

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL *BBB*
DATE: MARCH 20, 2009

AGENDA ITEM
C-1
MARCH 25, 2009

WIP AND SOUTHLAND UPGRADE PROJECT UPDATE

ITEM

Mike Nunley of AECOM Engineering re Waterline Intertie Project Update and Southland WWTF Upgrade Project [NO ACTION REQUESTED].

BACKGROUND

Mike Nunley is scheduled to summarize the attached report.

RECOMMENDATION

Staff recommends that your Honorable Board receive the presentations and ask questions as appropriate.

ATTACHMENTS

- March Monthly Report

T:\BOARD MATTERS\BOARD MEETINGS\BOARD LETTER\BOARD LETTER 2009\090325AECOM.DOC

AECOM
 1194 Pacific Street, Suite 100
 San Luis Obispo CA 93401
 T 805.542.9840 F 805.542.9990 www.aecom.com

Memorandum

Date: March 17, 2009
 To: Bruce Buel, General Manager – Nipomo Community Services District
 From: Michael K. Nunley, PE
 Subject: Waterline Intertie Project – Design Phase Status Report

Distribution: Josh Reynolds, PE
 Cesar Romero, PE
 Peter Sevcik, PE
 Eileen Shields
 Jim Froelicher

The Project Team has completed the following work items this month:

1. A final geotechnical report has been completed.
2. Technical Memorandum 3 (Pipeline Alignment) has been submitted, reviewed by District staff, and revisions have been provided to District staff for inclusion with the copies.
3. Technical Memoranda (TMs) 4 and 5 have been combined into one TM (Pump Station and Reservoir) and submitted to District staff.
4. Technical Memorandum 8 (Backup Power, Controls, and Instrumentation) has been submitted to District staff.
5. AECOM and District staff have met to review preferred turnout locations for providing WIP water to Golden State Water's service area.
6. AECOM has reviewed the Troesh mining permit to identify potential for conflict with the river crossing. As written, the permit limits mining along the Santa Maria River to a depth of 15 feet and our pipeline is at a minimum of 40 feet, allowing 25 feet of cover. The recommended scour depth from previous studies along the River recommended a minimum of 25 feet of cover. We will work with District legal staff, County planning staff, and property negotiators to minimize concern.
7. An HDD workshop has been scheduled with District staff, AECOM staff, peer reviewers and the Construction Management team to discuss the pending conceptual design submittals. This meeting has been scheduled for March 23, 2009.

Schedule

The Project Schedule is attached.

Budget Status

As shown on the attached Design Budget and Invoice Summary, our fee earned matches the amount expended. This indicates we are on budget as of this date.

Yours Sincerely



Michael K. Nunley, PE

Enclosures: Design Budget and Invoice Summary; Project Budget Summary; and Project Schedule

AECOM Water

Project Budget Summary

2/27/2009

Engineering Services for NCSD - SWP Desigr

Nipomo CSD

	Total Budget	Amount Previously Invoiced	Current Invoice Amount	% of Budget Earned to date	% of Work Complete
Task Group 1 - Concept Design Report	\$426,361.00	\$335,649.72	\$66,716.51	94%	94%
Task Group 2 - Permitting	\$30,607.00	\$14,427.57	\$716.85	49%	49%
Task Group 3 - Construction Documents	\$350,691.00	\$21,902.40	\$12,116.60	10%	10%
Task Group 4 - Project Management	\$43,520.00	\$22,906.27	\$1,947.16	57%	57%
Task Group 5 - Assistance During Bids	\$48,942.00	\$0.00	\$0.00	0%	0%
Task Group 6 - Office Engineering During Construction (5 Bid Packages)	\$175,837.00	\$0.00	\$0.00	0%	0%
Total	\$1,075,958.00	\$394,885.96	\$81,497.12	44%	44%

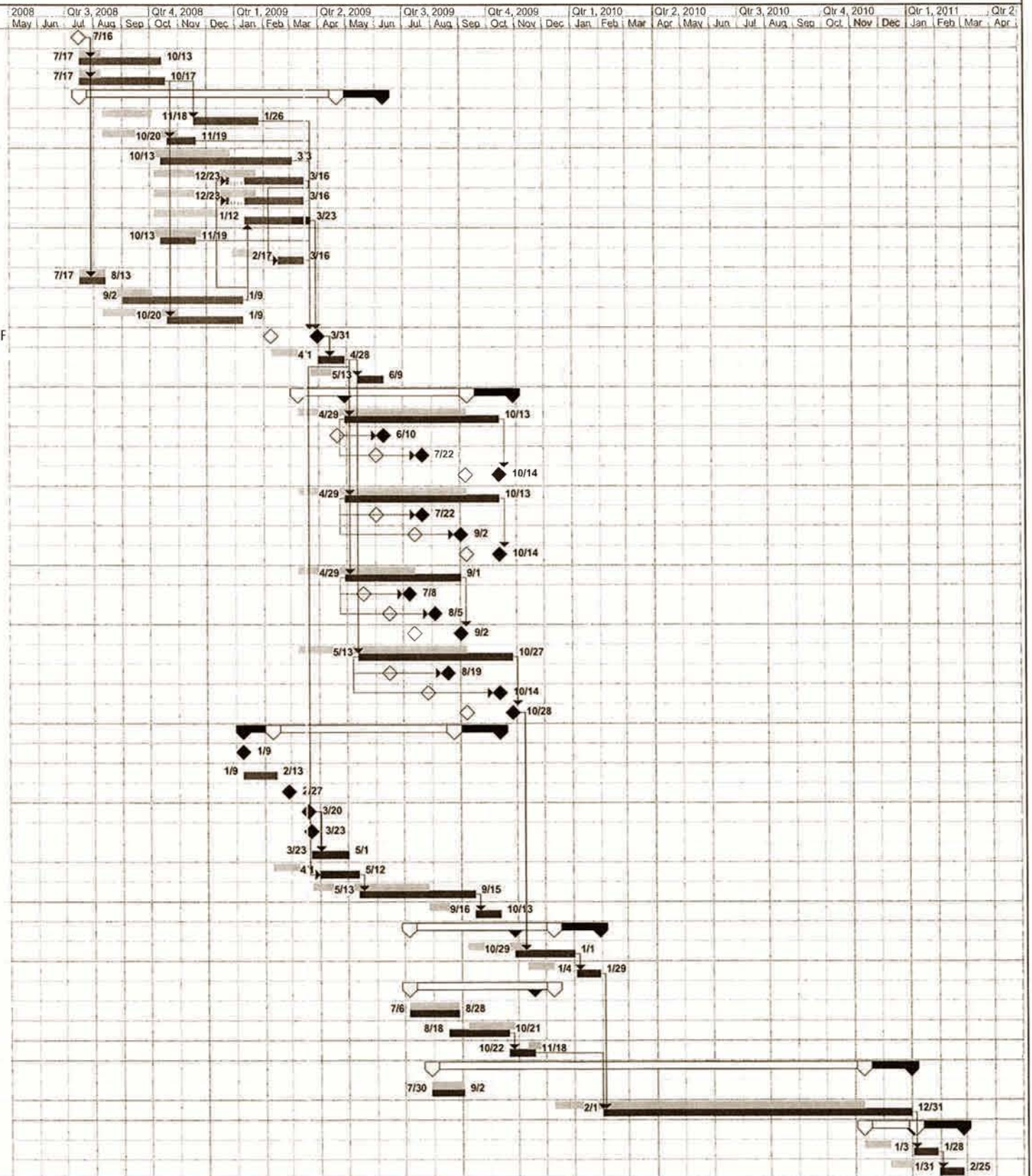
	Amount Previously Invoiced	Current Invoice Amount	Total Permitting Fees to date
Permitting Fees	\$1,572.91	\$0.00	\$1,572.91

Item	Description	Budgeted Amount May 2008 PER	Updated Amount 17-Mar-09
1	Mobilization	\$580,000	\$580,000
2	Blosser Extension (18-in	\$1,247,000	\$1,247,000
3	Pump Station No. 1 turnout & meter (Blosser Rd)	\$61,000	\$61,000
4	River Crossing (24-in HDD)	\$6,135,000	\$6,135,000
5	24-in Pipeline to Joshua	\$656,000	\$656,000
6	Reservoir (0.5-MG)	\$1,361,000	\$1,361,000
7	Pump Station No. 2	\$603,000	\$603,000
8	Pressure Regulators (200 homes)	\$30,000	--
9	Pressure Reducing Valve Stations	\$18,000	\$72,000
10	Chloramination (Joshua & 5 wellheads)	\$707,000	\$707,000
11	Upgrade Southland to 12-in	\$799,500 (1)	\$780,000 (7)
12	Upgrade Frontage to 12-in	\$1,101,300 (1)	\$880,000 (7)
13	Upgrade Orchard to 12-in	\$509,000	\$1,040,000 (8)
14	Upgrade Division to 10-in between Allegre and Meridian (6)	\$53,000	--
15	Oakglen Avenue 12-in main (5)	--	\$420,000
16	Darby Lane 12-in main (5)	--	\$100,000
17	HWY 101 Bore & Jack (5)	--	\$132,000
18	Isolation Valves (5)	--	\$12,000
	Construction Subtotal	\$13,860,800	\$14,786,000
19	Contingency	\$3,643,000	\$3,696,500 (9)
20	Property Acquisition	-- (4)	--
21	Design-Phase Engineering		
	Original Agreement (July 2008)		\$744,993
	Budget Revision 1 - Pressure Reduction		\$132,798
	Budget Revision 2 - Biological Survey for HDD		\$4,050
	Budget Revision 3 - Modeling for GSW/Woodlands Turnouts		\$8,380
	Budget Revision 4 - Additional Survey Services		\$9,900
22	Office Engineering during construction		\$175,837
23	Construction Management (3)	\$2,428,000 (2)	\$1,507,170 (10)
24	Environmental Mitigation	-- (4)	--
25	Environmental Monitoring	-- (4)	--
26	Permitting Fees	--	\$1,572.91
	PROJECT TOTAL (Rounded to 1000)	\$19,932,000 (4)	\$21,068,000

Notes:

- ENR CCI: March 2008 = 8109
- (1) Costs are from the December 2007 Water and Sewer Master Plan (Cannon).
 - (2) Engineering and Construction Management were originally presented as a "lump sum" amount
 - (3) Includes material testing and construction staking
 - (4) Excludes property acquisition, environmental mitigation, and monitoring
 - (5) These work items were added to relieve high pressures on Mesa as an alternative to service pressure regulating valves (See Tech Memo 9). One PRV station at Maria Vista was required initially. Four are recommended for revised project. This was design Budget Revision #1.
 - (6) Based on review of record drawings, this pipeline is already a 10-in main
 - (7) Initial estimate incorporated Master Plan project costs. Revised estimate includes higher unit costs to reflect paving 1 traffic lane, per County standards
 - (8) Updated unit costs include higher costs to reflect paving 1 traffic lane, per County standards
 - (9) Contingency was modified to 25% which is more appropriate for concept design phase.
 - (10) To be provided by CM team - Has not been revised to reflect additional work for construction management of Oakglen, Darby, and Orchard extensions.

ID	Task Name	Duration	Start	Finish	Predecessors	2008	Qtr 3, 2008	Qtr 4, 2008	Qtr 1, 2009	Qtr 2, 2009	Qtr 3, 2009	Qtr 4, 2009	Qtr 1, 2010	Qtr 2, 2010	Qtr 3, 2010	Qtr 4, 2010	Qtr 1, 2011	Qtr 2, 2011
1	Kickoff meeting	1 day	Wed 7/16/08	Wed 7/16/08			7/16											
2	Right of Entry Agreements and Coordination	63 days	Thu 7/17/08	Mon 10/13/08	1		7/17											
3	Permitting and Approvals for Field Work at River	67 days	Thu 7/17/08	Fri 10/17/08	1		7/17											
4	Concept Design Report	234 days	Thu 7/17/08	Tue 6/9/09														
5	101 - Geotechnical Report for HDD Technical Memorandum	2.5 mons	Tue 11/18/08	Mon 1/26/09	3													
6	102 - Project Bidding Strategy Technical Memorandum	1.15 mons	Mon 10/20/08	Wed 11/19/08	3													
7	103 - Pipeline Alignment Technical Memorandum	102 days	Mon 10/13/08	Tue 3/3/09														
8	104 - Pump Station Design Technical Memorandum	2.45 mons	Tue 12/23/08	Mon 3/16/09	14													
9	105 - Reservoir Design Technical Memorandum	2.45 mons	Tue 12/23/08	Mon 3/16/09	14													
10	106 - Permitting Strategy Technical Memorandum	2.55 mons	Mon 1/12/09	Mon 3/23/09	14													
11	107 - Chloramination Systems Technical Memorandum	1.4 mons	Mon 10/13/08	Wed 11/19/08														
12	108 - Back-up Power, Controls, and Instrumentation Technical Memorandum	1 mon	Tue 2/17/09	Mon 3/16/09	8FS-20 days													
13	109 - Pressure Reduction Study	1 mon	Thu 7/17/08	Wed 8/13/08	1													
14	110 - Survey and Base Map (by Wallace Group)	4.7 mons	Tue 9/2/08	Fri 1/9/09														
15	111 - Geotechnical Report (by Fugro)	3 mons	Mon 10/20/08	Fri 1/9/09	3													
16	Draft Concept Report	1 day	Tue 3/31/09	Tue 3/31/09	5,6,7,8,9,10,11,12F													
17	113 Review and Finalize Concept Design Report	1 mon	Wed 4/1/09	Tue 4/28/09	16													
18	114 - Narrative Report	1 mon	Wed 5/13/09	Tue 6/9/09	17FS+10 days													
19	Construction Plans and Specifications	131 days	Wed 4/29/09	Wed 10/28/09														
20	Bid Package 1 - HDD	6 mons	Wed 4/29/09	Tue 10/13/09	17													
21	60% Submittal	1 day	Wed 6/10/09	Wed 6/10/09	20SS+1.5 mons													
22	90% Submittal	1 day	Wed 7/22/09	Wed 7/22/09	20SS+3 mons													
23	100% Submittal	1 day	Wed 10/14/09	Wed 10/14/09	20													
24	Bid Package 2 - NCS System Pipeline Improvements	6 mons	Wed 4/29/09	Tue 10/13/09	17													
25	60% Submittal	1 day	Wed 7/22/09	Wed 7/22/09	24SS+3 mons													
26	90% Submittal	1 day	Wed 9/2/09	Wed 9/2/09	24SS+4.5 mons													
27	100% Submittal	1 day	Wed 10/14/09	Wed 10/14/09	24													
28	Bid Package 3 - Blosser Road Water Main and Flow Meter	4.5 mons	Wed 4/29/09	Tue 9/1/09	17													
29	60% Submittal	1 day	Wed 7/8/09	Wed 7/8/09	28SS+2.5 mons													
30	90% Submittal	1 day	Wed 8/5/09	Wed 8/5/09	28SS+3.5 mons													
31	100% Submittal	1 day	Wed 9/2/09	Wed 9/2/09	28													
32	Bid Package 4 - Pump Station, Reservoir, and Chloramination Systems	6 mons	Wed 5/13/09	Tue 10/27/09	17													
33	60% Submittal	1 day	Wed 8/19/09	Wed 8/19/09	32SS+3.5 mons													
34	90% Submittal	1 day	Wed 10/14/09	Wed 10/14/09	32SS+5 mons													
35	100% Submittal	1 day	Wed 10/28/09	Wed 10/28/09	32													
36	Permitting	198 days	Fri 1/9/09	Tue 10/13/09														
37	End of EIR Public Review Period	1 day	Fri 1/9/09	Fri 1/9/09														
38	Preparation of Administrative Final EIR/Responses to Comments	1.3 mons	Fri 1/9/09	Fri 2/13/09														
39	Receipt of Comments from District on Final EIR	1 day	Fri 2/27/09	Fri 2/27/09														
40	Completion of Final EIR	1 day	Fri 3/20/09	Fri 3/20/09														
41	Completion of Findings of Fact	1 day	Mon 3/23/09	Mon 3/23/09														
42	Public Hearings/EIR Certification	1.5 mons	Mon 3/23/09	Fri 5/1/09	40													
43	Complete and submit permit applications	30 days	Wed 4/1/09	Tue 5/12/09	17FS-1 mon													
44	Coordinate with regulatory agencies	90 days	Wed 5/13/09	Tue 9/15/09	43													
45	Acquire permits and incorporate in final design plans	20 days	Wed 9/16/09	Tue 10/13/09	44													
46	Standard Bid-Construct Process for Underground/Storage Work	67 days	Thu 10/29/09	Fri 1/29/10														
47	Solicit Bids	2.35 mons	Thu 10/29/09	Fri 1/1/10	35													
48	Award Bids	1 mon	Mon 1/4/10	Fri 1/29/10	47													
49	Turnkey Design-Build Process for HDD Work	98 days	Mon 7/6/09	Wed 11/18/09														
50	Pre-Qualify Contractors	2 mons	Mon 7/6/09	Fri 8/28/09														
51	Solicit Bids	2.35 mons	Tue 8/18/09	Wed 10/21/09														
52	Award Bids	1 mon	Thu 10/22/09	Wed 11/18/09	51													
53	Construction	372 days	Thu 7/30/09	Fri 12/31/10														
54	Retain Design Firm to Perform Engineering Services During Construction	5 wks	Thu 7/30/09	Wed 9/2/09														
55	Construct	12 mons	Mon 2/1/10	Fri 12/31/10	48,52													
56	Startup and Testing	40 days	Mon 1/3/11	Fri 2/25/11														
57	Startup	1 mon	Mon 1/3/11	Fri 1/28/11	55													
58	Testing	1 mon	Mon 1/31/11	Fri 2/25/11	57													



Project: WIP Design Schedule
Date: Tue 3/17/09

Task		Milestone		Rolled Up Task		Split		Project Summary	
Progress		Baseline Milestone		Rolled Up Milestone		Baseline Split		Group By Summary	
Baseline		Summary		Baseline Summary		External Tasks		Deadline	

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL **B813**
DATE: MARCH 20, 2009

AGENDA ITEM
C-2
MARCH 25, 2009

SUPERINTENDENT UPDATES

ITEM

NCSD District Superintendent Tina Grietens re February 2009 Utility Division Activities [NO ACTION REQUESTED].

BACKGROUND

Tina Grietens is scheduled to summarize the attached outlines.

RECOMMENDATION

Staff recommends that your Honorable Board receive the presentations and ask questions as appropriate.

ATTACHMENTS

- February 2009 Outline

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NIPOMO COMMUNITY

BOARD MEMBERS

JAMES HARRISON, PRESIDENT
LARRY VIERHEILIG, VICE PRESIDENT
CLIFFORD TROTTER, DIRECTOR
ED EBY, DIRECTOR
MIKE WINN, DIRECTOR



SERVICES DISTRICT

STAFF

BRUCE BUEL, GENERAL MANAGER
LISA BOGNUDA, ASSISTANT GENERAL MANAGER
JON SEITZ, GENERAL COUNSEL

148 SOUTH WILSON STREET POST OFFICE BOX 326 NIPOMO, CA 93444 - 0326
(805) 929-1133 FAX (805) 929-1932 Website address: NCS.D.CA.GOV

TO: BRUCE BUEL, GENERAL MANAGER
FROM: TINA GRIETENS, UTILITY SUPERINTENDENT
DATE: MARCH 18, 2009
SUBJECT: UTILITY DIVISION UPDATE FOR FEBRUARY 2009

- **Southland Wastewater Plant and Utility Yard**
Reviewed proposal for plant expansion
Assisted in location of existing valves and associated piping at Southland WWTP
- **Collection system**
Removed blockage in Palms St Lift Station pump impeller
Inspection of lift station pumps for maintenance program
Reviewing draft Overflow Emergency Response Plan, and FOG program
- **Wells**
Working with Cannon to eliminate communication problems with Eureka Well
Working with Cannon to install SCADA hardware at Olympic Well
Knollwood well pump and motor removed for estimate of repairs due to vibration
Worked with District Engineer on Sundale well electrification project
- **Distribution System**
Awarded contract for water valve and hydrant testing to WACHS Utility Company
Exercised valves on Orchard Road in preparation for pressure testing for WIP
- **Maintenance**
Installed tool boxes and safety lights on 3 trucks
Weed abatement continues
Air-vac and water sample stations are being rebuilt/replaced, hydrants painted
Began implementation of preventative maintenance plan
- **Personnel**
SEMS training for entire crew 2/9 and 2/10
Two operators took the Distribution exam, and four prepare for the Collections exam
Recruiting of Inspector /Maintenance Supervisor, Customer Service/Maintenance Worker continues
Reviewed applications for Office Assistant. Interviews scheduled for 3/24/09.
- **Compliance**
Reviewed and assisted in response to California Department of Public Health Water System Inspection letter
Monitored laboratory results, preparing compliance reports for WWTPs
- **Other**
Coordinating repair of District fence at Folkert Oaks Drainage Basin
Coordinating security of bollards at both sides of Hettrick access road with CALFIRE
Participated in Strategic Planning session with members of the Board
Preparation of budget requests

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL *BBB*
DATE: MARCH 20, 2009

AGENDA ITEM
C-3
MARCH 20, 2009

MONTHLY WATER CONSERVATION COORDINATOR UPDATE

ITEM

NCSD District WCC Celeste Whitlow re Feb. 2009 Outreach Activities [NO ACTION REQUESTED].

BACKGROUND

Celeste Whitlow is scheduled to summarize the attached outline.

RECOMMENDATION

Staff recommends that your Honorable Board receive the presentations and ask questions as appropriate.

ATTACHMENTS

- District Feb. 2009 Outreach Activities Outline

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NIPOMO COMMUNITY SERVICES DISTRICT

148 SOUTH WILSON STREET
POST OFFICE BOX 326
NIPOMO, CA 93444 - 0326
(805) 929-1133 FAX (805) 929-1932
Web site address www.ncsd.com

MEMORANDUM

TO: BRUCE BUEL, GENERAL MANAGER
FROM: CELESTE WHITLOW, WATER CONSERVATION COORDINATOR CW
DATE: FEBRUARY 25, 2009
RE: ITEM – C3: WATER CONSERVATION ACTIVITIES UPDATE AND
PREVIEW OF SPRING CHIPPING AND CLEAN UP EVENTS

- **Community Events and Educational Workshops**

- Spring Water Conservation Gardening Workshops
 - Saturday, March 14, 2009, 9 AM: "*Water-Efficient Irrigation Basics for the Home Gardener.*" Presented by Joe Turner from Farm Supply (San Luis Obispo store).
 - Saturday, April 18, 2009, 9 AM: "*Sages, Grasses and Ceanothus: Drought-Tolerant Favorites for the Garden.*"
- Chipping Event 2009
 - Letter and registration form sent to last year's participants. Received several calls of thanks from recipients.
 - Ads and registration form in two issues of the Adobe Press.
 - Banners are up.
 - Detail map for Nipomo to assist participants in locating their chipping zone.
 - April 12 – May 8, 2009: Chipping Event.

- **Attended American Water Works Association (AWWA) workshop on Water Conservation Coordinator 1 (WC1) certification.**

- **Completed WC 1 certification testing.**

- **Newsletters, Mailings, Advertising**


- Conservation News (Issue 2, 2009).
- Monthly billing inserts.
- Ads and flyers for Chipping Event 2009.
- Ads for remaining Spring Workshops.
- Weekly water conservation Adobe Press ads.
- High-Efficiency Washer Rebate Program questionnaire results.
- Vista Verde HOA.
- Updated website.

- **WC Program Implementation**
 - Design, purchased materials, brochures, other educational materials. Newsletters, mailings, advertising.
 - Research on weather-based irrigation controllers.
 - Completed first ET-based smart irrigation controller (Vista Verde installation).

- **District Landscape**
 - Minor installation between parking lot and sidewalk.
 - Researching small irrigation system change. Goal: Increased water efficiency, more appropriate delivery of water for types of plant material.

- **Workshops, Updates on Programs**
 - 20 x 2020 Program: No changes.
 - CUWCC (revisions on BMPs): No changes.
 - Model Water Efficient Landscape Ordinance.
 - SLO County Partners in Water Quality.
 - SLO County Partners in Water Conservation.

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TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL 
DATE: MARCH 20, 2009

AGENDA ITEM
C-4
MARCH 25, 2009

CONSERVE TRACK SOFTWARE PRESENTATION

ITEM

Joe Miller of Conserve Track will present his software and describe its compatibility with NCSD's Billing System [NO ACTION REQUESTED].

BACKGROUND

Attached are reference materials on the Conserve Track software.

RECOMMENDATION

Staff recommends that your Honorable Board receive the presentations and ask questions as appropriate.

ATTACHMENTS

- Conserve Track Software

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SURVIVING THE COMING CONSERVATION WAVE

New ways to manage growing Water Conservation programs

By Joe Miller, RightThere Inc.

The Arizona Governor's Drought Task Force (GDTF) completed its work in the fall of this year and has made many recommendations regarding new water conservation initiatives (see www.water.az.gov/gdtf). In early 2005 these recommendations will begin to be implemented, and many new types of conservation programs will emerge. This article presents two such programs and suggests a new approach.

The Problem

Increased Number of Conservation Programs: If experience in other states is any measure, Arizona water agencies will begin to implement many more types of water conservation programs. Some cities in other states operate several separate programs ranging from residential toilet rebates to more elaborate water demand offset programs.

Increased Requirements for Information: Some of the more effective programs require extra information management. They involve managing contact information, interactions with customers, phone calls, water usage, and sending letters and legal notices.

Tracking and Reporting: Tracking water savings and reporting on program effectiveness have always been important in water conservation. With the new statewide conservation emphasis, there may be an increase in reporting requirements at the wholesaler and state level. Future state water provisioning and grants may depend on quality reporting. There is likely to be a greater need to create reports that track and summarize data from the conservation programs (i.e. reporting).

Program reports are needed to ask the following kinds of questions:

- Which properties have participated in which programs? What kind of water savings can we achieve from a particular property, or from 10,000 properties? How much water have we already saved?
- Was a particular property retrofitted already under program A, or can we save more water by retrofitting it under program B?
- How much potential water savings remains in the system?
- How much water have we saved by program, and across all programs? What are the 'incremental' benefits of each program when multiple programs are in use? Where should we put our future emphasis?
- Are we meeting state guidelines and goals?

Static Staff Levels and Increasing Time Demands: Conservation staff time is often the limiting factor for

implementing new conservation programs. Tracking all of the information that pours in can quickly eat up the staff's time. If that happens, new programs cannot be implemented. Finding ways to use their time efficiently may make the difference.

Inadequate Tools: Patchworks of spreadsheets and databases end up costing excessive staff time, and not providing the required reporting. Keeping records in paper form normally leads to staff simply not having the time to search for information they need.

A Solution

Software created specifically to manage integrated water conservation programs can multiply staff effectiveness, and help them implement more programs while actually spending less time. Using well designed, efficient software is critical in preserving the staff's time.

Managing more than a few conservation programs requires software designed to solve the unique problems of water conservation. It must provide:

- The specific functions required of each program (e.g. tracking contact information, property information, customer interactions, inspection dates, interaction with billing systems, usage tracking, record certifications etc).
- Integration between programs where needed. For example, a survey program would integrate into a retrofit rebate program.
- Specific reporting functions that gather information as needed, automatically to save staff time.
- Global reporting to allow 'all inclusive' reports across all conservation programs and potentially for entire regions or states.

With the right software, less staff time is needed, more programs can be implemented, and more water saved. The following two examples illustrate how such software is being used with two water conservation programs, both of which require a high level of information tracking.

Example 1: Retrofit on Resale Programs

Retrofit on Resale conservation programs require all residential, commercial, and industrial buildings to be retrofit with low-consumption plumbing fixtures *whenever real estate is sold*. Some cities have used Retrofit on Resale (ROR) programs for many years (Albuquerque NM, San Louis Obispo CA). ROR is gradually catching on with more water agencies. A variation on ROR is Retrofit on New Service Order, which

continued on page 26

CONSERVATION WAVE continued from page 23

requires retrofit whenever the water account changes hands. Implementation is similar.

The City of Santa Cruz in Northern California recently adopted a ROR program which they named the Plumbing Fixture Retrofit (PFR). This new program is the cornerstone of the City's Water Conservation Plan, which is being implemented over a 10-year period between 2000 and 2010. PFR is expected to reduce total annual water demand by at least 100 million gallons in the year 2010.

The City of Santa Cruz is a signatory to the California Urban Water Conservation Council's (CUWCC, www.cuwcc.org) Memorandum of Understanding which commits them to implementing 17 Best Management Practices (BMP). These BMPs roughly translate to 17 types of water conservation programs. CUWCC is a state-wide non-profit used by the California DWR for grant and water provisioning decisions.

software (www.WaterTrack.com) that allows them to manage the process. They also manage many other conservation programs.

To enforce the PFR ordinance, the staff tracks all new property sales each month. A real estate information service reports new property sales directly into WaterTrack. The software compares the new reported sales to those that have been certified as retrofitted. For those sales that have not been certified, there is an enforcement process which involves a series of letters spaced over several months, to inform and encourage property owners to complete the retrofit.

The city's staff is now able to manage the entire program in just a few hours a week. It tracks the status of thousands of sales, and sends hundreds of letters each month. During customer calls, the staff uses the software to answer questions and record activity. They can quickly reference the property sale, and view a history of all related activities (such as the dates letters were sent, or phone calls as well as all contact information). The software is simple to use and automates most of the process in a simple workflow.

Reporting

Reporting is key to understanding the effectiveness of conservation programs. WaterTrack creates status and summary reports on the program automatically. Detailed or high level summary reports are available and can be created easily and quickly. Users make report selections like date range (Last Month, Last Year, Year to Date) to view program status, performance, and water savings statistics. Reports can be printed or saved to disk.

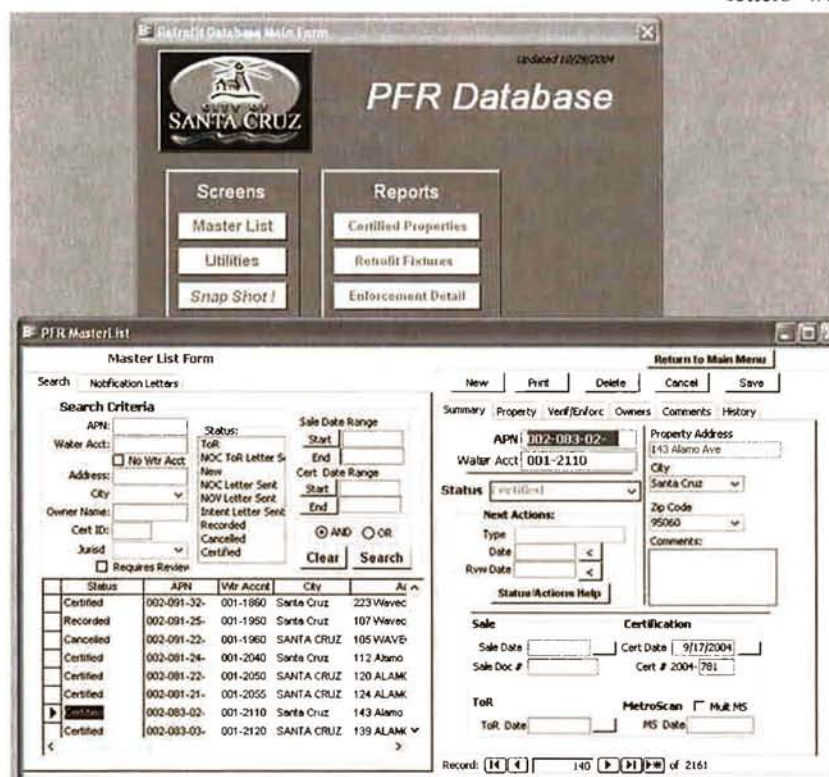
Example 2: Water Demand Offset Conservation Program

Another type of relatively new water conservation program is the Water Demand Offset (WDO) program. WDO requires that developers of new properties must retrofit existing properties, in order to recover the same amount of water their new development is expected to require. Often a multiplying factor is applied to ensure that more water is saved than the new demand.

In some implementations, retrofits are performed by the developer of the new project. In others, the developer pays the water agency for the retrofits, which then contracts with pre-approved plumbing contractors to perform the retrofits.

Soquel Creek Water District, located in Soquel California, has recently implemented a WDO program in addition to existing rebate, audits, landscape irrigation tracking and educational programs. A multiplying factor of 1.2 is used to ensure enough water is saved to at least offset the new demand.

The implementation uses a WDO module within an



WaterTrack PFR (ROR) User Interface

Implementation and the Enforcement Process

The initial PFR implementation consisted of extensive planning and community outreach, especially to the real estate community. There was considerable education and feedback from those affected before implementation. The day-to-day operation is by two city staff members using WaterTrack

integrated system. The plan calls for additional modules to be added later as more conservation programs are implemented.

"Water Demand Offset" Module User Interface

Key requirements of Soquel Creek's program.

- Calculation of the 'offset value' in acre-feet, for each retrofit candidate property, based on the type of fixtures, number, and the expected water savings per fixture.
- Calculation of the required new water demand based on the type of development, fixtures, etc. using standard usage values (These values can be edited by the agency).
- Automated tracking of retrofit candidate properties, and assignment to development projects. Printing of developer requirements, and retrofit work order sheets for use by the developer.
- Tracking development project progress toward completing the retrofits, and the tracking (and reporting) of the cost of retrofits to the developer.
- Program reporting on overall water savings, status, and program effectiveness.

Summary

Big changes are coming to water conservation in Arizona in 2005. There are new challenges for reducing water usage, new types of water conservation programs, and the challenge to manage all of this with limited staff and budgets. There will be an increase in complexity and the sheer number of new programs. Staff effectiveness can be maximized with the right software tools.

RightThere is a private software company that provides the WaterTrack family of Water Conservation software modules. More information can be found at www.RightThere.com.

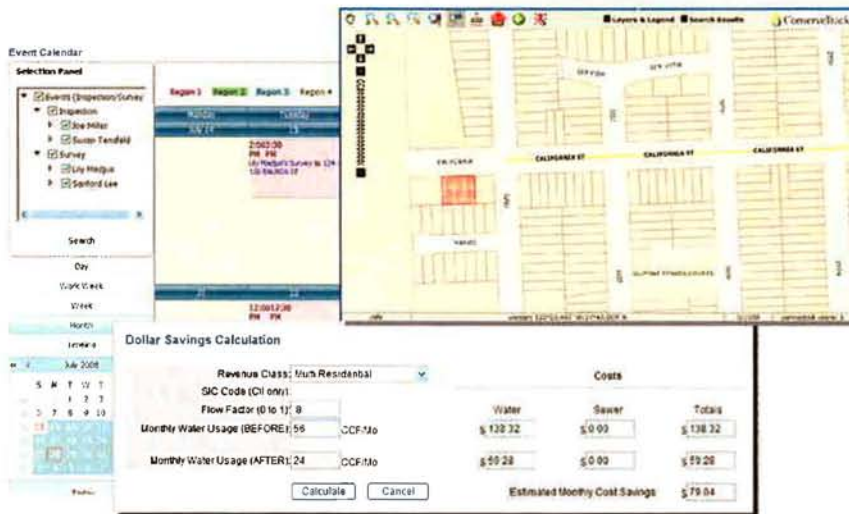
Thanks to the Soquel Creek Water District Conservation staff for their guidance and editorial comments to this article (www.soquelcreekwater.org); Ron Duncan, Water Conservation Coordinator, Roy Sikes, Water Conservation Specialist, and Vai Campbell, Education Coordinator.

Conservation Management Systems

- Save more water with less time
- Easier and faster reporting
- Get instant access to key information
- Manage all programs together- no more searching for information



programs	phases	
click to manage program and phases	click to manage a phase and its cases	add new case
1 Toilet Rebates	Toilet Rebates 2008 Toilet Rebates Started 1994	New New
2 Toilet Sales		
3 Res HECW Rebates	RES HECW Rebates 2008	New



Dollar Savings Calculation

Revenue Class: Mult Residential
SIC Code (CI 0001)
Flow Factor (0 to 1): 8

Monthly Water Usage (BEFORE): 55 GCF/Mo
Monthly Water Usage (AFTER): 24 GCF/Mo

Costs	Water	Sewer	Totals
BEFORE	\$ 128.32	\$ 0.00	\$ 128.32
AFTER	\$ 59.28	\$ 0.00	\$ 59.28
Estimated Monthly Cost Savings			\$ 69.04

Integrated Tools

- GIS / Mapping
- Cases link to accounts, properties, parcels, owners, water usage etc...
- Customer \$ Savings Calculator
- Calendar
- Program Budgets

Comprehensive Reporting

- Program Status and Effectiveness
 - Rebate and Device Counts
 - Predicted Savings
 - Actual Savings
 - Cost Totals
- Flexible groupings
 - Program, Devices Types, Zip, Subdivision, Reservoir, District, Block...
- Report on all programs combined
- Data Warehouse - Instant Response, Exploratory Reporting



Participation Summary Report

Program Phase

Program Phase	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total	6	1510	2297	1434	626	773	191	2				

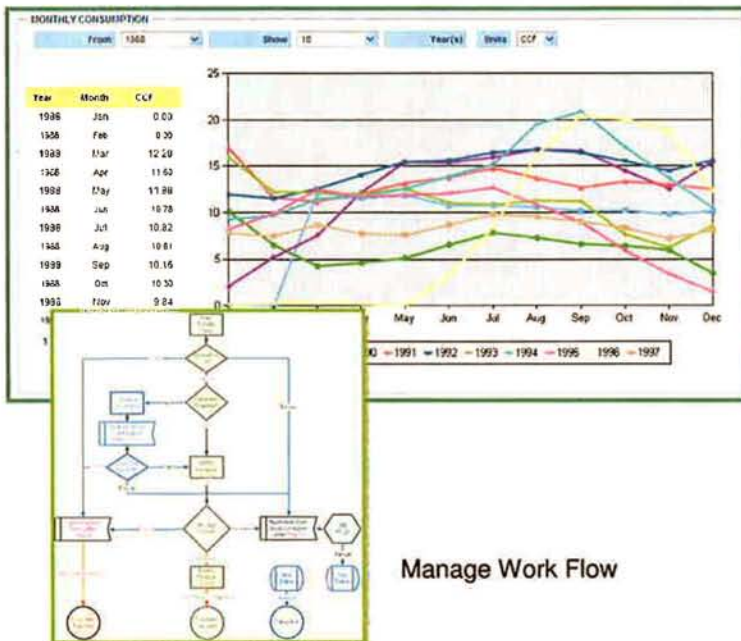
Consolidate Participation Report

Program Phase	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total	6	1510	2297	1434	626	773	191	2				

Summary Report

Year	Number of Devices	Actual Savings (Kgal/Mo)	Actual Savings per Device (Kgal/Mo)	Number of Devices	Actual Savings (Kgal/Mo)	Actual Savings per Device (Kgal/Mo)	Number of Devices	Actual Savings (Kgal/Mo)	Actual Savings per Device (Kgal/Mo)	Number of Devices	Actual Savings (Kgal/Mo)	Actual Savings per Device (Kgal/Mo)
1995	230	4,796	20.85	180	735	4.09	180	735	4.09	180	735	4.09
2005	71	1,133	15.96	54	1,133	20.98	66	2,966	44.94	66	2,966	44.94
2007	134	2,605	19.44	102	2,605	25.54	102	2,605	25.54	102	2,605	25.54
Grand Total	208	294,874	1,418	4,774	156	156	156	8,632	54.7	1,854	13,614	7.3

Compare Water Use over Years

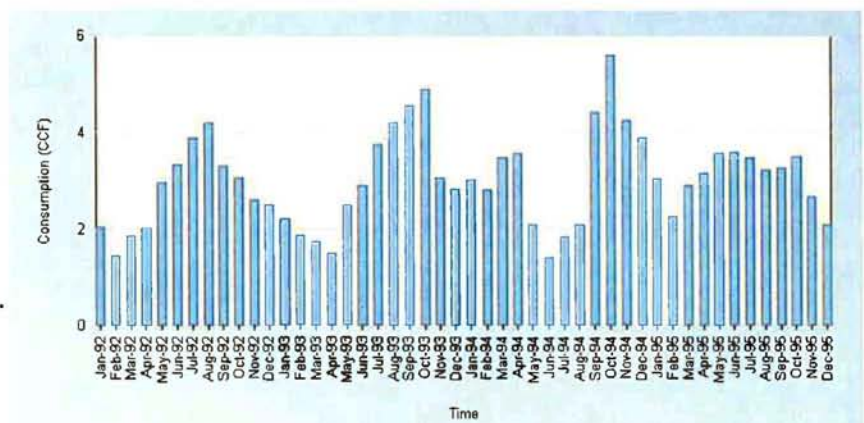


Key Features

- Billing System Integration
 - Accounts, Properties, Owners, Water Usage, Customer History etc...
 - Fast data entry, fewer errors
- Standard Device Models and Savings
 - EPA, CUWCC, others.
 - Standardized methods
- Friendly Browser User Interface
 - Standard web application
 - Access from anywhere.
- Flexible Reporting
 - Interactive or automated Reports
 - Water savings, cost effectiveness.
 - Report on multiple programs at once
 - Export to PDF, Excel, CSV etc.
- GIS/Mapping Tools
 - Display participating properties on Maps
 - Select Parcels from Maps
 - Measure areas and distances
- Powerful Web Features Allow integration:
 - On-Site data viewing and entry
 - Integration with Counties, Regions, States, Regulatory Bodies
- Master Property Grouping/Management
 - Work with properties together
 - Combine rebates, consumption records.

Conservation Programs

- Retrofits / Rebates
 - Toilet, Washers, Showers...
 - Irrigation Controllers
 - Cooling Tower
 - Medical Facility, Restaurant
- Surveys
 - Residential / Commercial
 - Indoor / Outdoor
- High User Management
 - Identification and Alerts
 - Letter Management
 - Follow up and Surcharges
- Education and Outreach
 - Scheduling and Reporting
 - Schools, Workshop Tracking
- Continual Enhancements
 - Every type of program supported.
 - Custom modules



Full access to consumption history – find and display top users, combine with other filters