



TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

President - Chris Steele • Vice-President - Kevin Graves • Director - Mark Simon • Director - Ray Tetreault

NOTICE OF THE REGULAR MEETING OF
THE BOARD OF DIRECTORS OF THE
TOWN OF DISCOVERY BAY CSD
Wednesday April 4, 2012
REGULAR MEETING 7:00 P.M.
1800 Willow Lake Road, Discovery Bay, California
Website address: www.todb.ca.gov

REGULAR MEETING 7:00 P.M.

A. ROLL CALL AND PLEDGE OF ALLEGIANCE

1. Call business meeting to order 7:00 p.m.
2. Pledge of Allegiance
3. Roll Call

B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)

During Public Comments, the public may address the Board on any issue within the District's jurisdiction which is not on the agenda. The public may comment on any item on the Agenda that is before the Board for consideration. Any person wishing to speak must come up and speak from the podium. There will be no dialog between the Board and the commenter. Any clarifying questions from the Board must go through the Chair.

C. PRESENTATIONS

Supervisor Mary Nejedly-Plepho, Chair, Contra Costa County Board of Supervisors -- Delta Conservation/Water Diversion Issues

D. AREA AGENCIES REPORTS / PRESENTATION

1. SHERIFF'S OFFICE REPORT
2. CHP REPORT
3. FIRE DISTRICT REPORT
4. EAST CONTRA COSTA FIRE PROTECTION DISTRICT REPORT
6. SUPERVISOR MARY PIEPHO, DISTRICT III REPORT

E. COMMITTEE/LIAISON REPORTS

1. Trans-Plan Report
2. County Planning Commission Report
3. Code Enforcement Report
4. Special Districts Report**

**These meetings are held Quarterly

F. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion.

1. Minutes of previous Special Meeting for March 21, 2012
2. Minutes of previous Regular Meeting for March 21, 2012
3. District Invoices
4. Notice of Exemption (CEQA) for Highway 4 (East) Landscape Improvement Project

G. NEW BUSINESS AND ACTION ITEMS

1. Professional Services Contract with Veolla Water North America for Supervisory Control And Data Acquisition (SCADA) Related Work associated with the Dewatering and Biosolids Construction Project
2. Agency Comment Request – Land Use Permit Application – Verizon Cellular/Pfaffenhofen (LP12-2017)
3. Well 5A Water Quality & Proposed Testing Program

H. PRESIDENT REPORT AND DIRECTORS' COMMENTS

I. MANAGER'S REPORT

J. GENERAL MANAGER'S REPORT

K. DISTRICT LEGAL COUNSEL REPORT

1. Board Vacancy Appointment

L. COMMITTEE UPDATES

M. CORRESPONDENCE – Discussion and Possible Action

1. Letter from Supervisor Piepho regarding an update for the County's Parking Ordinance from the CCC Department of Conservation and Development dated March 15, 2012

N. PUBLIC RECORD REQUESTS RECEIVED

1. Request from Brian Dawson – People Interested in Board Vacancy #2 – Request date March 6, 2012

O. FUTURE AGENDA ITEMS

P. ADJOURNMENT

1. Adjourn to the next regular meeting on April 18, 2012 at 1800 Willow Lake Rd – Located behind the Delta Community Presbyterian Church.

"This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Town of Discovery Bay, at (925)634-1131, during regular business hours, at least twenty-four hours prior to the time of the meeting."

"Materials related to an item on the agenda submitted to the Town of Discovery Bay CSD after distribution of the agenda packet are available for public inspection in the District Office located at 1800 Willow Lake Road during normal business hours."



TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

President - Chris Steele • Vice-President - Kevin Graves • Director - Mark Simon • Director - Ray Tetreault

MINUTES OF A SPECIAL MEETING OF THE
BOARD OF DIRECTORS OF THE
TOWN OF DISCOVERY BAY CSD
Wednesday March 21, 2012
1800 Willow Lake Road, Discovery Bay, California
SPECIAL MEETING 6:30 P.M.
Website address: www.todb.ca.gov

SPECIAL MEETING AT 6:30 P.M.

- A. ROLL CALL**
Called meeting to order – 6:33 p.m. by President Steele
Roll Call – All Present
- B. PUBLIC COMMENT**
None
- C. OPEN SESSION DISCLOSURE OF CLOSED SESSION AGENDA**
(Government Code Section 54957.7)
Legal: DeeAnne M. Gillick – The Board will meet in Closed Session on the Item as it appears on the Agenda regarding Conference with Real Property Negotiators
- D. CLOSED SESSION**
CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: 10 +/- acres – ARN:008-200-014 and 008-200-011 (Discovery Bay Athletic Club site)
Agency Negotiator: General Manager, Rick Howard
Negotiating parties: (Pillai Farms and Randy Prince)
Under negotiation: Instruction to negotiator will concern price and terms of payment.
- E. RETURN TO OPEN SESSION; REPORT ON CLOSED SESSION**
(Government Code Section 54957.1)
Legal: DeeAnne M. Gillick – The Board meet in Closed Session and there is no reportable action out of Closed Session.
- F. ADJOURNMENT**
The meeting adjourned at 6:55 p.m. to the Regular Meeting on March 21, 2012 at 7:00 p.m. on 1800 Willow Lake Road

For the Audio of this meeting please visit our Website at
<http://www.todb.ca.gov/content/agenda-and-minutes/>

//cmc – 03.22.12



TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

President - Chris Steele • Vice-President - Kevin Graves • Director - Mark Simon • Director - Ray Tetreault

MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS OF THE
TOWN OF DISCOVERY BAY CSD
Wednesday March 21, 2012
REGULAR MEETING 7:00 P.M.
1800 Willow Lake Road, Discovery Bay, California
Website address: www.todb.ca.gov

REGULAR MEETING 7:00 P.M.

A. ROLL CALL AND PLEDGE OF ALLEGIANCE

Called meeting to order – 7:00 p.m. by President Steele
Pledge of Allegiance – Led by President Steele
Roll Call – All Present

B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)

There was one (1) Public Comment Speaker

C. PRESENTATIONS

President Steele – Presented gift to Former Director Brian Dawson

D. PRESIDENT REPORT AND DIRECTORS' COMMENTS

Vice-President Graves – Provided his report and details from the Trans Plan meeting held on March 8, 2012

E. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion.

1. Minutes of previous Special meeting dated March 7, 2012
2. Minutes of previous Regular meeting dated March 7, 2012
3. District Invoices

Motion by: Director Simon to approve the Consent Calendar

Second by: Director Tetreault

Vote: Motion carried – AYES: 4; NOES: 0

F. NEW BUSINESS AND ACTION ITEMS

1. Nominations for Independent Special District Selection to the Local Agency Formation Commission (LAFCO)

General Manager Howard – Provided the details of Item F-1

There was discussion within Board

1st Motion by: Vice-President Graves to nominate Mike McGill to serve another term as Representative on LAFCO

Second by: Director Tetreault

Vote: Motion carried – AYES: 4; NOES: 0

There was discussion between the Board and the General Manager

General Manager Howard – Suggested that the Board select a primary, secondary, and if neither of the two (2) cannot attend the April 16, 2012 meeting then a third will be chosen

2nd Motion by: Vice-President Graves to select President Steele to be Primary, Director Simon to be secondary, and Vice-President Graves will be back up if necessary

Second by: Director Tetreault

Vote: Motion carried – AYES: 4; NOES: 0

2. 2012 Community Clean Water Initiative Ballot

General Manager Howard – Provided the details of Item F-2

There was discussion between the Board and the General Manager

Motion by: Director Simon to direct Staff to vote No on the Clean Water Initiative Ballot

Second by: Director Tetreault

There was one (1) Public Comment Speaker

Vote: Motion carried -- AYES: 4, NOES: 0

3. Establishment of FY 2012-13 Budget Ad-Hoc Committee

General Manager Howard -- Provided the details of Item F-3

There was discussion between the Board and the General Manager

Motion by: Vice-President Graves to accept the proposal by Staff to create the Ad-Hoc Committee and appoint two (2) Board Members to be on that Committee and to nominate Director Simon and Director Tetreault to that Board and allow the Ad-Hoc Board determine the other Committee Members

Second by: Director Tetreault

Vote: Motion carried -- AYES: 4, NOES: 0

4. Adopt Resolution 2012-07 Allowing Preliminary Project Expenditures To Be Reimbursed From Bond Proceeds

General Manager Howard -- Provided the details of Item F-4

Motion by: Vice-President Graves to adopt Resolution 2012-07

Second by: Director Simon

Vote: Motion carried -- AYES: 4, NOES: 0

G. VEOLIA REPORT

Project Manager Berney Sadler -- Provided the details of the February 2012 Monthly Operations Report

There was a discussion between the General Manager and the Board

H. MANAGER'S REPORTS

None

I. GENERAL MANAGER'S REPORT

1. Earth Day

General Manager Howard -- Provided details of the Bio Solids Project moving forward and the Earth Day Event Press Release

There was discussion between the Board and the General Manager

J. DISTRICT LEGAL COUNSEL REPORT

Legal DeeAnne M. Gilllock -- Stated that Dan Schroeder is on vacation and attending the meeting has been a pleasure.

K. COMMITTEE UPDATES

None

L. CORRESPONDENCE- Discussion and Possible Action

1. Contra Costa County Aviation Advisory Committee meeting Minutes dated December 8, 2011
2. East Contra Costa Fire Protection District meeting Minutes dated February 6, 2012
3. East Contra Costa Fire Protection District meeting Minutes dated February 27, 2012
4. Transplan Committee meeting Minutes dated February 9, 2012
5. State Route 4 Bypass Authority meeting Minutes dated February 9, 2012
6. Letter from Central Valley Regional Water Quality Control Board dated March 14, 2012

M. PUBLIC RECORD REQUESTS RECEIVED

None

N. FUTURE AGENDA ITEMS

General Manager Howard -- Reminded the Board that the announcements for the Board Vacancy have been posted and the Board is scheduled to make that appointment at the next Board meeting, dated April 4, 2012.

O. ADJOURNMENT

The meeting adjourned at 7:34 p.m. to next Regular meeting of April 4, 2012 starting at 7:00pm at 1800 Willow Lake Road.

For the Audio of this meeting please visit our Website at
<http://www.toddb.ca.gov/content/agenda-and-minutes/>

//cmc - 03.22.12



Town of Discovery Bay
"A Community Services District"
AGENDA REPORT

Meeting Date

April 04, 2012

Prepared By: Dina Breitstein, Finance Manager & Liz Hardy, Sr. Accounts Clerk
Submitted By: Rick Howard, General Manager

Agenda Title

District Invoices

Recommended Action

Staff recommends that the Board approve the listed invoices for payment.

Executive Summary

District invoices are paid on a regular basis, and must obtain Board authorization prior to payment. Staff recommends Board authorization in order that the District can continue to pay warrants in a timely manner.

Fiscal Impact:

Amount Requested \$129,863.40

Sufficient Budgeted Funds Available?: Yes (If no, see attached fiscal analysis)

Prog/Fund # See listing of invoices. Category: Operating Expenses and Capital Improvements

Previous Relevant Board Actions for This Item

Attachments

Request For Authorization to Pay Invoices for the Town of Discovery Bay CSD 2011/2012

Request For Authorization to Pay Invoices for the Discovery Bay Lighting & Landscape District # 8 2011/2012

Request For Authorization to Pay Invoices for the Discovery Bay Lighting & Landscape District # 9 2011/2012

AGENDA ITEM: F-3

Request for authorization to pay invoices (RFA)
 For the Meeting on April 04, 2012
 Town of Discovery Bay CSD
 For Fiscal Year's 7/11 - 6/12

Acct Code						
1	7011	RellaStar	Inv#JR62 457(b) Benefits for 03/16-03/30/12			\$1,128.05
	7024	RellaStar	Inv#JR62 457(b) Benefits for 03/16-03/30/12			\$288.49
				Sub-Total		\$1,416.54
2	7011	SDRMA	Inv#0011044-IN, dtd 04/01/12 Employee Ancillary Benefits	April 2012		\$409.60
	7024	SDRMA	Inv#0011044-IN, dtd 04/01/12 Employee Ancillary Benefits	April 2012		\$78.78
				Sub-Total		\$488.28
3	7301	American Retrofit Systems	Inv# 204, dtd 03/14/12 Clarifier 2 rewire			\$420.00
4	7630	American Retrofit Systems	Inv# 202, dtd 03/14/12 Check furnace system @ DB Blvd Office			\$100.00
				Sub-Total		\$520.00
6		<u>Brentwood Ace Hardware - Acct# 808 - Statement Closing 2/29/12</u>				
	7301	General Repairs - Water/Sewer				\$24.36
	7665	Office Buildings/Improvements				\$102.98
	7686	Misc. Small Tools				\$16.55
				Sub-Total		\$143.86
6		<u>Cal-Card VISA Statement Date 3/26/12</u>				
	7301	General repairs - Water/Sewer				\$56.20
	7430	Office Supplies				\$184.15
	7490	Travel & Training				\$68.06
	7610	Info Systems Maintenance				\$328.88
	7620	Cellular Communications/Data				\$187.58
	7650	Telephone				\$1,400.78
	7630	Facility Maintenance/Landscape				\$27.76
	7670	Office Equipment/Software				\$87.41
	7686	Misc. Small Tools				\$109.64
	7690	Equipment Maintenance/Fuel				\$707.89
	7950	Misc Services & Supplies				\$1,281.32
				Sub-Total		\$4,458.75
7	7301	Frank A. Olsen Co.	Inv# 226036, dtd 03/09/12 Valve			\$1,221.69
8	1011-006	Frank A. Olsen Co.	Inv# 224990, dtd 03/08/12			\$969.84
				Sub-Total		\$2,190.53
9	7301	J.W. Backhoe & Constr.	Inv# 1656, dtd 03/19/12 Removed deposit from 2 manholes and resealed			\$4,000.00
10	7301	J.W. Backhoe & Constr.	Inv# 1659, dtd 03/23/12 Haul 5 tons of cutback to WWTP #2			\$881.00
				Sub-Total		\$4,881.00
11	7301	Stanlec Consulting	Inv# 571650, dtd 03/15/12 UV Bioassay Tests			\$4,383.23
12	7330	Univar	Inv# SJ275050, dtd 3/06/12 Chemicals for 1800 Newport Dr			\$750.68
13	7330	Univar	Inv# SJ276051, dtd 3/06/12 Chemicals for 1800 Willow Lake Dr			\$1,447.50
				Sub-Total		\$2,198.18
14	7420	MallFinance	Inv# N3169116, dtd 03/16/12 Postage Machine Lease			\$89.53
15	7430	Office Depot	Inv# 600486580001, dtd 03/02/12 Office Supplies			\$106.98
16	7430	Office Depot	Inv# 600486740001, dtd 03/05/12 Office Supplies			\$23.78
17	7430	Office Depot	Inv# 601391462001, dtd 03/12/12 Office Supplies			\$72.01
18	7430	Office Depot	Inv# 601391643001, dtd 03/09/12 Office Supplies			\$7.10
19	7430	Office Depot	Inv# 601531783001, dtd 03/12/12 Office Supplies			\$84.31
20	7430	Office Depot	Inv# 602216364001, dtd 03/16/12 Office Supplies			\$72.11
				Sub-Total		\$366.27
21	7480	CA Dept of Public Health	Water System # 0710009, Inv# 1260038, dtd 03/23/12	07/01/11-12/31/11		\$1,575.00
22	7610	Big Dog Computer	Inv# 20090930-22, dtd 3/16/12 Various IT work			\$604.00
		<u>WATER</u>				
23	7635	PG&E / Acct# 2943721807-5	Newport WTP	02/10/12-03/12/12		\$6,677.66
24	7635	PG&E / Acct# 2990602600-9	Willow Lake WTP	02/09/12-03/09/12		\$6,011.05
25	7635	PG&E / Acct# 3349549227-5	Well #3 DB Blvd & Edgewlew	02/09/12-03/09/12		\$24.78
26	7635	PG&E / Acct# 0760524303-8	Irr. Controller (Newport @ Well 4A)	02/10/12-03/12/12		\$16.30
27	7635	PG&E / Acct# 7069319849-6	Well #6	02/08/12-03/08/12		\$3,527.19
28	7635	PG&E / Acct# 8351173112-3	Well #2	02/09/12-03/09/12		\$351.88
29	7635	PG&E / Acct# 8809981202-5	Well #1 (Gas)	02/09/12-03/09/12		\$35.73
30	7635	PG&E / Acct# 8851647868-5	Well #1	02/09/12-03/09/12		\$2,502.43
				Sub-Total		\$18,147.02

Request for authorization to pay Invoices (RFA)
 For the Meeting on April 04, 2012
 Town of Discovery Bay CSD
 For Fiscal Year's 7/11 - 6/12

Acct Code				
SEWER				
31	7537	PG&E / Acct# 0631986334-3 Newport Lift Station	02/10/12-03/12/12	\$2,078.38
32	7537	PG&E / Acct# 1182741894-6 Pump Station D	02/09/12-03/09/12	\$118.69
33	7537	PG&E / Acct# 1318320217-8 Pump Station A	02/09/12-03/09/12	\$43.74
34	7537	PG&E / Acct# 2068717691-6 Pump Station G	02/10/12-03/12/12	\$29.76
35	7537	PG&E / Acct# 2172798825-1 Pump Station R	02/10/12-03/12/12	\$69.03
36	7537	PG&E / Acct# 2527623613-8 Pump Station S	02/11/12-03/13/12	\$286.97
37	7537	PG&E / Acct# 3016215915-3 Pump Station F	02/08/12-03/09/12	\$410.69
38	7537	PG&E / Acct# 3101013157-6 Lakes 4 Lift Station	02/09/12-03/09/12	\$91.66
39	7537	PG&E / Acct# 3497478293-9 Lakeshore Lift Station	02/08/12-03/08/12	\$432.46
40	7537	PG&E / Acct# 3881134135-3 WWTP #1	02/10/12-03/12/12	\$5,483.02
41	7537	PG&E / Acct# 4193709211-6 Pump Station C	02/10/12-03/13/12	\$62.65
42	7537	PG&E / Acct# 4201000159-4 Golf Course Valve Station	02/11/12-03/13/12	\$88.29
43	7537	PG&E / Acct# 4225081240-3 Disc WWTP & Pump Station W	02/10/12-03/12/12	\$34.69
44	7537	PG&E / Acct# 4516230421-1 Pump Station H	02/09/12-03/09/12	\$20.73
45	7537	PG&E / Acct# 7234988505-4 Pump Station J	02/08/12-03/09/12	\$226.30
46	7537	PG&E / Acct# 7312116758-7 SS/HWY 4 E/Disco Bay Blvd W/O Bridge	02/10/12-03/12/12	\$18,417.23
47	7537	PG&E / Acct# 7630923070-4 Pump Station E	02/08/12-03/08/12	\$227.24
48	7537	PG&E / Acct# 8343916134-6 Fern Ridge Circle/Hofmann	02/07/12-03/07/12	\$633.39
49	7537	PG&E / Acct# 8440119997-5 Knightsen School Pump Station	02/08/12-03/09/12	\$27.82
			Sub-Total	\$28,762.64
50	7630	Discovery Pest Control Inv# 0466166, dtd 03/14/12 District Office Pest Service		\$68.00
51	7630	Brut Force Janitorial Inv# 111, dtd 3/14/12 Service for Mar. 2011		\$312.50
	7952	Brut Force Janitorial Inv# 111, dtd 3/14/12 Service for Mar. 2011	(Z-8 #2281)	\$297.50
	7952	Brut Force Janitorial Inv# 111, dtd 3/14/12 Service for Mar. 2011	(Z-8 #2282)	\$75.00
	7952	Brut Force Janitorial Inv# 111, dtd 3/14/12 Service for Mar. 2011	(Z-9 #2282)	\$25.00
	7952	Brut Force Janitorial Inv# 111, dtd 3/14/12 Service for Mar. 2011	(Z-57 #2282)	\$26.00
	7952	Brut Force Janitorial Inv# 111, dtd 3/14/12 Service for Mar. 2011	(Z-61 #2282)	\$26.00
			Sub-Total	\$760.00
52	7826	CCC Public Works Dept. Inv# 916461, dtd 03/12/12 5 Encroachment Permits		\$3,190.06
53	7950	Callista Anderson Expense Report 3/21/12		\$14.96
54	7950	Sue Heint Expense Report 3/21/12		\$11.10
55	7950	Shred-It Inv# 9400137681, dtd 03/14/12 Recycle		\$64.50
56	7950	The Jumpy Company Inv# 729, dtd 03/18/12 Earth Day		\$349.00
57	7952	Anloch Plumbing Inv# 5737, dtd 03/12/12 Repair of drinking fountain / Regatta		\$420.89
58	7952	Watersavers Irrigation Inc. Inv# 11127454, dtd 01/04/12 Fertilizers	(Z-61 #2282)	\$879.21
			Total TODB	\$76,942.44

Request For Authorization To Pay Invoices (RFA)
 For the Meeting on March 04, 2012
 Town of Discovery Bay, D.Bay L&I. Park #8
 For Fiscal Year's 7/11 - 6/12

Acct Code			
1	2120	PG&E / Acct# 0869258994-1 (Sprink Contr) DB Blvd. & Willow Lake	02/09/12-03/09/12 \$15.65
2	2120	PG&E / Acct# 2068897992-9 DB Blvd across from 510	02/10/12-03/12/12 \$122.02
3	2120	PG&E / Acct# 2249446019-3 (Sprinkler) Disco Point, Tr #4077, Lot 71	02/09/12-03/09/12 \$16.22
4	2120	PG&E / Acct# 2800977208-9 (Irrl Contr) 9295Beacon Pl @ Str Lite	02/10/12-03/12/12 \$33.43
5	2120	PG&E / Acct# 3736907926-8 (Sprink Contr) E/S Edgview Dr N/O DB Blvd	02/09/12-03/09/12 \$31.28
6	2120	PG&E / Acct# 4111412785-9 (Sprink Contr) DB Blvd & Seal Way	02/09/12-03/09/12 \$15.65
7	2120	PG&E / Acct# 4455555569-5 (Sprinkler) Disco Point, Tr #3653, Lot 17	02/09/12-03/09/12 \$16.22
8	2120	PG&E / Acct# 5465914049-2 (Sprinkler) DB Blvd. & Splnnaker	02/09/12-03/09/12 \$0.02
9	2120	PG&E / Acct# 5939734421-5 PG&E Owned Street & Hlghway Lighting	02/10/12-03/10/12 \$6,271.51
10	2120	PG&E / Acct# 7135420365-6 (Sprinkler) Disco Point, Tr# 4077, Lot 65	02/09/12-03/09/12 \$16.22
11	2120	PG&E / Acct# 7452568975-3 (Sprink Contr) S/E cnr DB Blvd & Willow Lk	02/09/12-03/09/12 \$15.65
12	2120	PG&E / Acct# 7698548482-7 (Sprinkler) DB Blvd, Tr# 4178, Lot 5	02/09/12-03/09/12 \$16.22
13	2120	PG&E / Acct# 8009270258-0 @ Clipper Dr w/o Cove Ct 7723 Marina Dr	02/09/12-03/09/12 \$31.30
14	2120	PG&E / Acct# 8101346815-2 (Irrl Contr) Newport Dr. w/o Pier Ct	02/09/12-03/09/12 \$15.65
15	2120	PG&E / Acct# 8163719795-5 (Irrl Contr) 9271 Newport Dr @ Str. Lite	02/10/12-03/12/12 \$17.03
16	2120	PG&E / Acct# 8167536097-8 (Irrl Contr) @ Clipper Dr	02/09/12-03/09/12 -\$0.75
17	2120	PG&E / Acct# 8399010651-6 (Sprink Contr) Willow Lake Ct, Lot 31	02/10/12-03/12/12 \$16.88
18	2120	PG&E / Acct# 8400813429-2 (Sprinkler) Laguna Ct, Tr# 4076, Lot 18	02/09/12-03/09/12 \$16.22
19	2120	PG&E / Acct# 8545920147-2 (Lites & Sprinklers) 2489 'A' DB Blvd.	02/09/12-03/09/12 \$99.77
			Sub-Total \$6,786.19
20	2120	Town Of Discovery Bay Acct# 99000000044.01 dtd 03/15/12 #69807726	\$840.61
21	2120	Town Of Discovery Bay Acct# 99000000044.02 dtd 03/15/12 #68993287	\$62.31
22	2120	Town Of Discovery Bay Acct# 99000000044.03 dtd 03/15/12 #70509819	\$188.08
23	2120	Town Of Discovery Bay Acct# 99000000042.02 dtd 03/15/12 #56844612	\$127.32
24	2120	Town Of Discovery Bay Acct# 99000000042.03 dtd 03/15/12 #59186546	\$164.44
25	2120	Town Of Discovery Bay Acct# 99000000042.04 dtd 03/15/12 #62240129	\$48.74
26	2120	Town Of Discovery Bay Acct# 99000000042.05 dtd 03/15/12 #56844604	\$5.84
27	2120	Town Of Discovery Bay Acct# 99000000042.06 dtd 03/15/12 #69807735	\$120.76
28	2120	Town Of Discovery Bay Acct# 99000000042.09 dtd 03/15/12 #66369167	\$26.84
29	2120	Town Of Discovery Bay Acct# 99000000042.08 dtd 03/15/12 #87801604	\$5.24
			Sub-Total \$1,690.18
30	2130	AW Direct Inv# 1018603692, dtd 03/05/12 Lime HI-Viz Vests	\$246.74
31		<u>Cal-Card VISA Statement 03/26/12</u>	
	2130	Small Tools	\$58.85
	2272	Gasoline/Fuel for Equipment	\$100.00
	2282	Grounds Maintenance	\$470.00
	2303	Other Travel Employee Expenses	\$940.39
			Sub-Total \$1,569.24
32	2282	Delta Fence Co. Inv #23278, dtd 03/16/12 IRepair fence @ Cornell	\$325.00
33	2282	Delta Fence Co. Inv #23284, dtd 03/20/12 Install 2 rail fence 4 locallons @ Cornell	\$986.00
34	2282	Delta Fence Co. Inv #23291, dtd 03/22/12 Post repairs @ Cornell	\$970.00
			Sub-Total \$2,281.00
35	2282	HydroPoint Inv# 039335, dtd 3/12/12 Lockset & Keys	\$26.98
36	2282	ProPet Distr. Inv# 86267, dtd 03/20/12 Trash Rec & Jr Bag Disp	\$280.00
37	2282	Valley Crest Inv# 3948039, dtd 03/19/12 Maintenance for March 2012	\$8,457.00
38	2282	Valley Crest Inv# 3960472, dtd 03/19/12 Installation of Turf @ Cornell	\$140.00
			Sub-Total \$8,697.00
39	2310	Town of Discovery Bay Inv# 3339, dtd 2/10/12 Relmb Payroll for Nov 2011	\$5,888.87
40	2310	Town of Discovery Bay Inv# 3346, dtd 2/10/12 Relmb Payroll for Dec 2011	\$4,161.75
41	2281	Town of Discovery Bay Inv# 3351, dtd 2/14/12 Relmb of Misc. for Nov 2011	\$360.00
	2479	Town of Discovery Bay Inv# 3351, dtd 2/14/12 Relmb of Misc. for Nov 2011	\$500.00
42	2282	Town of Discovery Bay Inv# 3357, dtd 2/14/12 Relmb of Misc. for Dec 2011	\$1,270.00
43	2310	Town of Discovery Bay Inv# 3365, dtd 2/16/12 Relmb Payroll for Jan 2012	\$5,471.90
			Sub-Total \$17,652.52

Request For Authorization To Pay Invoices (RFA)
For the Meeting on March 04, 2012
Town of Discovery Bay, D.Bay I.&L. Park #8
For Fiscal Year's 7/11 - 6/12

44	4829	Gates & Associates	Inv# 33644, dtd 03/13/12	Hwy 4 - East Planting Impr.	\$7,536.46
TOTAL					\$46,533.30

Request For Authorization To Pay Invoices (RFA)
 For the Meeting on April 4, 2012
 Town of Discovery Bay, D.Bay L&L Park #9 (Ravenswood)
 For Fiscal Year's 7/11 - 6/12

Acct Code					
1	2100	Office Depot	Inv# 602216365001, dtd 3/16/11	Office Supplies	\$6.48
2	2120	PG&E / Acct# 0403377952-3	1445 Cullen Dr (Irrig Ctrlr)	02/09/12-03/09/12	\$22.18
3	2120	PG&E / Acct# 1066166716-1	829 Poe Dr. (Irrig Ctrlr)	02/09/12-03/09/12	\$11.16
4	2120	PG&E / Acct# 7706163630-4	1738 Wilde Dr. (Irrig Ctrlr)	02/09/12-03/09/12	\$11.45
				Sub-Total	\$44.79
5	2120	Town of Discovery Bay	Acct# 99000000043.01, dtd 03/16/12	#58557294	\$68.19
6	2120	Town of Discovery Bay	Acct# 99000000043.02, dtd 03/16/12	#58269542	\$322.46
7	2120	Town of Discovery Bay	Acct# 99000000043.03, dtd 03/16/12	#57168928	\$149.30
				Sub-Total	\$540.03
8		<u>Cal-Card VISA - Statement Date 03/26/12</u>			
	2272	Gasoline Maintenance			\$275.01
	2303	Other Travel Employee Expenses			\$308.67
					\$581.68
9	2310	Town of Discovery Bay	Inv# 3340, dtd 2/10/12	Relmb Payroll for Nov 2011	\$1,965.33
10	2310	Town of Discovery Bay	Inv# 3346, dtd 2/10/12	Relmb Payroll for Dec 2011	\$1,632.48
11	2120	Town of Discovery Bay	Inv# 3352, dtd 2/14/12	Relmb Misc. charges Nov 2011	\$6.65
	2282	Town of Discovery Bay	Inv# 3352, dtd 2/14/12	Relmb Misc. charges Nov 2011	\$25.00
12	2282	Town of Discovery Bay	Inv# 3359, dtd 2/16/12	Relmb Misc. charges Dec 2011	\$210.00
13	2310	Town of Discovery Bay	Inv# 3366, dtd 2/16/12	Relmb Payroll for Jan 2012	\$2,375.22
					\$8,214.88
				Total	\$7,387.66



Town of Discovery Bay
"A Community Services District"
AGENDA REPORT

Meeting Date

April 4, 2012

Prepared By: Fairin Perez, Parks and Landscape Manager
Submitted By: Rick Howard, General Manager *RH*

Agenda Title

Notice of Exemption (CEQA) for Highway 4 (East) Landscape Improvement Project

Recommended Action

Approve and authorize Staff to execute and record the Notice of Exemption (CEQA) for the Highway 4 (East) Landscape Improvement Project

Executive Summary

As required by the California Environmental Quality Act (CEQA), any project performed by a governmental agency must be reviewed for compliance with the laws and regulations of the Act. The agency must first determine if the project requires an environmental review or if it is exempt from CEQA. If the agency finds the project exempt, they must approve and file a Notice of Exemption with the County Recorder.

Upon review of the Highway 4 Landscape Improvement Project, Staff found that the work to be exempt for Categorical reasons. A copy of the draft form of the Notice to Exemption is attached for review and approval.

Staff is requesting an approval of the attached Notice of Exemption and authorization to execute said document and forward to the County Recorder, along with a \$50.00 filing fee, for recordation.

Fiscal Impact:

Amount Requested - \$50.00
Sufficient Budgeted Funds Available?: Yes
Zone # 8 Category: Capital - 4829

Previous Relevant Board Actions for This Item

Approval and Adoption of the Proposed Amended 2011-2012 Operating and Capital Improvement Budget for the Discovery Bay Lighting and Landscaping District 8 – January 4, 2012

Attachments

Draft Notice of Exemption – Highway 4 Landscape Improvements

AGENDA ITEM: F-4

NOTICE OF EXEMPTION

To: County Clerk
County of Contra Costa
555 Escobar Street
P.O. Box 350
Martinez, CA 94553

From: Town of Discovery Bay CSD
1800 Willow Lake Road
Discovery Bay, CA 94505

Project Title: Highway 4 (East) Landscape Improvement Project

Project Location -- Specific: North side of Highway 4 (Landscape area); beginning approximately 250' West of Discovery Bay Boulevard and extending in a westward direction and ending at Chammel Road.

Project Location -- City: Town of Discovery Bay Project Location -- County: Contra Costa

Description of Nature, Purpose, and Beneficiaries of Project: Removal of aged, poor performing plant material; installation of new shrubs, trees and groundcover; minor irrigation modifications and repairs. Purpose: To add aesthetic value, reduce erosion and water runoff along the Highway 4 corridor described above for the benefit of the residents of Discovery Bay.

Name of Public Agency Approving Project: Town of Discovery Bay Community Services District

Name of Person or Agency Carrying Out Project: Town of Discovery Bay Community Services District

Exempt Status: (check one)

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption, Sec. 15304 -- Minor Alterations to Land
- Statutory Exemptions, State code number:

Reasons why project is exempt: 15304 -- Project consists of minor public alterations in the condition of land, irrigation and vegetation, which does not involve the removal of healthy, mature, scenic trees.

Lead Agency:

Contact Person: Fairin Perez

Area Code/Telephone/Extension: (925) 634,1733

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____

Date: _____

Title: General Manager

- Signed by Lead Agency
- Signed by Applicant

Date received for filing at OPR:



Town of Discovery Bay
"A Community Services District"
AGENDA REPORT

Meeting Date

April 4, 2012

Prepared By: Rick Howard, General Manager
Submitted By: Rick Howard, General Manager

Agenda Title

Professional Services Contract with Veolia Water North America for Supervisory Control And Data Acquisition (SCADA) Related Work associated with the Dewatering and Biosolids Construction Project

Recommended Action

Approve Professional Services Contract with Veolia Water North America for SCADA Related Work associated with the Dewatering and Biosolids Construction Project in the amount of \$76,638.61, and authorize the General Manager to execute all contract documents

Executive Summary

The Biosolids/Dewatering Project is currently under construction. The Belt Press has been ordered, and construction on the project has commenced. The final portion of the project is necessary for the SCADA network to tie all the components together and provide continued operational reliability.

Veolia is the District's Water and Wastewater operator and they have been asked to submit a proposal to perform the necessary equipment, installation and programming services for the project. Veolia has a programming team that is industry regarded and has spent considerable time working on the SCADA system here in Discovery Bay. Consequently, Veolia is best suited to perform this service.

Funding for this project will be from the Biosolids Capital Improvement Program budget. Veolia's proposal and equipment list is attached.

Fiscal Impact:

Amount Requested \$76,638.61

Sufficient Budgeted Funds Available?: Yes (If no, see attached fiscal analysis)

Prog/Fund# Category: Pers. Optg. Cap. -or- CIP# BioSolids Fund#

Previous Relevant Board Actions for This Item

February 15, 2012 – Award of Construction Contract

Attachments

Professional Services Contract
Proposal for Services and Equipment List

AGENDA ITEM: G-1



VEOLIA WATER NORTH AMERICA
101 W. Washington St. Suite 1400 East
Indianapolis, IN 46204
Kip.edgley@veollawaterna.com
www.veollawaterna.com

Tel. : 503 805 8037
Fax : 503 661 8785
Kedgley2@cs.com
Office: 317 917 4661

Basic Proposal for Services

Items for Consideration and Recommendations for Herwit Design 2011-91-TO2

1. Section 11000. PLC, if used in manufacturers specification in Section 11000 (Note Section title line shows 1100) shall be MicroLogix by Allen-Bradley. No other manufacturer's PLC shall be acceptable.
2. Section 11334. JWC grinders commonly use a low cost Panasonic PLC and are not normally provided with software or cables to troubleshoot this PLC. If a PLC is supplied in the JWC equipment, it shall be provided as an Allen-Bradley MicroLogix ML1100, or ML1400. Or, the Panasonic shall be required to be provided with the software and all programming cables necessary for the PLC to communicate with VVNA technician's laptop PC based on either Windows 7-32-Bit or XP Pro SP3.
3. Section 13410 Part 1, 1.01, 2, a., (2) shows "ISI". Should be "ISS".
4. Section 13410 Part 1, 1.03, B – Add the requirement for the ISS to coordinate with the Owner's Programmer (referred to as "VVNA" in the remainder of these notes), prior to submittal of the loop drawings to assure accurate location of the I/O related to the PLC, and the interconnections required.
5. Section 13410 Part 1, 1.03, C, 4, a. – ISS is not responsible for this section. VVNA shall provide.
6. Section 13410 Part 1, 1.03, C, F – ISS is not responsible for this section. VVNA shall provide.
7. Section 13410 Part 1, 1.07 – VVNA shall NOT be responsible for final documentation. VVNA shall provide to engineers and contractors all information related to provided PLC and SCADA parts and assist Owner and Engineer with an updated and improved system drawing in a manner which allows for ease of translation to common drawing format for the project. Common drawings, final drawings, and presentation of as-built drawings shall be provided by others.
8. Section 13410, Part 3, 3.01, O., 1-5 – Does not apply to ISS. This section shall be VVNA's responsibility.
9. Section 13410, Part 3, 3.03, A, 2 – ISS shall also coordinate with VVNA.
10. Section 13420, Part 2, 2.01, A – Provide any auxiliary or other equipment required to access instrument setup if not readily available through the Menu / Display function.
11. Section 13420, Part 2, 2.02, A, 3. – Remove "Tantalizer". Replace with "Totalizer".
12. ISS is also encouraged to use Endress-Hausser which has an Ethernet capability and direct integration with the Owner's selected PLC. Submittal phase item.
13. Section 13421, Part 1.02, A, 1. – VVNA shall not be required to submit "THE" PLC program. If the Owner wants to see representative programming, VVNA shall provide it as the PLC program develops. Submittal phase will be concluded before final PLC program is complete as the coordination on the project will cause modifications to the final product during the project performance.

14. Section 13421, Part 1.02, B, is interpreted as a reference to the ISS or electrical or other contractor, not VWNA.
15. Section 13421, Part 2, 2.01, requires that the software to be provided is RSLogix5000, not RSLogix500. Cost to Owner shall reflect this change.
16. Section 13421, Part 3, 3.02 B – This shall be done during the power up and I/O checks in Vancouver, WA prior to shipping the PLC CP to the project site. See below.
17. Section 13421, Part 3, 3.03, C – This is a very expensive, and not specifically useful process. The PLC panel shall be fully tested and documented in Vancouver, WA, and Kip Edgley from VWNA shall supervise, direct, and certify the power up, I/O, system components, and all communication and power as required prior to shipping. If the PLC CP is desired to be retested, we can duplicate this effort after setup in the field, prior to allowing I/O connections to be performed. Functional testing, prior to completion of system checkout as a function of project performance, by simulation will substantially drive up the costs of VWNA services. We will provide, but only after confirmation of the engineer's review of this objection and decision that simulation based functional testing is required. If required, it shall be performed onsite, either be using the Electrical Room for full simulation. If just pre-connection I/O and power testing is desired, the electrical room, or the final location can be used instead of the engineer having to fly to Vancouver/PDX.
18. Section 16122 – Fiber Optics:
 - a. Question: Fiber is referred to as existing. Define how this applies?
 - b. The Field Breakout Boxes should be provided with the system by the contractor as they will be better able to develop their complete system. N-Tron switches are end termination user devices and the owner shall provide them. We can also include the BO boxes in the PLC CP costs, but the fiber provider may wish to do so, and the adder/change order to the proposal costs would be negligible.

Proposal for Services:

Integrate new CompactLogix, Communications, Replace ML1500, and Provide SCADA and PanelView Development for Herwitt Engineering "Dewatering Facilities Expansion".

Services Provided: \$30,000.00 Total for Labor and Travel (see attached for Material Costs Breakdown)

1. Provide all system interpretation to provide the design of the new DEW PLC CP through VVNA Allen-Bradley preferred vendor.
2. Provide all system design oversight to deliver a complete a complete PLC CP to the Discovery Bay project site which is UL 508 certified, I/O and Power Tested, and is communications certified for Ethernet communications to Plant SCADA, and a locally provided PanelView Plus V6 T1000 Interface.
3. Provide all PLC and PanelView Programming for ALL functions of the new PLC CP.
4. Provide the PLC CP with an Allen-Bradley CompactLogix (CPLX) processor and all ancillary equipment for a complete control panel that is provided with 120 VAC power from others.
5. Control Panel shall be installed by others. VVNA shall provide coordination with the ISS, and the Electrical Contractor for all terminations, identification of terminals for landing field signals, and providing all termination identification for instrumentation connections.
6. Provide interface through either ProSoft or Red Lion for direct communication to Siemens Solar Dryer PLC through Profibus conversion to Ethernet/IP.
7. Provide panel cleanup at existing Modicon panel for terminations and fiber communications in Plant 2.
8. Provide in PLC-DEW, and Plant 2 Modicon PLC cabinets, along with PLC-UV, fiber optic to copper N-Tron Ethernet switches and media converters. Series 500 will be the standard.
9. Provide PLC change out for ML1500 existing Dewatering MicroLogix with ML1400 MicroLogix and interconnection to Plant SCADA through Ethernet at PLC-DEW. This is an optional service being offered as part of this proposal. The existing MicroLogix ML1500 is very old, and out of warranty with no communication capability to SCADA directly. The ML1400 will take over all functions and provide a direct Ethernet SCADA access.
10. Provide all Engineering services to Herwitt Engineering specifically to provide a new, and accurately upgraded plant 1 and plant 2 drawing for communications through Serial, Ethernet/IP, and DH+ as applicable to the individual PLC's.
11. Provide all final documentation, including as-built terminal specific level information for the new PLC-DEW as required for the engineer to complete the drawings for the DEW project.
12. Provide all SCADA Operator Interface programming as required for integration of all components with direct access, or in the case of Siemens, mapped access to the plant SCADA.
13. Provide coordination with Telstar efforts and SCADA development for new connections at Plant 1 at the Modicon PLC's as applicable.
14. Provide training as required to the plant staff on using the new PanelView Plus, and SCADA interface displays provided under this project.
15. Provide general consulting with Herwitt to support submittal review, final approvals, and coordination onsite with contractors and ISS, and provide protection for client best interests.

Discovery Bay Control Panel Provision / Network Enhancements Cost Factors (For Gregory Harris and Virgil Koehne review only)			
	Unit Qty	Unit Cost	Extended Cost
Small Enclosure			
Sagin SCE-60EL4818SSLPLP	1	4230.42	4230.42
Sagin SCE-60P48 Panel	1	193.23	193.23
Sagin 60X48X18 with 12" Legs		Panel Total	4423.65
Large Enclosure			
Sagin SCE-724824SSFS	1	5074.63	5074.63
Sagin SCE-72P48F1	1	295.05	295.05
Sagin 72X48X18 N3R Freestanding		Panel Total	5369.68
Control Panel			
Sagin SCE-LF16D24 Light Kit	2	158.5	317
Sagin SCE-L5MB Bracket	2	19.77	39.54
Sagin SCE-L5A Door Switch	2	29.55	59.1
AB 1769ECR End Cap	1	19.56	19.56
AB 1769IA16 16-Pt Input Module	2	166.2	332.4
AB 1492IFM20FF120A2 F-F120A-2	2	140.75	281.5
AB 1492CAB025A69 Assembly Cable	2	49.88	99.76
AB 1769IF40X2 Analog Module	1	342.05	342.05
AB 1492AIFM8F5 Module Interface	1	114.72	114.72
AB 1492-ACAB025CA69 Cable Assembly	1	79.3	79.3
AB 1769IF4 4-Channel Input Module	1	265.6	265.6
AB 1492-AIFM1-F-5 Module Interface	1	70.08	70.08
AB 1492-ACAB025BA69 Cable Assembly	1	58.28	58.28
AB 1769L35E 1.5MB Ethernet Processor	1	2018.4	2018.4
AB 1769OA16 120/240V 16 Point Output	1	255	255
AB 1492-XIM20120-16RF Interface Module	1	256.05	256.05
AB 1492CAB025H69 Cable Assembly	1	51.45	51.45
AB 1769PA4 120/240VAC Input Power Supply	1	265	265
ProSoft PS69-DPM Profibus DP Master to Ethernet I/P	1	1363	1363
AB 2711P-B10C4D8 PanelView Plus Terminal	1	4197.18	4197.18
Panel Parts (CB, Terminals, DIN, 480 W DC Power Supply, Tracking Filters, etc.)	1	1293.87	1293.87
Hubbard DRUBGFI15 15 A GFCI Utility Box	2	48.42	96.84
APC SMT 2200 22VA LCD 102 V UPS	1	1100	1100
APC UPS Maint. Bypass	1	200	200
APC AP9610 Relay Interface from UPS to PLC	1	245	245
Summary Section			
Control Panel Parts without Enclosure		\$	13,441.38

Unit Qty	Unit Cost	Extended Cost	Option A	Option B
1	17,865.03	\$ 17,865.03		
1	18,811.06	\$ 18,811.06		
1	750	\$ 750.00		
1	7,200	\$ 7,200.00		
1	750	\$ 750.00		
			Option A	Option B
			\$ 26,565.03	\$ 27,511.06
Fiber Optics Ethernet Switches				
2	1181.7	\$ 2,363.40		
1	1795.5	\$ 1,795.50		
1	850	\$ 850.00		
MicroLogix Upgrade Option				
1	486.54			
1	95.844			
1	143.472			
1	250			
	\$ 975.86	Not in Specs/Optional		
1	2527.35	Extended Cost	2,527.35	Required/Not in specs
1	1198.5	Extended Cost	1,198.5	In Specs
1	506.25	Extended Cost	506.25	Not in Specs/Optional
1	632.7	Extended Cost	632.7	Not in Specs/Optional
Software Per Specification (for Owner)				
AB 9324RLD300ENE Standard RSLogix5000 for CompactLogix				
AB9324RL0300ENE RSLogix500 for Micro/SLC Processors				
AB9701-VW5TME NE Studio Machine Edition for PanelView Plus (UV, DEW, Future)				
AB9355-RSLETENE RSLinx Enterprise				
Total Control Assembly - Option A (Includes RSLogix500/5000)				
Total Control Assembly - Option B (Includes RSLogix500/5000)				
MicroLogix Addr				
RSLinx Enterprise				
Estimated Tax				
	\$ 35,299.78	VWNA Markup	Extended	15% Flat on Control Panels/ENET Only
	\$ 36,245.81		\$ 40,035.87	15% Flat on Control Panels and ENET Only
	\$ 975.86		\$ 4,877.99	None applied
	\$ 1,138.95		\$ -	None applied
Uses 40K	\$ 3,400.00		\$ -	Estimate Only
Maximum Total Cost from Above Options				
All Labor and Travel Costs				
\$ 46,638.61			All Options included	
\$ 30,000.00			Client is not charged for MicroLogix ML1400 Option (client service provided for upgrade-free)	
(Above labor total includes small contingency - 4.25% for roundup)				



Town of Discovery Bay

"A Community Services District"

AGENDA REPORT

Meeting Date

April 4, 2012

Prepared By: Rick Howard, General Manager
Submitted By: Rick Howard, General Manager

Agenda Title

Agency Comment Request – Land Use Permit Application – Verizon Cellular/Pfaffenhofen (LP12-2017)

Recommended Action

Review applicants' submittal for a Land Use Permit to add one (1) microwave antenna and associated cable/components to an existing Verizon Wireless mono palm located at Bixler Road at Orwood Road (APN #015-200-004) in the unincorporated area of Contra Costa County and respond to the Department of Conservation and Development as necessary

Executive Summary

The Contra Costa County Department of Conservation and Development has requested Board input into a proposed Land Use Permit Application from Verizon Cellular/Pfaffenhofen for consideration to add one (1) microwave antenna and associated cable/components to an existing Verizon Wireless mono palm located at Bixler Road at Orwood Road (APN #015-200-004) in the unincorporated area. This site is outside the Town of Discovery Bay CSD boundary.

The Contra Costa County Department of Conservation and Development is seeking Board input into this proposed modification.

Fiscal Impact:

Amount Requested \$N/A

Sufficient Budgeted Funds Available?: (If no, see attached fiscal analysis)

Prog/Fund # Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item

N/A

Attachments

Agency Comment Request – LP12-2017

AGENDA ITEM: G-2

CONTRA COSTA COUNTY
 DEPARTMENT OF CONSERVATION AND DEVELOPMENT
 COMMUNITY DEVELOPMENT DIVISION
 30 Muir Road
 Martinez, CA 94553-4601
 Phone: 925-674-7205
 Fax: 925-674-7258

Town of Discovery Bay CSD
 Received
 MAR 26 2012



Sum
 3-22-12

AGENCY COMMENT REQUEST

Date 3/22/12

We request your comments regarding the attached application currently under review.

DISTRIBUTION

Building Inspection Grading Inspection

HSD, Environmental Health, Concord

HSD, Hazardous Materials

P/W - Flood Control (Full Size)

P/W - Engineering Svcs (Full Size)

Date Forwarded _____

P/W Traffic (Reduced)

P/W Special Districts (Reduced)

P/W—APC Floodplain Tech (2nd Floor)

Advance Planning

Redevelopment Agency/Housing

Historical Resources Information System

CA Native American Heritage Comm.

CA Fish & Game, Region # _____

U.S. Fish & Wildlife Service

Fire District EAST CO. FIRE

Sanitary District _____

Water District _____

City of _____

School District _____

East Bay Regional Park District

MAC/TAC

Diablo/Discovery Bay CSD

DOIT - Deputy Director, Communications

CDD-GIS

LAFCO

East CCC Habitat Conservancy (HCP/NCCP)

County Geologist

Airport Land Use Commission Staff (ALUC)

Community Organizations:

Please submit your comments as follows:

Project Planner Matthew Kelley

Phone # (925) 674-7197

E-mail Matthew.Kelley@dcd.cccounty.us

County File # LP12-2011

Prior to April 17, 2012

We have found the following special programs apply to this application:

Redevelopment Area

Active Fault Zone

Flood Hazard Area, Panel # _____

60 dBA Noise Control

CA EPA Hazardous Waste Site

Mineral Rights Holder:

AGENCY: Please indicate the code section of recommendations required by law or ordinance. Send copies of your response to the Applicant & Owner.

Comments: None Below Attached

Print Name _____

Signature _____ DATE _____

Agency phone # _____



**CONTRA COSTA COUNTY
DEPARTMENT OF CONSERVATION & DEVELOPMENT
COMMUNITY DEVELOPMENT DIVISION**

LAND USE PERMIT APPLICATION

TO BE FILLED OUT BY APPLICANT OR OWNER

OWNER Name <u>Pfaffenhofen</u>	APPLICANT Name <u>Verizon Wireless</u>
Address <u>PO BOX 1076</u>	Address <u>1107 2nd St #300</u>
City, State <u>West Sacramento, CA</u>	City, State <u>SACRAMENTO, CA 95814</u>
Phone <u>N/A</u>	Phone <u>916-441-4259</u>
By signing below, owner agrees to pay all costs, including any accrued interest, if the applicant does not pay costs. <input checked="" type="checkbox"/> Check here if billings are to be sent to applicant rather than owner.	By signing below, applicant agrees to pay all costs for processing this application, plus any accrued interest, if the costs are not paid within 30 days of invoicing.
Owner's signature <u>N/A</u>	Applicant's signature <u>[Signature]</u>
CONTACT PERSON (optional) Name <u>Katie Goodin</u>	PROJECT DATA
Address <u>1107 2nd St #300</u>	Total Parcel Size:
City, State <u>SACRAMENTO, CA 95814</u>	Proposed Number of Units:
Phone <u>916-441-4259</u>	Proposed Square Footage:
	Estimated Project Value:

DESCRIPTION OF REQUEST (attach supplemental statement if necessary): Modification to existing telecommunications facility by adding 1 microwave dish with cables.

OFFICE USE ONLY

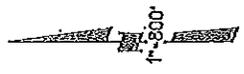
Application description: REQUEST FOR A LAND USE PERMIT TO ADD ONE MICROWAVE ANTENNA TO AN EXISTING VERIZON WIRELESS MONOPOLAR ANTENNA AND ADD TWO ASSOCIATED CABLE RUNS

Property description: PCL MAP 67, PG 16 PCL C - 451 ACRES

Ordinance Ref.:	TYPE OF FEE	FEE	S-CODE	Assessor's No.:
84-48,404				015-200-004
Area: <u>DISCOVERY BAY</u>	*Base Fee/Deposit	\$2,700	S-	Site Address: <u>ORWOOD RD</u>
Fire District: <u>EAST CO. FIRE</u>	Late Filing Penalty (+50% of above if applicable)	\$	S-066	Zoning District: <u>A-4</u>
Sphere of Influence:	1/2% est. value over \$100,000	\$	S-029	Census Tract: <u>3040.00</u>
Flood Zone: <u>AE</u>	#Units: x \$195.00	\$	S-014	Atlas Page: <u>L-28/L-29</u> <u>M-28/M-29</u>
Panel Number:	Sq. Ft. x \$0.20	\$	S-052	General Plan: <u>DR</u>
x-ref Files: <u>LP04-2073</u>	Notification Fee	\$15.00 / \$10.00	S-048	LP/DP Combination: <u>YES / (NO)</u>
<u>LP11-2037</u>	Fish & Game Posting (if not CBQA exempt)	\$75.00	5884	Supervisory District: <u>3</u>
<u>CUII-0038</u>	Env. Health Dept.	\$47.00		Received by: <u>MATT</u>
Concurrent Files:	Other:	\$		Date Filed: <u>3/21/12</u>
	TOTAL	\$2,852.00		File Number: LP12-2017
	Receipt #			
	*Additional fees based on time and materials will be charged if staff costs exceed base fee.			

INSTRUCTIONS ON REVERSE SIDE

MOK ORWOOD TRACT 7 PLS SEE LETTER
1- 67PM16 6-28-78
2- 167PM28 10-2-95



SITE

18

19

16

21

200

200

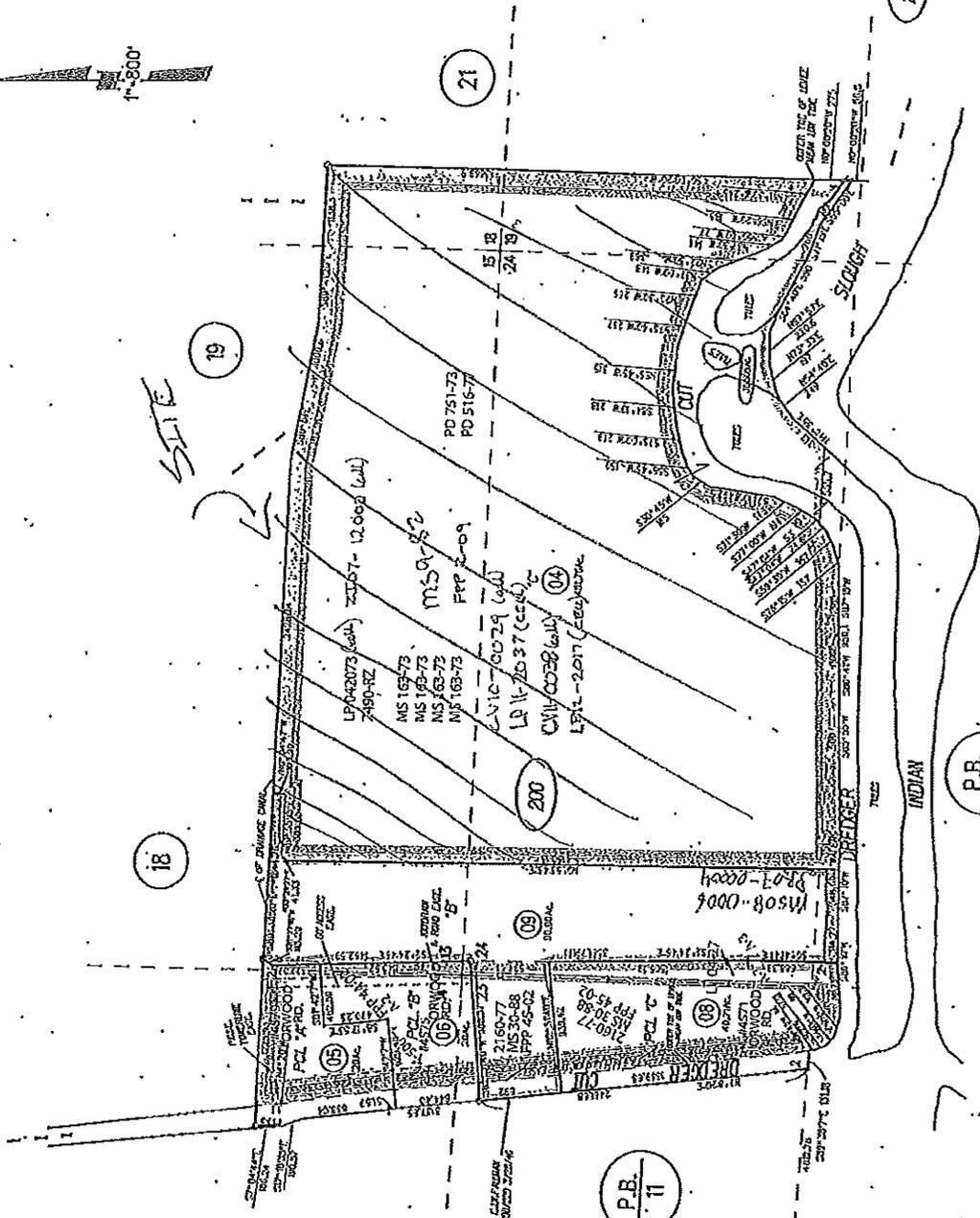
09

P.B. 11

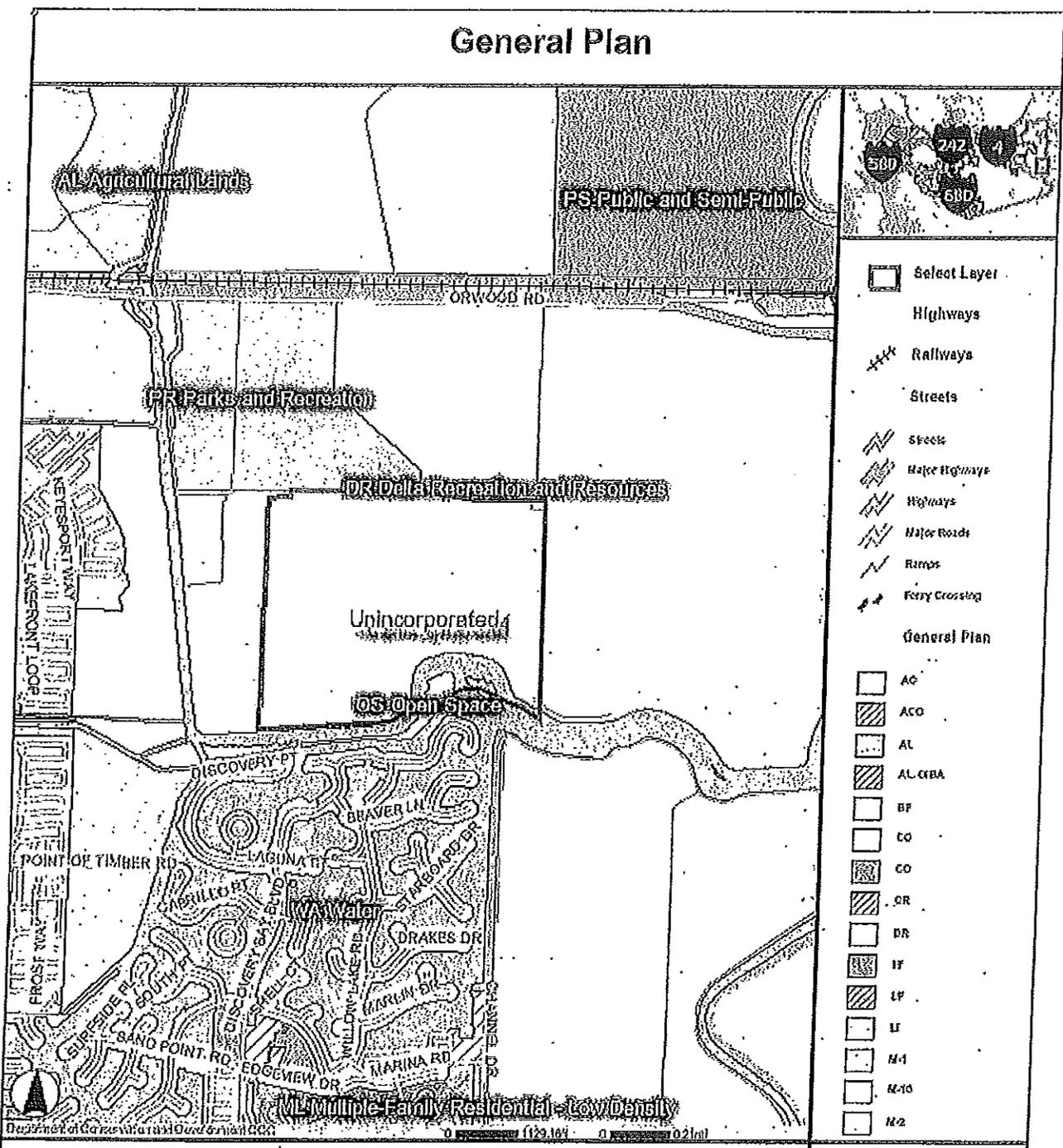
P.B. 9

L-28 | L-29
ZM: M-28 | M-29
ASSESSOR'S MAP
BOOK 15 PAGE 20
CONTRA COSTA COUNTY, CALIF.

NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY AND LIABILITY FOR THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, ASSESSOR'S PARCELS MAY NOT BE IDENTIFIED WITH LOCAL LOT, SPILT OR BUILDING SITE ORDINANCES.

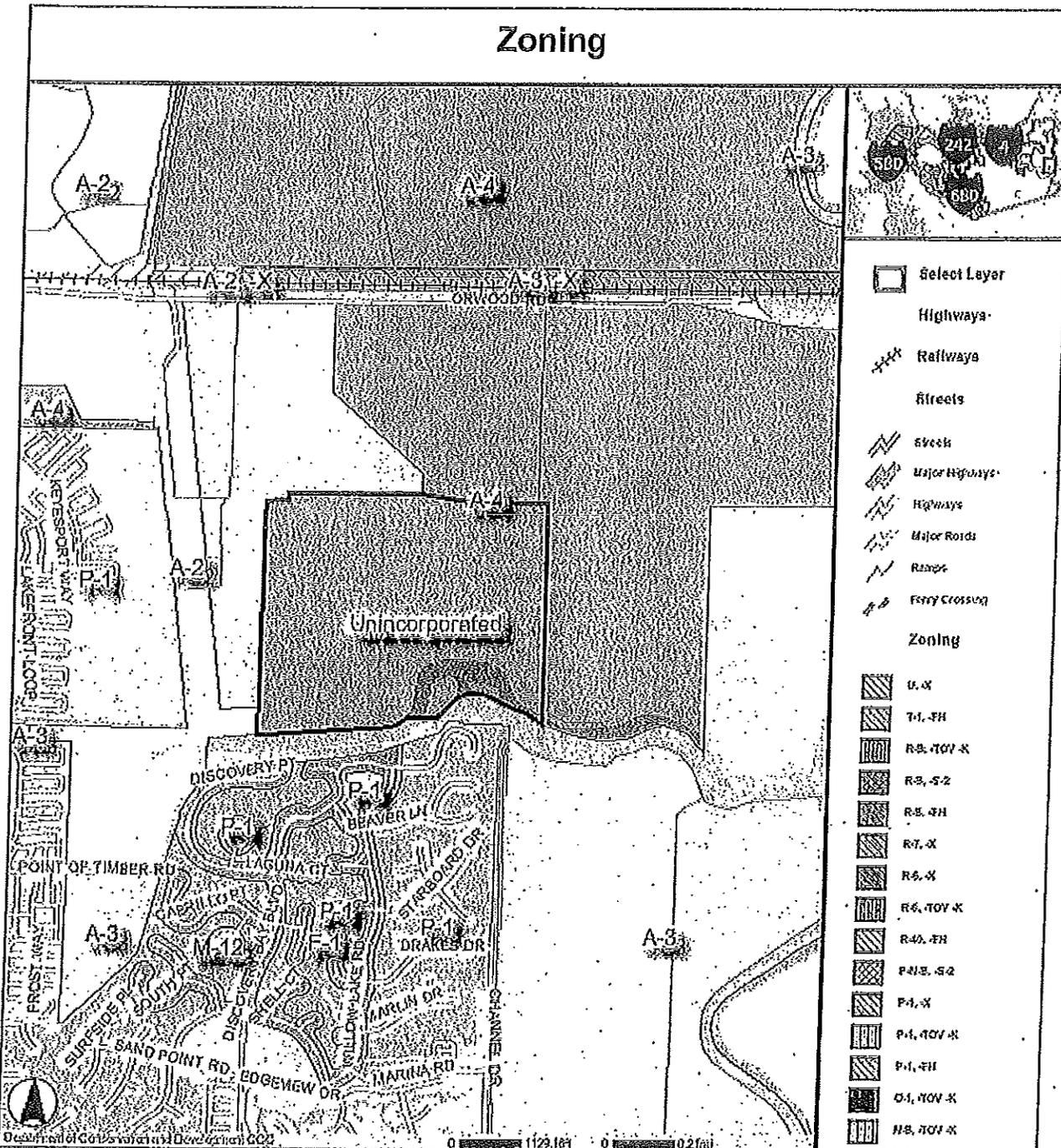


General Plan



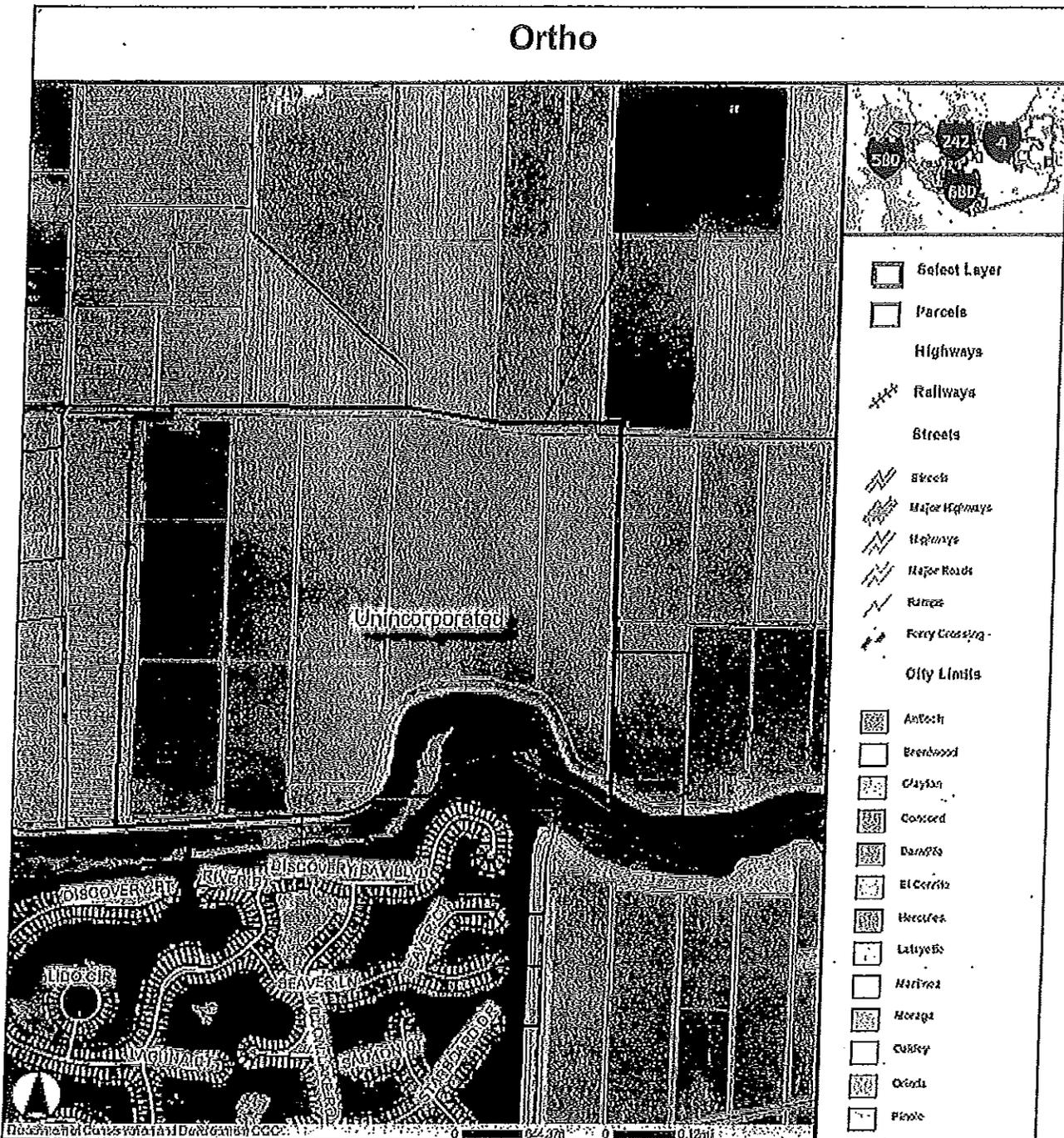
Refer to the Accela GIS Administrators Guide for instructions on how to set the disclaimer text displayed in this area.

Zoning



Refer to the Accela GIS Administrators Guide for instructions on how to set the disclaimer text displayed in this area.

Ortho



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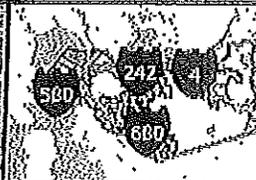
Ortho

015180009

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Unincorporated

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Select Layer

Parcels

Highways

Railways

Streets

Streets

Major Highways

Highways

Major Roads

Ramps

Ferry Crossing

City Limits

Antioch

Brentwood

Clayton

Concord

Danville

El Cerrito

Hercules

Lafayette

Martinez

Napa

Oakley

Orinda

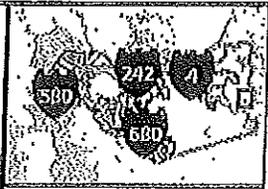
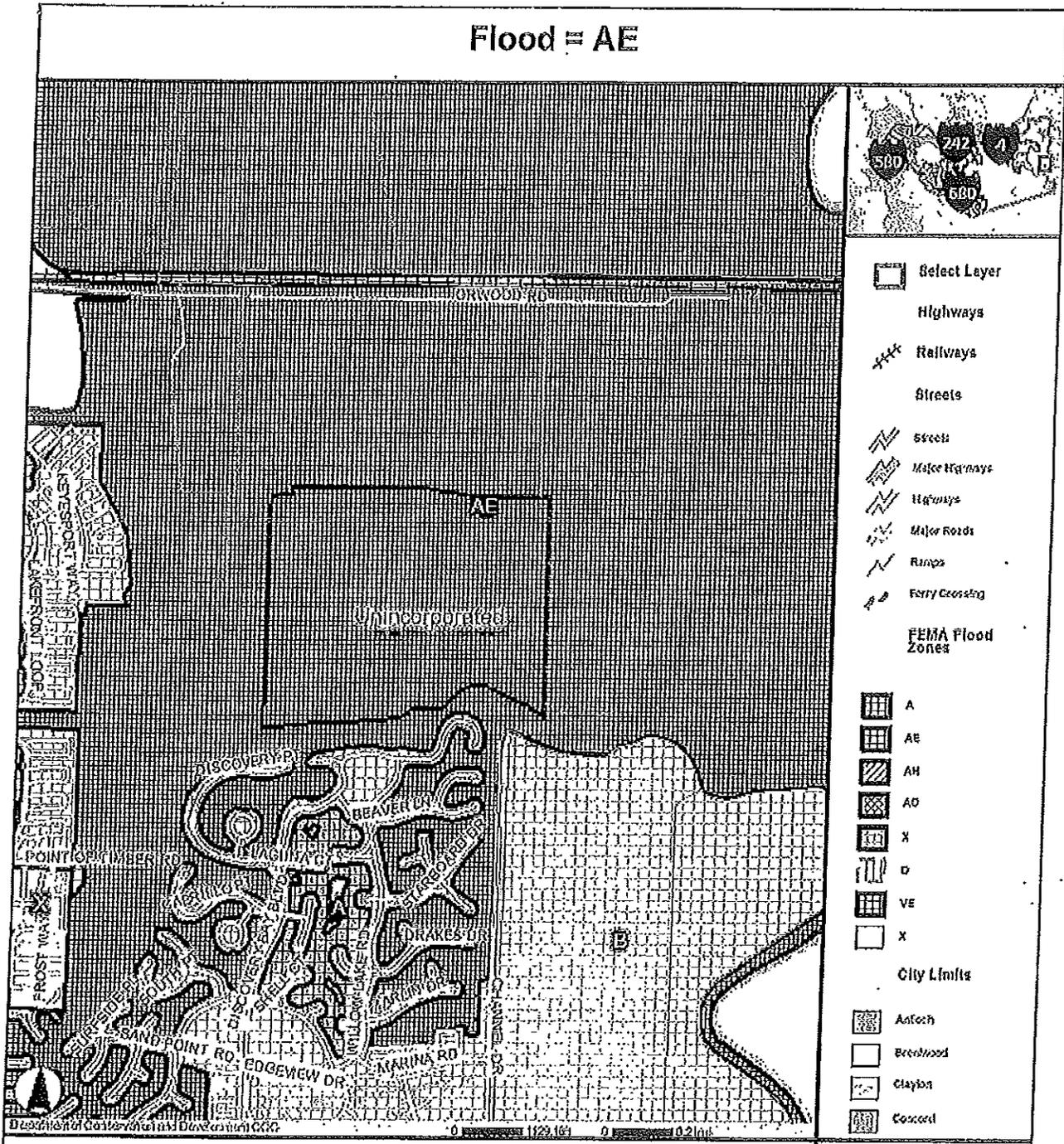
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Disclaimer of Governmental Development COG 7/20/09 22819 2009 00101

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Flood = AE



- Select Layer
- Highways
- Railways
- Streets
- Streets
- Major Highways
- Highways
- Major Roads
- Ramps
- Ferry Crossing
- FEMA Flood Zones
- A
- AE
- AH
- AO
- X
- D
- VE
- X
- City Limits
- Antech
- Beechwood
- Clayton
- Concord

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ISSUE STATUS

NO.	DATE	DESCRIPTION	BY
1	08/01/04	PRELIMINARY	...
2	08/01/04
3	08/01/04
4	08/01/04	...	...
5	08/01/04	...	...
6	08/01/04	...	...
7	08/01/04	...	...
8	08/01/04	...	...
9	08/01/04	...	...
10	08/01/04	...	...



WIRELESS ENGINEERING GROUP
 225 METTEL DRIVE, SUITE 100
 PLANT CREEK, CA 94513

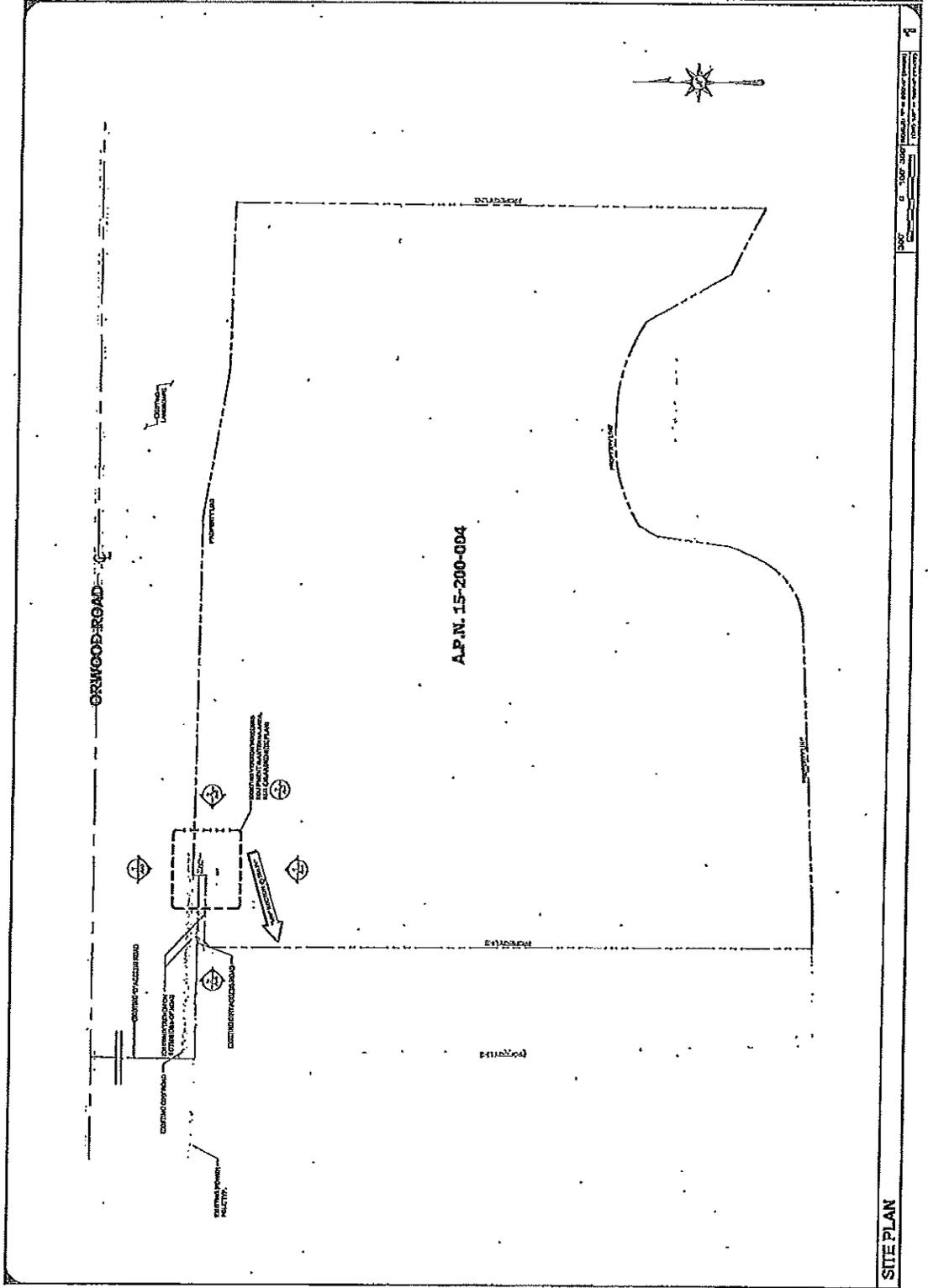
Verizon Wireless
 225 METTEL DRIVE, SUITE 100
 PLANT CREEK, CA 94513

ORWOOD TRACT
 BIXLER ROAD /
 ORWOOD ROAD
 DISCOVERY, CA 94513

PSL# 158469
 BIXLER ROAD /
 ORWOOD ROAD
 DISCOVERY, CA 94513

SITE TITLE
 SITE PLAN

A-1



SITE PLAN

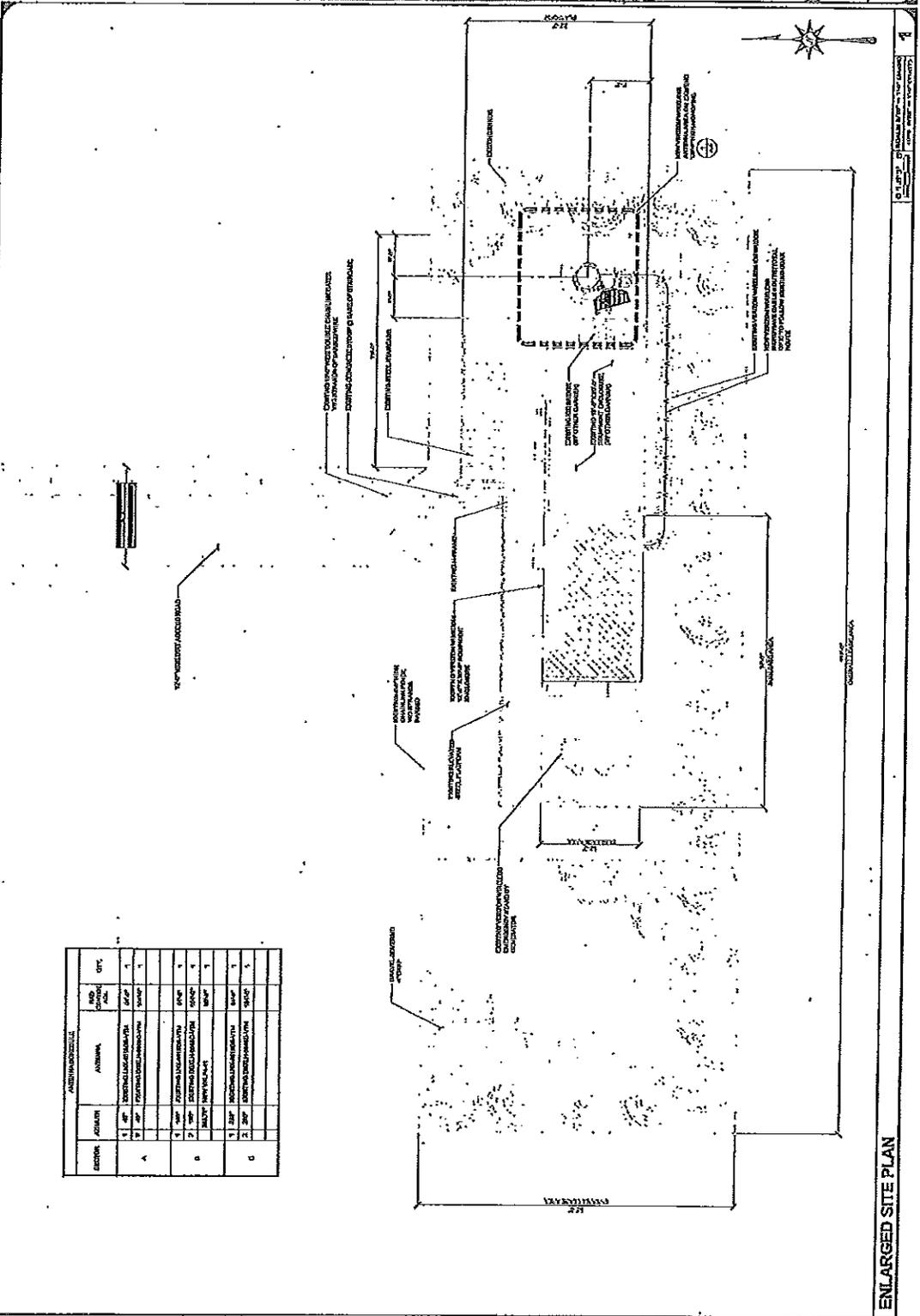
NO.	DATE	DESCRIPTION	BY
1			
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WIRELESS ENGINEERING GROUP
 225 RIVERVIEW BLVD
 SUITE 200
 SAN ANTONIO, TX 78207
 TEL: 214-343-8888
 FAX: 214-343-8889
 WWW.WIRELESS-ENG.COM

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 FAX: 214-343-8889
 WWW.VZW.COM

ORWOOD TRACT
 PSL# 168469
 BILKER ROAD /
 ORWOOD ROAD
 DISCOVERY, CA 94613

ENLARGED SITE PLAN
 SHEET NO. **A-2**



SECTION	AREA	AREA	AND	TYPE
1	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
2	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
3	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
4	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
5	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
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8	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
9	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE
10	EXISTING ASPHALT DRIVE	1000	ASPH	DRIVE

ENLARGED SITE PLAN

ISSUE STATUS	
NO.	DESCRIPTION
1	ISSUED
2	REVISION
3	REVISION
4	REVISION
5	REVISION
6	REVISION
7	REVISION
8	REVISION
9	REVISION
10	REVISION

WIRELESS ENGINEERING GROUP
 225 WATSON DRIVE, SUITE 200
 SAN ANTONIO, TEXAS 78202
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 FAX: 214-343-8801
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PROFESSIONAL CORPORATION
 225 WATSON DRIVE, SUITE 200
 SAN ANTONIO, TEXAS 78202
 TEL: 214-343-8800
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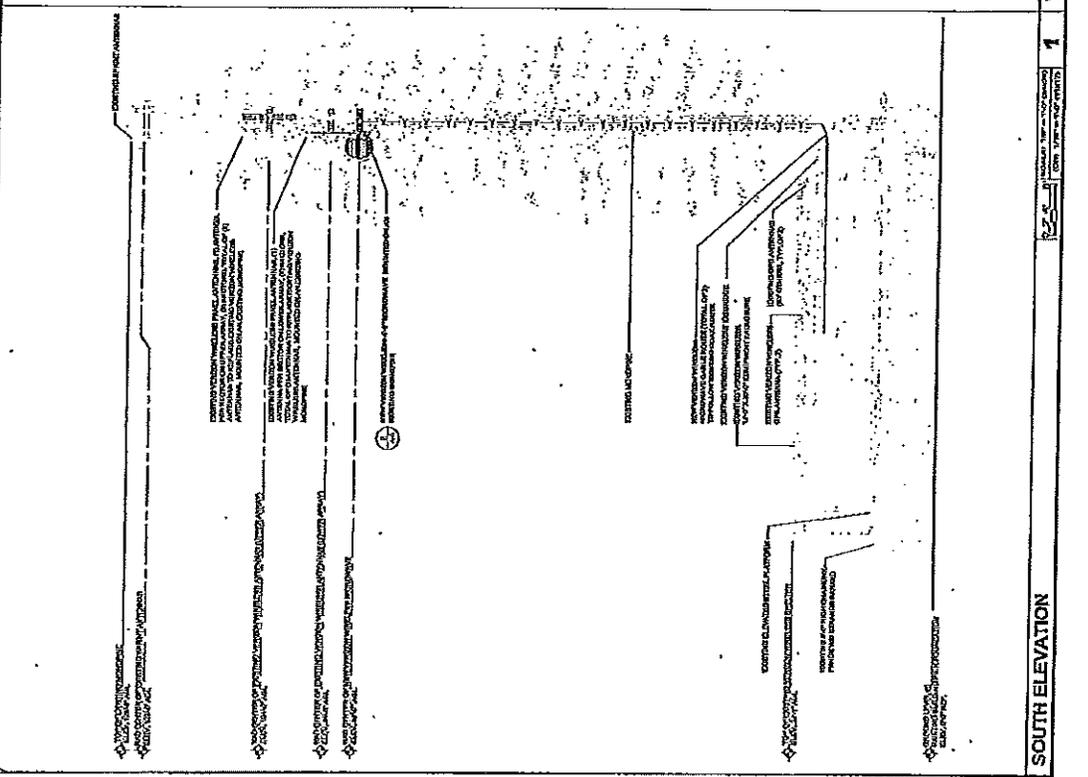
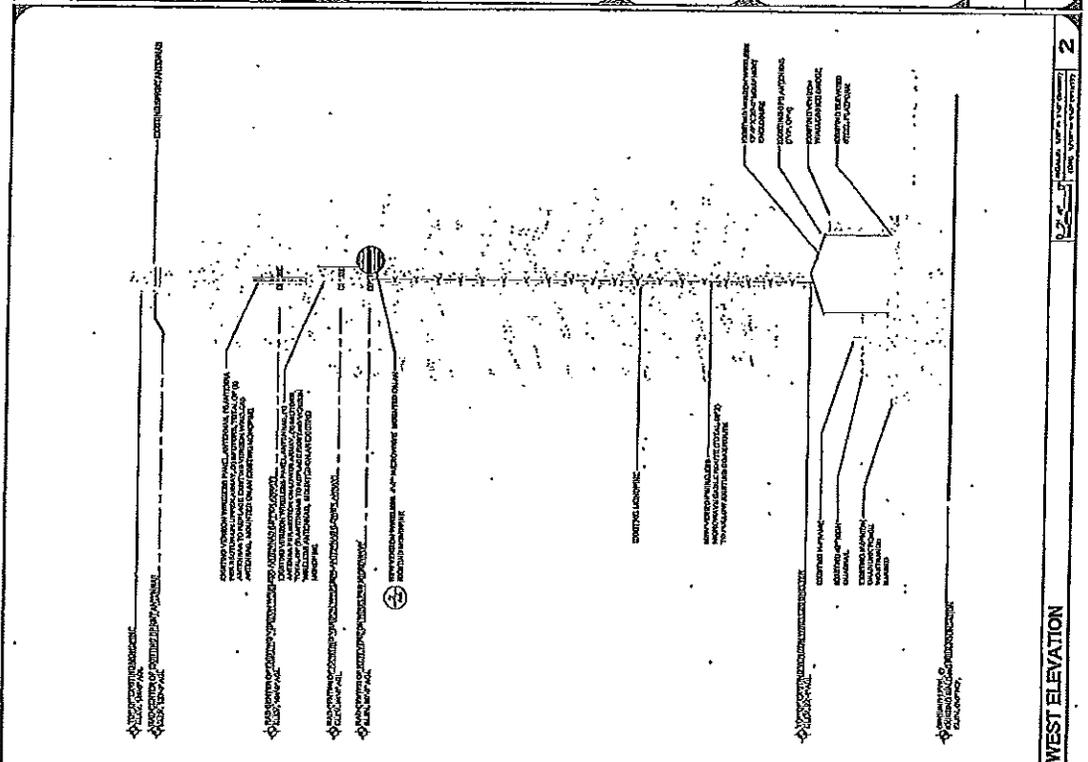
verizon wireless
 225 WATSON DRIVE, SUITE 200
 SAN ANTONIO, TEXAS 78202
 TEL: 214-343-8800
 FAX: 214-343-8801
 WWW.WIRELESS-ENG.COM

ORWOOD TRACT
 BILGER ROAD/
 ORWOOD ROAD
 DISCOVERY, CA 94618

PSL# 158469

SOUTH & WEST ELEVATION

A-3





Town of Discovery Bay
"A Community Services District"
AGENDA REPORT

Meeting Date

April 4, 2012

Prepared By: Virgil Koehne, Water and Wastewater Manager
Submitted By: Rick Howard, General Manager CW

Agenda Title

Well 5A Water Quality & Proposed Testing Program

Recommended Action

Approve Contract with Luhdorff and Scalmanini, Consulting Engineers (LSCE) in the amount of \$32,500.00 to perform Well 5A Water Quality & Proposed Testing Program and Direct the General Manager to execute all contract documents

Executive Summary

On March 5, 2012, Luhdorff and Scalmanini, Consulting Engineers (LSCE) provided a biannual well station testing report for the five (5) water supply wells serving the Town of Discovery Bay Community Services District (District). Field sampling results presented in the report indicated that Well 5A had elevated electrical conductivity (EC) and total dissolved solids levels (salts). The March 5, 2012 report is attached. As a result of this observation, LSCE, with the District's and Veolia's assistance, conducted additional Well 5A flow and water quality testing on March 7, 2012.

Well 5A varies in water quality from the other production wells in that it has a history of elevated total dissolved solids (TDS) and associated corrosion issues. Corrosion has caused damage to both the well casing and the pump column pipe that have required repairs over time.

The Luhdorff & Scalmanini proposal dated March 27, 2012 identifies the history of Well 5A as well as current conditions. Also included is a "Proposed Testing Program" for Well 5A. Wells 4 and 5A are tested three (3) times daily, providing a base comparison from Well 4 and 5A, as they are located in relatively close proximity to each other.

Continued on Page Two...

Fiscal Impact:

Amount Requested \$32,500.00
Sufficient Budgeted Funds Available?: Yes (If no, see attached fiscal analysis)
Prog/Fund # 7301 Category: Operating Expenses

Previous Relevant Board Actions for This Item

N/A

Attachments

March 5, 2012 Well Performance and Testing Results Report
March 27, 2012 Water Quality and Proposed Testing Program Proposal

AGENDA ITEM: G-3

Well 5A Water Quality & Proposed Testing Program

In an effort to identify the cause and effect the EC and TDS has on Well 5A, and our water system in general, staff proposes, based upon the LSCE proposal, to perform the following tasks:

1. Set Well 5A as lead well and check TDS and/or specific conductivity three (3) times daily. Record the flow rate, the time of day sampled, and the approximate time pump has ran before sampling. Following program.
2. Review water quality data. If TDS is constant and consistent with historic observations, proceed to Step 3. If TDS is not consistent, conduct eight (8)-hour constant flow test at 2,000 gpm (go to waste) and monitor changes in TDS, specific conductance, pH, and temperature over time.
3. While the Well 5A pump remains running, and upon confirming that the water quality is not changing appreciably, conduct a dye test to obtain a velocity profile, and collect water samples to obtain a mass flow profile. (This test will provide information on the TDS source.)
4. Pull Well 5A pump and inspect well pump components for corrosion.
5. Three (3) days after pulling the well pump (i.e. no disturbances or water additions) a) obtain temperature and conductivity down-hole log of well; and b) obtain video of well.

Once testing is complete, LSCE will prepare a report summarizing the collected field data and a data analyses. Water quality test results and the flow profiles will be used to assess the extent to which the high TDS levels are due to conditions within Well 5A and/or due to migration from previously abandoned Well 5. Based upon those findings, a proposed mitigation schedule and appropriate actions will be recommended.



March 5, 2012
File No. 11-3-091

Mr. Rick Howard
Town of Discovery Bay
1800 Willow Lake Road
Town of Discovery Bay, CA 94505

**SUBJECT: WELL 1B, 2, 6, 4A AND 5A PERFORMANCE TESTING RESULTS
BIANNUAL WATER SUPPLY WELL TESTING
TOWN OF DISCOVERY BAY CSD**

Dear Mr. Howard:

Per your authorization, Lohdorff and Scalmanini, Consulting Engineers (LSCE) conducted the biannual well station testing of the five water supply wells serving the Town of Discovery Bay Community Services District (District). LSCE first conducted testing on September 21, 2011 of only the wells serving the Willow Lake Water Treatment Plant (Wells 1B, 2 and 6) to focus on an investigation on Well 1B that evaluated the potential for increasing production rates from this well. A memorandum was submitted to you on October 28 summarizing the results and recommendations of that investigation. LSCE then conducted testing of the remaining wells (Wells 4A and 5A) on November 29, 2011. This memorandum summarizes the results and findings from all recent well testing.

Background Information

LSCE previously tested the District's well sites in October 2007 and in November 2009. After each test a report was provided summarizing results and making recommendations to address operational deficiencies. Below is a brief overview of past recommendations for each well that resulted from previous well testing and other investigations.

Well 1B:

LSCE's report of bi-annual well testing in 2007 indicated that the specific capacity of Well 1B had declined from historical levels. While the decline was not so severe that it warranted immediate action, LSCE recommended continued performance monitoring. In September 2009, the District's water treatment operator, observed that Well 1B was tripping off while running. The District engaged LSCE to conduct biannual well testing with a focus on Well 1B to evaluate the apparent further decline in specific capacity and to make recommendations to address the problems with the pump tripping off. Following LSCE's recommendations, the district contracted with Kirby Pump and Mechanical (Kirby) to remove the pump, conduct a video log and resulted in a well rehabilitation program. The well was subsequently tested in 2010 and then again in the recent 2011 bi-annual testing. Contrary to expectations, the 2009 well rehabilitation effort did not result

in an increase in the Well 1B specific capacity. However, the rehabilitation did appear to arrest the decline, i.e. the well capacity has not shown any further decline since the rehabilitation efforts in 2009.

LSCCE recently provided recommendations in a memorandum on October 28, 2011 for pump replacement options to increase production from Well 1B to address water supply deficits that were identified in the 2011 Draft Water Master Plan. The alternatives consisted of: Option A: changing out the pump and upgrading the electrical system to get back to the original design flow of 1,800 gpm; or Option B: changing out the pump only and maximizing flow using the available electrical horsepower which results in a well yield of 1,500 gpm. The District decided to proceed with the 1,500 gpm option (Option A) based on the high costs associated with Option B.

Well 2

The District contracted with Kirby to remove the pump in April 2008 following recommendations from LSCCE. Video and water conductivity surveys were conducted in June 2008 to assess the need for rehabilitation. Based on the surveys, LSCCE recommended that the well pump be lowered to optimize available drawdown and to continue monitoring well and well pump performance. Kirby reinstalled the pump to 220 feet with a 20-foot intake extension. LSCCE later tested the well in November 2009 and made recommendations to continue regular testing and repair the flow meter and water level sensor, which were not functioning properly.

Well 4A

Well 4A has generally operated without issue and previous recommendations involved regular maintenance such as calibration of instruments and replacement of corroded parts.

Well 5A

Well 5A varies in water quality from the other production wells in that it has a history of elevated total dissolved solids (TDS) and corrosion issues. The District engaged LSCCE in November 2008 to evaluate remediation options for Well 5A including installation of an inner liner to mitigate corrosion of the well casing and pump assembly components. Based on its investigation, LSCCE determined that major remediation was not warranted and that corrosion activity appeared to be negligible since the last inspection. Instead, LSCCE recommended that the pump intake be lowered and that new types of lubricants and sealants be applied to the column threads for added corrosion protection. Follow-up monitoring was recommended to evaluate the success of these actions. The District contracted with Kirby to complete the recommended work. The pump was set to 240 feet bgs with the pump intake depth at 297 feet. A 1-inch polytube was installed through the wellhead vent to serve as a sounding pipe.

Column pipe and stainless steel lineshaft were removed by Kirby Pump January 6, 2009 to lower the well pump and to observe the level of corrosion and the effectiveness of the column pipe thread sealants. Although some corrosion was observed on the edges of the couplers and the exposed threads above the column pipe couplers, overall the sealants appeared to be providing protection against corrosion of the column pipe thread and

coupler threads. It is possible that the mere act of focusing on the sealants caused the pump installer (Kirby Pump) to apply a more liberal amounts of sealant than normal and this liberal application tended to mask differences observed effectiveness of the individual types of sealant. However, the sealants had only been applied for duration of 18 months (June 2007 to January 2008) and it is possible that the ability of the corrosion-limiting effectiveness of the sealants would likely vary with time. We recommend that the effectiveness of the thread sealants be inspected for corrosion the next time the Well 5A pump is removed.

In July 2009, the District reported occurrences of yellow water in the distribution system served by the Newport WTP. In response, LSCE conducted an inspection of Well 5A, which was believed to be the source of the discolored water. LSCE did not observe yellow water and there have been no additional occurrences to date.

Following biannual well testing in November 2009, LSCE recommended a focused investigation of water quality to note changes and trends. LSCE also recommended addressing some housekeeping items such as leakage through the discharge head and calibration of the flow meter and water level sensor.

Well 6

In 2009, the District installed a new water supply well and pump station (Well 6). The well was installed to increase water supply reliability and offset water supply loss of Well 3. When Well 6 was designed and tested it was determined that it is capable of producing more water than the District's existing wells; however, during design the production was limited to 1,700 gpm in order to avoid permitting issues with upsizing existing storm drains to handle overboard flows; and to avoid a "growth inducing" trigger in the CEQA process. Based on recent testing the well can be rated at 1,800 gpm (dry year condition) as indicated in the October 28, 2011 memorandum.

Testing Procedures

A brief overview of parameters and testing procedures for the five District supply wells (Wells 1B, 2, 4A, 5A and 6) is as follows:

- a. Measure and record static and pumping water levels with electric sounder.
- b. Install pressure gauge on discharge head of each well station.
- c. Install Collins flow device (Pitot tube) on the discharge line for measuring velocity and computing volumetric flow rate.
- d. Install Rossum Sand Tester to monitor sand content.
- e. Connect power meter to electrical terminals of the well pump motor and record voltage, amperage, and power consumption.
- f. Connect sample port for monitoring water quality during pumping (e.g. electrical conductivity, pH and temperature).
- g. Start pump test by turning the well pump on and measure and record field parameters from items a through f above.

- h. Record flow rate to individual treatment plant filters and pressures and flow rates at the other two well stations to assess hydraulic profile characteristics.
- i. When all parameters are stable (less than one hour), shut well pump off and record applicable parameters during recovery.

Note that the same test equipment (pressure gage, Pitot tube, sand tester, power meter, and multi-parameter tester) was used at all five well stations. Efficiency testing was conducted by LSCE with assistance from Power Hydrodynamics. See the Power Hydrodynamics report in Appendix A.

Test Results and Discussion

The results of testing are presented in this section and are separated into four topics: well specific capacity; pump production rates and operating efficiency; water quality; and instrumentation and maintenance.

Specific Capacity

Specific capacity is computed by dividing the well discharge rate in gallons per minute by the water level drawdown in the well (i.e. drawdown is the difference between static water level and pumping water level). The well specific capacity may vary according to the discharge rate, prevailing hydrologic conditions (e.g., seasonal or other changes in static water levels), and the overall condition of the well. If the specific capacity declines over time in the absence of corresponding changes in hydrologic or system conditions, it is typically an indication of degradation of well efficiency. Degradation may be a result of clogging or other mechanisms that restrict flow through the well intake structure (screened or perforated intervals). A typical datum for expressing specific capacity is a 24-hour pumping duration, which is used in this assessment.

Well specific capacities projected for 24 hours pumping duration were computed from the 2011 test data. The tests consisted of pumping each of the District wells at a constant rate and recording well discharge rate and pumping water level over time. Table 1 presents the computed specific capacities for the current and historic test results. The data indicate that the specific capacities for Well 1B, 2, 4A and 5A have not changed in the last two years. Specific capacity for Well 6 has increased since last tested in 2009.

Table 1: Projected 24-Hour Specific Capacity Comparison (gpm/ft)

<u>Well</u>	<u>2001</u>	<u>2007</u>	<u>2009</u>	<u>2011</u>
1B	23	17	11	11
2	14	13	11	12
4A	26	23	23	23
5A	21	21	20	21
6	--	--	24	28

Pump Production and Operating Efficiency

LSCE evaluated pump efficiency for each well station by measuring the following parameters:

- o Depth to water during pumping.
- o Pump discharge pressure.
- o Pump flow rate.
- o Rate of electrical energy consumption.

The production rates were measured from each well. Production rates from a well are a function of the groundwater basin water levels, well specific capacity, pump equipment installed and transmission piping and treatment equipment hydraulics. Production rates will vary based on seasonal fluctuations in groundwater levels, changes in specific capacity, damages to pump equipment or change in system hydraulics.

The operating plant efficiency (OPE) for each pump station was calculated using the production rates, system head and the rate of energy consumption from the motor. OPE of a well station is a measure of the electrical power required to produce the measured flow and head, or hydraulic power. OPE values above 60 percent generally suggest no corrective action is necessary. Corrective actions may include an impeller adjustment, pump repair, or pump replacement. Since all four of the District's well pumps have efficiencies that exceed 60 percent, no well pump or motor corrective action is recommended at this time. Table 3 below presents the historic and current calculated OPE.

Table 3: Overall Pumping Plant Efficiency Comparison (percent)

<u>Well</u>	<u>2007</u>	<u>2009</u>	<u>2011</u>
1B	61	63	66
2	70	66	68
4A	66	65	63
5A	68	62	70
6	--	72	73

Instrumentation and Maintenance

During recent well testing the operational status of the existing well station instrumentation was assessed. As discussed above, LSCE used separate field instruments to measure flow, pressure, and water levels. LSCE's field measurements revealed that several of existing well station instruments either are not working or are in need of repair and/or calibration. Table 3 below compares the field measurements and instrument readings.

Parameter and Instrument	Well 1B	Well 2	Well 4A	Well 5A	Well 6
Flow Rate - Pitot (gpm)	1,350	674	1,876	2,022	1,641
Flow Rate - Customer Meter (gpm)	1,250	650	1,725	1,900	1,550
Flow Rate - SCADA (gpm)	1,600	657	1,676	2,015	1,600
Discharge Pressure - Field Gage (psi)	33	33	36	32	56
Discharge Pressure at - Customer Gage (psi)	34	13	33	32	52
Pumping Water Level - Sounder (ft)	173	136	121	139	106
Pumping Water Level - Customer Panel (ft)	179	116	52	0	107

The following observations were made with regard to the overall water supply system and/or the individual well pump stations:

- The Well 1B flow rate readout in SCADA is not reading accurately. The digital signal may need to be calibrated.
- The Well 2 pressure gauge is reading accurately. The pressure gauge needs to be replaced.
- Water level sensors at Well stations 2, 4A and 5A are not accurately functioning.

Water Quality

During well testing water samples were collected and analyzed for electrical conductivity (specific conductance), pH and temperature using LSCE's calibrated multi-parameter field instrument and the District's recently purchased Myron L PT1 Ultrapen Pocket Tester. Results of field sampling indicate that Well 5A electrical conductivity is at record high levels. Water sampled at Well 5A was 1,740 MicroSiemens per centimeter (us/cm) from LSCE's instrument and 1,690 us/cm using the District's instrument. This exceeds the Secondary Drinking Water Standards for specific conductance of 1,600 us/cm. LSCE obtained water quality records from the District for Well 5A to see how the data compares to laboratory water quality data. The District records show the last sample reported for Well 5A was in June 2010 and resulted in 1,500 us/cm. Historically Well 5A ranged from 800 to 1,100 us/cm, therefore the recent results suggest there may be changes occurring in the water quality from Well 5A. LSCE recommends conducting more regular monitoring of Well 5A. Currently, the District is required to sample annually from the wells. The District should monitoring Well 5A bi-weekly using the field instrument and verify results by submitting monthly repeat samples to a laboratory for analysis of total dissolved solids, electrical conductivity and salinity. All other wells that were tested using the field instruments recorded conductivity levels typical of range for these wells (i.e. approximately 900 to 1,000 us/cm).

Findings and Recommendations

This section lists findings and recommendations with respect to each supply well.

Well 1B

o Findings

- a) Specific capacity was historically 23 gpm/ft in 2001. Specific capacity declined to 17 gpm/ft in 2007 and continued declining to 11 gpm/ft in 2009. Specific capacity has remained at 11 gpm/ft since rehabilitation in 2009. The decline in specific capacity resulted in well yield decline from 1,700 gpm to approximately 1,200 gpm.
- b) At the current production rate of 1,200 gpm the projected 24-hr pumping water level is 175 feet below ground surface (bgs). Once the District completes the pump upgrade to 1,500 gpm, the 24-hour pumping water level will be approximately 200 feet bgs.
- c) The pump setting was lowered to 260 feet bgs in 2009. The current margin between the projected 24-hr pumping water level and the pump setting is approximately 85 feet. After pump upgrade that margin will be 60 feet.
- d) Pumping plant efficiency is 66 percent and is within an acceptable range.
- e) The SCADA readout for flow rate does not match the station flow meter.

o Recommendations

- a) Complete the following before high demand period in 2012:
 - 1) Complete the pump upgrade as recommended by LSCE.
 - 2) Conduct follow up well testing upon completion of the pump upgrade.
 - 3) Disinfect and bring well back on line.
- b) Calibrate the flow meter signal to SCADA.

Well 2

o Findings

- a) Specific capacity has remained at approximately 12 gpm/ft since 2007.
- b) Pumping plant efficiency is 68 percent and is within an acceptable range.
- c) The current margin between the projected 24-hr pumping water level and the pump setting is approximately 100 feet.
- d) The water level sensor (bubbler type) and pressure gauge are not reading accurately. The water level sensor has repeatedly required calibration.

o Recommendations

- a) Repair, replace, and/or calibrate pressure gauge and pressure transmitter signal to SCADA.
- b) Repair, replace and/or calibrate the water level sensor. Given the numerous calibration efforts for this sensor, the District should consider replacing the bubbler unit with a transducer type water level sensor.

Well 4A

o Findings

- a) Specific capacity has remained constant at 23 gpm/ft since 2007, but has declined from the historic value of 34 gpm/ft in 1996.
- b) The current margin between the projected 24-hr pumping water level and the pump setting depth is approximately 30 feet.
- c) Pumping plant efficiency is 63 percent and is within an acceptable range.
- d) The water level measuring equipment does not function properly.

o Recommendations

- a) Repair, replace and/or calibrate the water level sensor. Given the numerous calibration efforts for this sensor, the District should consider replacing the bubbler unit with a transducer type water level sensor.
- b) This well should be closely monitored because of the relatively small margin of safety between the project 24-hour pumping water levels and the pump setting depth. If there are any changes in performance from this well corrective action may be necessary (e.g. lowering pump assembly).

Well 5A

o Findings

- a) Specific capacity has remained at 21 gpm/ft since 2001.
- b) Pumping plant efficiency is 70 percent and is within an acceptable range.
- c) In 2008, the pump was lowered to 240 feet below ground surface and an intake pipe was installed that extends to 297 feet.
- d) The current margin between the projected 24-hr pumping water level and the pump setting depth is approximately 75 feet.
- e) The water level measuring equipment does not function, i.e. the SCADA reads a value of "0" with the well on or off.
- f) Water was observed at the base of the pump and was pooling on the floor.
- g) The specific conductance for this well is at a historical high based on results of field tests and review of CDPH records.

o Recommendations

- a) Evaluate source of water at base of wells pump. This problem is likely a housekeeping with the source either leakage through the well head packing and/or blockage of packing drain line.
- b) Repair, replace and/or calibrate the water level sensor.
- c) A focused investigation of changes in water quality using historic water quality data should be conducted to note water quality changes and trends. The District should collect and record specific conductivity field measurements bi-weekly. Monthly samples should be sent to the laboratory for analysis. A recommendation similar to this was made in 2009.

Well 6

o Findings

- a) The well was installed and tested in 2009.
- b) Specific capacity is currently 28 gpm/ft.
- c) Pumping plant efficiency is 73 percent and is within an acceptable range.
- d) The current margin between the projected 24-hr pumping water level and the pump setting depth is approximately 100 feet.
- e) The well is capable of providing 1,800 gpm to the treatment plant under historic low groundwater conditions (i.e. dry-year condition).

o Recommendations

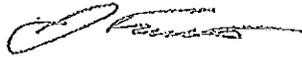
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Mr. Rick Howard
March 5, 2012
Page 9

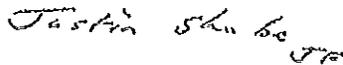
We will be pleased to discuss our findings and recommendations with you at your earliest convenience.

Sincerely,

LUHDORFF AND SCALMANINI
CONSULTING ENGINEERS



John Fawcett, P.E.



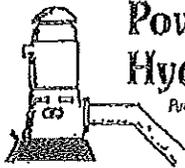
Justin Shobe, P.E.

Attachments:

Appendix A – Power Hydrodynamic Test Reports

Appendix A

Power Hydrodynamics Test Reports



Power Hydrodynamics

Pumping & Irrigation System Analysis
Irrigation Association Certified

A Division of Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
209.527.2921 fax
800.808.9283
www.powerhydrodynamics.com

CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
LUHDORFF AND SCALMANINI CONSULTING E
500 FIRST STREET
WOODLAND, CA 95695

Monday, September 26, 2011

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 Plant: DISCOVERY BAY WELL 1B
PUMP TEST REFERENCE NUMBER: 4496

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 9/21/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	389.5	368.4	21.2
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$13.53	\$12.80	\$0.73
Cost Per Acre Ft.:	\$58.43	\$55.26	\$3.17
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	65.3%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

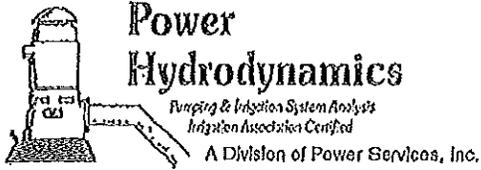
William Thomas Power III
Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 1B
 GPS Coordinates: Lat 37 N 54.617 Long 121 W 35.973
 Test Date: 9/21/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA		EQUIPMENT DATA	
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Motor #: 0561R1 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004496		HP: 150 Make: Byron-Jackson Serial Number: 96-WC-0027 Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Byron Jackson	
HYDRAULIC DATA			FLOW DATA		
Standing Level	63.0 ft	Run Number:	1	Of	1
Recovered Level	0.0 ft	Measured Flow			1256 gpm
Pumping Water Level	172.0 ft	Customer Flow			1350 gpm
Drawdown	109.0 ft				1.8 m g/day
Discharge Pressure	33.0 psi	Flow Velocity			3.562
Discharge Level	76.2 ft				
Total Lift	248.2 ft	Acres Feet per 24 Hrs			5.6
Well Yield	11.5 gpm/ft	Cubic Feet per Second (CFS):			2.8
Water Source	Well				
POWER DATA					
Horsepower Input to Motor:	120.66	Percent of Rated Motor Load (%):			70.2
Brake Horsepower:	105.33	Kilowatt Hours per Acre Foot:			389.22
Kilowatt Input to Motor:	90.01	Cost to Pump an Acre Foot:			\$58.38
Energy Cost (\$/Hour)	\$13.52	Overall Plant Efficiency (%):			65.25
Name Plate RPM:	1751	Water Horsepower:			78.73
Measured RPM:	0	Bowl Efficiency:			74.75
REMARKS					
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.					
Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.					
Standing water level based on 5 minutes recovery, well could still be recovering.					
This pump has an adequate test section.					
This pump had a propeller type flow meter.					
HPI measured with direct read KWI.					
Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.					



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Monday, September 26, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 150.0 Plant: DISCOVERY BAY WELL 1B RUN 2 ✓
 PUMP TEST REFERENCE NUMBER: 4498

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 9/21/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	436.6	403.3	33.3
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$12.07	\$11.15	\$0.92
Cost Per Acre Ft.:	\$65.49	\$60.50	\$4.99
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	63.7%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 1B run 2

GPS Coordinates: Lat 37 N 54.617 Long 121 W 35.973

Test Date: 9/21/2011 Tester: Bill Power

CUSTOMER INFORMATION	POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796	PG & E Meter #: 0564R1 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004498	HP: 150 Make: Byron-Jackson Serial Number: 96-WC-0027 Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Byron Jackson

HYDRAULIC DATA	FLOW DATA
Standing Level 63.0 ft Recovered Level 0.0 ft Pumping Water Level 150.5 ft Drawdown 87.5 ft Discharge Pressure 52.5 psi Discharge Level 121.3 ft Total Lift 271.8 ft Well Yield 11.4 gpm/ft Water Source Well	Run Number: 1 Of 1 Measured Flow 1000 gpm Customer Flow 1050 gpm Flow Velocity 1.4 m g/day 2.836 Acre Feet per 24 Hr: 4.4 Cubic Feet per Second (CFS): 2.2

POWER DATA		
Horsepower Input to Motor: 107.67	Percent of Rated Motor Load (%):	62.7
Brake Horsepower: 93.99	Kilowatt Hours per Acre Foot:	436.23
Kilowatt Input to Motor: 80.32	Cost to Pump an Acre Foot:	\$65.44
Energy Cost (\$/Hours) \$12.06	Overall Plant Efficiency (%):	63.74
Name Plate RPM: 1751	Water Horsepower:	68.63
Measured RPM: 0	Bowl Efficiency:	73.02

REMARKS

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.

Standing water level based on 5 minutes recovery, well could still be recovering.

This pump has an adequate test section.

This pump had a propeller type flow meter.

HPI measured with direct read KWI.

Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.

Well # 2



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Monday, September 26, 2011

John Fawcett, PE
Luhdorff and Scälmanini Consulting Engine
500 First Street
Woodland, CA 95695

Dear John Fawcett, PE:

Enclosed are the results of your *Power Hydrodynamics* pump test. The results are based on conditions during the best time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

Some of the factors, which influence pump performance, are:

- Changes in discharge pressures
- Changes in water table level and well yield
- Pump wear
- Proper pump design for application

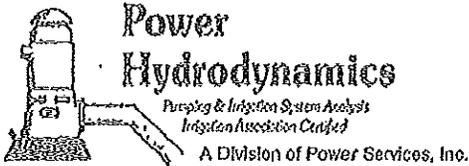
We offer the following services to help our customers save time and money. Pump testing, Irrigation system analysis, Irrigation water management, and electric rate management. Visit our website @ www.powerhydrodynamics.com for more information or to use our water cost calculator.

Please feel free to call 209-527-2908 if you have questions about this test or on the other services that *Power Hydrodynamics* has to offer.

Regards,

William Thomas Power, III

Enclosures



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Monday, September 26, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 100.0 Plant: DISCOVER BAY WELL 2 ✓
 PUMP TEST REFERENCE NUMBER: 4495

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 9/21/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 67.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	267.5	266.1	1.3
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$6.86	\$6.83	\$0.03
Cost Per Acre Ft.:	\$40.12	\$39.92	\$0.20
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	66.7%	67.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discover Bay Well 2 ✓

GPS Coordinates: Lat 37 N 54.136 Long 121 W 36.068

Test Date: 9/21/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalman/Inl Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 1003716261 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004495	HP: 100 Make: Newman Serial Number: S1249208 Voltage: 460 Amps: 118 Pump Type: Turbine Pump Make: Aurora
HYDRAULIC DATA		FLOW DATA	
Standing Level	69.0 ft	Run Number:	1 OF 1
Recovered Level	112.0 ft	Measured Flow	928 gpm
Pumping Water Level	136.0 ft	Customer Flow	900 gpm
Drawdown	67.0 ft		1.3 m g/day
Discharge Pressure	16.5 psi	Flow Velocity	3.651
Discharge Level	38.1 ft	Acra Feet per 24 Hr:	4.1
Total Lift	174.1 ft	Cubic Feet per Second (CFS):	2.1
Well Yield	13.9 gpm/ft		
Water Source	Well		
POWER DATA			
Horsepower Input to Motor:	61.21	Percent of Rated Motor Load (%):	55.7
Brake Horsepower:	55.70	Kilowatt Hours per Acre Foot:	267.23
Kilowatt Input to Motor:	45.66	Cost to Pump an Acre Foot:	\$40.08
Energy Cost (\$/Hours)	\$6.86	Overall Plant Efficiency (%):	66.66
Name Plate RPM:	1775	Water Horsepower:	40.80
Measured RPM:	0	Bowl Efficiency:	73.26
REMARKS			
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.			
Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.			
Oil on the surface of the water in the well may have affected the accuracy of the water level measurements.			
Recovered water level based on 5 minutes recovery, well could still be recovering.			
Pump started for test, pumping water level could still be drawing down.			
This pump has an adequate test section. This pump had a propeller type flow meter. HPI measured with direct read KWI. Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.			



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CONFIDENTIAL/PROPRIETARY INFORMATION

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 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Monday, September 26, 2011

SUBJECT: PUMPING COST ANALYSIS ✓
 HP: 100.0 Plant: DISCOVERY BAY WELL 2 RUN 2
 PUMP TEST REFERENCE NUMBER: 4497

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 9/21/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 67.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	327.5	326.8	0.7
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$6.10	\$6.09	\$0.01
Cost Per Acre Ft.:	\$49.13	\$49.02	\$0.11
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	66.8%	67.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay well 2 run 2 ✓
 GPS Coordinates: Lat 37 N 54.136 Long 121 W 36.068
 Test Date: 9/21/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 1003716261 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004497	HP: 100 Make: Newman Serial Number: S1249208 Voltage: 460 Amps: 118 Pump Type: Turbine Pump Make: Aurora
HYDRAULIC DATA		FLOW DATA	
Standing Level	69.0 ft	Run Number:	1 of 1
Recovered Level	112.0 ft	Measured Flow	674 gpm
Pumping Water Level	131.8 ft	Customer Flow	650 gpm
Drawdown	62.8 ft		1.0 m g/day
Discharge Pressure	35.5 psi	Flow Velocity	2.652
Discharge Level	82.0 ft		
Total Lift	213.8 ft	Acres Feet per 24 Hr:	3.0
Well Yield	10.7 gpm/ft	Cubic Feet per Second (CFS):	1.5
Water Source	Well		
POWER DATA			
Horsepower Input to Motor:	54.44	Percent of Rated Motor Load (%):	49.5
Brake Horsepower:	49.54	Kilowatt Hours per Acre Foot:	327.24
Kilowatt Input to Motor:	40.61	Cost to Pump an Acre Foot:	\$49.09
Energy Cost (\$/Hours)	\$6.10	Overall Plant Efficiency (%):	66.85
Name Plate RPM:	1775	Water Horsepower:	36.39
Measured RPM:	0	Bowl Efficiency:	73.46
REMARKS			
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.			
Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.			
Oil on the surface of the water in the well may have affected the accuracy of the water level measurements.			
Recovered water level based on 5 minutes recovery, well could still be recovering.			
Pump started for test, pumping water level could still be drawing down.			
This pump has an adequate test section.			
This pump had a propeller type flow meter.			
HPI measured with direct read KWI.			
Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.			
Power Hydrodynamics, Inc 209 627-2908 / 800 808-9283			

Well 4A



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Thursday, December 01, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 150.0 Plant: DISCOVERY BAY WELL 4A (RUN 1)
 PUMP TEST REFERENCE NUMBER: 4762

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 11/29/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	293.5	303.0	-9.5
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$15.23	\$15.72	(\$0.49)
Cost Per Acre Ft.:	\$44.03	\$45.45	(\$1.42)
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	71.2%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

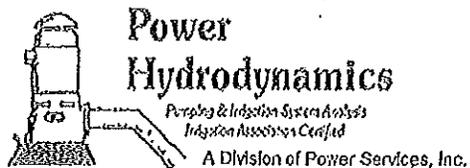
Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 4A (run 1) ✓
 GPS Coordinates: Lat 37 N 54.064 Long 121 W 37.121
 Test Date: 11/29/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA		EQUIPMENT DATA	
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 1004577833 Rate Schedule: E19 Average Cost: 0.15 State Well #: 004762		HP: 150 Make: Byron-Jackson Serial Number: 97-WC-0005 Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Byron Jackson	
HYDRAULIC DATA			FLOW DATA		
Standing Level	53.0 ft	Run Number:	1	Of	1
Recovered Level	60.0 ft	Measured Flow	1876 gpm		
Pumping Water Level	121.0 ft	Customer Flow	1725 gpm		
Drawdown	68.0 ft		2.7 m g/day		
Discharge Pressure	36.0 psi	Flow Velocity	4.903		
Discharge Level	83.2 ft	Acro Feet per 24 Hr:	8.3		
Total Lift	204.2 ft	Cubic Feet per Second (CFS):	4.2		
Well Yield	27.6 gpm/ft				
Water Source	Well				
POWER DATA					
Horsepower Input to Motor:	135.79	Percent of Rated Motor Load (%):	79.0		
Brake Horsepower:	118.55	Kilowatt Hours per Acre Foot:	293.27		
Kilowatt Input to Motor:	101.30	Cost to Pump an Acre Foot:	\$43.99		
Energy Cost (\$/Hours)	\$15.22	Overall Plant Efficiency (%):	71.23		
Name Plate RPM:	1751	Water Horsepower:	96.72		
Measured RPM:	0	Bowl Efficiency:	81.59		
REMARKS					
<p>All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.</p> <p>Overall efficiency of this plant is considered to be very good assuming this run represents plant's normal operating condition.</p> <p>Recovered water level based on 5 minutes recovery, well could still be recovering.</p> <p>This pump has an adequate test section.</p> <p>This pump had a propeller type flow meter.</p> <p>HPI measured with direct read KWI.</p> <p>Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.</p>					
Power Hydrodynamics, Inc 209 527-2908 / 800 808-9283					

well 4A



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Thursday, December 01, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 150.0 Plant: DISCOVERY BAY WELL 4A (RUN 2)
 PUMP TEST REFERENCE NUMBER: 4763

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 11/29/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	371.2	380.7	-9.4
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$14.54	\$14.91	(\$0.37)
Cost Per Acre Ft.:	\$55.68	\$57.10	(\$1.42)
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	70.8%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

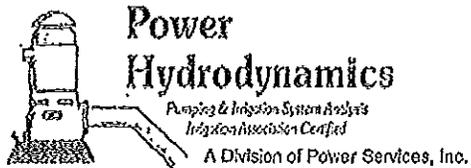
Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 4A (run 2) ✓
 GPS Coordinates: Lat 37 N 54.064 Long 121 W 37.121
 Test Date: 11/29/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalman/Inl Consulting Engineers 500 First Street Woodland, CA 95695. John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 100577833 Rate Schedule: E19 Average Cost: 0.15 State Well #: 004763	HP: 150 Make: Byron-Jackson Serial Number: 97-WC-0005 Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Byron Jackson
HYDRAULIC DATA		FLOW DATA	
Standing Level	53.0 ft	Run Number: 1	Of 1
Recovered Level	60.0 ft	Measured Flow	1416 gpm
Pumping Water Level	107.5 ft	Customer Flow	1310 gpm
Drawdown	54.5 ft		2.0 m g/day
Discharge Pressure	64.5 psf	Flow Velocity	3.701
Discharge Level	149.0 ft	Acres Feet per 24 Hr:	6.3
Total Lift	256.5 ft	Cubic Feet per Second (CFS):	3.2
Well Yield	26.0 gpm/ft		
Water Source	Well		
POWER DATA			
Horsepower Input to Motor:	129.62	Percent of Rated Motor Load (%):	75.4
Brake Horsepower:	113.16	Kilowatt Hours per Acre Foot:	370.90
Kilowatt Input to Motor:	96.70	Cost to Pump an Acre Foot:	\$55.64
Energy Cost (\$/Hours)	\$14.52	Overall Plant Efficiency (%):	70.76
Name Plate RPM:	1751	Water Horsepower:	91.72
Measured RPM:	0	Bowl Efficiency:	81.05
REMARKS			
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.			
Overall efficiency of this plant is considered to be very good assuming this run represents plant's normal operating condition.			
Recovered water level based on 5 minutes recovery, well could still be recovering.			
This pump has an adequate test section.			
This pump had a propeller type flow meter.			
HPI measured with direct read KWI.			

WTH 4/10



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Thursday, December 01, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 150.0 Plant: DISCOVERY BAY WELL 4A (RUN 3) ✓
 PUMP TEST REFERENCE NUMBER: 4764

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 11/29/2011 and Information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	280.6	246.8	33.8
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$15.15	\$13.32	\$1.82
Cost Per Acre Ft.:	\$42.08	\$37.02	\$5.06
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	60.7%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 4A (run 3)
 GPS Coordinates: Lat 37 N 54.064 Long 121 W 37.121
 Test Date: 11/29/2011 Tester: Bill Power

CUSTOMER INFORMATION	POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796	PG & E Meter #: 1004577833 Rate Schedule: E19 Average Cost: 0.15 State Well #: 004764	HP: 150 Make: Byron-Jackson Serial Number: 97-WC-0005 Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Byron Jackson

HYDRAULIC DATA	FLOW DATA
Standing Level 53.0 ft Recovered Level 60.0 ft Pumping Water Level 130.5 ft Drawdown 77.5 ft Discharge Pressure 15.5 psi Discharge Level 35.8 ft Total Lift 166.3 ft Well Yield 25.2 gpm/ft Water Source Well	Run Number: 1 Of 1 Measured Flow 1952 gpm Customer Flow 1950 gpm 2.8 m g/day Flow Velocity 5.101 Acre Feet per 24 Hr: 8.6 Cubic Feet per Second (CFS): 4.3

POWER DATA			
Horsepower Input to Motor:	135.05	Percent of Rated Motor Load (%):	78.6
Brake Horsepower:	117.90	Kilowatt Hours per Acre Foot:	280.32
Kilowatt Input to Motor:	100.75	Cost to Pump an Acre Foot:	\$42.05
Energy Cost (\$/Hours)	\$15.13	Overall Plant Efficiency (%):	60.70
Name Plate RPM:	1751	Water Horsepower:	81.98
Measured RPM:	0	Bowl Efficiency:	69.53

REMARKS

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

Overall efficiency of this plant is considered to be fair assuming this run represents plant's normal operating condition.

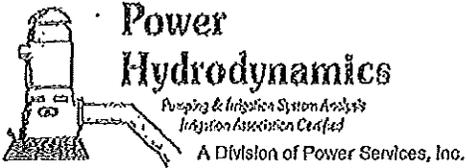
Recovered water level based on 5 minutes recovery, well could still be recovering.

This pump has an adequate test section.

This pump had a propeller type flow meter.

HPI measured with direct read KWI.

Well 5A



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CONFIDENTIAL/PROPRIETARY INFORMATION

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 500 FIRST STREET
 WOODLAND, CA 95695

Thursday, December 01, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 200.0 Plant: DISCOVERY BAY WELL 5A (RUN 1) ✓
 PUMP TEST REFERENCE NUMBER: 4761

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 11/29/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.5%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	322.6	313.3	9.3
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$18.04	\$17.52	\$0.52
Cost Per Acre Ft.:	\$48.39	\$46.99	\$1.40
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	67.5%	69.5%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 5A (run 1)

GPS Coordinates: Lat 37 N 53.424 Long 121 W 36.931

Test Date: 11/29/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 1006731603 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004761	HP: 200 Make: General Electric Serial Number: ND013049 Voltage: 460 Amps: 234 Pump Type: Turbine Pump Maker: Floway
HYDRAULIC DATA		FLOW DATA	
Standing Level	53.0 ft	Run Number: 1	Of 1
Recovered Level	60.0 ft	Measured Flow	2022 gpm
Pumping Water Level	138.7 ft	Customer Flow	1900 gpm
Drawdown	85.7 ft	Flow Velocity	2.9 m g/day
Discharge Pressure	32.0 psi	Acro Feet per 24 Hr:	8.9
Discharge Level	73.9 ft	Cubic Feet per Second (CFS):	4.5
Total Lift	212.6 ft		
Well Yield	23.6 gpm/ft		
Water Source	Well		
POWER DATA			
Horsepower Input to Motor:	160.86	Percent of Rated Motor Load (%):	74.2
Brake Horsepower:	148.47	Kilowatt Hours per Acre Foot:	322.33
Kilowatt Input to Motor:	120.00	Cost to Pump an Acre Foot:	\$48.35
Energy Cost (\$/Hours)	\$18.02	Overall Plant Efficiency (%):	67.49
Name Plate RPM:	1785	Water Horsepower:	108.57
Measured RPM:	0	Bowl Efficiency:	73.12
REMARKS			
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.			
Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.			
Recovered water level based on 5 minutes recovery, well could still be recovering.			
This pump has an adequate test section.			
This pump had a propeller type flow meter.			
HPI measured with direct read KWI.			
Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.			
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CONFIDENTIAL/PROPRIETARY INFORMATION

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 500 FIRST STREET
 WOODLAND, CA 95695

Thursday, December 01, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 200.0 Plant: DISCOVERY BAY WELL 5A (RUN 2)
 PUMP TEST REFERENCE NUMBER: 4765

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 11/29/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.5%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	371.6	368.2	3.4
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$17.38	\$17.22	\$0.16
Cost Per Acre Ft.:	\$55.74	\$55.23	\$0.51
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	68.9%	69.5%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 5A (run 2)

GPS Coordinates: Lat 37 N 53.424 Long 121 W 36.931

Test Date: 11/29/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA		EQUIPMENT DATA	
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 1006731603 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004765		HP: 200 Make: General Electric Serial Number: NDD13049 Voltage: 460 Amps: 234 Pump Type: Turbine Pump Make: Floway	
HYDRAULIC DATA			FLOW DATA		
Standing Level	53.0 ft	Run Number:	1	Of	1
Recovered Level	60.0 ft	Measured Flow	1691 gpm		
Pumping Water Level	129.8 ft	Customer Flow	1600 gpm		
Drawdown	76.8 ft		2.4 m g/day		
Discharge Pressure	52.0 psf	Flow Velocity	4.601		
Discharge Level	120.1 ft	Acres Feet per 24 Hr:	7.5		
Total Lift	249.9 ft	Cubic Feet per Second (CFS):	3.8		
Well Yield	22.0 gpm/ft				
Water Source	Well				
POWER DATA					
Horsepower Input to Motor:	154.96	Percent of Rated Motor Load (%):	71.5		
Brake Horsepower:	143.03	Kilowatt Hours per Acre Foot:	371.29		
Kilowatt Input to Motor:	115.60	Cost to Pump an Acre Foot:	\$55.69		
Energy Cost (\$/Hours)	\$17.36	Overall Plant Efficiency (%):	68.87		
Name Plate RPM:	1785	Water Horsepower:	106.72		
Measured RPM:	0	Bowl Efficiency:	74.62		
REMARKS					
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.					
Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.					
Recovered water level based on 5 minutes recovery, well could still be recovering.					
This pump has an adequate test section.					
This pump had a propeller type flow meter.					
HPI measured with direct read KWI.					

well 6



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LIJDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Monday, September 26, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 150.0 Plant: DISCOVERY BAY WELL 6
 PUMP TEST REFERENCE NUMBER: 4499

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 9/21/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	333.6	351.0	-17.4
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$15.14	\$15.93	(\$0.79)
Cost Per Acre Ft.:	\$50.03	\$52.65	(\$2.62)
Estimated Acre Ft. Per Year:	0.0	0.0	
Overall Plant Efficiency:	72.6%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

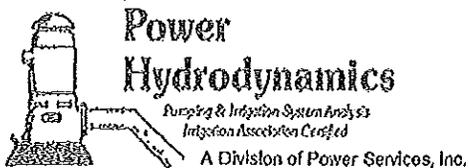
Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 6

GPS Coordinates: Lat 37 N 54 Long 143 W 121

Test Date: 9/21/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA		EQUIPMENT DATA	
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 9M1481 Rate Schedule: A6 Average Cost: 0.15 State Well #: 004499		HP: 150 Make: Byron-Jackson Serial Number: 1002MS500372-1M Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Flowserve	
HYDRAULIC DATA			FLOW DATA		
Standing Level	59.5	ft	Run Number:	1	Of 1
Recovered Level	62.1	ft	Measured Flow	1641	gpm
Pumping Water Level	106.0	ft	Customer Flow	1550	gpm
Drawdown	46.5	ft	Flow Velocity	2.4	m g/day
Discharge Pressure	56.5	psi	Flow Velocity	4.702	
Discharge Level	130.5	ft	Acres Feet per 24 Hr:		7.3
Total Lift	236.5	ft	Cubic Feet per Second (CFS):		3.7
Well Yield	35.3	gpm/ft			
Water Source	Well				
POWER DATA					
Horsepower Input to Motor:	134.99		Percent of Rated Motor Load (%):	78.6	
Brake Horsepower:	117.84		Kilowatt Hours per Acre Foot:	333.29	
Kilowatt Input to Motor:	100.70		Cost to Pump an Acre Foot:	\$49.99	
Energy Cost (\$/Hours)	\$15.13		Overall Plant Efficiency (%):	72.61	
Name Plate RPM:	1751		Water Horsepower:	98.01	
Measured RPM:	0		Bowl Efficiency:	83.17	
REMARKS					
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.					
Overall efficiency of this plant is considered to be very good assuming this run represents plant's normal operating condition.					
Recovered water level based on 5 minutes recovery, well could still be recovering.					
Pump started for test, pumping water level could still be drawing down.					
This pump has an adequate test section.					
This pump had a propeller type flow meter. HPI measured with direct read KWI. Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.					
Power Hydrodynamics, Inc 209 527-2908 / 800 808-9283					



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CONFIDENTIAL/PROPRIETARY INFORMATION

JOHN FAWCETT, PE
 LUHDORFF AND SCALMANINI CONSULTING E
 500 FIRST STREET
 WOODLAND, CA 95695

Monday, September 26, 2011

SUBJECT: PUMPING COST ANALYSIS
 HP: 150.0 Plant: DISCOVERY BAY WELL 6 RUN 2
 PUMP TEST REFERENCE NUMBER: 4500

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed 9/21/2011 and information provided by you during the pump test.

It is recommended and assumed that:

1. Overall plant efficiency can be improved to: 69.0%
2. Water requirements will be the same as for the past year.
3. All operating conditions (annual hours of operation, head above, and water pumping level) will remain the same as they were at the time of the pump test.

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	382.6	387.6	-5.0
Estimated Total kWh	0	0	0
Average Cost per kWh:	\$0.15		
Average Cost per hour:	\$14.40	\$14.59	(\$0.19)
Cost Per Acre Ft.:	\$57.39	\$58.15	(\$0.75)
Estimated Acre Ft. Per Year :	0.0	0.0	
Overall Plant Efficiency:	69.9%	69.0%	
Estimated Total Annual Cost:	\$0.00	\$0.00	\$0.00

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued.

If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power III

Enclosures

Power Services, Inc.

Agricultural and Domestic Pump Test Report

Plant Location: Discovery Bay Well 6 run 2

GPS Coordinates: Lat 37 N 54.143 Long 121 W 35.987

Test Date: 9/21/2011 Tester: Bill Power

CUSTOMER INFORMATION		POWER COMPANY DATA	EQUIPMENT DATA
Luhdorff and Scalmanini Consulting Engineers 500 First Street Woodland, CA 95695 John Fawcett, PE Phone: (530) 661-0109 Fax: Cell: (530) 308-1796		PG & E Meter #: 9M1481 Rate Schedule: Average Cost: 0.15 State Well #: 004500	HP: 150 Make: Byron-Jackson Serial Number: 1002MS300372-1M Voltage: 460 Amps: 195 Pump Type: Submersible Pump Make: Floway
HYDRAULIC DATA		FLOW DATA	
Standing Level	59.5 ft	Run Number: 1	Of 1
Recovered Level	62.1 ft	Measured Flow	1361 gpm
Pumping Water Level	99.5 ft	Customer Flow	1275 gpm
Drawdown	40.0 ft		2.0 m g/day
Discharge Pressure	70.0 psi	Flow Velocity	3.900
Discharge Level	161.7 ft	Acres Feet per 24 Hr:	6.0
Total Lift	261.2 ft	Cubic Feet per Second (CFS):	3.0
Well Yield	34.0 gpm/ft		
Water Source	Well		
POWER DATA			
Horsepower Input to Motor:	128.42	Percent of Rated Motor Load (%):	74.7
Brake Horsepower:	112.11	Kilowatt Hours per Acre Foot:	382.30
Kilowatt Input to Motor:	95.80	Cost to Pump an Acre Foot:	\$57.34
Energy Cost (\$/Hours)	\$14.39	Overall Plant Efficiency (%):	69.91
Name Plate RPM:	1751	Water Horsepower:	89.77
Measured RPM:	0	Bowl Efficiency:	80.07
REMARKS			
All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.			
Overall efficiency of this plant is considered to be good assuming this run represents plant's normal operating condition.			
Recovered water level based on 5 minutes recovery, well could still be recovering.			
Pump started for test, pumping water level could still be drawing down.			
This pump has an adequate test section.			
This pump had a propeller type flow meter. HPI measured with direct read KWI.			
Power Hydrodynamics, Inc 209 527-2908 / 800 808-9283			



March 27, 2012
File No. 11-3-091

Mr. Rick Howard
Town of Discovery Bay
1800 Willow Lake Road
Town of Discovery Bay, CA 94505

**SUBJECT: WELL 5A WATER QUALITY & PROPOSED TESTING PROGRAM
TOWN OF DISCOVERY BAY CSD**

Dear Mr. Howard:

On March 5, 2012, Luhdorff and Scalmanini, Consulting Engineers (LSCE) provided a biannual well station testing report for the five water supply wells serving the Town of Discovery Bay Community Services District (District). Field measurements presented in the report indicated that the electrical conductivity of the well water had increased over past results. As a result, LSCE, with the District's and Veolia's assistance, conducted additional Well 5A flow and water quality testing on March 7, 2012. This report presents the March 7 findings and includes recommendations for additional Well 5A testing designed to identify the cause of the higher electrical conductivity.

Background

Groundwater produced from Well 5A has exhibited a slightly higher electrical conductivity and total dissolved solids (TDS) than other system wells. The well has also experienced unique corrosion problems that caused damage to both the well casing and the pump column pipe. In 2007, corrosion damage to the pump column threads were observed when Kirby Pump & Mechanical and Mechanical (Kirby) pulled the Well 5A pump to investigate a well pump problem. As a result, Kirby purchased and installed new column pipe and coated the column pipe threads with four different thread sealant compounds.

The column pipe and stainless steel lineshaft were removed by Kirby on January 6, 2009 to lower the well pump and to observe the level of corrosion and the effectiveness of the column pipe thread sealant program. Although some corrosion was observed on the edges of the couplers and the exposed threads above the column pipe couplers, overall the sealants appeared to be providing protection against corrosion of the column pipe thread and coupler threads. During column pipe reassembly, Kirby used two column pipe sealants/lubricant: 1) Sachem Inc. NO-OX-ID-A Special WW, and 2) Rector Seal w/Teflon tape. Both products are NSF approved, and half of the column pipe threads received the Sachem Inc product and half received the Rector Seal treatment. The effectiveness of the seals to limit corrosion will be evaluated as part of the proposed work effort discussed below.

The March 2012 LSCE biannual well station testing report for the five water supply wells included a summary of the Well 5A testing. Relevant to this report is item (f) below:

Well 5A Findings

- a) Specific capacity has remained at 21 gpm/ft since 2001.
- b) Pumping plant efficiency is 70 percent and is within an acceptable range.
- c) In early 2009, Kirby Pump lowered the pump to 240 feet below ground surface and an intake pipe was installed that extends to 297 feet.
- d) The current margin between the projected 24-hr pumping water level and the pump setting depth is approximately 75 feet.
- e) The water level measuring equipment does not function, i.e. the SCADA reads a value of "0" with the well on or off.
- f) The specific conductance for this well is at a historical high based on results of field tests and review of CDPH records.

Recent Well 5A Test Results

On November 29, 2011, LSCE obtained samples from Well 5A and measured a specific conductance of 1,740 Microsiemens per centimeter (*us/cm*) using LSCE's field instrument, and 1,690 *us/cm* using the District's field instrument. *These values exceed the Secondary Drinking Water Standard of 1,600 us/cm.* By comparison, the District last sampled Well 5A on June 2010 and the laboratory reported a result of 1,500 *us/cm*; additionally, LSCE tested Well 5A in March 2011 and the laboratory reported a Total Dissolved Solid (TDS) of 579 ppm (equivalent to a specific conductance of about 1,000 *us/cm*). Historically Well 5A ranged from 800 to 1,100 *us/cm*. The March 2011 laboratory report is attached.

Given the apparent rapid rise in TDS/specific conductance levels, LSCE proposed additional Well 5A flow and water quality testing on March 7, 2012. A water sample collected from Well 5A at the start of pumping was analyzed in the laboratory and had a specific conductance of 1,100 *um/cm* (this value reflects the influence of using system water for the shaft lubrication system). Within about 7 minutes, the specific conductance stabilized at about 1,700 *um/cm*, which is considered representative of the well water. The laboratory results from the March 7th testing are attached. Note that the samples labeled as "Water" are laboratory results from water samples obtained from the District water distribution system (Well 5A water lube line).

Table 1 presents a summary of the Total Dissolved Solid (TDS) and Specific Conductance levels measured in the District's wells under the state Department of Public Health (DPH) monitoring program. Figure 1 shows DPH and other available specific conductance data for this well. The table and plot include the most current test results and show the recent upward trend in TDS and Specific Conductance.

Proposed Testing Program

The apparent rapid rise in TDS and Specific Conductance in Well 5A poses concerns in the structural integrity of the well and possible exceedance in the maximum contaminant level (MCL) for dissolved minerals and specific conductance. A test program is summarized below to evaluate the source and cause of the increase in dissolved minerals in the well water and to assess the current condition of the well structure and well pump components. The parties involved in the proposed testing include District staff, LSCE, Wellenco, Kirby Pump and BESST.

1. District: Set Well 5A as lead well and check TDS and/or specific conductivity three times daily. Record the flow rate, the time of day sampled, and the approx runtime for the well pump before sampling.
2. LSCE: Review water quality data from Step 1. If TDS is constant and consistent with historic observations, proceed to Step 3. If TDS is not consistent, conduct multi-hour constant flow test at 2,000 gpm (go to waste) and monitor changes in TDS, specific conductance, pH, and temperature over time. Pump until TDS levels stabilize.
3. LSCE/BESST: With Well 5A running, and upon confirming that water quality parameters are stable, conduct a dye test to obtain a velocity profile and collect water samples to obtain a TDS flow profile. Water samples will be collected at selected depths to determine the source of high TDS water.
4. LSCE/Kirby Pump: Pull Well 5A pump and inspect well pump components for corrosion.
5. LSCE/Wellenco: Approximately three days after pulling the well pump (i.e., no disturbances or water additions), obtain temperature and conductivity down-hole log of well and conduct a video survey of well.

Following the completion of the field work, LSCE will prepare a report summarizing the collected field data and a data analyses. Water quality test results and the flow profiles will be used to report on likely sources and possible solutions to the problem.

Budget Estimate

The cost estimate for the various Well 5A contractors are listed in the Table below. The costs assumes that the District will contract directly with various subcontractors. If desired, LSCE can subcontract to Kirby, BESST, and Wellenco. However a mark-up consistent with our Standard Schedule of Charges (attached), will apply. LSCE will provide notification of any potential changes in LSCE's estimated cost and time to complete the work. LSCE will not proceed with any work that deviates from the approved scope and budget until approval to proceed is granted.

Mr. Rick Howard
March 27, 2012
Page 4

Contractor	Proposed Budget
Kirby Pump (See Note 1)	13,500
BESST Inc. (See Note 2)	7,200
Wellenco (See Note 3)	3,200
LSCE (See note 4)	8,600
Total Estimate	\$32,500

Notes:

1. Cost includes pulling pump, marking column pipe order, surface preparation and sealant application, and reinstallation and disinfection. District to conduct bacteriological acceptance testing.
2. Cost includes well profiling and mass flow profiling for TDS.
3. Cost assumes a temperature log, specific conductivity log, and a video log.
4. LSCE cost includes 4 to 5 days of field testing, analytical laboratory testing for TDS, and final report preparation.

Schedule

The above field work can be completed over two week period starting this week. This project duration is contingent upon the availability of our subcontractors Kirby, BESST and Wellenco. The report will be submitted one week following completion of the field work.

We appreciate the opportunity to provide you with this scope and budget. Please call if you have any questions.

Sincerely,

LUHDORFF AND SCALMANINI
CONSULTING ENGINEERS



John Fawcett



Thomas Elson

Attachments: March 2011 Laboratory Report, March 2012 Laboratory Report
LSCE Schedule of Charges

Figure 1
Town of Discovery Bay
Specific Conductance

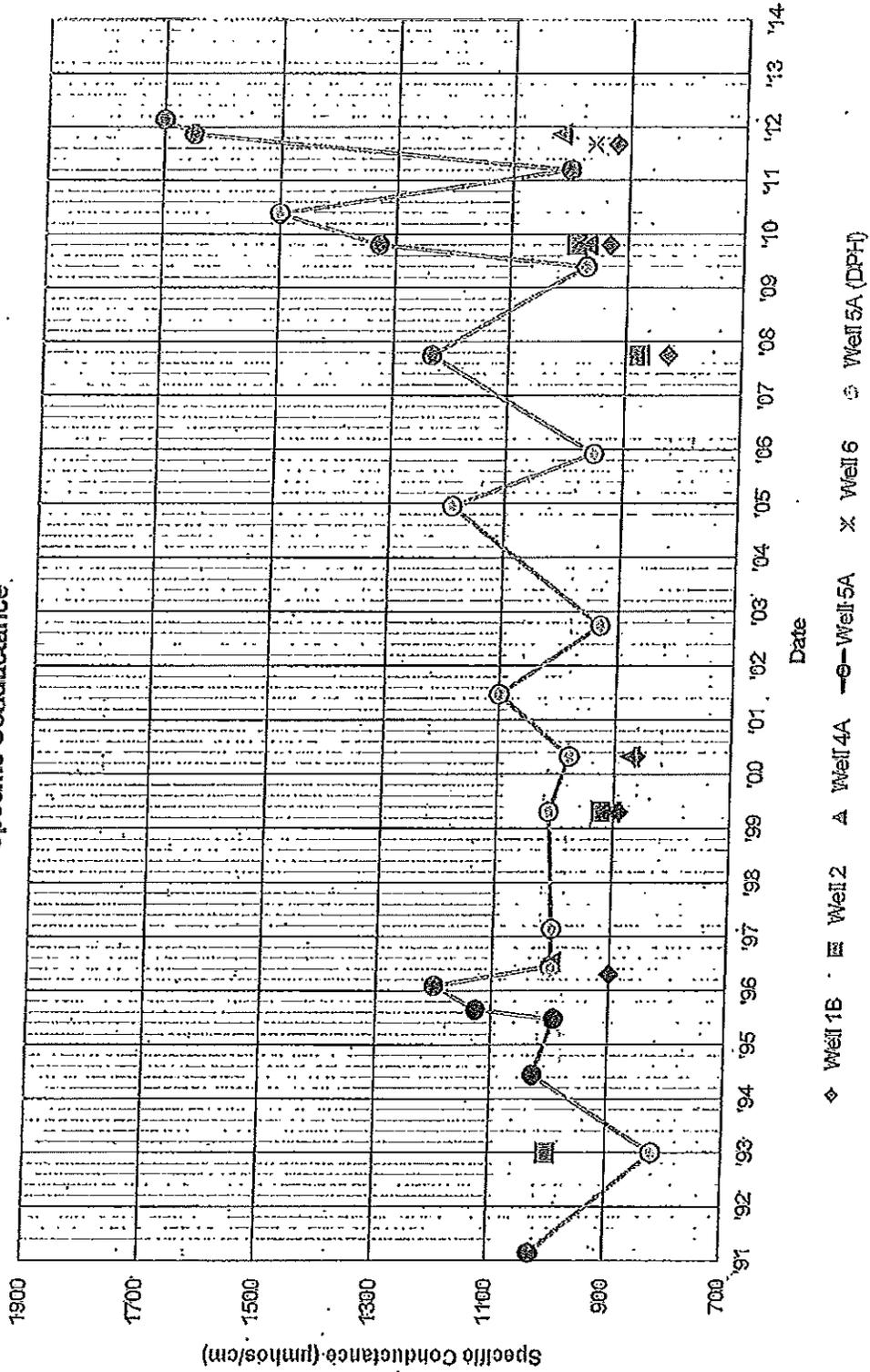


Table 1: TDS and EC in Wells (CDPH records)
Town of Discovery Bay

<u>MCL</u>		<u>Sp Conductance</u>	<u>TDS</u>
		uS/cm	mg/L
	Short Term	2,200.00	1,500.00
	Upper Limit	1,600.00	1,000.00
<u>Well 1B</u>			
	5/9/1996	900	550
	3/10/1997	920	670
	5/10/1999	892	592
	5/17/2000	864	598
	7/10/2001	920	560
	10/16/2002	900	530
	12/29/2004	898	550
	12/19/2005	906	640
	3/10/2009	890	560
<u>Well 2</u>			
	11/19/1986	600	532
	9/12/1989	929	605
	1/20/1993	1,000	560
	3/10/1997	960	630
	5/10/1999	921	588
	5/17/2000	886	592
	7/10/2001	940	560
	12/11/2002	890	570
	12/29/2004	942	570
	12/19/2005	925	560
	3/10/2009	950	590
<u>Well 4A</u>			
	8/1/1996	1,000	550
	3/10/1997	1,000	590
	5/10/1999	905	600
	5/17/2000	874	602
	7/10/2001	910	600
	10/16/2002	910	520
	12/29/2004	924	590
	12/19/2005	930	580
	3/10/2009	920	580
<u>Well 5A</u>			
	3/28/1990	985	753
	1/20/1993	820	570
	6/14/1996	1,000	590
	3/10/1997	1,000	630
	5/10/1999	1,010	667
	5/17/2000	977	660
	7/10/2001	1,100	640
	10/16/2002	930	530
	12/29/2004	1,190	760
	12/19/2005	949	580
	6/9/2009	970	560
	6/16/2010	1,500	not analyzed
<u>Well 6</u>			
	8/24/2009	930	550

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

March 15, 2012

CLS Work Order #: CVC0305
COC #: 68968

Justin Shobe
Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project Name: Discovery Bay

Enclosed are the results of analyses for samples received by the laboratory on 03/08/12 09:55. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and exceptions are addressed below as well as under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

Luhdorff & Scalmanini 500 First St. Woodland CA, 95695	Project: Discovery Bay Project Number: 10-5-070 Project Manager: Justin Shobe	CLS Work Order #: CVC0305 COC #: 68968
--	---	---

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Well 5A #1 (CVC0305-01) Water Sampled: 03/07/12 11:58 Received: 03/08/12 09:55									
Total Alkalinity	280	5.0	mg/L	1	CV01564	03/09/12	03/09/12	SM2310B	
Bicarbonate as CaCO3	280	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chloride	140	5.0	"	10	CV01539	03/09/12	03/09/12	BPA 300.0	
Fluoride	0.28	0.10	"	1	"	"	03/09/12	"	
Nitrate as NO3	ND	2.0	"	"	"	"	"	"	
Sulfate as SO4	94	5.0	"	10	"	"	03/09/12	"	
Specific Conductance (EC)	1100	1.0	µmhos/cm	1	CV01569	03/09/12	03/09/12	EPA 120.1	
Methylene Blue Active Substances	ND	0.10	mg/L	"	CV01547	03/09/12	03/09/12	SM5540 C	
Calcium	47	1.0	"	"	CV01659	03/14/12	03/14/12	200.7/2340B	
Magnesium	25	1.0	"	"	"	"	"	"	
Potassium	1.5	1.0	"	"	"	"	"	"	
Sodium	170	1.0	"	"	"	"	"	"	
Hardness as CaCO3	220	1.0	"	"	"	"	"	"	
pH	7.79	0.01	pH Units	"	CV01506	03/09/12	03/08/12	SM4500-H B	HT-F
Total Dissolved Solids	640	10	mg/L	"	CV01545	03/09/12	03/12/12	SM2540C	
System (CVC0305-02) Water Sampled: 03/07/12 12:40 Received: 03/08/12 09:55									
Total Alkalinity	250	5.0	mg/L	1	CV01564	03/09/12	03/09/12	SM2310B	
Bicarbonate as CaCO3	250	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chloride	110	5.0	"	10	CV01539	03/09/12	03/09/12	BPA 300.0	
Fluoride	0.28	0.10	"	1	"	"	03/09/12	"	
Nitrate as NO3	ND	2.0	"	"	"	"	"	"	
Sulfate as SO4	95	5.0	"	10	"	"	03/09/12	"	
Specific Conductance (EC)	1000	1.0	µmhos/cm	1	CV01569	03/09/12	03/09/12	EPA 120.1	
Methylene Blue Active Substances	ND	0.10	mg/L	"	CV01547	03/09/12	03/09/12	SM5540 C	
Calcium	50	1.0	"	"	CV01659	03/14/12	03/14/12	200.7/2340B	
Magnesium	26	1.0	"	"	"	"	"	"	
Potassium	1.4	1.0	"	"	"	"	"	"	
Sodium	140	1.0	"	"	"	"	"	"	

CALIFORNIA LABORATORY SERVICES

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03/15/12 15:40

Luhdorff & Scalmanini 500 First St. Woodland CA, 95695	Project: Discovery Bay Project Number: 10-5-070 Project Manager: Justin Shobe	CLS Work Order #: CVC0305 COC #: 68968
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Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
System (CVC0305-02) Water Sampled: 03/07/12 12:40 Received: 03/08/12 09:55									
Hardness as CaCO3	230	1.0	mg/L	1	CV01659	"	03/14/12	200.7/2340B	
pH	7.75	0.01	pH Units	"	CV01506	03/08/12	03/08/12	SM4500-HB	HT-F
Total Dissolved Solids	580	10	mg/L	"	CV01545	03/09/12	03/12/12	SM2540C	
Well 5A #4 (CVC0305-03) Water Sampled: 03/07/12 14:30 Received: 03/08/12 09:55									
Total Alkalinity	360	5.0	mg/L	1	CV01564	03/09/12	03/09/12	SM2310B	
Bicarbonate as CaCO3	360	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chloride	290	5.0	"	10	CV01539	03/09/12	03/09/12	BPA 300.0	
Fluoride	0.32	0.10	"	1	"	"	"	"	
Nitrate as NO3	ND	2.0	"	"	"	"	"	"	
Sulfate as SO4	73	5.0	"	10	"	"	03/09/12	"	
Specific Conductance (EC)	1700	1.0	µmhos/cm	1	CV01569	03/09/12	03/09/12	EPA 120.1	
Methylene Blue Active Substances	ND	0.10	mg/L	"	CV01547	03/09/12	03/09/12	SM5540 C	
Calcium	44	1.0	"	"	CV01659	03/14/12	03/14/12	200.7/2340B	
Magnesium	24	1.0	"	"	"	"	"	"	
Potassium	1.7	1.0	"	"	"	"	"	"	
Sodium	290	1.0	"	"	"	"	"	"	
Hardness as CaCO3	210	1.0	"	"	"	"	"	"	
pH	7.73	0.01	pH Units	"	CV01506	03/08/12	03/08/12	SM4500-HB	HT-F
Total Dissolved Solids	910	10	mg/L	"	CV01545	03/09/12	03/12/12	SM2540C	

CA DOHS ELAP Accreditation/Registration Number 1233

CALIFORNIA LABORATORY SERVICES

Luhdorff & Sealman 500 First St. Woodland CA, 95695	Project: Discovery Bay Project Number: 10-5-070 Project Manager: Justin Shobo	CLS Work Order #: CVC0305 COC #: 68968
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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CV01539 - General Prep

Blank (CV01539-BLK1)		Prepared & Analyzed: 03/09/12								
Chloride	ND	0.50	mg/L							
Fluoride	ND	0.10	"							
Nitrate as NO3	ND	2.0	"							
Sulfate as SO4	ND	0.50	"							

LCS (CV01539-BS1)		Prepared & Analyzed: 03/09/12								
Chloride	1.96	0.50	mg/L	2.00	98	80-120				
Fluoride	1.80	0.10	"	2.00	90	80-120				
Nitrate as NO3	2.10	2.0	"	2.00	105	80-120				
Nitrate as N	0.474	0.50	"	0.451	105	80-120				
Sulfate as SO4	5.36	0.50	"	5.00	107	80-120				

LCS Dup (CV01539-BSD1)		Prepared & Analyzed: 03/09/12								
Chloride	1.89	0.50	mg/L	2.00	94	80-120	4	20		
Fluoride	1.81	0.10	"	2.00	91	80-120	0.5	20		
Nitrate as NO3	1.95	2.0	"	2.00	97	80-120	8	20		
Nitrate as N	0.440	0.50	"	0.451	97	80-120	8	20		
Sulfate as SO4	4.90	0.50	"	5.00	98	80-120	9	20		

Matrix Spike (CV01539-MS1)		Source: CVC0362-02		Prepared & Analyzed: 03/09/12						
Chloride	35.7	0.50	mg/L	2.00	35.3	17	75-125			QM-4X
Fluoride	2.05	0.10	"	2.00	0.171	94	75-125			
Nitrate as NO3	9.07	2.0	"	2.00	7.23	92	75-125			
Nitrate as N	2.05	0.50	"	0.451	1.63	92	75-125			
Sulfate as SO4	11.0	0.50	"	5.00	5.69	106	75-125			

Matrix Spike Dup (CV01539-MSD1)		Source: CVC0362-02		Prepared & Analyzed: 03/09/12						
Chloride	35.6	0.50	mg/L	2.00	35.3	13	75-125	0.2	25	QM-4X
Fluoride	2.03	0.10	"	2.00	0.171	93	75-125	1	25	
Nitrate as NO3	9.04	2.0	"	2.00	7.23	90	75-125	0.3	25	
Nitrate as N	2.04	0.50	"	0.451	1.63	90	75-125	0.3	25	
Sulfate as SO4	10.9	0.50	"	5.00	5.69	104	75-125	0.7	25	

CALIFORNIA LABORATORY SERVICES

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Luhdorff & Scalmanini 500 First St. Woodland CA, 95695	Project: Discovery Bay Project Number: 10-5-070 Project Manager: Justin Shobe	CLS Work Order #: CVC0305 COC #: 68968
--	---	---

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	-----------	--------	-----	-----------	-------

Batch CV01545 - General Preparation

Blank (CV01545-BLK1)		Prepared: 03/09/12 Analyzed: 03/12/12								
Total Dissolved Solids	ND	10	mg/L							
Duplicate (CV01545-DUP1)		Source: CVC0352-01 Prepared: 03/09/12 Analyzed: 03/12/12								
Total Dissolved Solids	551	10	mg/L		571			4	20	

Batch CV01547 - General Preparation

Blank (CV01547-BLK1)		Prepared & Analyzed: 03/09/12								
Methylene Blue Active Substances	ND	0.10	mg/L							
LCS (CV01547-BS1)		Prepared & Analyzed: 03/09/12								
Methylene Blue Active Substances	0.469	0.10	mg/L	0.500		94	80-120			
LCS Dup (CV01547-BSD1)		Prepared & Analyzed: 03/09/12								
Methylene Blue Active Substances	0.496	0.10	mg/L	0.500		99	80-120	6	20	
Matrix Spike (CV01547-MS1)		Source: CVC0305-01 Prepared & Analyzed: 03/09/12								
Methylene Blue Active Substances	0.549	0.10	mg/L	0.500	ND	110	75-125			
Matrix Spike Dup (CV01547-MSD1)		Source: CVC0305-01 Prepared & Analyzed: 03/09/12								
Methylene Blue Active Substances	0.533	0.10	mg/L	0.500	ND	107	75-125	3	25	

Batch CV01564 - General Preparation

Blank (CV01564-BLK1)		Prepared & Analyzed: 03/09/12								
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							

CA DOHS ELAP Accreditation/Registration Number 1233

3249 Fitzgerald Road Rancho Cordova, CA 95742 www.californialab.com 916-638-7301 Fax: 916-638-4510

CALIFORNIA LABORATORY SERVICES

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03/15/12 15:40

Luhdorff & Scalmanini
500 First St.
Woodland CA, 95695

Project: Discovery Bay
Project Number: 10-5-070
Project Manager: Justin Shobe

CLS Work Order #: CVC0305
COC #: 68968

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch CV01564 - General Preparation

Duplicate (CV01564-DUP1)	Source: CVC0305-01			Prepared & Analyzed: 03/09/12						
Total Alkalinity	272	5.0	mg/L		282			4	20	
Bicarbonate as CaCO3	272	5.0	"		282			4	20	
Carbonate as CaCO3	ND	5.0	"		ND				20	
Hydroxide as CaCO3	ND	5.0	"		ND				20	

Batch CV01569 - General Preparation

Blank (CV01569-BLK1)	Prepared & Analyzed: 03/09/12										
Specific Conductance (EC)	ND	1.0	µmhos/cm								

Batch CV01659 - EPA 3010A

Blank (CV01659-BLK1)	Prepared & Analyzed: 03/14/12									
Calcium	ND	1.0	mg/L							
Magnesium	ND	1.0	"							
Potassium	ND	1.0	"							
Sodium	ND	1.0	"							
Hardness as CaCO3	ND	1.0	"							

LCS (CV01659-BS1)	Prepared & Analyzed: 03/14/12									
Calcium	11.1	1.0	mg/L	12.5	11.7	89	85-115			
Magnesium	10.3	1.0	"	12.5	2.85	82	85-115			QM-1
Potassium	11.2	1.0	"	12.5	2.23	89	85-115			
Sodium	11.0	1.0	"	12.5	11.0	88	85-115			

Matrix Spike (CV01659-MS1)	Source: CVC0545-01			Prepared & Analyzed: 03/14/12						
Calcium	22.5	1.0	mg/L	12.5	11.7	87	70-130			
Magnesium	13.1	1.0	"	12.5	2.85	82	70-130			
Potassium	13.1	1.0	"	12.5	2.23	87	70-130			
Sodium	21.7	1.0	"	12.5	11.0	86	70-130			

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CALIFORNIA LABORATORY SERVICES

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03/15/12 15:40

Lulidorff & Scalmanini
500 First St.
Woodland CA, 95695

Project: Discovery Bay,
Project Number: 10-5-070
Project Manager: Justin Shobe

CLS Work Order #: CVC0305
COC #: 68968

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- QM-1 The spike recovery was outside acceptance limits for the LCS or LCSD. The batch was accepted based on acceptable MS/MSD recoveries & RPD's.
- HT-F This is a field test method and it is performed in the lab outside holding time.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



Analytical Chemists
April 8, 2011

Luhdorff & Scabmanini, Consulting Eng.
Attn: Till Angermann
500 First Street
Woodland, CA 95695

Lab ID : STK1132647
Customer : 3-12023

Laboratory Report

Introduction: This report package contains total of 4 pages divided into 3 sections:

- Case Narrative (1 pages) : An overview of the work performed at FGL.
Sample Results (2 pages) : Results for each sample submitted.
Quality Control (1 page) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Table with 5 columns: Sample Description, Date Sampled, Date Received, FGL Lab ID #, Matrix. Rows include Well 5A #2 and Well 5A #3.

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Wet Chemistry QC

Table with 2 columns: ID (2540 G), Description (04/05/2011:203610 All preparation quality controls are within established criteria).

Certification: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunaloo, B.S.

Digitally signed by Kelly A. Dunaloo, B.S.
The Laboratory Director
Date: 2011.04.08



ENVIRONMENTAL

ANALYTICAL CHEMISTS

April 5, 2011

STK1132647:1 Coliform Bacteria Analysis

Customer ID : 3012023

Luhdorff & Scalmanin, Consulting Eng.

Attn: Till Angermann

500 First Street

Woodland, CA 95695

System Number : N/A

Project Name : Water Monitoring

Analytical Results

ID	Sample Description	Total	Fecal	Units	Method	Prep	Footnote
1	Well SA	<1.1 Absent	<1.1 Absent	MPN/100ml	SM 9221B	LTB-MTF	

N/R Not Required

MPN Most Probable Number

MP Absence/Presence

The samples listed above were Acceptable for both Total and Fecal Coliform

Sample Handling Information

ID	Sample Number	System Number	Sample Type/Reason	Sampler	Employed By	Sampled
1	STK1132647-001	N/A	Source-Other	Carl Wulff	Luhdorff & Scalmanin	2011-03-31 14:47

Field Analysis/QA Information

ID	Sample Description	CI Total/Free	Units	Analysis Started	Analysis Completed	Contact	Contacted
1	Well SA	---/---	mg/l	2011-03-31 15:57 JK	2011-04-02 13:20 JK	N/R	

Analyses were performed using Standard Methods 20th edition. If you have any questions regarding your results, please call.

Prepared By: KD

Reviewed and Approved By R Kelly A. Dunnahoo, B.S. Digitally signed by Kelly A. Dunnahoo, B.S. DN: cn=R Kelly A. Dunnahoo, o=Environmental Analytical Chemists, email=kadunnahoo@eac.com

Page 1 of 1

Corporate Offices & Laboratory
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Field Office
Visella, California
TEL: 562/734-9672
Mobile: 562/737-2559
FAX: 562/734-9659



Analytical Chemists
April 8, 2011

Lab ID : STK1132647-003
Customer ID : 3-12023

Luhdorff & Scalmanini, Consulting Eng.
Attn: Till Angermann
500 First Street
Woodland, CA 95695

Sampled On : March 31, 2011-14:48
Sampled By : Carl Wulff
Received On : March 31, 2011-16:07
Matrix : Ground Water

Description : Well 5A #3
Project : Water Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Wet Chemistry ^{P1} Solids, Total Dissolved (TDS)	560	20	mg/L		2540 G	04/05/11:203610	2540C	04/05/11:204916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives; N/A ‡ Surrogate. * PQL adjusted for dilution.



Analytical Chemists

April 8, 2011
Luhdorff & Scalmanini Consulting

Lab ID : STK1132647
Customer : 3-12023

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem Solids, Total Dissolved	2510 G	04/07/2011:203610 (VI 1140701-001)	Blank	mg/L		9.2	20	
			LCS	mg/L	995.0	100%	90-110	
			Dup	mg/L		0.02%	10.0	
Definition Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. Dup : Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis. DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.								

Stockton - Condition Upon Receipt (Attach to COC)

Sample Receipt at STK:

- Number of ice chests/packages received: 1
- Were samples received in a chilled condition? Temps: RRT / 1 / 1 / 1 / 1
 Acceptable is above freezing to 6° C. Also acceptable is received on ice (ROI) for the same day of sampling or received at room temperature (RRT) if sampled within one hour of receipt. Client contact for temperature failures must be documented below. If many packages are received at one time check for tests/H.T.'s/rushes/Bactl's to prioritize further review. Please notify Microbiology personnel immediately of bacti samples received.
- Do the number of bottles received agree with the COC? Yes No N/A
- Were samples received intact? (i.e. no broken bottles, leaks etc.) Yes No
- VOAs checked for Headspace? Yes No N/A
- Were sample custody seals intact? Yes No N/A

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples,
 Sample Receipt Review completed by (initials): [Signature]

Sample Receipt at SP:

- Were samples received in a chilled condition? Temps: 5 / 1 / 1 / 1 / 1
 Acceptable is above freezing to 6° C. If many packages are received at one time check for tests/H.T.'s/rushes/Bactl's to prioritize further review. Please notify Microbiology personnel immediately of bacti samples received.
- Do the number of bottles received agree with the COC? Yes No N/A
- Were samples received intact? (i.e. no broken bottles, leaks etc.) Yes No
- Were sample custody seals intact? Yes No N/A

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

- Were all requested analyses understood and acceptable? Yes No
- Did bottle labels correspond with the client's ID's? Yes No
- Were all bottles requiring sample preservation properly preserved? Yes No N/A FGL
- VOAs checked for Headspace? Yes No N/A
- Were all analyses within holding times at time of receipt? Yes No
- Have rush or project due dates been checked and accepted? Yes No N/A

Attach labels to the containers and include a copy of the COC for lab delivery.
 Sample Receipt, Login and Verification completed by (initials): [Signature]

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

- Person Contacted: Deborah Ramirez Phone Number: email attached
 Initiated By: Deborah Ramirez Date: 4-3-11

Problem: SAMPLE #3 COC WAS WAA 5A #3
 Resolution: both pas #10

(3-12023)
 Luhdorff & Scalmanini Consulting

STK1132647

IV-01/01/2011-11:47:25

Correct description is #13
 Per Deborah Ramirez



ENVIRONMENTAL



April 8, 2011 Analytical Chemists

Lab ID : STK1132647-002
Customer ID : 3-12023

Luhdorff & Scalmanini, Consulting Eng.
Attn: Till Angermann
500 First Street
Woodland, CA 95695

Sampled On : March 31, 2011-14:19
Sampled By : Carl Wulff
Received On : March 31, 2011-16:07
Matrix : Ground Water

Description : Well 5A #2
Project : Water Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Wet Chemistry ^{PI} Solids, Total Dissolved (TDS)	(570)	20	mg/L		2540 G	04/05/11:203610	2540C	04/06/11:201916

ND=Non-Detected, PQL=Practical Quantitation Limit, Containers: (P) Plastic Preservatives; N/A ‡Surrogate. * PQL adjusted for dilution.



CHAIN OF CUSTODY
AND ANALYSIS REQUEST DOCUMENT

Client: Lahderff & Seimannini Consulting Customer Number: 3012023 Address: Alvin Till Angerman 500 First Street Woodland, CA 95663 Phone: (530)661-0108 Fax: (530)661-4866 Contact Person: Till Angerman Project Name: Purchase Order Number: Quote Number: SP-2889415-01-065		Lab Number: 1132647 Method of Sampling: Composite (C) Grab (G)		Number of Containers Type of Containers: (2) Glass (P) Plastic (V) VOA (M) Metal Tube Polishes (P) Non-Polishes (NP) Ag Water (AgW)		(SV) Surface Water (SW) Monitoring Well (MW) Ground Water (TB) Travel Blank (WB) Waste Water (WW) Drinking Water (S) Sol (SL) Sludge (SLD) Soda (O) or Beer (S) System (SFC) Source (W) Waste Beers (S) (R) (N) (P) (K) (M) (G) (H) (I) (J) (L) (O) (P) (R) (S) (T) (U) (V) (W) (X) (Y) (Z) (AA) (AB) (AC) (AD) (AE) (AF) (AG) (AH) (AI) (AJ) (AK) (AL) (AM) (AN) (AO) (AP) (AQ) (AR) (AS) (AT) (AU) (AV) (AW) (AX) (AY) (AZ) (BA) (BB) (BC) (BD) (BE) (BF) (BG) (BH) (BI) (BJ) (BK) (BL) (BM) (BN) (BO) (BP) (BQ) (BR) (BS) (BT) (BU) (BV) (BW) (BX) (BY) (BZ) (CA) (CB) (CC) (CD) (CE) (CF) (CG) (CH) (CI) (CJ) (CK) (CL) (CM) (CN) (CO) (CP) (CQ) (CR) (CS) (CT) (CU) (CV) (CW) (CX) (CY) (CZ) (DA) (DB) (DC) (DD) (DE) (DF) (DG) (DH) (DI) (DJ) (DK) (DL) (DM) (DN) (DO) (DP) (DQ) (DR) (DS) (DT) (DU) (DV) (DW) (DX) (DY) (DZ) (EA) (EB) (EC) (ED) (EE) (EF) (EG) (EH) (EI) (EJ) (EK) (EL) (EM) (EN) (EO) (EP) (EQ) (ER) (ES) (ET) (EU) (EV) (EW) (EX) (EY) (EZ) (FA) (FB) (FC) (FD) (FE) (FF) (FG) (FH) (FI) (FJ) (FK) (FL) (FM) (FN) (FO) (FP) (FQ) (FR) (FS) (FT) (FU) (FV) (FW) (FX) (FY) (FZ) (GA) (GB) (GC) (GD) (GE) (GF) (GG) (GH) (GI) (GJ) (GK) (GL) (GM) (GN) (GO) (GP) (GQ) (GR) (GS) (GT) (GU) (GV) (GW) (GX) (GY) (GZ) (HA) (HB) (HC) (HD) (HE) (HF) (HG) (HH) (HI) (HJ) (HK) (HL) (HM) (HN) (HO) (HP) (HQ) (HR) (HS) (HT) (HU) (HV) (HW) (HX) (HY) (HZ) (IA) (IB) (IC) (ID) (IE) (IF) (IG) (IH) (II) (IJ) (IK) (IL) (IM) (IN) (IO) (IP) (IQ) (IR) (IS) (IT) (IU) (IV) (IW) (IX) (IY) (IZ) (JA) (JB) (JC) (JD) (JE) (JF) (JG) (JH) (JI) (JJ) (JK) (JL) (JM) (JN) (JO) (JP) (JQ) (JR) (JS) (JT) (JU) (JV) (JW) (JX) (JY) (JZ) (KA) (KB) (KC) (KD) (KE) (KF) (KG) (KH) (KI) (KJ) (KK) (KL) (KM) (KN) (KO) (KP) (KQ) (KR) (KS) (KT) (KU) (KV) (KW) (KX) (KY) (KZ) (LA) (LB) (LC) (LD) (LE) (LF) (LG) (LH) (LI) (LJ) (LK) (LM) (LN) (LO) (LP) (LQ) (LR) (LS) (LT) (LU) (LV) (LW) (LX) (LY) (LZ) (MA) (MB) (MC) (MD) (ME) (MF) (MG) (MH) (MI) (MJ) (MK) (ML) (MN) (MO) (MP) (MQ) (MR) (MS) (MT) (MU) (MV) (MW) (MX) (MY) (MZ) (NA) (NB) (NC) (ND) (NE) (NF) (NG) (NH) (NI) (NJ) (NK) (NL) (NM) (NO) (NP) (NQ) (NR) (NS) (NT) (NU) (NV) (NW) (NX) (NY) (NZ) (OA) (OB) (OC) (OD) (OE) (OF) (OG) (OH) (OI) (OJ) (OK) (OL) (OM) (ON) (OO) (OP) (OQ) (OR) (OS) (OT) (OU) (OV) (OW) (OX) (OY) (OZ) (PA) (PB) (PC) (PD) (PE) (PF) (PG) (PH) (PI) (PJ) (PK) (PL) (PM) (PN) (PO) (PP) (PQ) (PR) (PS) (PT) (PU) (PV) (PW) (PX) (PY) (PZ) (QA) (QB) (QC) (QD) (QE) (QF) (QG) (QH) (QI) (QJ) (QK) (QL) (QM) (QN) (QO) (QP) (QQ) (QR) (QS) (QT) (QU) (QV) (QW) (QX) (QY) (QZ) (RA) (RB) (RC) (RD) (RE) (RF) (RG) (RH) (RI) (RJ) (RK) (RL) (RM) (RN) (RO) (RP) (RQ) (RR) (RS) (RT) (RU) (RV) (RW) (RX) (RY) (RZ) (SA) (SB) (SC) (SD) (SE) (SF) (SG) (SH) (SI) (SJ) (SK) (SL) (SM) (SN) (SO) (SP) (SQ) (SR) (SS) (ST) (SU) (SV) (SW) (SX) (SY) (SZ) (TA) (TB) (TC) (TD) (TE) (TF) (TG) (TH) (TI) (TJ) (TK) (TL) (TM) (TN) (TO) (TP) (TQ) (TR) (TS) (TT) (TU) (TV) (TW) (TX) (TY) (TZ) (UA) (UB) (UC) (UD) (UE) (UF) (UG) (UH) (UI) (UJ) (UK) (UL) (UM) (UN) (UO) (UP) (UQ) (UR) (US) (UT) (UU) (UV) (UW) (UX) (UY) (UZ) (VA) (VB) (VC) (VD) (VE) (VF) (VG) (VH) (VI) (VJ) (VK) (VL) (VM) (VN) (VO) (VP) (VQ) (VR) (VS) (VT) (VU) (VV) (VW) (VX) (VY) (VZ) (WA) (WB) (WC) (WD) (WE) (WF) (WG) (WH) (WI) (WJ) (WK) (WL) (WM) (WN) (WO) (WP) (WQ) (WR) (WS) (WT) (WU) (WV) (WW) (WX) (WY) (WZ) (XA) (XB) (XC) (XD) (XE) (XF) (XG) (XH) (XI) (XJ) (XK) (XL) (XM) (XN) (XO) (XP) (XQ) (XR) (XS) (XT) (XU) (XV) (XW) (XX) (XY) (XZ) (YA) (YB) (YC) (YD) (YE) (YF) (YG) (YH) (YI) (YJ) (YK) (YL) (YM) (YN) (YO) (YP) (YQ) (YR) (YS) (YT) (YU) (YV) (YW) (YX) (YY) (YZ) (ZA) (ZB) (ZC) (ZD) (ZE) (ZF) (ZG) (ZH) (ZI) (ZJ) (ZK) (ZL) (ZM) (ZN) (ZO) (ZP) (ZQ) (ZR) (ZS) (ZT) (ZU) (ZV) (ZW) (ZX) (ZY) (ZZ)	
Sampling Fee: _____ Pickup Fee: _____ Compositor Seup Date: _____ Time: _____		Date Sampled: 3-21-11 1947 Time Sampled: 14:19 Date Sampled: 11 14:48 Time Sampled: 14:48		Relinquished: [Signature] Date: 3-31-11 Time: 1607 Received By: [Signature] Date: 3/31/11 Time: 1607		Relinquished: [Signature] Date: 3/31/11 Time: 1700 Received By: [Signature] Date: 4/11/11 Time: 1700	
Sample(s): Carl Wilff.		Location Description: Well SA		Relinquished: [Signature] Date: 3/31/11 Time: 1607 Received By: [Signature] Date: 3/31/11 Time: 1607		Relinquished: [Signature] Date: 3/31/11 Time: 1700 Received By: [Signature] Date: 4/11/11 Time: 1700	
Remarks:		(1) Test Tissue (PET) Petals Tissue (PRD) Products Preservatives: (1) NaOH, (2) H2O2, (3) HCl (4) H2SO4, (5) HNO3, (6) H2SO3, (7) Other Calc form MTF - 10 tubes TDS X Back 5 - sm 9221 10 - 1346		Relinquished: [Signature] Date: 3/31/11 Time: 1607 Received By: [Signature] Date: 3/31/11 Time: 1607		Relinquished: [Signature] Date: 3/31/11 Time: 1700 Received By: [Signature] Date: 4/11/11 Time: 1700	

Connection Type	FLAT BASE RATE (per hcf)	USAGE RATE (per hcf)	VARIABLE BASE RATE (provide range)	VARIABLE USAGE RATE (provide range)
	\$ (Base)	\$ per hcf	\$ Low	\$ High
RESIDENTIAL				
Residential		1.076		
Mult-residential				
Additional Residential				
Do you provide lifeline/income subsidies?			No	
If Yes, provide rates:				
NON-RESIDENTIAL				
General				
Commercial				
Industrial				
Agricultural				
Government				
Other				
Additional Non-residential				
Do you have fire suppression surcharges?			-Pick one-	
If Yes, provide rates:				
Do you have other surcharges?				
If Yes, provide rates:				

AVERAGE MONTHLY RESIDENTIAL WATER COST: 29.29 \$mo.

This value can be calculated by dividing your total annual revenues from residential customers by 12 and then dividing a second time by the number of residential service connections. If you are unable to differentiate revenues by type of customer (residential, industrial, agricultural); then take your total annual revenues from all water rate payments and divide by 12 and then divide by your total number of service connections.