidated damages are not paid, the Contractor agrees that the Agency may deduct the amount thereof from any money due or that may become due to the Contractor by progress payments or otherwise under the Contract, or if said amount is not sufficient, recover the total amount.

In addition to the liquidated damages, which may be imposed if the Contractor fails to complete the work within the time agreed upon, the Agency may also deduct from any sums due or to become due the Contractor, liquidated damages in accordance with the Bidding and Contract Requirements, Section B - Instruction to Bidders, Part 5.0 "Liquidated Damages", for any violation of the General Conditions, Section D - Contractor's Responsibilities, Part 8, "Law and Regulations"; Bidding and Contract Requirements Contract Section D - Contract and Relevant Documents, Part 1.0, Paragraphs 9 through 11; General Conditions, Section D - Contractor's Responsibilities, Part 4.0, "Labor, Materials and Equipment"; General Conditions Section D - Contractor's Responsibilities, Part 12.0, "Safety and Protection" or General Conditions Section H - Legal Responsibilities, Part 8.0, "Disturbance of the Peace".

9. That the Contractor will pay, and will require subcontractors to pay, employees on the work a salary or wage at least equal to the prevailing salary or wage established for such work as set forth in the wage determinations and wage standards applicable to this work, contained in or referenced in the contract documents.
10. That, in accordance with Section 1775 of the California Labor Code, Contractor shall forfeit to the Agency, as a penalty, not more than Fifty (\$50.00) Dollars for each day, or portion thereof, for each worker paid, either by the Contractor or any subcontractor, less than the prevailing rates as determined by the Director of the California Department of Industrial Relations for the work.
11. That, except as provided in Section 1815 of the California Labor Code, in the performance of the work not more than eight (8) hours shall constitute a day's work, and not more than forty (40) hours shall constitute a week's work; that the Contractor shall not require more than eight (8) hours of labor in a day nor more than forty hours of labor in a week from any person employed by the Contractor or any subcontractor; that the Contractor shall conform to Division 2, Part 7, Chapter 1, Article 3 (Section 1810, et seq.) of the California Labor Code; and that the Contractor shall forfeit to the Agency, as a penalty, the sum of Twenty-Five (\$25.00) Dollars for each worker employed in the execution of the work by Contractor or any subcontractor for each day during which any worker is required or permitted to labor more than eight (8) hours in violation of said Article 3.

12. That the Contractor shall carry Workers' Compensation Insurance and require all subcontractors to carry Workers' Compensation Insurance as required by the California Labor Code.
13. That the Contractor shall have furnished, prior to execution of the Contract, two bonds approved by the Agency, one in the amount of one hundred (100) percent of the contract price, to guarantee the faithful performance of the work, and one in the amount of one hundred (100) percent of the contract price to guarantee payment of all claims for labor and materials furnished.
14. The Contractor hereby agrees to protect, defend, indemnify and hold the Agency and its employees, agents, officers, directors, servants and volunteers free and harmless from any and all liability, claims, judgments, costs and demands, including demands arising from injuries or death of persons (including employees of the Agency and the Contractor) and damage to property, arising directly or indirectly out of the obligation herein undertaken or out of the operations conducted by the Contractor, its employees agents, representatives or subcontractors under or in connection with this Contract.

The Contractor further agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suit at the sole expense of the Contractor.

IN WITNESS WHEREOF, The Contractor and the General Manager of Inland Empire Utilities Agency\*, thereunto duly authorized, have caused the names of said parties to be affixed hereto, each in duplicate, the day and year first above written.

Inland Empire Utilities Agency,\*  
San Bernardino County, California.

By \_\_\_\_\_  
General Manager

Contractor  
Hemet Mfg. Co., Inc. dba  
Genesis Construction

By Bruce E. Perry 8-6-15  
Title  
Bruce E. Perry, President



NRW Collection System Manhole Upgrades FY 2015/16  
and  
Collection System Manhole Upgrades FY 2015/16  
Construction Contract Award  
Project Nos. EN15046 and EN15045  
September 2015



*Inland Empire Utilities Agency*  
A MUNICIPAL WATER DISTRICT

David Mendez  
Acting Deputy Manager of Engineering

Nasrin Maleki, P.E.  
Project Manager

# Project Background

**Collection System Manhole Upgrades FY 2015/16, Project No. EN15045**

**and**

**NRW Collection System Manhole Upgrades FY 2015/16, Project No. EN15046**

- Collection Crew identified deficiencies in Collection/NRW Systems
- Engineering and Collection Crew field verified the deficiencies
- Identified the urgency of the repairs
- Established projects to repair the deficiencies



Deteriorated Manhole in the City of Ontario



Deteriorated Manhole on Chino Basin Water Conservation District property



Inaccessible Manhole on San Bernardino Flood Control property



Deteriorated Manhole Shell in the City of Ontario



# Project Scope

**Collection System Manhole Upgrades FY 2015/16, Project No. EN15045**

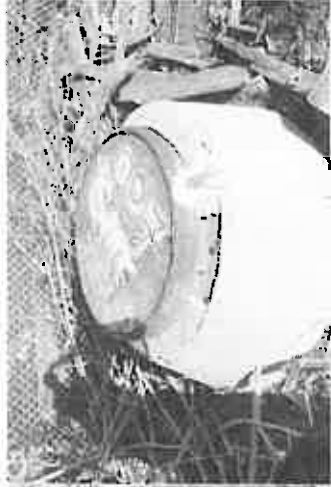
**and**

**NRW Collection System Manhole Upgrades FY 2015/16, Project No. EN15046**

- Upgrades and repairs to 67 manholes
- Improve access to manholes



Inaccessible Manhole in the City of Chino



Inaccessible Manhole in the City of Chino Hills

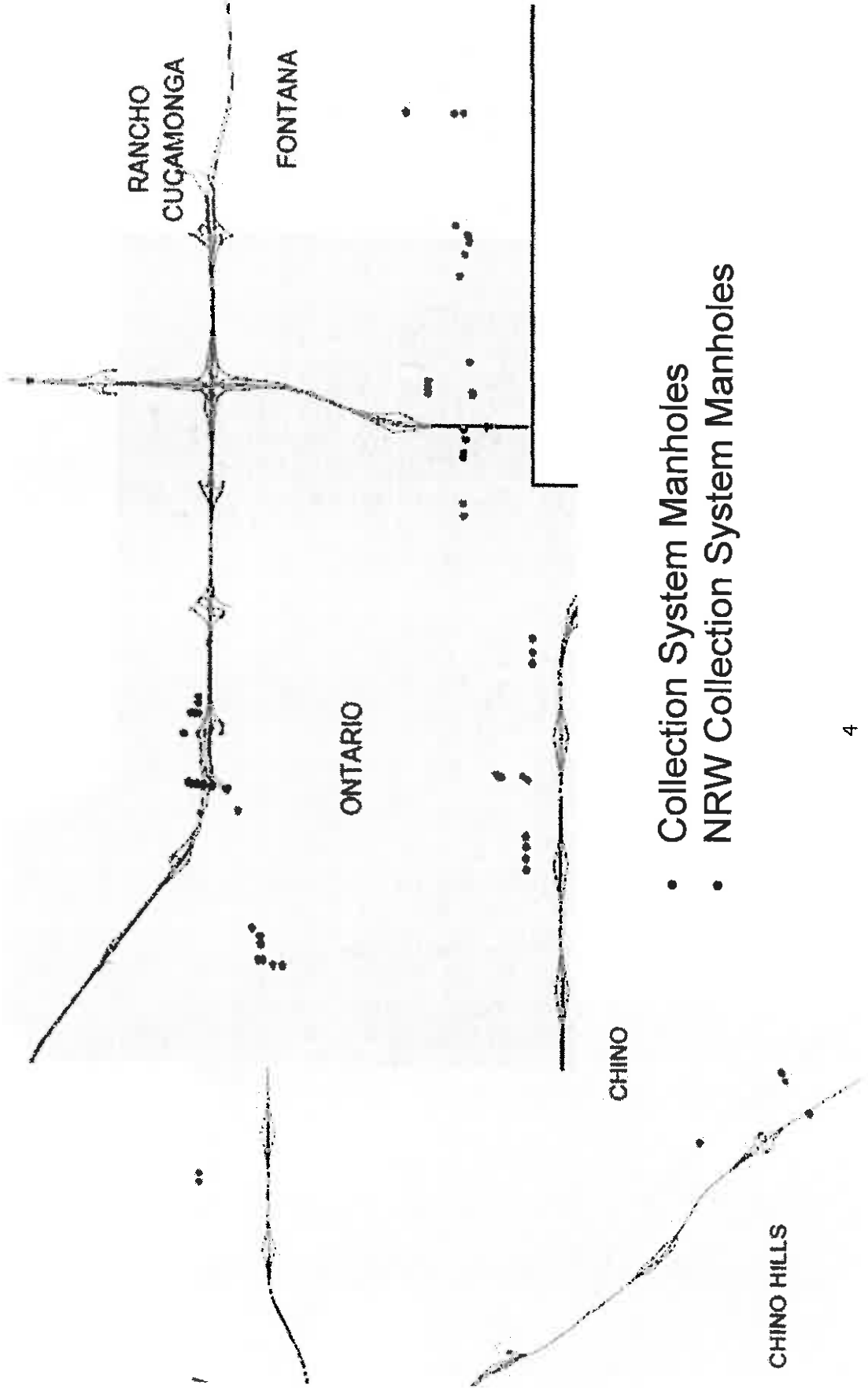


Inaccessible Manhole and Manhole Structure in the City of Chino Hills



Buried Manhole on San Bernardino Flood Control property

# Project Location



- Collection System Manholes
- NRW Collection System Manholes

# Bid Results

- The construction bids were received as follows:

<b>Contractor's Name</b>	<b>Bid Amount for EN15046</b>	<b>Bid Amount for EN15045</b>	<b>Bid Amount</b>
Hemet Mfg. Co. Inc., DBA Genesis Construction	\$202,000	\$392,777	\$594,777
W.A. Rasic Construction Co. Inc.	\$214,975	\$464,500	\$679,475
Mike Bubalo Construction Co. Inc.	\$250,000	\$430,000	\$680,000
<b>Engineer's Estimate</b>	<b>\$240,000</b>	<b>\$370,000</b>	<b>\$610,000</b>

# Project Cost and Schedule

Description	Estimated Cost
Design (In house)	\$250,000
Construction Contract	\$594,777
Construction Management	\$120,000
Construction Contingency	\$107,217
<b>Total Project Cost</b>	<b>\$1,072,000</b>
<b>IEUA Approved Budget</b>	<b>\$1,081,086</b>

Project Milestone	Date
Construction Contract Award	September 2015
Construction Completion	March 2016

# Agency Goal/Recommendation

Staff recommends that the Board of Directors approve the construction contract award to Genesis Construction for the NRW Collection System Manhole Upgrades FY 2015/16 and the Collection System Manhole Upgrades FY 2015/16, Project Nos. EN15046 and EN15045 for the not-to-exceed amount of \$594,777 and also authorize the General Manager to execute the contract.

*The projects are consistent with the Agency's Collection System Business Goal to maintain capacity within the collection system, meet essential service demands and to safeguard public health and the environment.*

**INFORMATION**

**ITEM**

**2A**



Date: September 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(09/09/15)

From: P. Joseph Grindstaff *CBH*  
General Manager

Submitted by: Chris Berch *CB*  
Executive Manager of Engineering/Assistant General Manager

David Mendez *DM*  
Acting Deputy Manager of Engineering

Subject: Engineering and Construction Management Program Management Plan

---

### **RECOMMENDATION**

This is an informational item for the Board of Directors to receive and file.

### **BACKGROUND**

The Engineering and Construction Management Department has an adopted Ten Year Capital Improvement Plan (TYCIP) budget of \$600,000,000. To better assist in delivering the projects defined in the TYCIP, Engineering and Construction Management's Program Management Office (PMO) developed and implemented a Program Management Plan (PMP). The PMP is based on industry standard practices provided by the Project Management Institute (PMI) and the Construction Management Association of America (CMAA).

The overall goal of the PMP is to provide a standardized, consistent method in delivering projects using a planning process in developing Project Charters, Project Management Plans, and Construction Management Plans throughout the lifecycle of a project. These project plans update Program Sponsors (Executive Management) on how the department will deliver projects, and provides detailed budget and schedule information to the Program Sponsors which gives them the ability to select, prioritize, and proceed with projects based on resource and financial constraints of the Agency.

Preparation of Project Charters, Project Management Plans, and Construction Management Plans to provide details on the management of the project activities that contain the following elements:

- Scope Management
- Time Management
- Cost Management
- Quality Management
- Resource Management
- Communication Management
- Risk Management
- Contract Management

By providing these plans, the number of project changes will be reduced and will allow greater visibility and control over the entire project lifecycle. Staff will be able to mitigate issues as they arise and make comprehensive decisions on changes.

The Program Management Plan is part of the Agency's Water Reliability Business Goal to ensure capital projects are designed and implemented in a timely and economically responsible manner.

The complete PMP is provided as an attachment.

**PRIOR BOARD ACTION**

None

**IMPACT ON BUDGET**

Costs associated with the Program Management Plan are included in the project budgets.

Attachment: Engineering and Construction Management Program Management Plan

PJG:CB:DM:JS:rs



# Engineering and Construction Management Program Management Plan 2015-2025





*Inland Empire Utilities Agency*  
A MUNICIPAL WATER DISTRICT

# ENGINEERING AND CONSTRUCTION MANAGEMENT DEPARTMENT

## PROGRAM MANAGEMENT PLAN 2015 - 2025

INLAND EMPIRE UTILITIES AGENCY  
6075 KIMBALL AVENUE  
CHINO, CALIFORNIA 91708

JUNE 2015

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# 1 Introduction

The Program Management Plan has been prepared to assist Project Managers and Construction Project Managers in delivering projects using a structured approach that is based on industry standard practices. Industry standards of practice are provided by the Project Management Institute (PMI) and the Construction Management Association of America (CMAA). The Plan is intended to inform stakeholders as follows:

- Executive Management about how the department will deliver on the approved TYCIP and the changes necessary to successfully deliver projects.
- Operations and Maintenance Management about their involvement and more specifically the resources required for the successful delivery of projects.
- Technical Services, Integrated System Services (ISS), and other support staff about the resources they'll have to allocate for the successful delivery of projects.

The Engineering and Construction Management department provides project management services that oversee the conceptual phase, design, and construction of capital improvement projects. The projects involve all aspects of the Agency's business including water, wastewater, recycled water (direct use and groundwater recharge), and energy generation. The Ten-Year Capital Improvement Plan (TYCIP) and the Asset Management Plan are the main reports used to identify projects for the next ten years.

In addition to capital improvements, the department supports the Agency's Operations and Maintenance departments with Repair and Rehabilitation projects (R&R). The department provides emergency response to facilities or pipeline system failures that require immediate response. The department supports energy projects that typically move very quickly once the funding opportunities are right for the Agency. These projects are not identified in the Agency's TYCIP (Appendix A – TYCIP).

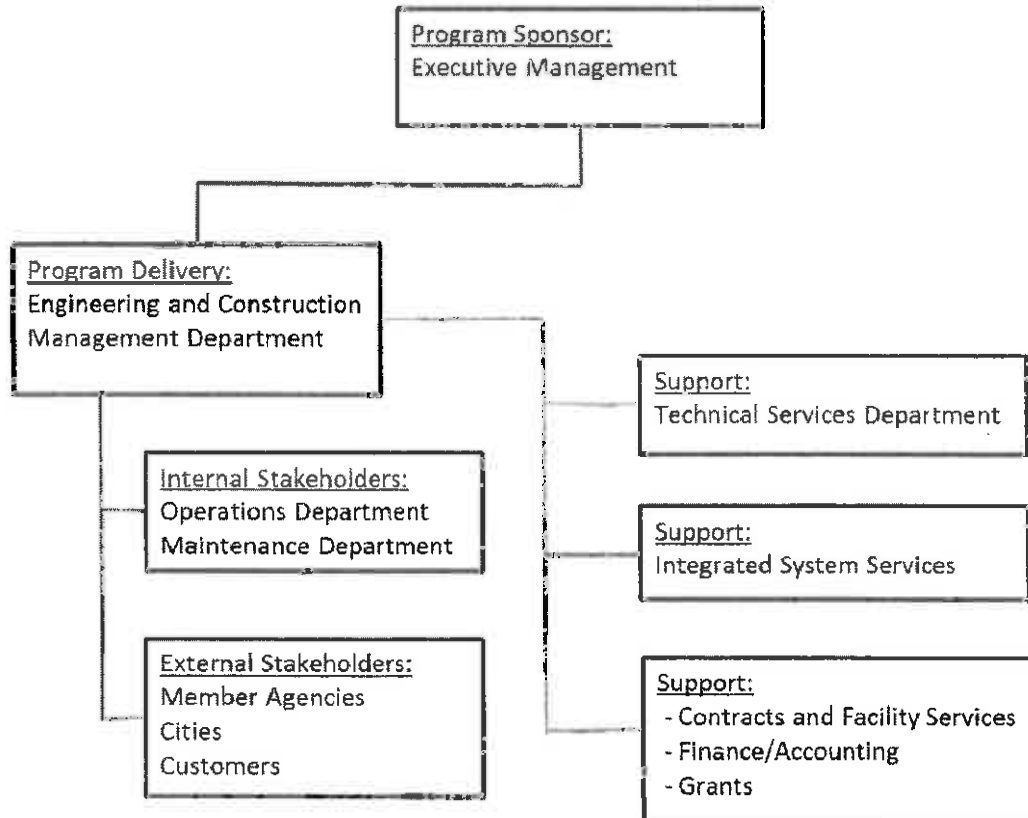
## Department Mission Statement:

To engineer and construct state of the art facilities and infrastructure to meet the dynamic and growing needs of recycled water demand, wastewater collection, treatment, and disposal of the Agency's service area, and to implement the Capital Improvement Program (CIP) with well managed and cost effective solutions.

## Agency Goal:

The Agency will ensure capital projects are designed and implemented in a timely and economically responsible manner.

## 2 Roles and Responsibilities



The roles and responsibilities of all parties identified in the chart above are essential to program success. All parties must clearly understand their roles and responsibilities in order to successfully perform their portion of the program. The following roles and responsibilities have been established to have a successful program:

**Program Sponsor:** Is responsible for the overall success of the Program. The Program Sponsor is responsible for the approval and authorization of the Ten-Year plan prepared by the Engineering and Construction Management Department for the delivery of all the projects listed in the Agency's TYCIP. This plan includes the delivery structure of emergency projects and support for maintenance R&R projects.

**Program Delivery:** The Engineering and Construction Management Department is responsible for the successful delivery of the projects listed in the Agency's TYCIP. This document will provide the details on the structure of the department and how the program will be delivered. The department has gone through a process of thoroughly reviewing individual project resources to determine the level of effort. These resource requirements have been aggregated for the department to determine staffing needs. The successful delivery of this program will require staff augmentation at every level and the plan will show how this will be done.

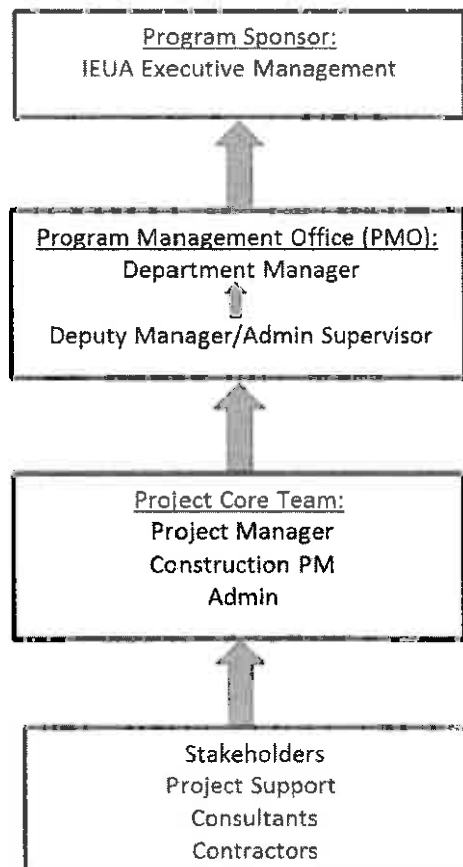


**Operations Staff:** As the stakeholders, operations staff will be required to participate in the Project Charter and the Project Management Plan processes of individual projects to ensure they are in complete agreement with the intent and delivery of that project. Project management staff will work closely with operations staff during all phases of the projects.

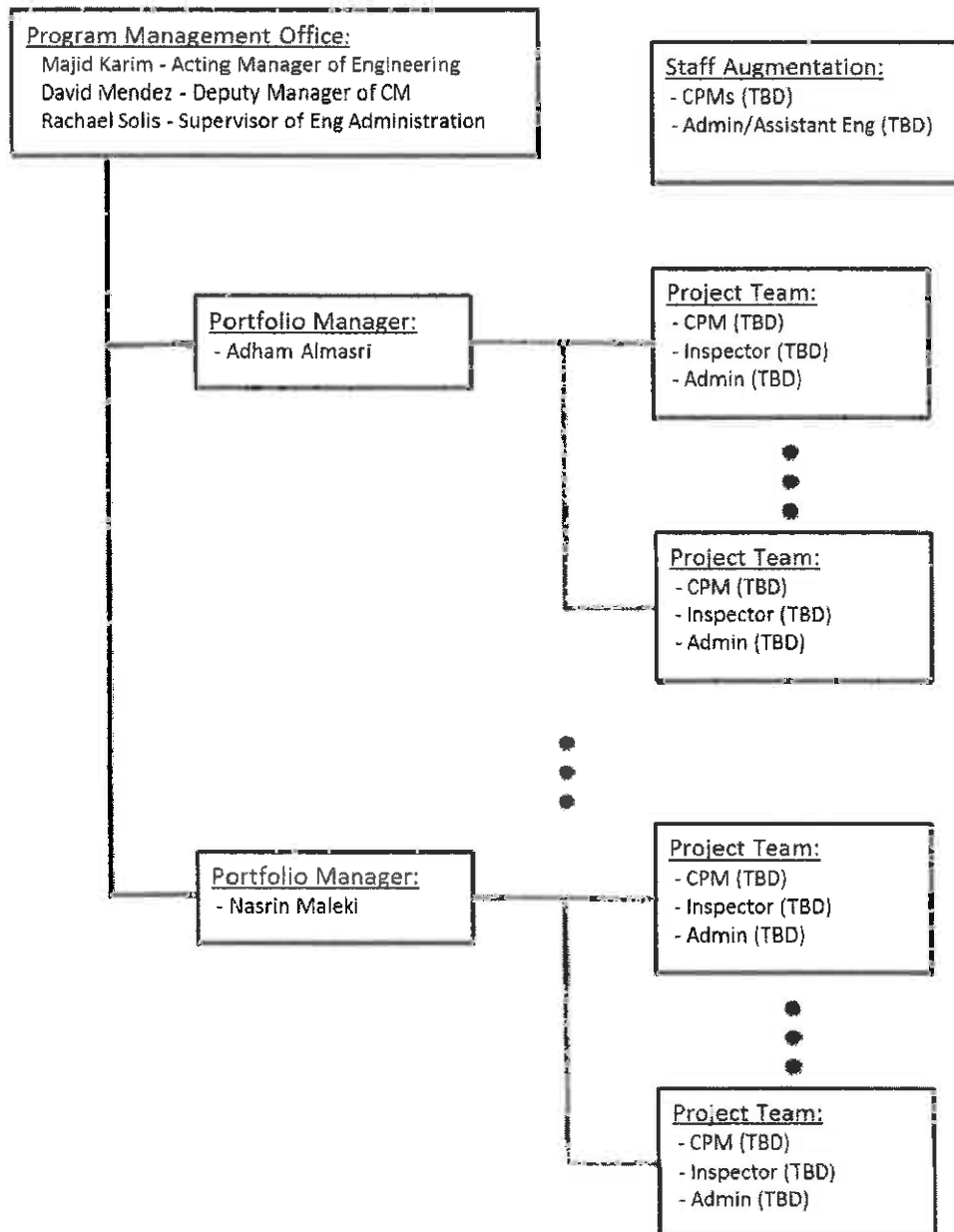
**Maintenance Staff:** As the stakeholders, maintenance staff will be required to participate in the Project Charter and the Project Management Plan processes of individual projects to ensure they are in complete agreement with the intent and delivery of that project. Project management staff will work closely with maintenance staff during all phases of the projects.

**Support Staff:** Support staff will be required to participate in the Project Charter and the Project Management Plan processes to ensure complete agreement with the delivery of that project. Support staff will be engaged in the project by Project management staff during any phase of the project whenever their support and expertise is needed.

**Reporting Structure:** The reporting structure shall be as indicated in the chart below:



### 3 Engineering and Construction Management Delivery



The chart provides the departments structure as it relates to project delivery. The Program Management is comprised of department management/supervisory staff. The PMO assigns projects to Project Managers and project teams for the delivery of the projects.

### **3.1 Program Management Office (PMO)**

The PMO is responsible for the overall success of the total Program. It is the responsibility of the PMO to provide adequate resources and guidance for consistency throughout the department. Guidance for the department will be provided in the form of standardization and tools such as:

1. Portfolio teams and assignments
2. Resource needs documentation from portfolio teams
3. Resources for delivery of projects/portfolios
4. Standard Operating Procedures
5. Expectations for Portfolio/Project management
6. Procedural guidelines for project delivery and setting contingencies
7. Standard Design guidelines
8. Standard Front-end documents
9. Request for Proposal templates
10. PMI/CCM Training through Skillsoft, PMBOK and classroom setting
11. Project delivery based on PMI strategies
12. Detailed Training Plan (See Appendix B)
13. Project Management Tools such as SAP, Primavera, Project Dashboard, CIPO, As-Built Database, GIS System
14. Tracking of KPI's for all projects through established procedures and reports

Project Management training will be provided throughout the year. Staff time will be scheduled appropriately several weeks prior to ensure participation. The training is selected to support continued development of staff and the department.

### **3.2 Project Delivery Methods**

1. Whether a project is being delivered under a traditional general construction contract, multiple prime contracts, construction management at-risk, design-bid-build, design build etc., it will significantly impact the Project Manager (PM) and Construction Project Manager's (CPM) responsibility for project management and coordination.
2. During the planning/project development phase, the Project Team shall evaluate the project, evaluate the delivery methods, and propose a method to the PMO. The delivery method chosen has a significant impact on the project team member organization, resources, roles and responsibilities, project risks, and thus the contract administration procedures that will be followed. For the purpose of this section, the Project Team has the option of selecting the following methods:
  - a. The traditional project delivery method - Design-Bid-Build (DBB): Typically involves three sequential project phases. (1) The design phase, which requires services of the Design Engineer who will design the project, (2) the

bid phase, when a contractor is selected, and (3) the construction phase, when the project is built by the contractor.

b. Within the traditional project delivery method, there are three methods of awarding a construction contract on a project. The methods are based on total project budget dollar thresholds.

i. Prequalification of Contractors (Project Specific > \$2M): The project teams goal is to assist in securing for each bid package a sufficient number of bidders who are qualified, competitive, interested in the work, and capable of doing the work. The CPM will assist the PM in preparation and distribution of questionnaire's and receiving and analyzing completed questionnaire packages, interviewing possible bidders, bonding agents, and financial documents. With this information, the project team can evaluate the contractors and submit recommendations to the PMO on which contractors should be invited to bid.

ii. Prequalification of Contractors (Projects > \$100K - < \$2M): The project teams goal is to assist in securing for each bid package a sufficient number of bidders who are qualified, competitive, interested in the work, and capable of doing the work. The CPM will assist the PM review of the project documents and prequalified list and prepare a recommendations (short list) from the established prequalification list.

iii. Minor Construction and Emergency Contracts < \$100K: The project teams goal is to assist in securing for each bid package a sufficient number of bidders who are qualified, competitive, interested in the work, and capable of doing the work. The CPM will assist the PM review of the project documents and prequalified list and prepare a recommendation (short list) from the established prequalification list. If an emergency project arises, the CPM will send out an email request to the contractor's on the master contract list, and award the emergency to the first available, qualified contractor.

c. Non-Traditional Delivery Methods:

i. Design-Build (DB) - A project delivery method which combines architectural and engineering design services with construction performance under one contract. A design engineer provides guidelines to a design-build contractor. They then work in collaboration to construct the project.

ii. Hybrid Design-Build - A project delivery method where the Agency procures the services of a Design Engineering Consultant and a Contractor and forms the design-build team. This approach puts the risk of the design-build on the Agency.

3. Each of these project delivery methods carries a different level of risk for the Agency. There are benefits and tradeoffs that come with the various delivery methods. It's the responsibility of the project team to evaluate different project delivery options and propose recommendations to the PMO. The PMO will select the best appropriate deliver method based off the recommendations provided.

### **3.3 Project Teams**

The projects defined in the TYCIP document are assigned to project teams that will be responsible for the delivery of projects (Appendix A – TYCIP). The intent is to distribute projects to the teams based on areas of responsibility. There is a team dedicated to the delivery of R&R projects identified by the maintenance department. The department will have a total of six portfolio managers (Project managers) available to deliver capital improvements projects and one team dedicated to R&R projects.

Based on the department's workload, the functionality of individuals will shift from "Project Engineers" to "Project Managers" at which point they will shift from detailed design reviews and support, to managing the consultant design teams. Similarly, the "Construction Managers" will function as "Construction Project Managers" where they will manage the consultant construction management team. The Project Managers and the Construction Project Managers will both be fully engaged in projects from inception to completion and should at all times be aware of schedules, budgets, and potential risks. There will always be certain situations that require staff to perform as the Project Engineer or the Construction Manager.

## **4 Project Management Approach**

The project teams will lead the successful delivery of the projects listed in the assigned portfolio. The project teams will manage the project schedules, budgets, and potential risks identified in the Project Charter, Project Management Plan, and Construction Management Plan.

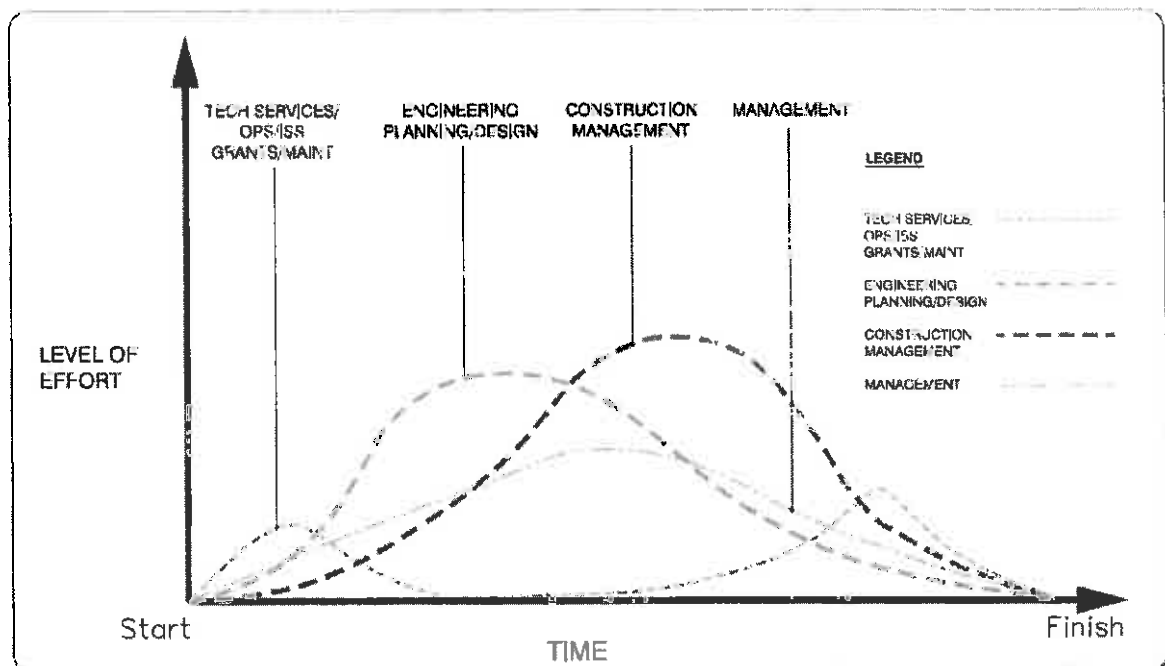
### **4.1 Key Changes From Past Practices**

The project budgets and schedules provided in the TYCIP and Finance Budget documents are very high level estimates based on Executive Management and Management experience and will be updated by the project teams at key points in the project. At every stage that the budget and schedule is updated, the PMO will provide approval to proceed. This is a major shift in practice since the project budgets and schedules are developed by the Project Team and the team will be fully responsible to deliver the projects within those approved budgets and schedules.

## 4.2 Project Resources

Project teams will provide resource projections that will be required to successfully complete the project within the project budget and schedule provided by the team. These resources will include staff from other departments that are normally called on to work on projects. The resources from other departments have always supported projects but their involvement has not been quantified. This is a process in which other departments can be notified about the resource needs and plan accordingly.

The following resource graph depicts industry standard levels of effort required for a successful project delivery. The graph has been customized with Agency labels:



Following are the major expectations of the Project Managers, Construction Project Managers and project teams (Appendix C – Process Flow Diagram):

1. Receive project assignments from PMO
2. Develop Project Charter and get acceptance
3. Prepare a detailed Resource Manpower Load Matrix spreadsheet for each project (Appendix D – Resource Manpower Load Matrix Spreadsheet) and input into Primavera.
4. Prepare a design consultant RFP, select a design consultant to complete a predesign of the project that will further develop ideas provided in the Project Charter
5. Provide a budget and schedule based on the information developed in the predesign. The project budget and scheduled at this point will take precedence over

the conceptual level budgets and schedules provided with the TYCIP and budgeting process

6. Develop Project Management Plan and get acceptance
7. Notify project sponsor and stakeholders of any significant changes in the budget or schedule and get concurrence to move forward with the given scope or change in scope to fit the appropriated budget
8. Complete the design of the project based on the scope, schedule, and budget accepted by project sponsor and stakeholders
9. Provide a detailed budget and schedule based on the information developed in the final design. The final design budget and schedule will have to be approved if it deviates from the previously approved budget and schedule. The project team will be required to deliver a successful project based on this schedule and budget. Note that owner initiated changes that impact the project budget and schedule will require approval with updated KPI's.
10. Develop Construction Management Plan during the bid/award period of the project
11. Follow the PMI approach for project delivery at every stage

### **4.3 Project Charter**

At the initiation of the project, the Project Charter is the first formal document that will be produced by the project team. At this point, the project team knows very little about the project and begins the investigative stage to gather details about the project by closely engaging the Technical Services Group (TS). The project expectation memorandum that is created by TS will be integrated into the project charter. The project charter will typically include the following sections:

- Executive Summary
- Project Expectations Memorandum
- Risks
- Project Deliverables
- Summary Schedule
- Summary Budget
- Project Management Team
- Authorization or Sign-off Form

A sample template for the Project Charter is provided in Appendix E.

### **4.4 Project Management Plan**

At this point the project team should have a detailed predesign document with a more refined project scope, budget, and schedule. The project team should be comfortable enough with the scope, budget, and schedule to take complete ownership and be able to deliver the project based on the information available. The updated information will be presented to the project sponsor and stakeholders to receive acceptance. The Project Management Plan should include the following information (the list is not all inclusive):

- Executive Summary
- Project Organizational Chart
- Project Scope
- Project Schedule
- Cost, Scope, Schedule, Quality, Risk Management Plans
- Risk Register/Analysis
- Resources
- Authorization or Sign-off Form

A sample template for the Project Management Plan is provided in the Appendix F.

#### **4.5 Construction Management Plan**

At this point the project team should have a detailed design document with a defined project scope, budget, and schedule. A detailed budget and schedule should be developed for the construction, startup, and delivery of the project. The only change here would be made once the actual bids are received from the Contractors since this will be the real cost of the project. It is the responsibility of the project team to evaluate the lowest bidders cost to ensure that it's a viable bid. The Construction Management Plan should include the following information (the list is not all inclusive):

- Executive Summary
- Project Organizational Chart
- Project Scope
- Project Schedule
- Cost, Scope, Schedule, Quality, Risk Management Plans (based on bid results)
- Risk Register/Analysis
- Resources
- Authorization or Sign-off Form

A sample template for the Construction Management Plan is provided in Appendix G.

#### **4.6 Project Reports**

Every effort has been made to combine and consolidate reports wherever possible and to use the same source of data. The table below lists reports that will be used to track progress and performance of projects. Information will be extracted primarily from Primavera, SAP, and CIPO to create these reports. In addition to these reports, a dashboard has been created to review critical information for each project at a glance. Project report information is provided in Appendix H.



Report/Deliverable	Purpose	Audience	Due
Overall Project Status Report	Overview of project schedule, budget, contracts, and progress update.	PMO	Weekly
Bi Monthly Project Update	PowerPoint to update Executive Management on the status of all active Engineering Projects.	Program Sponsor, Finance	Bi-Monthly
Primavera Project Summary	Monthly status update of projects from Primavera.	Internal Stakeholders/ Project Support	Monthly
Project Update	PowerPoint to update the Board of Directors on high profile projects currently in progress.	Committee and Board of Directors	Monthly
Emergency Project Information	PowerPoint which defines the cause of the emergency, resolution/scope of work, contractor performing the work, schedule to complete the work, and cost of the emergency.	PMO, Program Sponsor	Within 24 hours/Follow up once Final
Office Engineer Report	Log to keep track of status update of the department's permit and reimbursable projects.	PMO	Weekly
Capital Call	The Capital Call report estimates future costs expected to be spent for capital projects, so the Agency can appropriate the appropriate fund availability.	Finance	Quarterly

#### 4.7 Key Performance Indicators (KPI's)

KPI's will be used to track the progress and performance of projects. Project Teams will update KPI's and present reasons for any performance deviations and provide a recovery plan if applicable. KPI information and sample tracking reports are provided in Appendix I.

Schedule Tracking/Re-Baseline	≥ 80%
Start – PRDS Completion	
Design – BDAW	
Construction – CNSW Completion/STUP Completion	
Approved Document Changes	
Total Project Budget Tracking	≥ 90%
PRDS Completion	
BDAW	
Approved Document Changes	
Design Engineer Contract	≤ 10%
Amendments	

Construction Contract Change Orders	≤ 10%
Project Charter 6-weeks from Project Start	≥ 90%
Project Management Plan 30-Days from PRDS Finish	≥ 90%
Construction Management Plan 30-Days from BDAW Finish	≥ 90%
Fiscal Year Budget FY Budget vs. actuals	≥ 90%
Capital Call Capital Call projection vs. actuals	≥ 90%
Resource Planned Planned resource vs. actuals	≤ 80%
Design Contingency >\$2M - 10% Total Project Budget <\$2M - 15% Total Project Budget	≥ 90%
Construction Contingency >\$2M - 10% Total Construction Budget <\$2M - 15% Total Construction Budget	≥ 90%
Invoices Invoice turnaround within 14-days	≥ 90%
Labor Charged against projects Time charged to projects (1600 hours a year)	≥ 75%
Lessons Learned Review projects best practices	≥ 90%

#### 4.8 Project Management Plan and Construction Management Plan Details

There are several planning categories included in the Project Management Plan and Construction Management Plan, which include a Change Management, Communication Management, Cost Management, Procurement Management, Scope Management, Schedule Management, Quality Management, and Risk Management.

The sections below provide further details of the information that is required in these major planning categories:

## **4.8.1 Change Management Plan**

### **4.8.1.1 Introduction**

The Change Management Plan is created for the program and projects in order to set expectations on how the approach to changes will be managed, what defines a change, the purpose and role of the change control team (typically the PMO and elevated to Executive Management if necessary), and the overall change management process. All stakeholders will be required to submit or request changes to the Project Team in accordance with the reporting structure. All requests and submissions will follow the process detailed herein. A sample template for the Change Management Plan is provided in Appendix J.

### **4.8.1.2 Change Management Approach**

The Change Management approach for the Program/Projects will ensure that all proposed changes are defined, reviewed, and agreed upon so they can be properly implemented and communicated to all stakeholders. This approach will also ensure that only changes within the overall scope of the program/project are approved and implemented. The Change Management approach is not to be confused with the Change Management Process which will be detailed later in this plan. The Change Management approach consists of three areas:

- Change management should be accounted for in the schedule and resources
- Ensure changes are within the scope and benefit the Agency
- Determine how the change will be implemented and the impacts to the project
- Manage the change as it is implemented

The Change Management process has been designed to make sure this approach is followed for all changes. By using this approach, the Engineering department will prevent unnecessary changes from occurring and focus its resources only on beneficial changes.

### **4.8.1.3 Definitions of Change**

There are several types of changes which may be requested and considered for the Agency's Program. Depending on the extent and type of proposed changes, changes to the Project charter/Project Management Plan and the communication of these changes will be required to include any approved changes into the Project Management Plan and ensure all stakeholders are notified. Types of changes include:

- **Scheduling Changes:** changes which will impact the approved project schedule. These changes may require fast tracking, crashing, or re-baselining the schedule depending on the significance of the impact.

- **Budget Changes:** changes which will impact the approved individual project or fiscal budget. These changes may require requesting additional funding, releasing funding which would no longer be required, adding to project or management reserves, and may require changes to the cost baseline.
- **Scope Changes:** changes which are necessary and impact individual project's scope which may be the result of unforeseen requirements and were not initially planned. These changes may also impact budget and schedule. These changes may require revision to WBS, project scope statement, and other Project Management Plan as necessary.

The PMO and Project Team must ensure that any approved changes are communicated to the project stakeholders. Additionally, as changes are approved, the PMO must ensure that the changes are captured in the PMO Planning documentation where necessary. These document updates must then be communicated to the project team and stakeholders.

#### 4.8.1.4 Change Control Team

##### Executive Management Level – Program Changes

The Change Control Team (CCT) is the approval authority for all proposed change requests pertaining to the TYCIP at the program level. The purpose of the CCT is to review all change requests, determine their impacts on the program risk, scope, cost, and schedule, and to approve or deny each change request. The following chart provides a list of the CCT members:

<b>Name</b>	<b>Position</b>	<b>CCT Role</b>
Chris Berch	Executive Manager Engineering/AGM	CCT Chair
Ernest Yeboah	Executive Manager Operations & Maintenance/AGM	CCT Co-Chair
Christina Valencia	Chief Financial Officer/AGM	CCT Member
Joe Grindstaff	General Manager	CCT Member
Majid Karim	Engineering and Construction Management Department Manager (Acting)	CCT Member

As change requests are submitted to the Engineering and Construction Management by stakeholders, the Project Manager will log the requests in the change log and the CCT will

convene as required to review all stakeholder change requests. For a change request to be approved, CCT members must vote in favor. In the event more information is needed for a particular change request, the request will be deferred and sent back to the requester for more information or clarification.

Program Management Office Level – Project Changes

The Change Control Team (CCT) is the approval authority for all proposed change requests pertaining to the projects. The purpose of the CCT is to review all change requests, determine their impacts on the project risk, scope, cost, and schedule, and to approve or deny each change request. The following chart provides a list of the CCT members for the Engineering Department:

<b>Name</b>	<b>Position</b>	<b>CCT Role</b>
Majid Karim	Manager of Engineering	CCT Chair
David Mendez	Deputy Manager of Construction Management	CCT Co-Chair
Vacant	Deputy Manager of Engineering	CCT Co-Chair
Project Manager	Specific to Project	CCT Member
Construction Project Manager	Specific to Project	CCT Member

As change requests are submitted to the Engineering and Construction Management by stakeholders, the Project Manager will log the requests in the change log and the CCT will convene as required to review all stakeholder change requests. For a change request to be approved, all CCT members must vote in favor. In the event more information is needed for a particular change request, the request will be deferred and sent back to the requester for more information or clarification.

**4.8.1.5 Roles and Responsibilities**

Following are the roles and responsibilities for all change management efforts related to the overall program:

PMO/Program Sponsor:

- Approve all budget amendments
- Approve cumulative changes to the baseline schedule of >= 10%
- Approve any changes in project scope
- Chair the CCT

#### Project Team:

- Conduct preliminary risk, cost, schedule, scope analysis of change prior to CCT
- Seek clarification from change requesters on any open issues or concerns
- Make documentation revisions/edits as necessary for all approved changes
- Participate on CCT

#### Project Team/Stakeholders

- Submit all change requests on standard organizational change request forms
- Provide all applicable information and detail on change request forms
- Be prepared to address questions regarding any submitted change requests
- Provide feedback as necessary on impact of proposed changes

### 4.8.1.6 Change Control Process

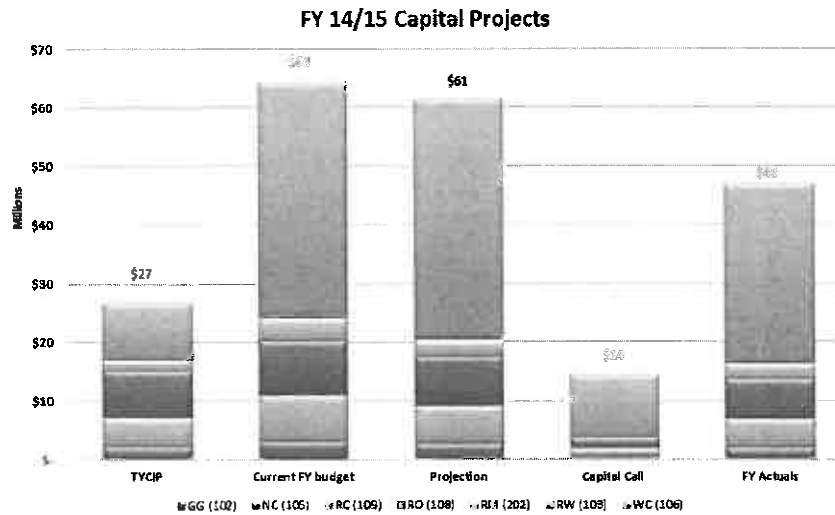
The Change Control Process for the Program/Project will follow the organizational standard change process for all projects. The PMO has overall responsibility for executing the change management process for each change request to the TYCIP:

1. Identify the need for a change (Project Team/Stakeholders) – Change requester will submit a completed change request form to the Project Team. Schedule and budget impacts required to evaluate change will be included with the change request.
2. Log change in the change request register (Project Manager) – The manager will keep a log of all submitted change requests throughout the project's lifecycle.
3. Evaluate the change (Project Team/requester) – The project manager will conduct a preliminary analysis on the impact of the change to risk, cost, schedule, and scope and seek clarification from team members and the change requester.
4. Submit change request to CCT (Project Manager) – The project manager will submit the change request, as well as the preliminary analysis, to the CCT for review.
5. Obtain decision on change request (CCT) – The CCT will discuss the proposed change and decide whether or not it will be approved based on all submitted information.
6. Elevate decision to CCT – Program level if necessary.
7. Implement change (Project Team) – If a change is approved by the CCT, the department manager will update program documentation and the project manager will update and re-baseline project documentation as necessary.

## 4.8.2 Cost Management Plan

### 4.8.2.1 Introduction

The Departments primary goal is to deliver high quality project in a time and cost effective way. In order to ensure the finance department isn't calling for more funds than the Department can expend within the fiscal year, it is essential that all project teams report their budgets accurately on a monthly basis. Below is the budget chart for the Departments capital projects budgets in FY 14/15 which has been a very good year:



The Project Manager will be responsible for managing and reporting on the project’s cost throughout the duration of the project. During regular project status meeting, the Project Manager will present and review the project’s cost performance for the preceding month. Performance will be measured using earned value or a close estimate of the earned value. In order to accurately report earned value during the design phase, the design consultant will be required to bill on a monthly basis with the Project Manager estimating progress between set milestones. The Project Manager is responsible for accounting for cost deviations and presenting to the PMO with options for getting the project back on budget. The PMO has the authority to make changes to the project to bring it back within budget. Currently, the department uses a project Dashboard and Key Performance Indicators to assist the project managers in cost and schedule management. The Dashboard will be updated to include performance indexes.

The Engineering and Construction Management Department will utilize the below methodology to track the progress of the Fiscal Year cost management for the entire program.

#### 4.8.2.2 Measuring Project Costs

This section of the Cost Management Plan defines how the project’s costs will be measured. Earned Value Management for measuring and controlling a project's costs will be used by all project managers. It is understood that there are many variations of how this can be accomplished and this document provides the concepts of earned value management. The intent of the PMO is to capture this critical information without making it very onerous for the Project Team and this may require changes to some of the departments’ current practices. This section will provide some details on what Earned Value measurements will be captured and reported. Project managers will use four Earned Value measurements; Schedule Variance (SV), Cost Variance (CV), Schedule Performance Index (SPI) and Cost

Performance Index (CPI). For most typical projects these four measurements can provide enough insight for effective management without overburdening the Project Manager.

#### 4.8.2.3 Definitions

Schedule Variance (SV): This is a measurement of the schedule performance for a project. It's calculated by taking the Earned Value (EV) and subtracting the Planned Value (PV). Since EV is the actual value earned in the project and the PV is the value our project plan says we should have earned at this point, when we subtract what we planned from the actuals we have a good measurement which tells us if we are ahead or behind the baseline schedule according to our project plan. If SV is zero, then the project is perfectly on schedule. If SV is greater than zero, the project is earning more value than planned thus it's ahead of schedule. If SV is less than zero, the project is earning less value than planned thus it's behind schedule.

Cost Variance (CV): This is a measurement of the budget performance for a project. CV is calculated by subtracting Actual Costs (AC) from Earned Value (EV). As we already know, EV is the actual value earned in the project. AC is the actual costs incurred to date, thus when we subtract what our actual costs from the EV we have a good measurement which tells us if we are above or below budget. If CV is zero, then the project is perfectly on budget. If CV is greater than zero, the project is earning more value than planned thus it's under budget. If CV is less than zero, the project is earning less value than planned thus it's over budget.

Schedule Performance Index (SPI): This measures the progress achieved against that which was planned. SPI is calculated as  $EV/PV$ . If EV is equal to PV the value of the SPI is 1. If EV is less than the PV then the value is less than 1, which means the project is behind schedule. If EV is greater than the PV the value of the SPI is greater than one, which means the project is ahead of schedule. A well performing project should have its SPI as close to 1 as possible, or maybe even a little under 1.

Cost Performance Index (CPI): This measures the value of the work completed compared to the actual cost of the work completed. CPI is calculated as  $EV/AC$ . If CPI is equal to 1 the project is perfectly on budget. If the CPI is greater than 1 the project is under budget, if it's less than 1 the project is over budget.

Performance of the project will be measured using Earned Value Management. The following four Earned Value metrics will be used to measure to projects cost performance:

- Schedule Variance (SV)
- Cost Variance (CV)
- Schedule Performance Index (SPI)
- Cost Performance Index (CPI)

If the Schedule Performance Index or Cost Performance Index has a variance of between 0.1 and 0.2, the Project Manager must report the reason for the exception. If the SPI or CPI



has a variance of greater than 0.2, the Project Manager must report the reason for the exception and provide management a detailed recovery plan to bring the project performance back to acceptable levels.

<b>Performance Measure</b>	<b>Yellow</b>	<b>Red</b>
Schedule Performance Index (SPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2
Cost Performance Index (CPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2

#### 4.8.2.4 Cost Management Approach

Costs for this project will be managed using WBS. Earned Value calculations will measure and manage the financial performance of the project.

Cost variances of +/- 0.1 in the cost and schedule performance indexes will change the status of the cost to cautionary; as such, those values will be changed to yellow in the project status reports. Cost variances of +/- 0.2 in the cost and schedule performance indexes will change the status of the cost to an alert stage; as such, those values will be changed to red in the project status reports. This will require corrective action from the Project Manager in order to bring the cost and/or schedule performance indexes below the alert level. Corrective actions will require a project change request and must be approved by the Project Sponsor before it can become within the scope of the project.

#### 4.8.2.5 Reporting Format

Reporting for cost management will be included in the weekly project status report. The Monthly Project Status Report will include a section labelled, "Cost Management". This section will contain the Earned Value Metrics identified in the previous section. All cost variances outside of the thresholds identified in this Cost Management Plan will be reported on including any corrective actions. Change Requests which are triggered based upon project cost overruns will be identified and tracked in this report.

Cost management reporting for the engineering consultant contract and construction contract will be submitted on a monthly basis to the PMO utilizing the weekly project status update report. The report will provide an update on the Total Adjusted Contract, Total Payments to Date, Contract Duration, Time Extension, Time Expired, and Work Complete.

#### 4.8.2.6 Cost Variance Response Process

This section of the Cost Management Plan defines the control thresholds for the project and what actions will be taken if the project triggers a control threshold. As part of the response process the Project Manager will present options for corrective action to the Project Sponsor who will then approve an appropriate action in order to bring the project back on budget. The Project Manager has the option to propose an increase to the budget for the project, reduce scope or quality, or some other corrective action.

The Control Thresholds for any project is a CPI or SPI of less than 0.8 or greater than 1.2. If the project reaches one of these control thresholds a cost variance corrective action plan is required. The Project Manager will present the Project Sponsor with options for corrective actions within five business days from when the cost variance is first reported. Within three business days from when the Project Sponsor selects a corrective action option, the Project Manager will present the Project Sponsor with a formal Cost Variance Corrective Action Plan. The Cost Variance Corrective Action Plan will detail the actions necessary to bring the project back within budget and the means by which the effectiveness of the actions in the plan will be measured. Upon acceptance of the Cost Variance Corrective Action Plan, the document will become a part of the project plan and the project will be updated to reflect the corrective actions.

#### 4.8.2.7 Cost Change Control Process

The cost change control process will follow the established project change request process. Approvals for project budget/cost changes must be approved based on established procedures by the PMO.

#### 4.8.2.8 Project Budget

The project manager is responsible for providing a detailed budget report for each project that captures all essential elements of the project depending on the phase of the project.

### **4.8.3 Schedule Management Plan**

#### 4.8.3.1 Introduction

The project schedule is the roadmap for how the project will be executed. Schedules are an important part of any project as they provide the project team, sponsor, and stakeholders a picture of the project's status at any given time. The purpose of the schedule management plan is to define the approach the project team will use in creating the project schedule. This plan also includes how the team will monitor the project schedule and manage changes after the baseline schedule has been approved. This includes identifying,

analyzing, documenting, prioritizing, approving or rejecting, and publishing all schedule-related changes.

Any proposed changes to the schedule will follow the change management control process. The Project Manager and team will determine the impact of the change on the schedule, cost, resources, scope, and risks. If it is determined that the impacts will exceed the boundary conditions, then the change will be forwarded to the Project Sponsor for review and approval. If the change is approved by the Project Sponsor then it will be implemented by the Project Manager who will update the schedule and Project Management Plan and communicate the change to all stakeholders in accordance with the Change Management Plan.

#### 4.8.3.2 Schedule Management Approach

Project schedules will be created using Primavera starting with the deliverables identified in the project's WBS. MS Project 2007 will be acceptable for contractor schedules for projects with a total project budget less than \$1,000,000. Activity definition will identify the specific work packages which must be performed to complete each deliverable. Activity sequencing will be used to determine the order of work packages and assign relationships between project activities. Activity duration estimating will be used to calculate the number of work periods required to complete work packages. Resource estimating will be used to assign resources to work packages in order to complete schedule development.

Once a preliminary schedule has been developed, it will be reviewed by the project team and any resources tentatively assigned to project activities. The project team and resources must agree to the proposed work package assignments, durations, and schedule. Once this is achieved the project sponsor will review and approve the schedule and it will then be baselined.

The following will be designated as milestones for the project schedule:

- Completion of scope statement and WBS/WBS Dictionary
- Project schedule baseline
- Approval of final project budget
- Project kick-off
- Approval of roles and responsibilities
- Requirements definition approval
- Completion of data mapping/inventory
- Project implementation
- Acceptance of final deliverables

Roles and responsibilities for schedule development are as follows:

The project manager will be responsible for facilitating work package definition, sequencing, and estimating duration and resources with the project team. The project manager will also create the project schedule using Primavera (MS Project 2007 for contractors on small projects) and validate the schedule with the project team,

stakeholders, and the project sponsor. The project manager will obtain schedule approval from the project sponsor and baseline the schedule.

The project team is responsible for participating in work package definition, sequencing, and duration and resource estimating. The project team will also review and validate the proposed schedule and perform assigned activities once the schedule is approved.

The project sponsor will participate in reviews of the proposed schedule and approve the final schedule before it is baselined.

The project stakeholders will participate in reviews of the proposed schedule and assist in its validation.

#### 4.8.3.3 Schedule Control

The project schedule will be reviewed and updated as necessary on a weekly basis with actual start, actual finish, and completion percentages which will be provided by task owners.

The project manager is responsible for holding bi-weekly schedule updates/reviews; determining impacts of schedule variances; submitting schedule change requests; and reporting schedule status in accordance with the project's communications plan.

The project team is responsible for participating in bi-weekly schedule updates/reviews; communicating any changes to actual start/finish dates to the project manager; and participating in schedule variance resolution activities as needed.

The project sponsor will maintain awareness of the project schedule status and review/approve any schedule change requests submitted by the project manager.

#### 4.8.3.4 Work Breakdown Structure

The WBS defines all tasks, resources, and deliverables on a project. The WBS will aid in resource planning, task completion, and ensuring deliverables meet project requirements. Below is the minimum Work Breakdown Structure (WBS) that must be used for all projects. This WBS must be maintained to keep a reliable interface from SAP to Primavera. Once these WBS and activities have been added to a project, they cannot be deleted in order to retain the correct budget and actual cost information loaded into each project.

WBS Phase Letter	WBS Phase Name	Activity Abbreviation	Activity Full Name
L	Project Development	PRJV	Project Evaluation
		CNCN	Consultant Contract Award
D	Pre-Design	PRDS	Pre-Design
E	Environmental Impact Report	EIRW	Environmental Impact Report
F	Design	DN30	30% Design
		DN50	50% Design

		VENG	Value Engineering
		DN85	85% Design
		DFLP	Final Design Package
X	Permits	PRMT	Permits
V	Bid & Award	BDAW	Bid & Award
G	Construction	MTEQ	Materials & Equipment
		RDSV	Redesign Services
		CNSW	Construction Work
		STUP	Startup
		PACO	Project Acceptance and Closeout
T	Warranty	WRTY	Warranty Period

The remaining WBS listed below are not a required minimum, but can be used when managing a project. These WBS are updated through the Primavera-SAP interface. Once the below listed WBS and activities have been added to a project, they cannot be deleted in order to retain the correct budget and actual cost information loaded into each project.

WBS Phase Letter	WBS Phase Name	Activity Abbreviation	Activity Full Name
C	Master Plan	MP30	30% Master Plan
		FMPP	Final Master Plan Package
I	Equipment Pre-Purchase	PPWK	Pre-Purchase Work
A	Land Acquisition	ESMT	Easements and Rights of Way
		LAND	Land Acquisition
U	Legal Fees	LGLF	Legal Fees
M	Non-Reimbursable Cost	NRMB	Non-Reimbursable Cost
R	Reimbursements	RIMB	Reimbursements
		NRET	Non Retrofit Costs

A more detailed WBS was developed through close collaboration among project team members to determine all the necessary steps in working through a project. This WBS is recommended for the project managers to use for projects for the Engineering and Construction Management Department that are defined in the TYCIP.

#### 4.8.3.5 Schedule Baseline

The project baseline will be created during the project charter phase. A baseline will be reconfirmed at the 50% design phase, final design phase, and bid and award phase. If a schedule change has been approved by the Program Sponsor, a new baseline will be established to reflect the approved change.

#### 4.8.3.6 Schedule Changes and Thresholds

If any member of the project team determines that a change to the schedule is necessary, the project manager and team will meet to review and evaluate the change. The project manager and project team must determine which tasks will be impacted, variance as a result of the potential change, and any alternatives or variance resolution activities they may employ to see how they would affect the scope, schedule, and resources. After this evaluation is complete, if the project manager determines that any change will exceed the established boundary conditions, then a schedule change request must be submitted.

Submittal of a schedule change request to the project sponsor for approval is required if either of the two following conditions is true:

- The proposed change is estimated to reduce the duration of an individual work package by 10% or more (cumulative), or increase the duration of an individual work package by 10% or more (cumulative).
- The change is estimated to reduce the duration of the overall baseline schedule by 10% or more (cumulative), or increase the duration of the overall baseline schedule by 10% or more (cumulative).

Any change requests that do not meet these thresholds may be submitted to the project manager for approval.

Once the change request has been reviewed and approved, the project manager is responsible for adjusting the schedule and communicating all changes and impacts to the project team, project sponsor, and stakeholders. The project manager must also ensure that all change requests are added to the change management log.

#### 4.8.3.7 Scope Change

Any changes in the project scope, which have been approved by the project sponsor, will require the project team to evaluate the effect of the scope change on the current schedule. If the project manager determines that the scope change will significantly affect the current project schedule, he/she may request that the schedule be re-baselined in consideration of any changes which need to be made as part of the new project scope. The project sponsor must review and approve this request before the schedule can be re-baselined.

### 4.8.4 Risk Management Plan

#### 4.8.4.1 Introduction

This section explains why risks exist and highlights the purpose and importance of the risk management plan. All projects come with many uncertainties and different levels of risk associated with them. The purpose of a risk management plan is to establish the framework in which the project team will identify risks and develop strategies to mitigate or avoid those risks. However, before risks can be identified and managed, there are preliminary project elements which must be completed. These elements are outlined in the risk management approach.

Before risk management begins it is imperative that a foundation is established for providing structured project information, thus, the following project elements are completed and defined prior to developing the Risk Management Plan:

- Define work scope, schedule, resources, and cost elements
  - Develop project WBS
  - Develop master schedule
  - Estimate project cost and finalize budget
  - Identify required and available resources
  - Establish project performance measurement metrics
- Define minimum and maximum baseline thresholds
  - Schedule
  - Resources
  - Cost
- Baseline reporting requirements
  - Format
  - Frequency of distribution
  - Distribution list
- Define Risk Management Roles and Responsibilities
  - Project Manager chairs the risk assessment meetings
  - Project team participates in risk assessment meetings
  - Key stakeholders participate in risk assessment meetings
  - Project Sponsor may participate in risk assessment meetings

#### 4.8.4.2 Risk Management Approach

Project managers will approach risk management through a methodical process by which the project team will identify, score, and rank the various risks. The most likely and highest impact risks will be added to the project schedule and project management plan to ensure that the Project Manager takes the necessary steps to implement the mitigation response at the appropriate time during the schedule. The Project Manager will provide status updates on risks in the regularly scheduled project team meetings. Upon the completion of the project, during the closing process, the project manager will analyze each risk as well as the risk management process. Based on this analysis, the project manager will identify any improvements that can be made to the risk management process for future projects. These improvements will be captured as part of the lessons learned knowledge base.

#### 4.8.4.3 Risk Identification

Risk identification will be conducted by the project team in the initial project risk assessment meeting. Below are methods a project manager will use to identify risks.

1. Risk Assessment Meeting: A risk assessment meeting is held with key team members and stakeholders. The project manager will chair the risk assessment meeting and distribute notepads to each member of the team and allow 10 minutes for all team members to record as many risks as possible. The risks are then identified during this meeting and added to the project plan and risk register. The

team will assign each risk a score based on the probability of it occurring and the impact it could potentially have.

2. Historical Review of Similar Projects: The project team will review the history of similar projects in order to determine the most common risks and the strategies used to mitigate those risks.

#### 4.8.4.4 Risk Qualification and Prioritization

In order to determine the severity of the risks identified by the team, a probability and impact factor will be assigned to each risk. This process will allow the project manager to prioritize risks based upon the effect they may have on the project. The project manager will utilize a probability-impact matrix to facilitate the team in moving each risk to the appropriate place on the chart.

Once the risks are assigned a probability, impact, and placed in the appropriate position on the chart, the project manager will develop risk mitigation and avoidance planning for the project.

#### 4.8.4.5 Risk Monitoring

The most likely and greatest impact risks will be added to the project management plan to ensure that monitoring during the project. At the appropriate time in the project schedule, a risk manager is assigned to each risk. During the regularly scheduled project team meeting the risk manager for each risk will discuss the status of that risk; however, only risks which fall in the current time period will be discussed. Risk monitoring will be a continuous process throughout the life of this project. As risks approach on the project schedule the project manager will ensure that the appropriate risk manager provides the necessary status updates which include the risk status, identification of trigger conditions, and the documentation of the results of the risk response.

#### 4.8.4.6 Risk Mitigation and Avoidance

As risks are identified, the project manager will qualify and develop avoidance and mitigation strategies. These risks will also be added to the risk register and the project management plan to ensure they are monitored at the appropriate times and are responded to accordingly. If necessary, the risk management plan will be updated.

The risks for the project will be managed and controlled within the constraints of time, scope, and cost. All identified risks will be evaluated in order to determine how they affect defined project constraints. The project manager, with the assistance of the project team, will determine the best way to respond to each risk to ensure compliance with the constraints.



#### 4.8.4.7 Risk Register

Every project must maintain a risk register in order to track risks and associated mitigation strategies. The Risk Register is a log of all identified risks, their probability and impact to the project, the category they belong to, mitigation strategy, and when the risk will occur. The register is created from the initial project risk management meeting. During this meeting, the project team identified and categorized each risk. Additionally, the team assigned each risk a score based on the probability of it occurring and the impact it could potentially have. The Risk Register also contains the mitigation strategy for each risk as well as when the risk is likely to occur.

Based on the identified risks and timeframes in the risk register, each risk will be added to the project management plan. At the appropriate time in the plan—prior to when the risk is most likely to occur—the project manager will assign a risk manager to ensure adherence to the agreed upon mitigation strategy. Each risk manager will provide the status of their assigned risk at the bi-weekly project team meeting for their risk’s planned timeframe.

The Risk Register will be maintained as an appendix to the Project Management Plan and Construction Management Plan. A sample template for the Risk Register is provided in Appendix K.

### 4.8.5 Staffing Management Plan

#### 4.8.5.1 Introduction

The staffing management plan is a tool which will be used in the management of a project from inception to completion. The staffing management plan includes:

- Roles and responsibilities of team members throughout a project
- Project organization charts
- Staffing management plan will include:
  - How resources will be acquired
  - Timeline for resources/skill sets
  - Training required to develop skills
  - Recognition and Rewards

The purpose of the staffing management plan is to achieve project success by ensuring the appropriate staffing level is acquired with the necessary skills, resources are trained if any gaps in skills are identified, team building strategies are clearly defined, and team activities are effectively managed.

The Engineering and Construction Management department have identified a staff management plan for Fiscal Year 15/16 and 16/17 (Appendix A).

#### 4.8.5.2 Roles and Responsibilities

Roles and responsibilities of team members and stakeholders must be clearly defined in all project management plans. When listing roles and responsibilities the following will be included:

- Role – description of the portion of the project for which the member is accountable
- Authority – the level at which the member may make decisions, apply project resources, or make approvals
- Responsibility – the work a team member must perform to complete assigned work activities
- Competency – the skill(s) required to complete assigned project activities

An example below has defined the roles and responsibilities for the RP-5 Solids project are identified below. All team members must clearly understand their roles and responsibilities in order to successfully perform their portion of the project. For the RP-5 Solids Project the following project team roles and responsibilities have been established:

**Project Manager (PM), (1 position):** responsible for the overall success of the RP-5 Solids Project from inception to completion. The PM must authorize and approve all project expenditures. The PM is also responsible for approving that work activities meet established acceptability criteria and fall within acceptable variances. The PM will be responsible for reporting project status in accordance with the communications management plan. The PM will work closely with the Construction Project Manager to evaluate the performance of all project team members and communicate their performance to the PMO. The PM is also responsible for acquiring staffing for the project through coordination with the Project Management Team. The PM must possess the following skills: leadership/management, budgeting, scheduling, and effective communication.

**Construction Project Manager (CPM), (1 position):** responsible for working closely with the Project Manager as part of the project management team for the RP-5 Solids Project. The CPM is responsible for working on all aspects of managing the project. The role of the CPM starts out in support and becomes more of a lead during the construction phase of the project. During construction of the project, the PM is still responsible for project reporting and overall schedule and budget and provides support to the CPM as needed.

**Administrative Assistant (Admin), (1 position):** The Admin provides all aspects of project support from inception to completion.

**Technical Services staff (TS), (1 position):** TS is responsible for providing project support based on their detailed knowledge of facility processes. The level of support needed from TS will be detailed in the resource planning documentation.

**Integrated System Services staff (ISS), (1 position):** ISS is responsible for providing project support based on their detailed knowledge of facility control systems. The level of support needed from ISS will be detailed in the resource planning documentation.

**Operations staff (Ops), (As needed)** Ops is responsible for keeping the facility in compliance at all times. Operations have to be fully involved in any and all activities that may have any impact on facility operations. The level of support needed from Ops will be detailed in the resource planning documentation.

**Maintenance staff (Maint), (As needed):** Maint is responsible for maintaining the facility at all times. Maint has to be fully involved in any and all activities that may have any impact on facility operations. The level of support needed from Maint will be detailed in the resource planning documentation.

**CAP, Finance, and Grants (As needed):** Support services from these departments as necessary and as identified in the resource planning documentation.

#### 4.8.5.3 Project Organization Chart

In this section the Staffing Resource Plan provides a graphic display of the project tasks and team members. The purpose of this is to illustrate the responsibilities of team members as they relate to the project tasks. A responsibility assignment matrix (RAM) will be created to assign the party that will be responsible, accountable, consult, or inform (RACI). This matrix will be used to communicate roles and responsibilities for the project team. This matrix will start as a high level chart that will be detailed as the project progresses and is also dependant on the project complexity.

The following RAM chart shows the relationship between project tasks and team members. Any proposed changes to project responsibilities must be reviewed and approved by the project manager. Changes will be proposed in accordance with the project's change control process. As changes are made all project documents will be updated and redistributed accordingly.

	PM	Const. PM	TS	Ops / Maint	Others IEUA
Predesign	R	A	C	C	I
Design	R	A	C	C	I
Equipment Pre-purchase	R	A	C	C	I
EIR/CEQA	R	A	C	C	I
Easements / Permits	R	A	C	C	I
Construction	A	R	C	C	I
Startup	A	R	C	C	I
Training	A	R	C	C	I

Key:

R – Responsible for completing the work

A – Accountable for ensuring task completion/sign off

C – Consulted before any decisions are made

I – Informed of when an action/decision has been made

#### 4.8.5.4 Staff Management

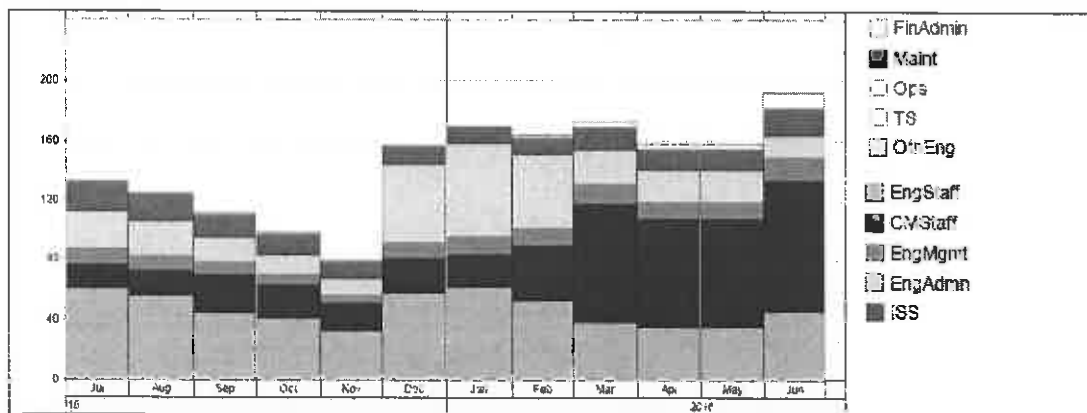
It is the responsibility of the portfolio team (PM, CPM, Admin) to come up with a resource allocation plan for the project that will provide a successful delivery of the project. A detailed development of the resources spreadsheet (See Appendix D) together with actual durations for the activities will provide the necessary information for the resources and schedule. The resources and schedule derived by the portfolio team will take precedence over the conceptual information provided as part of the TYCIP process. The PMO will utilize all of the project resource planning spread sheets to provide an overall TYCIP resource schedule. The program sponsor will be responsible for reviewing the overall department plan and approving it.

#### 4.8.5.5 Staff Acquisition

It's the portfolio teams' decision on how to staff the project for success. The team can elect to have a consultant team for the design of one project or the design of several projects they are responsible for. Similarly, the portfolio team will determine how projects will be packaged for successful construction.

#### 4.8.5.6 Resource Calendars

The resource stacked chart below illustrates a tool the portfolio team can use to show the resource needs of the project or a group of projects. The example below demonstrates that one PM would be fully tasked with this project and will require staff augmentation for most of the months during design. This is also true for the CPM in the construction months. A stacked chart is a useful tool to visualize the staffing needs through different stages of the project(s).



#### 4.8.5.7 Training

The portfolio team needs will take a detailed look at any training needs as part of the project and how that training will be provided in a timely manner.

## 5 Project Close-out

The project teams have resource time for a more formal and comprehensive project close-out process intended to provide lessons learned and guidance to future projects. Some of the key points that should be captured are:

1. Comparisons of initial project scope, budget, and schedule to actual final scope, budget, and schedule.
2. Comparison of initial resource planning to actual resources used on project.
3. Effectiveness of the risk management plan and risks that were not identified.
4. Effectiveness of all the other plans that were developed as part of the Project Management Plan and Construction Management Plan.
5. A listing of all project management tools used to manage the project with a report of how effective these tools were.

The portfolio team will need to complete the project close-out checklist in Appendix L. In addition to the above, meetings should be conducted with all stakeholders including the Design Consultant and Contractor. These meetings should be structured to informally discuss the overall success of the project and things that could be done to improve project delivery. All the information gathered from the project close-out process will be formally documented in a "Project Close-out Memorandum".

## 6 Recognition and Rewards

There are many factors that make project successful and it is when you have a truly collaborative effort that you will achieve success. The key to a successful project is how well the project team works together and how well they can organize others who support the project. Project support comes internally from resources like the ISS group and also Technical Services, Operations, Maintenance and externally from the design consultant and contractor.

In the public sector, cash bonuses are not provided for project performance. This is done mainly in the private sector but most studies indicate this is not an effective recognition method as soon as they become expectations.

The rewards and recognition method the PMO recommends is having a formal breakfast or lunch meeting for the department and have the project team talk about how the project

was made successful and the key learning points from the project. This makes it clear to the department that a project team successfully delivered a project. In addition, this information should be formalized in the Agency's publication "The Wave". For larger projects, the project completion will be presented to the Board with the success highlighted to emphasize the departments' accomplishments. The PMO will entertain other recommendations for rewards and recognition.

## 7 Appendices

1. TYCIP with Project Team Assignments
2. Training Plan
3. Process Flow Diagram
4. Resource Manpower Load Matrix Spreadsheet
5. Project Charter Sample Template
6. Project Management Plan Sample Template
7. Construction Management Plan Sample Template
8. Department Project Report Information
9. Key Performance Indicator Tracking Information
10. Change Management Plan Sample Template
11. Risk Register Sample Template
12. Project Close-Out Checklist
13. Project Resources

## 8 Program Management Approval

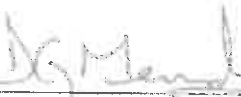
Approved:



Majid Karim  
Acting Manager of Engineering

Date: 6/9/15

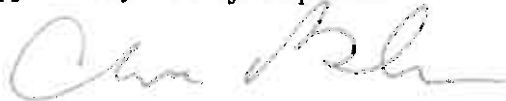
Approved:



David Mendez  
Deputy Manager of Construction Management

Date: 06.10.2015

Approved by the Project Sponsor:



Chris Berch  
Executive Manager of Engineering/Assistant General Manager

Date: 6/10/15

# Engineering and Construction Management Department Program Management Plan Update September 2015



**Inland Empire Utilities Agency**  
A MUNICIPAL WATER DISTRICT

**David Mendez**  
Acting Deputy Manager of Engineering

**Rachael Solis**  
Supervisor of Engineering Administration

# Program Management Plan

- Eng/CM Dept. TYCIP: \$600M
- Guideline for project delivery
- Deliver quality projects on time and within budget
- Industry standard approach to project management
  - Project Management Institute (PMI)
  - Construction Management Association (CMAA)

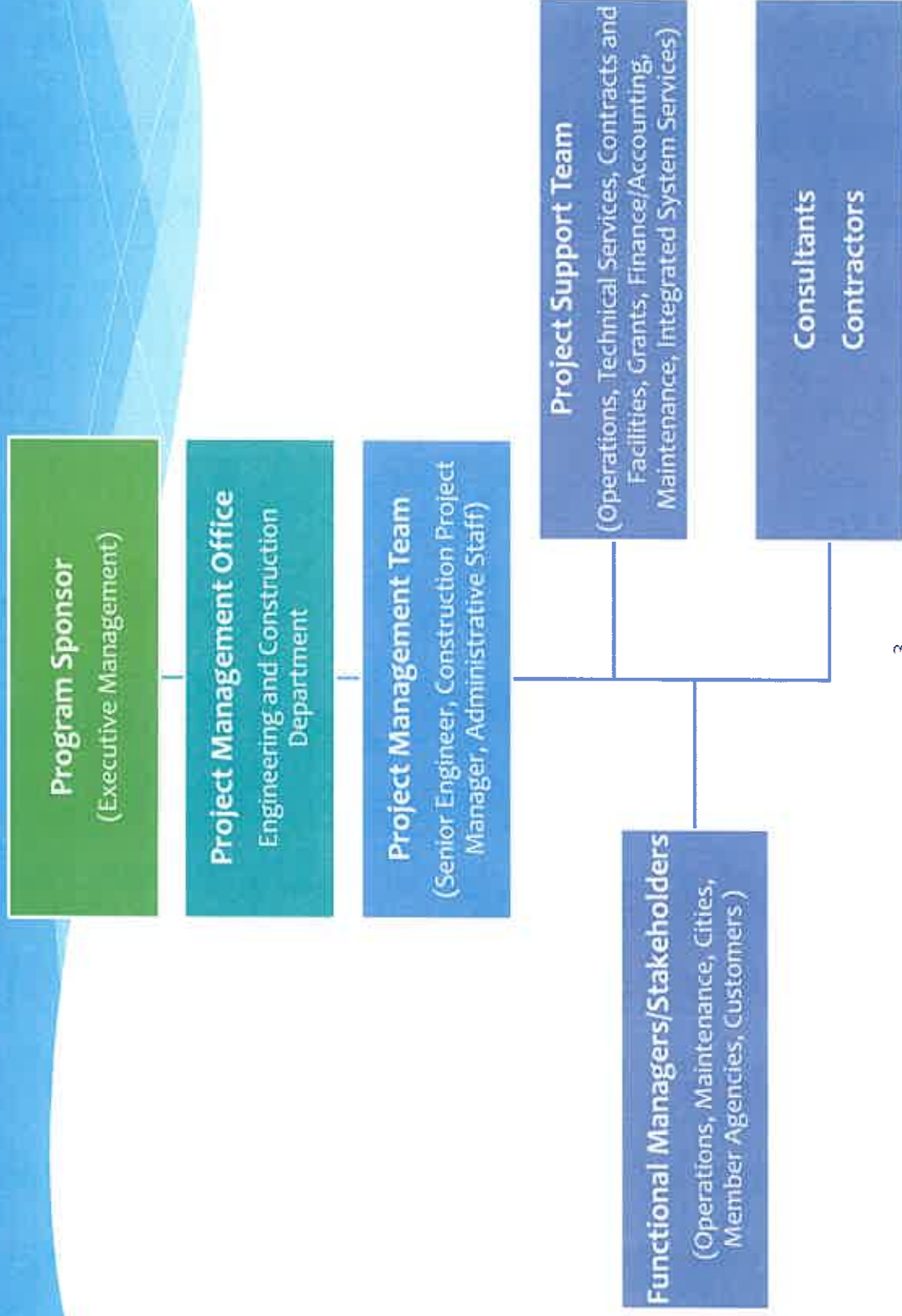


*The Program Management Plan is part of the Agency's Water Reliability Business Goal to ensure capital projects are designed and implemented in a timely and economically responsible manner.*





# Program Structure and Roles



# Project Lifecycle



## Project Creation

- TYCIP**
- High Level Scope, Budget, Schedule

## Project Evaluation

- Project Charter**
- Define Scope, Budget, Schedule
  - Program Sponsor Approval

## Pre/Design

- Project Management Plan**
- Develop Scope
  - Budget and Schedule updated
  - Bid and Award

## Construction

- Construction Management Plan**
- Contractor Management
  - Budget and Schedule
  - Project Transfer to Operations

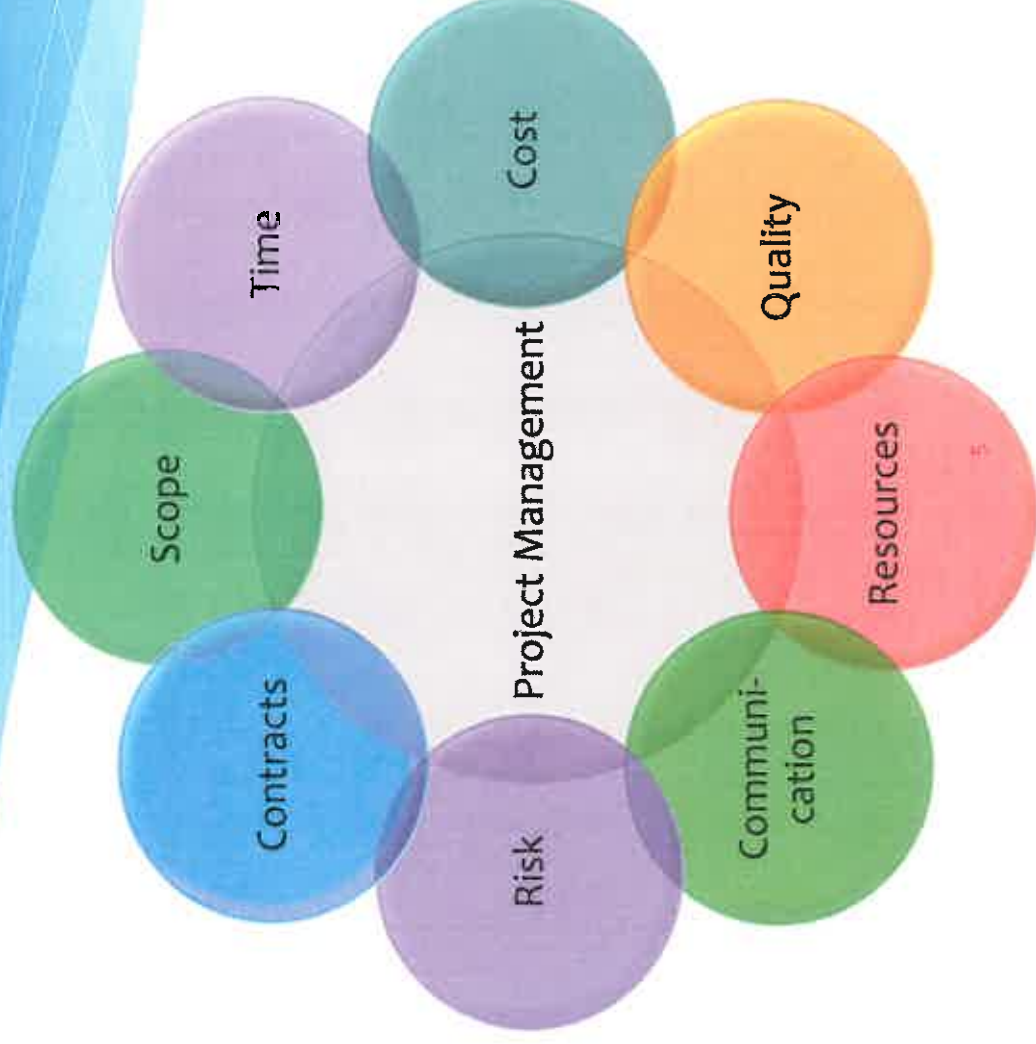
## Project Acceptance

- Close-out**
- Forensic Analysis
  - Lessons Learned
  - As-Builts
  - Project Closure
  - Records Management

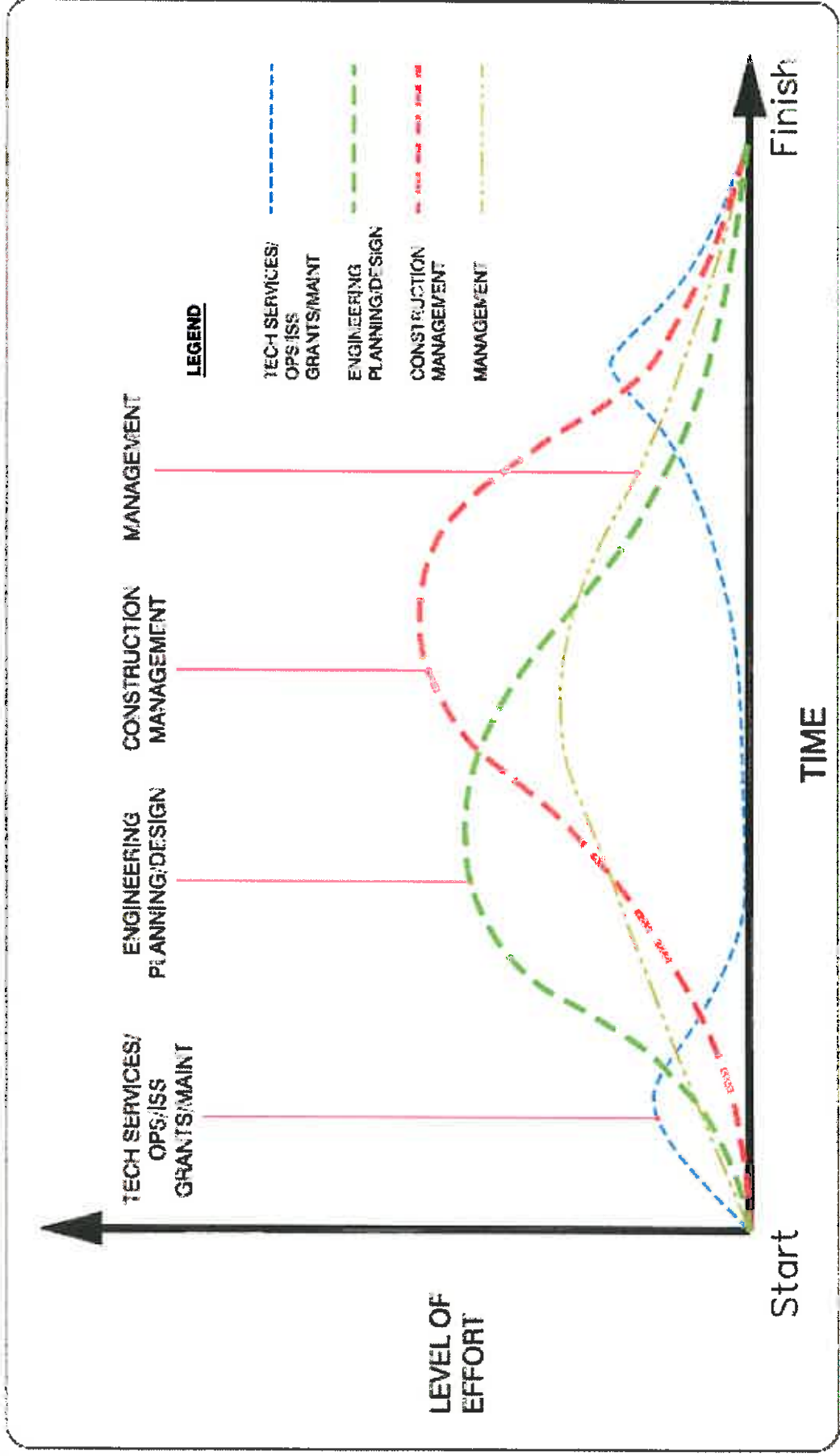
← Project Management Team Monitoring and Control →

# Project Planning Documents

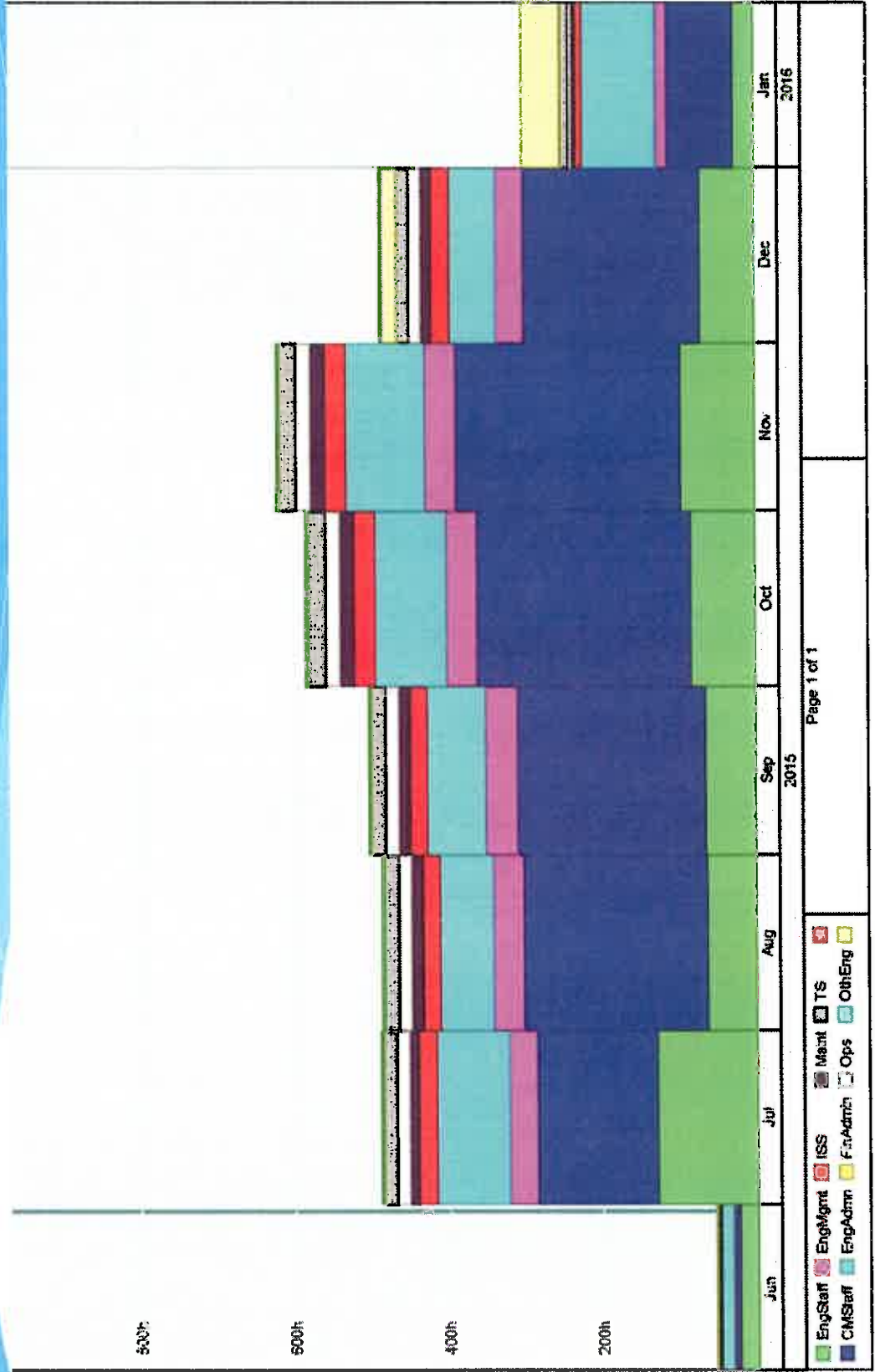
Project Charter, Project Management Plan, Construction Management Plan



# Project Resource Curves



# Project Resource Hours



**INFORMATION**  
**ITEM**  
**2B**

# Engineering and Construction Management Project Updates

September 2015



*Inland Empire Utilities Agency*  
A MUNICIPAL WATER DISTRICT

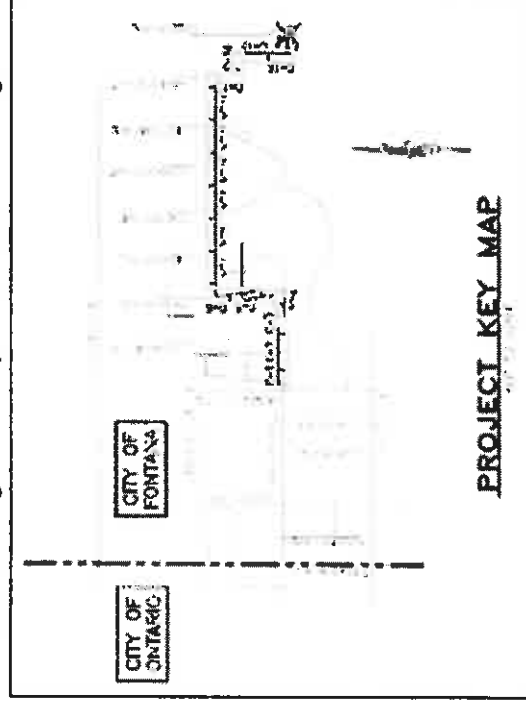
David Mendez,  
Acting Deputy Manager of Engineering

John Scherck,  
Acting Deputy Manager of Construction Management

# EN13045 – Wineville Recycled Water Pipeline Extension Segment B

- Contractor: Mike Bubalo Construction
- Current Contract Value: \$8.7 M (with VE)
- Total Project Budget: \$12.2 M
- Scope of Work: Construct 2.6 miles of RW Pipeline (VE Alignment Total)
- Current Activities:
  - Procurement of control panel and sluice gate
- Contract Completion: November 2015
- Percent Complete: 95%
- Focus Points:
  - Pipeline is in manual operation
  - Full automated operation

Wineville Segment B Pipeline Installation Progress





# EN13016 – SCADA Enterprise System CCWRF

- Contractor: Technical Systems, Inc.
- Current Contract: \$2.5 M
- Total Project Budget: \$10.3 M
- Scope of Work: Migration of existing control system to modern SCADA system at CCWRF
- Current Activities:
  - Operator screens and configuration of reporting system
  - Submittal review and control workshops
- Contract Completion: February 2016
- Percent Complete: 48%
- Focus Point:
  - Reporting system configuration
  - Factory acceptance testing of remaining panels

Control Room Wall Modifications



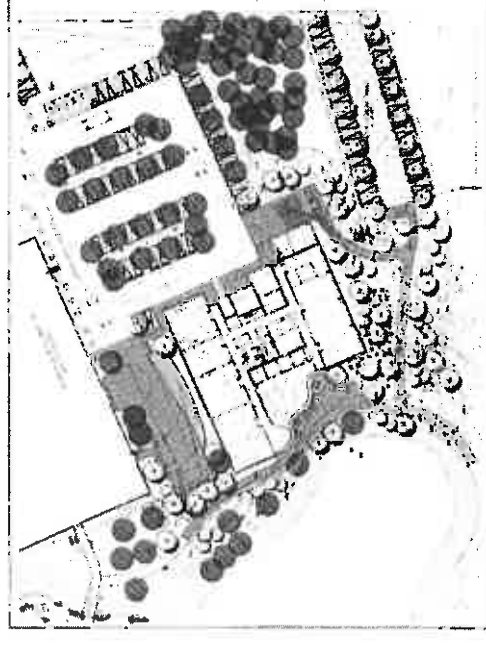
Headworks Panel Installation



# EN15008 - New Water Quality Laboratory Project

- Engineering Consultant: Austin Company
- Current Contract: \$1.3 M
- Total Project Budget: \$21 M
- Scope of Work: Consultant Engineering Services for New Water Quality Laboratory and Central Chiller Plant Expansion
- Current Activities:
  - Update 50% Lab Design
  - Preliminary Design Central Plant
  - Solicitation for VE Consultant
  - Review Geo-Technical Report
- Focus Point:
  - Complete 50% Lab design review workshop
  - Complete Central Plant predesign review workshop
  - Complete Panel Expert contracts
  - Pre-qualification of Contractors

Project Site Plan



# EN15032 – Agency-Wide HVAC Improvements, Package No. 3

- **Engineering Consultant:** Allison Mechanical, Inc.
- **Current Contract:** \$431 K
- **Total Project Budget:** \$1.2 M
- **Scope of Work:** Replacement/upgrade of air conditioning units for RP-1 Warehouse, RP-2 Dewatering Control building, RP-5 Power Center No. 3
- **Current Activities:**
  - Review shop drawing submittals
  - SCADA Workshop
- **Focus Point:**
  - Long lead submittals

RP-5 Power Center No. 3



# Fiscal Year 14/15 – Minor and Emergency Projects

- 7 Minor Constriction Projects
- 24 Emergency Projects

Vineyard Elementary RW Pipe Replacement



6-inch Sludge Line Leak



RAS Piping Leak at CCWRF



RP-1 42-inch Primary Effluent Pipe Repair



Potable Water Line Installation at RP-4



**Engineering and Construction Management Project Updates  
Fiscal Year 14/15 - Minor and Emergency Projects - Attachment**

<b>Minor (RFP) Projects</b>			
<b>#</b>	<b>Task Order Description</b>	<b>Contractor</b>	<b>Amount</b>
1	Air Relief Valves Replacement on San Antonio Channel pipeline - Segment B	WA Rasic	\$74,760.00
2	CCWRF Chlorine Contact Tank Diversion Box Modifications	Coonstruction, Inc.	\$29,800.00
3	RP-1 Flare PRV Bypass Valve	WA Rasic	\$406,600.00
4	1630 West Recycled Water Pump Station/Check Valves	Atom Engineering	\$67,398.00
5	Mission Blvd Soil Feasibility Study	Humphrey Constructors	\$67,837.94
6	CCWRF Lagoon Rip-Rap Retrofit	Atom Engineering	\$54,451.32
7	Vineyard Elementary RW Pipe Replace	Humphrey Constructors	\$28,800.00
<b>Total Minor (RFP) Projects in FY14/15</b>			<b>\$729,647.26</b>
<b>Emergency Projects</b>			
<b>#</b>	<b>Task Order Description</b>	<b>Contractor</b>	<b>Amount</b>
1	RP-4 Bleach Line Leak Repair	WA Rasic	\$29,080.28
2	Manhole Paving Repair	WA Rasic	\$6,466.40
3	RP-4 Potable Water Line Installation	David T. Wasden	\$32,014.09
4	CDA Soils Mitigation & Sulfuric Acid Line Repair	WA Rasic	\$129,226.32
5	16" RW Triple Offset BFV Installation at RP-2	WA Rasic	\$37,600.00
6	RP-1 Odor Control Biofilter No. 2	Coonstruction, Inc.	\$42,275.30
7	HQ-B Backflow Assembly	Norman Olsson Construction	\$8,552.35
8	Valve Box Repair - El Prado Rd	VCI Construction	\$4,482.24
9	Sinkhole on Mission Ave (Ontario)	WA Rasic	\$16,275.40
10	Etiwanda Ave Damaged Valve Cover	WA Rasic	\$5,034.37
11	RP-5 Chlorine Contact Basin RW Leak	WA Rasic	\$2,002.79
12	18" PVC on Kimball	WA Rasic	\$55,175.94
13	RP-2 Utility Water Line Leak	Ferreira Construction	\$3,449.13
14	RP-1 Digested Sludge Line Leak	WA Rasic	\$8,902.70
15	RP-1 Odor Control Biofilter No. 2	WA Rasic	\$21,933.52
16	San Bernardino Ave. Vault Repair (City of Fontana)	Mike Bubalo Construction	\$10,000.00
17	CCWRF - RAS Piping Leak	WA Rasic	\$9,867.94
18	RP-5 Underground Water Leak	WA Rasic	\$16,393.89
19	ProLogis/CSI Sewer Manhole Surveys	WA Rasic	\$20,000.00
20	6-inch Sewer Line Break	WA Rasic	\$2,174.00
21	HQ-A & HQ-B Slab Repair	WA Rasic	\$49,998.00
22	RP-1 Silo Catwalk -Request for Additional Safety Improvements	WA Rasic	\$3,500.00
23	CBWCD RW Piping Leaks	WA Rasic	\$28,000.00
24	RP-1 42-Inch Primary Effluent Pipe Repair	VCI Construction	\$162,500.00
<b>Total Emergency Projects in FY14/15</b>			<b>\$704,904.66</b>