

# Construction Progress Report

April 2008

Wet Weather Improvements Project  
Central Marin Sanitation Agency



Harris & Associates<sup>SM</sup>



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# Executive Summary

Contract Number	07-01
General Contractor	Western Water Constructors
Contract Bid Amount	\$35,550,000.00
Change Orders to Date	4
Pending/Anticipated Change orders	7 items
Notice to Proceed	October 8, 2007
Original Contract Time	910 calendar days
Working Days Elapsed	205
Working Days Remaining	705
Milestone 1 (CCT & EPS)	July 29, 2009
Milestone 2 (All other work)	March 6, 2010
Rain days – Accepted to date	7 of 50 included within contract time
Contract Change Order(s) Time Extension	0
Final Completion Date	April 5, 2010
Total Project Time Expended	22.5%
Total Project Cost Expended	29.5%

## **Work Progress during April 2008 by Area or System:**

### **1. General:**

Western Water proposed an alternate installation of the 84" x 66" wye at the outfall area. This proposal was reviewed by the Agency and Engineer, who requested additional information and research before acceptance of the proposed installation. (At the beginning of May, Western Water's research concluded that the proposed alternate installation would not be possible based on the steel cylinder thickness.)

Western Water submitted the March 2008 monthly schedule update. No major changes to the project baseline schedule were noted.

Western Water (WW) maintained the Storm Water Pollution Prevention Plan best management practices (BMPs). Western Water has submitted rain event inspection forms for the project files.

Western Water continues routine weekly safety tailgate meetings, weekly safety checks, as well as the monthly safety audit performed by WW's safety officer. Written reports of all meetings, checks and safety audits have been submitted for the record.

### **2. Polymer Facility:**

Western Water continued the installation of the new polymer lines, 3-water and 1-water lines from the west side of the plant road to the pipe sleeves in the structure walls and encased the new pipes in controlled low strength material (CLSM).

Western Water and their electrical subcontractor, Aspen Timco, continued trenching and installing the electrical duct bank from the polymer facility to the CMSA Administration Building following the alternate routing plan, approved in Change Order No. 003. The pull box remains to be installed in this area; the duct bank has been encased with red concrete and backfilled, and conduits have been installed into the Administration Building.

### **3. Gallery A & B Improvements, including Grit Chamber 3 and Headworks**

Western Water rerouted the fire water piping, channel air and Ross Valley Pre-chlorination lines in Gallery A in preparation for the primary influent channel connection and other demolition work. Western Water installed a portion of the grit pump piping.

Western Water demolished the parapet wall at the south end of Gallery A/B. They also cut out the wall below the parapet for the influent channel connection and covered the opening with framed plywood for the interim until further work is completed in this area.

Western Water set the Aeration Blower in place in the blower room and installed the piping for the plant air to be connected to the aeration blower.

### **4. Primary Clarifiers 6 & 7**

Subcontractor Stroer & Graff began installing the Type 1 shoring (soldier beam and lagging) for the primary clarifiers. Soldier beams were installed in the area, but have not crossed the current plant road yet.

### **5. Chlorine Contact Tanks (CCT) 5 & 6**

Western Water completed the excavation and backfill with CLSM by mid-April. Western Water placed and compacted 6-inches of aggregate base in preparation for forming the slab-on-grade for the CCT.

Subcontractor Condon-Johnson began installation of the six drilled concrete piers which will support the new influent channel from the existing chlorine contact tanks to the new tanks.

### **6. Effluent Pump Station (EPS)**

After completing the excavation and backfill as noted above for the CCT, Western Water began forming for the slab-on-grade. They also formed and placed the concrete for the drain sump slab-on-grade.

### **7. Secant Retaining Wall and other Site improvements**

Subcontractor Condon Johnson completed the secant pile retaining wall with the float finish of the Shotcrete face.

Western Water installed forms, placed and compacted aggregate base material and tied reinforcing steel for the v-ditch behind the secant pile retaining wall.

Western Water began constructing a temporary access road where the new road will be permanently installed. The Ross Valley Interceptor pipe under this new road location is not encased as it is under the current road. Carollo Engineers is working on a design to protect the pipe under the new road. Western Water will either avoid crossing the Ross Valley Interceptor in the new road or will only run empty trucks over that area until the new design is received and installed over the pipe.

## 8. Aeration Tanks

Aspen Timco, electrical subcontractor, continued installation of conduits on the aeration tank control building. This work will continue in the month of May and connections made during scheduled maintenance shutdowns of the tanks.

## 9. Review Item Summary

Please see attached open RFI and Submittal logs in Section 3 for details of the following outstanding items.

Review Items	Total Received to Date	Number Received in April	Number Returned / Reviewed in April
RFIs	67	12	9
Submittals	231	48	34
Certified Payroll	141	25	25

## 10. Change Order Summary

Approved Change Orders	Description	Cost
Contract Change Order No. 001	One-time relocation of PG&E gas Line	\$0.00
Contract Change Order No. 002	<u>Miscellaneous Small Changes (9 items)</u>	\$1,043.00
Contract Change Order No. 003	Electrical/Instrumentation Conduit Routing to Administration Building - \$0.00 Additional 3W Service at Polymer Truck Pad - \$5,332.00 Shotcrete Finish at Secant Pile Retaining Wall - \$21,500.00 Grit Blower Piping - Stainless Steel vs. Carbon - \$6,371.00 Rerouting polymer lines at Headworks deck – (\$1,000.00) Manhole at Eastern Drainage Ditch Infill - \$7,200.00 Slab extension on north side of Polymer Facility - \$1,000.00 Pipe Ts in lieu of pipe saddles in Galleries - \$0.00	Negotiated \$40,403
Contract Change Order No. 004	Secant pile retaining wall additional work over Ross Valley Interceptor per Design Clarification No. 002, performed on time and material.	Pending \$54,228.23
Pending Change Orders	Description	Cost
Contract Change Order No. 005	1) Electrical Grounding System – shown on drawings to connect to steel beams at three structures which do not have steel beams. 2) Reroute scum drain at primary clarifiers 6 & 7 Western Water proposed alternate routing of the scum drain at clarifiers 6 & 7 to reduce the number of turns in the pipe	Pending Cost to be determined

	<p>run. This was reviewed and accepted by the Engineer and Agency.</p> <p>3) Increase length of new flare deck to match existing pad dimension.</p> <p>4) Personnel gate in fence on secant pile retaining wall</p> <p>5) Additional 40 linear feet of fence for fall protection on secant pile retaining wall.</p> <p>6) Credit to change copper plates to stainless steel at secant pile retaining wall.</p> <p>7) Credit to delete factory witness test requirement for Grit Classifier</p>	
Value Engineering Items	<p>a) Excavation and Shoring Changes at Chlorine Contact Tank Area: Western Water proposed an alternate method to excavate and place the controlled low strength material in the chlorine contact tank area. This method was accepted by the Agency. The cost savings of this method will be shared by the Agency and Western Water.</p>	Pending Savings to be determined

## **10. Apprentices**

Three apprentices worked on the project throughout the month of April, two electrical apprentices and one general laborer.

## **Work Activities planned for May 2008:**

- Complete installation of soldier beam and lagging shoring with tie backs at the primary clarifier area
- Begin excavation at the primary clarifier area
- Continue forming and reinforcing steel installation at Chlorine Contact Basin and Effluent Pump Station.
- Begin concrete placement of slab and wall sections at the effluent pump station and chlorine contact tanks
- Complete v-ditch behind the secant pile retaining wall.
- Install fence along top of secant pile retaining wall
- Complete installation of the electrical duct bank around Primary Clarifiers 6 and 7
- Complete installation of electrical duct bank and temporary power from Switchgear Building to the effluent pump station.
- Complete installation of grated trench drain
- Complete installation of electrical duct bank from new polymer facility to the existing administration building.
- Continue installation of exposed electrical conduit at existing aeration tanks
- Continuation of Storm Water Pollution Prevention Plan
- Submittals provided for review, including schedule update.

# Wet Weather Improvements April 2008

Photos taken 04.30.2008



Progress Photo 01 - Overview of Outfall Area



Progress Photo 02 – Effluent Pump Station and Chlorine Contact Tank Area backfilled for formwork.



# Wet Weather Improvements April 2008

Photos taken 04.30.2008



Progress Photo 03 – Chlorine Contact Tank & Effluent Pump Station Area backfilled and compacted.



Progress Photo 4 – View East from Solids Handling Building



# Wet Weather Improvements April 2008

Photos taken 04.30.2008



Progress Photo 05 – View West from Solids Handling Building; Secant Pile Retaining Wall, Grated Trench Drain and Primary Clarifier Shoring



Progress Photo 06 – View East from Headworks Building; Secant Pile Retaining Wall and Primary Clarifier Shoring

# Wet Weather Improvements April 2008

Photos taken 04.30.2008



Progress Photo 07 – Grated Trench Drain east of switchgear building, in front of secant pile retaining wall



Progress Photo 08 – V-Ditch formed and reinforcing steel placed behind Secant Pile Retaining wall



# Wet Weather Improvements April 2008

Photos taken 04.30.2008



Progress Photo 09 – Demolition and removal of Parapet and wall at south end of Gallery A.



Progress Photo 10 – Placed Concrete for Drilled Concrete Piers at Chlorine Contact Tank.

# Wet Weather Improvements April 2008

Photos taken 04.30.2008



Progress Photo 11 – Backfill to Polymer Facility north side.



Progress Photo 12 – Electrical conduits entering Administration Building from Polymer Facility.



Job No: 07-01  
Project No: 061-0491.01

## Open Requests for Information

Date: 4/30/2008  
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RFI Number	From	To	Title	Change Issue	Status	Request	Dated	Responded	Required
00039	WESTWATR	HARRIS	CCT I-4 Modifications 16-Inch 3W		OPN	<p>On sheet M-9.5 of the drawings typical detail S200 notes that concrete will be chipped and hammered out an oversized hole in order to recover existing rebar and place and grout a wall spool for the 16 inch 3 water pipe line to pass through the existing Chlorine Contact Tank Walls.</p> <p>We propose to core drill a 20 inch hole for the 16 inch pipe. For each of the three interior walls we propose to use 1 link seal grouted in on both sides with 10,000 lbs grout. For each of the two exterior walls we propose to use 2 link seals grouted in on both sides and between using 10,000lbs grout. This is our recommendation.</p> <p>Thank you</p>	1/31/2008		2/6/2008
00061	WESTWATR	HARRIS	PG&E Pull Box		OPN	<p>The PG&amp;E box at the north end of the plant is sitting approx. 1' to 2' lower than Grade. The PG&amp;E inspector said that an extension ring was necessary to bring the box to grade. As this was not in the bid documents, it will be additional work. If this work is required, ATI will proceed upon approval of Change Order. Verify requirement and approve Change Order, if necessary.</p>	4/15/2008		4/22/2008
00065	WESTWATR	HARRIS	Conduit Penetration at Switchgear		OPN	<p>Per the above mentioned drawings, we are to provide a thru-wall seal when penetrating the wall. As the conduit will be stubbing out of the back of the pull box, we do not know how the seal will work. Please provide a detail showing the use of thru-wall seal, when used coming out of a pull box.</p>	4/29/2008		4/30/2008



Open Submittal Log - Sorted by Submittal No.

Job No: 07-01

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Item No.	Submittal	Package	Rev.	Title	Status	Latest Dates				BIC	Required Finish
						Rcvd.	Sent	Return	Forward		
193	02810-1.04	02810	001	Underground Sprinkler System	R&R	3/6/2008	3/7/2008	3/18/2008	3/21/2008	WESTWAT	
161	03200-1.05-CCT	03200	002	Chlorine Contact Tank Rebar	R&R	4/1/2008	4/4/2008	4/14/2008	4/15/2008	WESTWAT	
192	05500-1.03-A.2	05500		Access Hatch for Valve Vault	R&R	3/4/2008	3/6/2008	3/24/2008	3/25/2008	WESTWAT	
220	07510-001	07510	001	Roofing Product Data	OPN	4/8/2008	4/11/2008			CAROLLO	
221	07510-002	07510	001	Roofing - Samples	OPN	4/8/2008	4/11/2008			CAROLLO	
217	07510-003	07510		Roofing - Installation Instructions	OPN	4/8/2008	4/11/2008			CAROLLO	
217	07510-004	07510		Roofing - UL & FM Certificates	OPN	4/8/2008	4/11/2008			CAROLLO	
217	07510-005	07510		Roofing - Warranty	OPN	4/8/2008	4/11/2008			CAROLLO	
183	11293-1.04	11293		Fabricated Slide Gates	R&R	3/18/2008	3/18/2008	3/27/2008	3/28/2008	WESTWAT	
183	11294-1.05 A-E	11294	002	Cast Iron Sluice Gates	R&R	3/18/2008	3/18/2008	3/27/2008	4/1/2008	WESTWAT	
228	11312D-1.05A	11312D		Vertical Propeller Pumps	OPN	4/24/2008	4/24/2008			CAROLLO	
118	11312F-1.05-A	11312F	001	GromanRupp Model T6A3S-B Pump	R&R	12/18/200	12/18/2007	1/9/2008	1/10/2008	WESTWAT	
118	11312F-1.11.B	11312F	001	Spare Parts List	R&R	12/18/200	12/18/2007	1/9/2008	1/10/2008	WESTWAT	
118	11312F-2.11.B	11312F	001	US Motors Model H15P3B	R&R	12/18/200	12/18/2007	1/9/2008	1/10/2008	WESTWAT	
150	11312I-1.05	11312I	002	Progressing Cavity Pumps	OPN	4/29/2008	4/30/2008			CAROLLO	
210	11312J-2.01-B1	11312J	001	Submersible Sump Pump	R&R	3/20/2008	3/21/2008	4/17/2008	4/18/2008	WESTWAT	
131	11312K-1.05	11312K	002	Submersible Sump Pumps (EPS)	R&R	2/14/2008	2/14/2008	2/25/2008	2/29/2008	WESTWAT	
162	11312O-1.05A	11312O	002	Horizontal End Suction Pump w/O&M	OPN	4/29/2008	4/30/2008			CAROLLO	
229	11318-1.04A,B,G	11318	001	Diesel Engine Drive System	OPN	4/24/2008	4/24/2008			CAROLLO	
212	11343-1.04 B-D	11343		Helical Scum Skimmers	R&R	3/27/2008	3/31/2008	4/28/2008	4/29/2008	WESTWAT	
189	11351-001	11351	001	1.04-A Product Data	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
189	11351-002	11351	001	1.04-B Shop Dwgs. & Calculations	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
189	11351-003	11351	001	1.04-C Manufacturer's Dwgs	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
189	11351-004	11351	001	1.04-D.2 Manufacturer's Instruct.	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
189	11351-005	11351	001	1.05-A.2 List of Installations	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
189	11351-006	11351	001	1.08 Warranty	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
189	11351-007	11351	001	1.09-B.2 Spare Parts List	R&R	3/4/2008	3/6/2008	4/3/2008	4/7/2008	WESTWAT	
002OM	11376-1.05-F	11376	001	Aeration Blowers - O&M	R&R	2/12/2008	2/13/2008	2/20/2008	2/25/2008	WESTWAT	
114	11378-1.05-D	11378	002	Coarse Bubble Aeration System - O&M	OPN	2/27/2008	2/27/2008			CAROLLO	
220	12347-1.02-A&B	12347	001	Lab Casework, Sink, & Fixture	OPN	4/15/2008	4/16/2008			CAROLLO	
117	13120-1.03-A	13120	002	FRP Launderers	R&R	2/19/2008	2/19/2008	3/24/2008	4/1/2008	WESTWAT	
117	13120-1.03-A 1	13120	002	FRP Launderers - Drawing B10	R&R	2/19/2008	2/19/2008	3/24/2008	4/1/2008	WESTWAT	
117	13120-1.03-A2	13120	002	FRP Launderers - Drawing B11	R&R	2/19/2008	2/19/2008	3/24/2008	4/1/2008	WESTWAT	
117	13120-1.03-A3	13120	002	FRP Launderers - Drawing B12	R&R	2/19/2008	2/19/2008	3/24/2008	4/1/2008	WESTWAT	
117	13120-1.03-A4	13120	002	FRP Launderers - Drawing B13	R&R	2/19/2008	2/19/2008	3/24/2008	4/1/2008	WESTWAT	
163	13209-1.04	13209	001	Above Ground Fuel Storage Tank	R&R	1/29/2008	1/30/2008	3/31/2008	3/31/2008	WESTWAT	
166	13422-2.01	13422	001	Rotameter Flow Field Instrument	R&R	1/31/2008	2/1/2008	2/13/2008	2/15/2008	WESTWAT	
213	13422-2.01 & 2	13422	001	Rotameter Type Flowmeter	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	
213	13422-2.02	13422	001	Thermal Flow Switches	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	
213	13422-2.03 & 4	13422	001	Magnetic Flow Meter	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	
213	13422-2.06	13422	001	Water Flow Switches	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	
213	13423-2.01	13423	001	Float Type Level Switches	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	
213	13424-2.01	13424	001	Pressure Switches	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	
183	13445-1.04	13445	002	Hydraulic Cylinder Operators	R&R	3/18/2008	3/18/2008	3/27/2008	4/1/2008	WESTWAT	
183	13446-1.03	13446	002	Valve & Gate Operators	R&R	3/18/2008	3/18/2008	3/27/2008	4/1/2008	WESTWAT	
199	13452-1.02-A	13452	001	RTU and Distributed I/O System	OPN	3/18/2008	3/19/2008	4/17/2008		HARRIS	
199	13453-1.03-A	13453	001	HMI & SCADA System - Product Data	OPN	3/18/2008	3/19/2008	4/17/2008		HARRIS	
173	14624-1.04-A&B	14624		Monorail Hoist & Trolley System	R&R	2/1/2008	2/4/2008	3/24/2008	3/25/2008	WESTWAT	
034	15112-1.04A-C.1	15112	003	Butterfly Valves	OPN	4/29/2008	4/30/2008			CAROLLO	
213	15120-2.09	15120	001	Pressure Gauges	R&R	3/27/2008	3/31/2008	4/23/2008	4/24/2008	WESTWAT	





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Job No: 07-01

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145	15772-001	15772	001	Heat Tracing Cable	R&R	1/3/2008	1/4/2008	1/17/2008	1/18/2008	WESTWAT	
218	15812-1.04 A&B	15812	001	Metal Ductwork	OPN	4/3/2008	4/11/2008			CAROLLO	
224	15814-1.03-B	15814	001	FRP Ductwork Shop Drawings	OPN	4/17/2008	4/18/2008			CAROLLO	
129	15830-2.01	15830	002	Type 1, Down Blast Centrifugal Roof	NEW	4/17/2008	4/18/2008			CAROLLO	
129	15830-2.02	15830	002	Type 2, Up-Blast Centrifugal Roof	OPN	4/17/2008	4/18/2008			CAROLLO	
129	15830-2.03	15830	002	Type 3, In Duct Fan	OPN	4/17/2008	4/18/2008			CAROLLO	
225	15852-1.04-A	15852	001	Louver - Shop Drawings	OPN	4/17/2008	4/18/2008			CAROLLO	
226	15855-1.04-A	15855	001	Air Handling Units - Shop Drawings	OPN	4/17/2008	4/18/2008			CAROLLO	
149	16123-001	16123	003	Type TC Wire- 2.02.A&B	OPN	4/22/2008	4/24/2008			CAROLLO	
149	16123-002	16123	003	Typw TC Inst. Cable - 2.03.A&B	OPN	4/22/2008	4/24/2008			CAROLLO	
149	16123-003	16123	003	Terminal Products	OPN	4/22/2008	4/24/2008			CAROLLO	
149	16123-004	16123	003	Cable Pulling Lubricant - 2.06.C	OPN	4/22/2008	4/24/2008			CAROLLO	
149	16123-005	16123	003	Noalox Anti-Oxidant Compound	OPN	4/22/2008	4/24/2008			CAROLLO	
223	16133-Details	16133	001	Conduit Layout E-4.18 - E-4.21	OPN	4/17/2008	4/18/2008			CAROLLO	
222	16133-Prim. Cl.	16133	001	Primary Clarifier Conduit Layout	OPN	4/17/2008	4/18/2008			CAROLLO	
149	16134-005	16134	003	SS 4X Enclosures - 2.05.A	OPN	4/22/2008	4/24/2008			CAROLLO	
149	16140-009	16140	003	AI Control Enclosures - 2.08.D	OPN	4/22/2008	4/24/2008			CAROLLO	
149	16140-010	16140	003	Pilot Devices - 2.09	OPN	4/22/2008	4/24/2008			CAROLLO	
201	16144-1.02-A	16144	001	Disconnect Switches	R&R	3/12/2008	3/13/2008	4/1/2008	4/3/2008	WESTWAT	
200	16273-1.03-A	16273	001	Low Voltage Distribution Transform	R&R	3/12/2008	3/13/2008	4/1/2008	4/3/2008	WESTWAT	
231	16342-1.04-A	16342	001	600V Motor Control Center - Shp Dwg	OPN	4/29/2008	4/30/2008			CAROLLO	
203	16416-1.03-B	16416	001	Transient Voltage Surge Suppressors	OPN	4/17/2008	4/17/2008			CAROLLO	
204	16448-1.04-A	16448	001	Panelboards - Product Data	OPN	4/17/2008	4/17/2008			CAROLLO	
230	16500-1.03-A	16500	001	Lighting - Product Data w/Seismic	OPN	4/29/2008	4/30/2008			CAROLLO	
230	16500-1.03-B	16500	001	Lighting - Finish Sample	OPN	4/29/2008	4/30/2008			CAROLLO	