

**Natural Resources Commission
Community Chambers
23 Russell Boulevard**

**Monday, March 28, 2011
6:30 p.m.
Agenda**

Commissioners: Herman Boschken, Charles Ehrlich (Vice Chair), Mary Greaves, Jennifer Holman, Mark Lubell, Dean Newberry (Chair), William Shapiro, Eugene Wilson (Alternate), Mark Braly (Planning Commission Liaison)

Staff: Jacques DeBra, Utilities Manager (Richard Tsai covering this meeting)

Council Liaison: Stephen Souza

- 6:30**
- 1. Roll Call**
 - 2. Approval of Agenda**
 - 3. Approval of Minutes of February 28, 2011**
 - 4. Commission and Staff Announcements**
 - 5. Council Liaison Comments**
 - 6. Public Communications:** At this time, any member of the public may address the Natural Resources Commission on items within the commission's jurisdiction which are not listed on this agenda. Public comments will be accepted for items listed on the agenda when that matter is considered by the commission. No formal action may be taken on issues not listed on this agenda. Presentations may be limited depending on time available.

General Notes: The times designated for particular agenda items are approximate and are subject to change. Please be aware that items may be heard earlier depending on the time taken on previous agenda items. The City does not transcribe its proceedings. Persons who wish to obtain a verbatim record should arrange for attendance by a court reporter or for some other acceptable means of recordation. Such arrangements will be at the sole expense of the individual requesting the recordation.

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Consent Calendar

7. A. Long Range Calendar

Recommendation: Informational

Regular Calendar

- 6:40 PM** 8. **Solid Waste Update**
Richard Tsai and Jennifer Gilbert, Public Works Department, will present the Solid Waste Chronology information and discuss current projects and priorities.
Recommendation: Review and discuss.
- 7:15 PM** 9. **NRC Sub-committee Reports**
Energy, Water Conservation and Zero Waste sub-committee updates.
Recommendation: Receive and discuss.
- 7:45 PM** 10. **Environmental Recognition Awards**
Richard Tsai, Public Works Department, will present information regarding applications received.
Recommendation: Select winners
- 8:15 PM** 11. **Approve Hazardous Waste Site Report**
Final review of site information received for the report.
Recommendation: Review and approve

Natural Resources Commission
**** DRAFT ****
Minutes
February 28, 2011

Commissioners:

Present: Dean Newberry (Chair), Charles Ehrlich (Vice Chair), Herman Boschken, Mary Greaves, William Shapiro, Eugene Wilson, Mark Braly (Planning Commission Liaison)

Absent: Jennifer Holman and Mark Lubell (excused)

Staff: Jacques DeBra, Utilities Manager
Bob Clarke, Interim Public Works Director
Michael Lindquist, Senior Civil Engineer

Council Liaison: Stephen Souza, Present

- 1. Roll Call**
- 2. Approval of Agenda**
Motion to approve Agenda passed unanimously.
- 3. Approval of Minutes**
Motion to approve January 24, 2011 Minutes passed unanimously.
- 4. Commission and Staff Announcements:**
Attempt to reschedule a joint meeting with Planning Commission for later in Spring, and SWRCB Water Right Permit Hearing scheduled for March 1, 2011.
- 5. Council Liaison Comments:**
None
- 6. Public Communications:**
None

Consent Calendar

- 7. A. Long Range Calendar**
Action: No discussion

Regular Calendar

7. Staff Report – FY2011-12 Utility Rate Recommendations

Jacques DeBra, Utilities Manager, provided the NRC with an overview of the Recommended FY2011-12 Utility Rates for water, sanitary sewer, sanitation, and drainage that staff was recommending for inclusion in the Proposition 218 Notice. The NRC reviewed the information and generally supported the rate recommendations. There was some discussion about variable can rates related to sanitation service.

9. NRC Sub-Committee Reports

Energy: Eugene Wilson discussed CCA concept and that it was included in the Yolo County Climate Action Plan; cited examples of other agencies including Marin, Sonoma County Water Agency and Humboldt; provides clean energy source with consumer choice. Also discussed was the UC Davis Hub concept (using UC Davis resources/expertise) to further clean energy initiatives. Some discussion about CCA costs, trade-offs, and merits of CCA vs. Hub concepts. More direction needed on next steps to get momentum for CCA effort.

Zero Waste: Mary Greaves presented information on two items: (1) Zero Waste Resolution (2025); and (2) Plastic Bag Ban ordinance proposal. Approach is to work through the NRC to develop action items to the Council for consideration. Waste Buster's representative was present to validate importance of setting solid waste goals and future targets in order to meet community zero waste objectives over time. Lots of good input from the community on plastic bag ban, including clarifying compliance and working with businesses and other interested parties to craft ordinance language that is effective and accepted by the community. Both items to be placed on April NRC long range agenda for action.

Water Conservation: Follow water use target policy and provide recommendations related to overall water conservation program actions over time and more work on utility rate structures in meeting resource goals. The draft 2010 Urban Water Management Plan will be reviewed at the April NRC meeting.

10. Receive WWTP Improvement Project Update

Michael Lindquist from Davis Public Works presented an overview of the project history and status of getting the project moving forward, pending a few major decisions by Council including: final decision on preferred project delivery method, approving a final project description and scope, and schedule for issuing the project RFQ to initiate the project implementation process. Staff expects the project to take 5-6 years to complete once the RFQ is issued. Staff will return to the NRC with regular updates as work progresses. Public comments focused on what the City's strategy would be to retire water softeners and reduce overall salt discharges in the future, and concern that the WWTP be designed to meet all NPDES requirements including Copper and other metals-related requirements.

11. Annual Water Use Update (SBx7)

Jacques DeBra, Utilities Manager, presented information on what staff recommended as the City's water use target to meet new SBx7 water use target legislation as well as recent trends in per capita water use. This information would be included in the 2010 Urban Water Management Plan. City in declining water use trend, with additional demand reductions expected due to future utility rate adjustments and retrofitting of older accounts with water efficient appliances and devices over time. Highlighted City water conservation programs and discussed the potential for additional reductions in per capita water use, depending on level of investments in customer incentives and meter technology. NRC will receive annual updates on meeting SBx7 water use targets over time.

12. Discuss Joint NRC/City Council Meeting

Reviewed issues discussed with Council at March 1, 2011 joint session and outlined priorities that were identified in the areas of water conservation, zero waste and energy. Subcommittees shared status briefings to the Council as part of the presentation.

13. Hazardous Waste Site Reports – Summary

Reviewed status of reports received to date, and discussed goal of receiving and approving all site reports at March 2011 NRC meeting.

Adjourn: 9:40 p.m.

Natural Resources Commission
2011 Long Range Agenda

NRC Agenda
Date: March 28, 2011
Item: 7A

2011 Meetings	Topics	Other
April 25	NRC Subcommittee Updates Draft 2010 UWMP Update DWR Fleet Upgrade Proposal Zero Waste & Bag Ban Draft Ordinances	Informational State Regulation Review Proposals
May 23	NRC Subcommittee Updates Water System Update	Informational Informational
June 27	NRC Subcommittee Updates Annual Climate Action & Adaptation Plan WWTP Improvement Project Update	Informational Update CIP Update
July 25	NRC Subcommittee Updates Solid Waste Status Report Davis Woodland Water Supply Project Wood Burning	Informational Progress report Update Update
August	No Meeting	
September 26	NRC Subcommittee Updates Wastewater/Storm water Programs	Informational Update
October 24	NRC Subcommittee Updates Utility Rate Methodology	Informational Evaluation
November 28	NRC Subcommittee Updates Annual Solid Waste Report WWTP Improvement Project Update	Informational State Regulation CIP Update
December	No Meeting	

Current NRC Sub-Committees:

1. Zero Waste;
Mary Greaves, Dean Newberry

2. Water Conservation;
Charles Ehrlich, Mark Lubell, William Shapiro

3. Energy;
Dean Newberry, Eugene Wilson

NRC Chair: Dean Newberry
 Staff Liaison: Jacques DeBra, Public Works
 Admin. Support: Dani Hester, Public Works

STAFF REPORT

NRC Agenda Date: March 28, 2011 Item: 8

DATE: March 17, 2011

TO: Natural Resources Commission

FROM: Richard Tsai, Senior Utility Resource Specialist
Jennifer Gilbert, Conservation Coordinator

SUBJECT: 2011 Year-to-date Solid Waste program update

Recommendation

1. Receive Solid Waste program update; and
2. Provide comment on currently planned efforts.

NRC Function/Purpose

Reviews and recommends ways to implement the City of Davis Source Reduction and Recycling Element (*SRRE*) and improve city wide recycling efforts.

This is part of a quarterly update to the NRC. A full annual report will be presented in November as scheduled in the Long Range Calendar.

Fiscal Impact

None

Background and Analysis

Public Resources Code (PRC) section 41780 established and required a 50 percent reduction of solid waste disposal by cities and counties by the year 2000. The planning requirements in this section require waste diversion from landfill or transformation facilities through source reduction, recycling, and composting activities identified in city, county and regional agency Source Reduction and Recycling Elements (SRRE).

A SRRE is composed of the following components: waste characterization; source reduction; recycling; composting; solid waste facility capacity; education and public information; funding; special waste and integration. Statute requires a SRRE to include a program for management of solid waste generated within the jurisdiction and which is consistent with waste management hierarchy and order of priority. The hierarchy is in order of source reduction, recycling and composting and environmentally safe transformation and land disposal.

Program Goals

- 75% diversion by 2020
 - 1.9 pounds of waste generated per person per day (as calculated by CalRecycle)
- Recycling

- Expansion of the plastic recycling program—all rigid plastics, including plastics #1 - #7, are accepted for recycling.
- Composting (by weight, food scraps make up to 15% of commercial waste and 20% of residential waste)
 - Increase outreach and participation in the City’s composting classes
 - Average 18 participants per year of City’s composting class since 2008
 - 55 people attended 4 composting classes in held in February and March 2011
 - Increase participation in the commercial food scrap pilot program
 - Participants totaling 80 carts are needed for the pilot to begin
 - So far, only 10 businesses have committed with 22 carts

Attachments:

2006 Source Reduction Element Summary
Recycling Program Chronology 1985-2015
Presentation handout

City of Davis Source Reduction Element Summary
Updated: August 8, 2006

Source Reduction

1. Waste Evaluation/Waste Minimization
2. Backyard (On-site) Composting
3. Educational Programs
4. Awards and Public Recognition

Recycling Component

1. Increased Promotion of Residential curbside recycling
2. Increased promotion of multi-family residential recycling
3. Expansion and increased promotion of commercial/industrial and government recycling

Composting Component

1. Continue existing curbside collection
2. Mandate source separation of yard waste

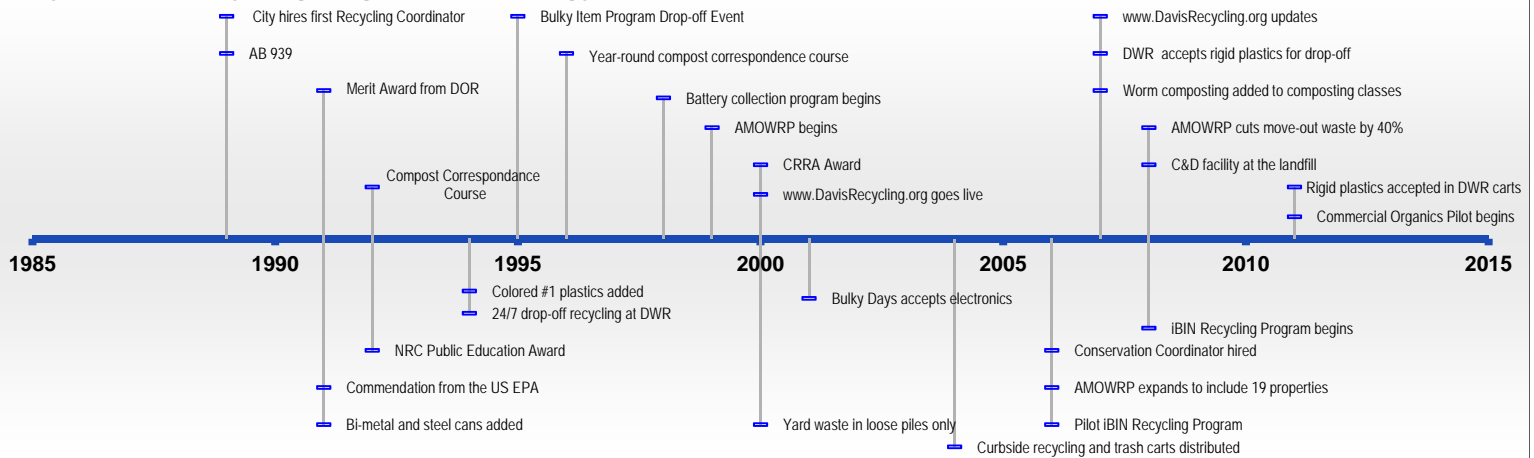
Special Waste

1. Self Haul bin transfer
2. Inert materials recycling

Education and Public Information Component

1. Community 4R committee
2. Quarterly focused advertising or promotional campaigns
3. Source reduction and recycling guide
4. Source reduction programs
5. Residential sector promotional campaigns
6. Multi family campaigns
7. Commercial/industrial business recycling
8. School curriculum and tours
9. Business recognition (awards) program
10. Self haul bin transfer program
11. Media advertising and releases
12. Community events

City of Davis Recycling Program (Chronology 1985-2015)



City of Davis Public Works Department 2011 Solid Waste Division Goals and Projections

Recycling Program Chronology

- 1970:** Recycling drop-off for newspaper
- 1974:** DWR begins collecting newspapers, bottles and cans
- 1986:** Davis Recycling Program voted "Best Curbside Program in the Country" by the National Recycling Coalition
- 1989:** City hires first Recycling Coordinator/ AB 939
- 1991:** Merit Award from the CA DOC Division of Recycling/ Commendation from the US EPA/ Bi-metal & steel cans added
- 1992:** National Recycling Coalition Public Education Award/ Clear and opaque plastics #1 & #2 added
- 1994:** 24/7 drop-off recycling at DWR/ Colored #1 plastics added
- 1995:** Bulky Item Program is restructured to a drop-off event, allowing multiple-family dwellings to participate
- 1996:** City of Davis offers year-round compost correspondence course
- 1998:** Jurisdictions in Yolo County begin battery collection program.
- 1999:** Apartment Move-out Waste Reduction Program begins
- 2000:** California Resource Recovery Association Recycling Award, honoring the City's recycling program for emphasizing 4Rs/ The City's Recycling Program website (davisrecycling.org) came online/ Yard waste collection changes from bags to loose piles
- 2001:** Bulky Items Drop-off Days accepts electronics/ Electronic waste accepted at YCCL for a fee (Yolo County Program)
- 2004:** Curbside split 64 gal recycling carts and 96 gal garbage carts distributed
- 2005:** Electronic waste accepted at YCCL for free (Yolo County Program)
- 2006:** Conservation Coordinator hired/ Apartment Move-out Waste Reduction Program expands to 19 properties/ Pilot iBIN Recycling Program begins with 750 apartment units
- 2007:** DWR begins accepting rigid plastics (#3, #5, #6, & #7) for drop-off recycling/ Worm composting is added to free backyard composting classes/ Permanent HHW facility at YCCL (Yolo County Program)/ www.DavisRecycling.org updated
- 2008:** iBIN Recycling Program begins/ AMOWRP cuts move-out waste by 40%/ C&D facility at the landfill (Yolo County Program)
- 2010:** Weekly (every Friday and Saturday) free Household Hazardous Waste Drop-off events at landfill (Yolo County Program)
- 2011:** Commercial Organics Pilot begins/ Rigid plastics and plastics #1-#7 accepted in DWR carts, residential and commercial

AB 939-Integrated Waste Management Act required all California jurisdictions to divert 25% of their waste by 1995 and 50% by 2000. This measurement system was changed in 2007; the State no longer calculates diversion, they measure per capita disposal only—pounds of waste generated per person per day (PPD). CalRecycle has determined Davis' per capita target to be 3.8 PPD per resident and 16.6 PPD per employee. Statewide per capita residential disposal was 4.5 PPD in 2009.

CITY OF DAVIS SOLID WASTE PROGRAM UPDATE TO THE NRC, MARCH 2011

Chart 1: Davis 2010 Waste Stream Data provided by Davis Waste Removal. Does not include drop boxes, self-haul and street sweeping

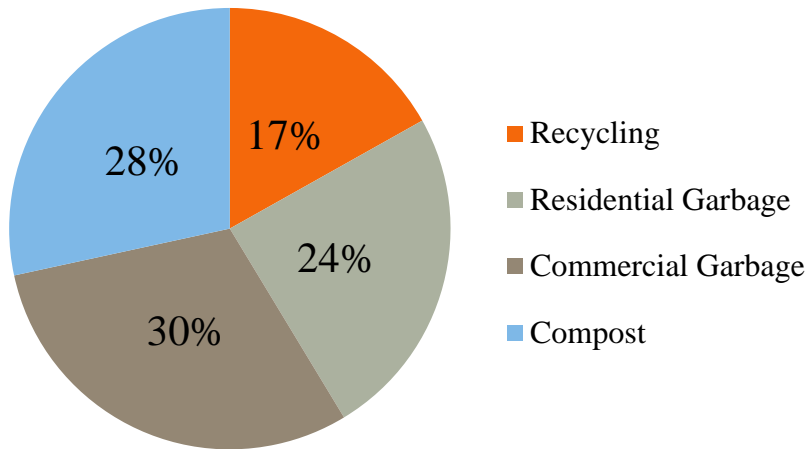


Chart 2: Compost Correspondence Course

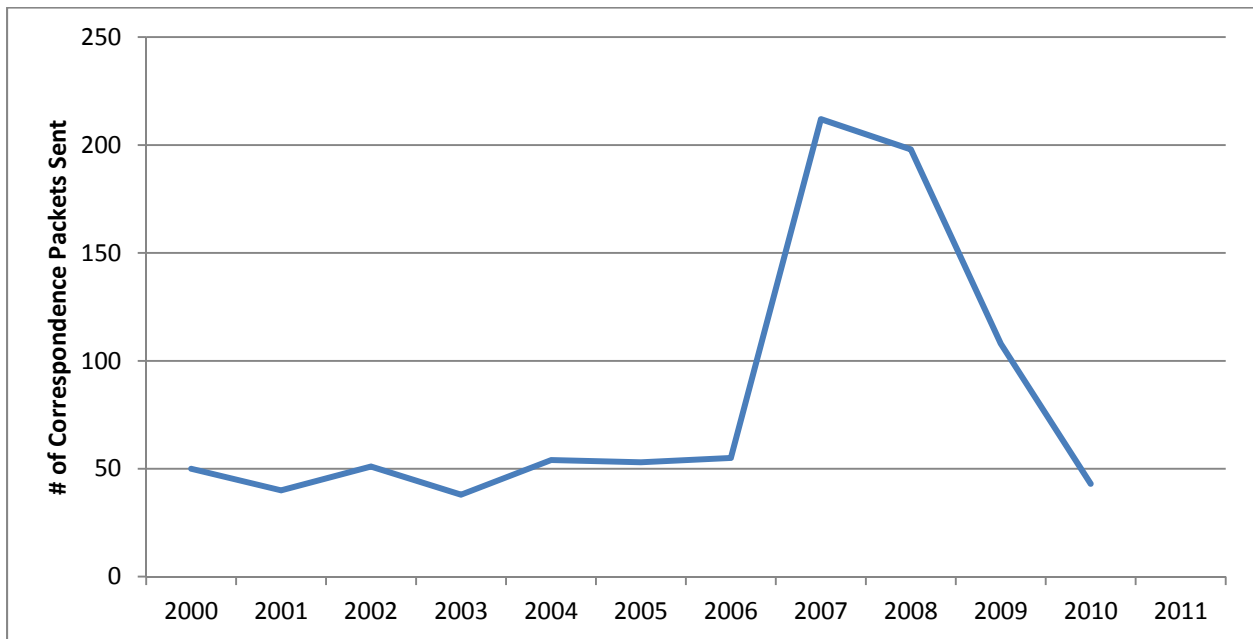


Chart 3: City-Taught Composting Classes

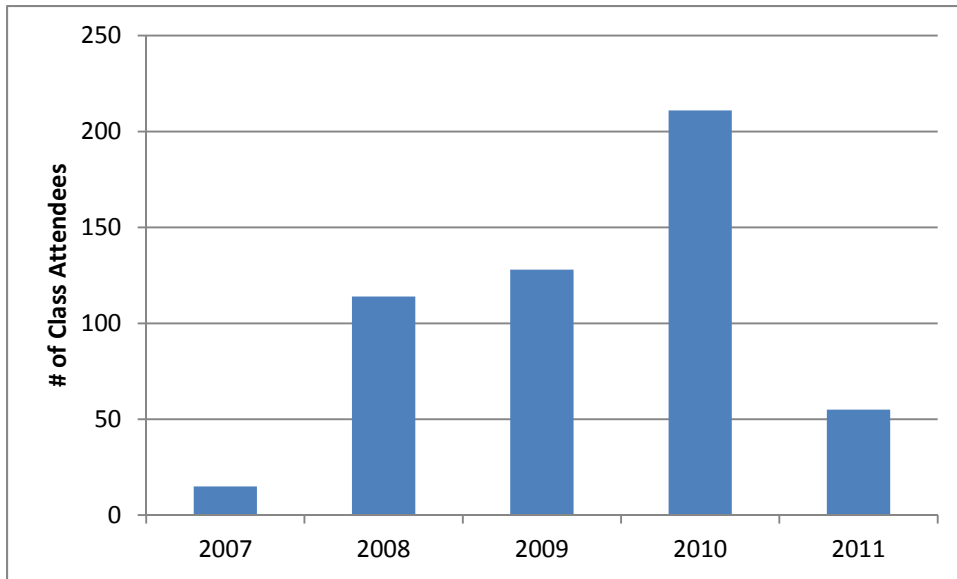


Chart 4: Commercial Food Scrap Pilot Program These businesses have signed up for the Food Scrap Pilot Program.

Business	# of Food Scrap Carts
Mustard Seed Restaurant	1
Hallmark Inn	1
Seasons Restaurant	1
Ciocolat	1
Blue Oak Energy	1
Dos Coyotes North Davis	1
Dos Coyotes South Davis	1
Caffé Italia	4
Davis Food Co-Op	5
Davis Farmers Market	6
Total	22

Subcommittee

Updates

March 2011

EUGENE S. WILSON

CITY OF DAVIS

MAR 02 2011

PUBLIC WORKS

**3502 TANGER AVENUE
DAVIS, CALIFORNIA 95616-7531
VOICE: 760-945-6054
FACSIMILE: 530-756-5930**

March 01, 2011

VIA FIRST CLASS MAIL

Chancellor Linda P.B. Katehi
Offices of the Chancellor and Provost
Fifth Floor, Mark Hall
University of California Davis
One Shields Avenue
Davis, California 95616

Re: U.C. Davis Energy Innovation and Research

Dear Chancellor Katehi:

I am writing you at the request of the City of Davis Natural Resource Commission where I am a member. I have been working on issues related to increasing the degree to which our energy needs in Davis are supplied by clean energy resources and on energy efficiency matters.

At our February 28 meeting, the Natural Resources Commission reviewed its work program for 2011 and considered regional issues that are emerging in connection with the county Board of Supervisors adoption of the Yolo County Climate Action Plan.

The county's Climate Action Plan will provide ambitious goals for greenhouse gas reductions in the region across multiple economic sectors including agriculture, transportation, and energy production.

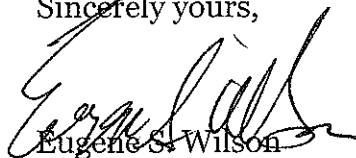
These goals can only be achieved through a cooperative region-wide effort. The Natural Resources Commission is proposing as one of its key work items for 2011 enabling local participation in the clean energy portion of the Climate Action Plan.

The purpose of this letter is to express the interest of the Natural Resources Commission in exploring technology transfer and how we can facilitate an on-going dialogue with the university that can allow Davis to better understand and take advantage of the university's renowned technical expertise in connection with developing new clean energy re-

Chancellor Linda P.B. Katehi
March 1, 2011
Page 2

sources in Davis and throughout Yolo County while producing economic benefits and job creation in the region.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Eugene S. Wilson". The signature is fluid and cursive, with a long, sweeping underline that extends downwards and to the left.

Eugene S. Wilson

cc: Mr. Jacques DeBra, City of Davis
Supervisor Don Saylor

STAFF REPORT

NRC Agenda Date: March 28 Item: 10
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DATE: March 28, 2011

TO: Natural Resources Commission

FROM: Jacques DeBra, NRC Staff Liaison

SUBJECT: Environmental Recognition Award (Award) Selection

Recommendation

1. Receive and review all Award applications; and
2. Select winning applicants for Individual, Business and Non-Profit Award categories.

NRC Function/Purpose

Advise the City Council on the preservation, management, and enhancement of the City's natural resources.

Fiscal Impact

Incidental Award costs are included in the FY10-11 NRC budget.

Background and Analysis

The City annually conducts the Environmental Recognition Award program to encourage and recognize efforts in the community that benefit the environment and overall sustainability objectives. Many applications were received for this year's Award program and those applications were electronically conveyed to NRC members two weeks prior to this meeting to allow ample time to review all materials and be prepared to recommend Award winners at this meeting. A summary of the applications received are listed below.

Business Category

- Waste Busters - nominated by Alan Pryor
- West Yost Associates - nominated by Steve Dalrymple, PE

Individual Category

- Judy Moores and Lynne Nittler - nominated by Alan Pryor
- Gene Trapp and Jo Ellen Ryan - nominated by Susan Gefter, John McNerney
- Christal Waters - nominated by Sanne Fettinger, Mont Hubbard, Kristen Muir, Kerry Sorter, Tim Starback

Non-Profit Category

- CALFIRE Nursery Program - nominated by Rich Marovich
Lower Putah Creek Coordinating Committee
- The Cool Davis Foundation – nominated by Alan Pryor
- The Davis Cemetery District – nominated by Joseph Catterin

- Holmes Junior High Green Team – nominated by Michael Dufresne
- Quail Ridge Wilderness Conservancy – nominated by Lenora Trimm
- UC Davis Arboretum – nominated by Diane Cary

Upon selection of Award winners by the NRC, congratulatory letters will be sent to recipients, nominees and nominators signed by the NRC Chair and Mayor. Those selected as Award winners will receive a plaque and be recognized at the April 19, 2011 City Council meeting through a special ceremonial presentation and cake cutting event. Winners will be added to the 'perpetual plaque' as part of the overall recognition effort.

Attachments:

Environmental Recognition Award Brochure

Join past recipients and be recognized for your achievements!

Individual Category

1995 - Robin Kulakow
1996 - Frank Maurer
1997 - Robert L. Bugg
1998 - Steve Chainey - Bob Cordrey
1999 - James Zanetto
2000 - John Kemper
2001 - Joe Krovoza - Pam Nieberg
2002 - Max Cadji
2003 - Ron & Petra Unger
2004 - Dorothy Peterson
2005 - Richard Marovich
2006 - Dave Feliz
2007 - Charlie Rominger
2008 - Emily Griswold
2009 - John Mott-Smith - Sid England
2010 - Marshall B. Hunt

Business Category

1995 - Ridge Builders Group, Inc.
1996 - Davis Energy Group
1997 - Davis Food Co-op
1998 - Tandem Properties, Inc.
1999 - Calgene LLC
2001 - Davis Food Co-Op
2003 - Screaming Squeegee Screen
Printing & Embroidery
2004 - Sunmart, Inc.
2005 - Harrington Place
2006 - Island Ink Jet
2008 - MAK Design+Build, Inc.
2009 - Kiwi Tree
2010 - Hallmark Inn

Non-Profit Organization Category

1996 - Riparian Improvement Organization (RIO)
1997 - Putah Creek Council
1998 - Yolo Land Trust
1999 - Duck Days Steering Committee
2000 - Environmental Policy & Planning Com. ASUCD
Friends of the Davis Public Library
2001 - R4 Recycling Program - UCD
2002 - Yolo Basin Foundation
2003 - Assoc. Students of UCD for Unitrans Bus System
2004 - Assoc. for Efficient Environmental Energy Systems
2005 - Yolo Transportation Management Association
2006 - Tree Davis
2007 - Unitarian Universalist Church of Davis
2008 - Davis AYSO
2009 - Solano County Water Agency
2010 - Davis Farm To School Connection



Environmental Recognition Awards
Recognizing the environmental service of citizens,
businesses and non-profit groups for 17 years!



Printed on 100% post-consumer recycled content paper

Be recognized for your environmental stewardship!

City of Davis Seventeenth Annual
Environmental Recognition Award

Each year the City of Davis recognizes the environmental contributions of an individual, a business, and a non-profit. This year it could be you!

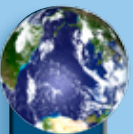
Do you know of a business, non-profit or individual that has gone above and beyond to improve the environmental quality of life in and around Davis? Someone who is setting an example of how to conduct business, set up a home environment, and/or live life daily in a manner that encourages sustainability and harmony with nature?

Nominate them for the Seventeenth Annual Environmental Recognition Award!

Each year the City of Davis recognizes the contributions of an individual, a business, and a non-profit organization toward improving the environmental quality of life in and around the City of Davis.

Award recipients are selected by the City's Natural Resources Commission. An awards presentation will be held at the City Council meeting on

April 19, 2011.



Nominations

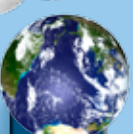
- ➔ Nominee's actions/ achievements address a current environmental concern.
- ➔ Nominee has established a record of achievements or actions benefiting the environment.
- ➔ Nominee's actions/ achievements show a commitment to continued effort long term.
- ➔ Other factors may include:
 - ✓ creative implementation of an innovative project/ program,
 - ✓ development of a model project/program.

To submit a nomination, you may email, mail or hand deliver your nomination packet to:

Dani Hester
City of Davis
Public Works Department
1717 5th Street
Davis, CA 95616
DHester@cityofdavis.org

Nomination forms are available online at www.cityofdavis.org

**Nominations are due
Friday, March 4, 2011**



Selection Criteria

Nominations should include:

1. Nomination category: Business, Individual(s) or Non-Profit Organization.
 2. The name, address, and phone number of the nominee, as well as the name, address, and phone number of the nominator.
 3. How has the nominee shown exceptional initiative in this field (above and beyond typical)?
 4. How have the nominee's actions/achievements improved our environmental quality of life? Please specify what environmental areas have been affected.
 5. Any other information that supports this nominee's application. Samples of award winning nominations are available for viewing.
- Note: Supporting documentation may be used verbatim as text for the award presentation and news article.

Questions should be directed to Dani Hester at 757-5686.

2010 Annual Hazardous Waste Sites Report

Introduction

One of the functions of the Natural Resources Commission (NRC) is to periodically investigate the status of cleanup activities at hazardous waste-contaminated sites in the City, and to report on the results of those investigations, with recommendations as appropriate, to the Davis City Council. This task, which has been performed by the NRC since 1988, has evolved into an “Annual Hazardous Waste Sites Report.” In conducting this task, Commission members typically consult with staff from the cognizant regulatory agencies; they also review pertinent technical reports and correspondence, review online information, and run queries on available hazardous waste databases. This report is the NRC’s Annual Hazardous Waste Sites Report for 2010.

Regulatory Sources

Various government agencies are involved with contaminated site identification, characterization, monitoring, and cleanup. At the State level, primary responsibility for the enforcement of water quality regulations rests with the Regional Water Quality Control Board. For Davis and much of the Central Valley, the responsible regional board is the Central Valley Regional Water Quality Control Board (RWQCB). Another State agency with hazardous waste-related functions is the State Department of Toxic Substances Control (DTSC), a branch of the California Environmental Protection Agency (CalEPA). The DTSC regulates hazardous waste, conducts and oversees cleanups, and promotes pollution prevention.

In the City of Davis, the Central Valley RWQCB is generally the responsible agency for managing the characterization and cleanup at most contaminated sites. Also there are two designated “Superfund” sites in Yolo County – the Frontier Fertilizer Site in East Davis and the LEHR Site on the UC Davis campus; cleanup of these federally designated sites is managed by the US Environmental Protection Agency (USEPA). The Yolo County Health Department also provides environmental health information and services throughout the County, including the City of Davis; among their related programs are storage tank programs and a hazardous material program.

Initial List of NRC Hazardous Waste Sites for 2010

The current members of the Natural Resources Commission accepted assignments to investigate the following nineteen hazardous waste sites in 2010; these site-specific reports are first listed and then presented below:

- Frontier Fertilizer Superfund Site – 4303 Second Street
- Former Texaco Station – 712 G Street
- Fifth and G Streets
- Lewis Cleaners – 670 G Street
- Davis Liquor & Food – 4810 Chiles Road
- Munich Amalgamated (Court Galvanizing) – 2500 Fifth Street
- 203 J Street
- Davis Amtrak Station – 840 Second Street
- Cable Car Wash – 904 Third Street
- Old Davis Landfill – Pole Line Road
- Timperly Property – 1700 Olive Drive
- Arco Station – 705 Russell Blvd.
- George Jandera Property (Mobile Service Station) – 1600 8th Street
- Shell Station – 1944 Anderson Road I
- Circle K – 1930 Lake Blvd.
- Lehr Site

Date: Revised, May 2010

Site Name & Location: Frontier Fertilizer Superfund Site

The approximately 8-acre Frontier Fertilizer Site is located at 4303 Second Street, on the north side of Second Street, southeast of the Mace Ranch residential subdivision, in East Davis. Land north of the site is planned for development as the Mace Ranch Light Industrial/Business Park. Fertilizer Superfund Site includes a triangular shaped 11.43-acre parcel, Assessor's Parcel Number 071-412-031, owned by Pine Tree Properties; and an adjacent 7-acre parcel which is part of a 10.98-acre parcel, Assessor's Parcel Number 071-411-07, known as the "Remainder Parcel." The National Superfund Database Number (CERCLIS) is # CAD071530380

Commissioners Name: Bruce Kemp (2006 material); Mark Lubell (2009 update)

City Contact Name and Number: Bob Weir, Public Works Director, 530-757-5686;
bweir@cityofdavis.org

Federal Agency Contacts: Bonnie Arthur, U.S. Environmental Protection Agency (EPA), Region 9, San Francisco, 415-972-3030, arthur.bonnie@epa.gov

Jackie Lane, USEPA, Public Outreach Coordinator,

Mary Simms, USEPA, Region 9, San Francisco. 415-947-4270, simms.mary@epa.gov

State Agency Contact: Steve Ross, California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), Sacramento, 916-255-3694; sross@dtsc.ca.gov

Community Contact: Pam Nieberg, Frontier Fertilizer Superfund Oversight Group (FFSOG), 3010 Loyola Drive, Davis, CA 95616, 756-6856; pnieberg@dcn.davis.ca.us

Contaminants of Concern: The main contaminants in the soil and groundwater at the Frontier Fertilizer Site are chemicals that were formerly used as pesticides and soil fumigants: ethylene dibromide (EDB); 1,2-dichloropropane (DCP); and 1,2-dibromo-3-chloropropane (DBCP). The contaminant 1,2,3-trichloropropane (TCP) has also been detected. The solvent carbon tetrachloride is also present in an apparently separate plume. EPA has found that exposure to EDB, DCP, DBCP, and TCP can have a variety of adverse effects to human health, including cancer and damage to various organs and systems, including the reproductive system. Carbon tetrachloride (also known as tetrachloromethane), has been found to cause damage to organs and to be a human carcinogen.

In 2008, there was *new contamination detected* outside of the monitoring wells that previously marked the edge of the plume. Specifically, a one-time groundwater sampling test called a “cone penetrometer” detected TCP about 150 feet northeast of the Target footprint in both of the top two aquifers, at levels high enough to pose a cancer risk. Whether this detection was just a one-time incident or indicative of further spreading of the groundwater contamination is unknown at this time; the groundwater generally moves to the NE so it is possible that contamination has spread. As a response, EPA developed a work plan in February 2009 to complete a range of more intensive monitoring; the Frontier Fertilizer Superfund Oversight Group (FFSOG) citizen’s group (see more detailed discussion below) is currently satisfied with this monitoring plan. The surprise detection also increased the involvement of both Yolo County and City of Davis in the remediation process; County Supervisor Jim Provenza and City Councilmember Don Saylor are attending citizen group and other related meetings.

The status of the contaminants has not changed much by 2010. TCP is still showing up in the groundwater monitoring and more monitoring is planned on the Target site. EPA was asked to do soil gas measurements between Target and the nearby houses and nothing was found. There is no indication that pollution is moving horizontally towards more residential areas. In the meantime, pollution levels are decreasing in the groundwater as the pumping and treatment operations continue.

2010 TCP still shows up in the groundwater monitoring report, soil gas measurements in footprint of Target store; EPA to do soil gas measurements and nothing was found near the homes to the Northeast; not moving towards homes but still seen in the monitoring wells Contamination appears to be decreasing as contaminated water is pumped out; still enough there treatment; still seeing some vertical movement in some areas but the horizontal movement appears contained. EPA is pretty much maintaining the pump and treat.

Background: Two former businesses operated pesticide and fertilizer sales and distribution businesses on the site: the Barber-Rowland Company from 1972 to 1982 and the Frontier Fertilizer Company from 1983 to 1987. The businesses operated primarily on four acres on the

west side of the property where they stored, mixed, and sold pesticides, herbicides, and non-bulk chemicals in cans, drums, and other containers. Both companies used a 4,000-cubic-foot, unlined disposal basin in the northwest portion of the site to dispose of residual and unused pesticides and fertilizers.

In the early 1980s, following the discovery of toxic chemicals, Yolo County and then the State of California began to pursue corrective and remedial actions. In 1985, the Regional Water Quality Control Board (RWQCB) and the California Department of Toxic Substances Control (DTSC) authorized the removal of approximately 1,100 cubic yards of contaminated soil from the disposal basin area, to a depth of 20 feet. The State installed a small extraction and treatment system in 1983; the first groundwater monitoring wells were installed in 1985 and 1986. The site was placed on the California State Priorities List of hazardous waste sites in 1987. Various contamination assessments, remedial investigations, feasibility studies, and risk assessments were conducted between 1987 and 1992, and additional monitoring wells were installed.

In 1994, the U.S. Environmental Protection Agency (EPA) assumed responsibility for investigation and cleanup efforts after the site was added to the National Priorities List (Superfund). The Frontier site is somewhat unique because the money is coming directly from EPA, not from a “potentially responsible party” that owns the land. This is because the previous owners are no longer in business and thus cannot pay for clean-up. The Frontier Fertilizer Superfund Oversight Group (FFSOG), a community group, was also formed at that time. Since 1995, EPA has been operating a groundwater extraction and treatment system with periodic upgrades and expansions. Over the years, the contamination plumes have evolved, but so has the interim extraction and treatment system. More recent work during 2004 and 2005 included expansion and improvement of the groundwater pump-and-treat system, including the installation of high capacity extraction wells south of Mace Ranch and a new extraction well near the old disposal basin. The new system appears to be extracting contaminants at a substantially higher rate than before. The improved and maximized pump-and-treat system continues to operate 24 hours per day.

CERCLA and Remediation Plan Implementation: The major developments at this site are primarily related to milestones in the CERCLA process. The Final Feasibility Study was issued in June, and a public comment period for EPA’s Proposed Remedial Action Plan was held in June and July. The preferred remedy calls for in-place heating (thermal treatment) with vapor controls for about one year. The actual number of electrodes or heating wells and the operating temperatures for treatment will be determined in the design stage. The plan also calls for continued groundwater pumping and removal of contaminants. Biological treatment of nitrates would be a secondary priority; the treatment involves injection and land application of beer fermentation wastes to stimulate microbial activity.

A Final Record of Decision for the remedial plan was signed on September 28, 2006. The ROD included the expected remediation technology—in-place heating of 89,000 cubic yards of soil, plastic cover over the source area for vapor control, and the ground-water extraction and monitoring system. Groundwater treatment will continue until monitoring indicates that the Federal and California Maximum Contaminant Levels (MCLs) for groundwater are achieved.

The MCLs, which are Safe Drinking Water Act regulatory standards, are established in the ROD as the cleanup levels for groundwater. The final ROD contains several elements not mentioned in the 2006 NRC update. Although not a primary contaminant of concern, the remediation plan will evaluate the possibility of biological controls for nitrates (the city of Davis may have set a standard for this?). There continues to be scientific debate about the effectiveness of any bioremediation components of the plan. Restrictions are going to be built into the property deeds requiring any development to take into account the remediation plans, and public access to the site is restricted. A cap of appropriate materials will be placed over the site after clean-up to prevent further ecological contact. The total cost of the remediation is expected to be \$18,413,000 (ROD), but the price tag could increase depending on how much residual contamination is left after in-situ heating.

The remedial plan is currently in the design stage (the ROD lays out the basic goals of the plan, but the official “Remedial Action Plan” or RAP is created by the contractors), and CH2M Hill is the contractor with another company to implement the heat treatment. Implementation of in-situ heating is expected to begin in the summer 2009. The basic idea behind the in-situ heating is to remove the source of the contaminants, and then to continue monitoring and extracting groundwater until the water quality standards are met. The groundwater has a 20 year residence time, so removing the sources will require multiple years of continued extraction. The effectiveness of the in-situ heating is not completely certain; they may not be able to meet the MCL standards and so the clean-up standards could change in the future and monitoring and extraction may continue for years.

In 2010 the Remedial Action Plan is now complete but implementation is not happening as quickly as they expected. They have installed a variety of the components of the in-situ heating system, including a network of deep and shallow electrodes that will conduct the heat. A variety of bureaucratic issues have slowed down implementation, including finalizing contractual agreements with company that will do the heat treatment and contracting with PG&E to deliver enough power to operate the system. At this point, the in-situ heating is supposed to begin in summer 2010. The RAP requires completing some other associated plans, and not all of these have been completed yet. Most notably, the air monitoring plan for tracking emissions from the ground and the community notification plan for alerting citizens to any potential exposure events have not been completed. The community group (FFSOG) is generally happy with this progress despite the delays, and think that all parties are putting in good faith efforts in dealing with the expected number of bureaucratic and technical issues.

Other “changes” regarding the site have to do with surrounding land use, specifically the Second Street Crossing (Target Store) Project proposal on the adjacent property, which is the subject of Measure K on the November ballot. A number of groundwater monitoring wells, piezometers, and extraction wells associated with remediation of the Frontier Fertilizer Site are located on or immediately adjacent to the proposed Target Project site.

In 2008, EPA signed an Agreement on Consent (Agreement) with Target to enable redevelopment of land adjacent to the Site while not impeding cleanup efforts. Under the Agreement, Target, with EPA oversight, will fund and perform the movement of eight ground

water monitoring wells at privately-owned parcels lying to the north and west of the Frontier Fertilizer Superfund site. This Agreement directs Target to perform certain activities related to relocation and abandonment of ground water monitoring wells on the Target property at Second Street near Faraday Avenue. At the time of this writing, Target has completed the abandonment and relocation of these wells. The agreement also required Target to install “soil gas” monitoring pipes, which has also been done. Although not in the formal agreement, EPA has asked Target to implement several mitigation measures at the time of building construction, including piping underneath the building, a gravel layer, and air monitoring. Target has given written confirmation of these actions to EPA, according to Bonnie Arthur (see attachments). Target is moving forward with this monitoring plan, although it took some time for EPA to approve their protocol. Monitoring results are expected in late 2010.

Community involvement: A citizen oversight committee, Frontier Fertilizer Superfund Oversight Group (FFSOG), has been actively involved with monitoring cleanup efforts for this site since 1994. The FFSOG has received grants from EPA and has a paid technical advisor, Steve Deverel, Ph.D. FFSOG’s main concerns are the continued migration of contamination in groundwater, land development in the area that could impede or delay cleanup efforts, and health and economic risks potentially associated with the contamination.

In the 2006 update, the FFSOG expressed technical concerns regarding some aspects of the process and the proposed plan. The group believes that EPA is attempting to rush ahead toward a Record of Decision. They also question the efficacy of biological treatment for the nitrate contaminants. FFSOG submitted comments on the proposed plan. The group has also developed a set of proposed community acceptance criteria.

In 2009, the FFSOG is still active with monthly meetings and is preparing to monitor the implementation of the remedial plan, especially the beginning of the in-situ heating process. EPA is currently working on community outreach plans (due March/April 2009) to enable public participation and education during the treatment process, because especially the neighboring citizens are concerned about possible toxic air releases from the site. As mentioned earlier, one aspect of the remedial plan is a plastic cover for vapor control. Pam Nieberg of the FFSOG said they are generally satisfied with progress at this point; EPA and Target appear to be cooperating. Of course they are keeping an eye on things and working to update the community.

Conclusion: Contaminants from the Frontier Fertilizer Site have infiltrated the groundwater underlying the area and migrated north to include a portion of Mace Ranch and the currently vacant property to the north where the Target Store Project is proposed, with the possibility of further migration to the northeast. The contamination is comparatively shallow, and does not affect the City’s drinking water, which is derived from a deeper aquifer. Recent improvements in the EPA system have substantially increased the treatment rate. EPA is continuing to work toward a long-term remedial solution and has identified a preferred remedy.

The 2006 update identified two concerns that remain valid in 2009. The first is that the city should continue to monitor the schedule for implementing the remedial plan. EPA’s schedule for getting to the Record of Decision slipped in the past; the proposed plan and Record of Decision were expected in 2005, with remedial action getting underway in April of 2006. But the actual

final ROD was not signed until 2006 and the treatment will only begin in summer 2009. Why exactly these delays have occurred is unclear; delays due to bureaucratic hurdles and funding issues are typical in these types of projects. Furthermore, some of the citizen participation comments criticized EPA for moving too fast in the development of the plan. Regardless of these delays, the ROD is now in place, the RAP is being designed, and treatment is expected to begin in the summer. So the focus should now shift to monitoring implementation.

The second concern is whether the proposed Target Store Project (or, for that matter, any major development on the adjacent light industrial / business park) would have any indirect or direct effects in terms of delaying or interfering with remediation efforts at the Frontier Fertilizer Site. Steps have now been taken to deal with these issues, including an agreement between EPA and Target to reconfigure the monitoring system at the Target site, and also the promised implementation of mitigation measures during the Target construction. Obviously, the city should continue to monitor this situation to make sure Target lives up to its commitments.

Specific Recommendations: As noted in our last update, the NRC continues to recommend that the City monitor the EPA's CERCLA process. In addition, the City should continue to recognize and commend the Frontier Fertilizer Site Oversight Group for its efforts in overseeing the cleanup.

2006: The NRC's comments on the Draft EIR for the Target Project provided several additional recommendations. The NRC recommended that the EIR include documented statements from EPA to confirm that development of this project as proposed will not interfere, delay, or otherwise adversely affect ongoing remediation. Any conditions, specifications, or recommendations identified by EPA should be incorporated into the proposed project design. The NRC also recommended that mitigation measures involving any aspect of the Frontier Fertilizer Site monitoring and cleanup specify that coordination is required with the FFSOG. The NRC also recommended that additional language be added to the mitigation measures stating that any replacement wells and other equipment relocation found to be necessary to avoid significant adverse effects of the proposed development on the ongoing remediation of the Frontier Fertilizer Site shall be installed and proven operational to the satisfaction of EPA prior to the removal or abandonment of any existing wells and equipment. All costs associated by such relocation and replacement shall be borne solely by the project proponent.

2009: The NRC recommends ascertaining the extent to which the Target agreement is being implemented, including the construction mitigation. Also, the NRC recommends development of a "milestone" checklist with expected dates of completion, which can be easily monitoring on an annual basis. The biggest threat to this project is delays due to funding. The NRC recommends inviting the technical coordinator of the project to a hearing to provide an update on the scientific underpinning of the clean-up process and also any new information about the plume, since debate continues about both the extent of the plume and the effectiveness of treatment. Probably the most important concern is whether or not the clean-up process will meet MCL standards, and NRC recommends maintaining a preference for those higher standards.

2010: The City needs to coordinate with FFSOG and the relevant agencies on the development of the community notification plan. In particular, the Fire Department needs to weigh in on how to respond to any potential exposure events. The 2009 recommendations still stand as well.

Sources:

- EPA websites, including <http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/Frontier+Fertilizer?OpenDocument> (up-to-date until 5/1/2008; the Record of Decision is available here)
- Bonnie Arthur, EPA, personal communications
- Frontier Fertilizer Superfund Site Oversight Group website <http://yvm.net/go/pnieberg/>
- UCD websites including <http://www.lib.ucdavis.edu/dept/govinfo/news/frontier.php>
- City of Davis 2006. Second Street Crossing (Target Store) Project Draft Environmental Impact Report.

Attachments:

- FFSOG Recommendations (2006)
 - Notes from Mediation Sessions (2006)
 - Frontier Fertilizer ROD (2009)
 - CH2MHill Workplan and Target site analysis (2009)
 - Target letter to EPA (2009)
-

Date: July 2010

Site Name & Location: Former Texaco - 712 G Street, Davis

Commissioners Name: Brook Gale, Mark Lubell (July, 2010)

City Contact Name and Number:

Regulating Agency Contact Name & Number: Regional Water Quality Control Board (lead agency) Central Valley Region 5S, David Stavarek (916) 464-4673;

Contaminants of Concern

The contaminants at this site are typical of a gasoline station that had large underground storage tanks. In this case, the storage tanks were removed after the station was decommissioned in 1983. The lot is now vacant. There is a permanent monitoring network of 18 monitoring wells on-site and off-site (nearby streets and lots) in 2010. May, 2010 was the last sampling period and the highest readings were 69,000 micrograms per liter; Benzene up to 13,000 micrograms, Toluene 4800, Ethylbenzene at 3800 and Xylenes 5400, TBA (tertiary butyl alcohol) to 120 micrograms per liter. These concentrations have not significantly changed since the last update of this report, where concentrations of total petroleum hydrocarbons as gasoline were up to 68,000 micrograms per liter (ppb) Benzene up to 11,000 ppb Toluene up to 4,400 ppb

Ethylbenzene up to 2,400 ppb Xylenes up to 6,900 ppb. Basically no serious clean-up has occurred here. Fortunately this appears to be a fairly stable pollution plume with no serious mobilization that threatens drinking water wells.

Background

This site was a gas station owned by Texaco and operated through 1983. It is now managed by Chevron due to corporate merger with Texaco. The Regional Board has jurisdiction over this site in the context of their underground storage tank program. A site is listed in the Regional Board program when the county notes a potential pollution problem during the regular permitting process for installing, modifying, or removing underground storage tanks.

Remediation

This site has not yet had successful remediation due to a series of delays and ineffective attempts. The first remediation attempt began in 1998 with an "airsparge" system that is designed to increase underground oxygen levels and stimulate microbial bioremediation; this system stopped operation in 2005/6 because it was found to be ineffective. They looked at a series of other options (not sure if any was attempted in 2006-2009), and in April of 2009 they installed a hydrogen peroxide injection system that is supposed to create chemical oxidation by reacting with the hydrocarbons. The chemical oxidation also was not successful for unknown reasons, and the ineffectiveness was a surprise to Regional Board site manager David Stavarek.

There are now ongoing discussions about evaluating and installing a new remediation system on the site, with the latest meeting on July 12, 2010. In that meeting there was discussion of trying to put in a more advanced airsparging system coupled with soil vapor extraction and treatment. The Regional Board is awaiting a more thorough evaluation of this option by Chevron's overall remediation division. There was some discussion that pollutant levels were too high for the more basic airsparging system that was first attempted in 1998. There have been some delays in the remediation process, with perhaps the most serious caused by a conflict with neighboring Lewis Cleaners dry-cleaning hazardous waste site, because the Lewis Cleaner consultants thought that the Texaco site remediation activities could interfere with the Lewis Cleaner activities. This conflict has apparently been resolved. In general, the site manager feels that things are moving along at a reasonable speed and the Regional Board is doing nothing beyond the routine oversight of remediation activities.

Recommendations

There are no recommendations specific to this particular site at this moment. However, there are some broader recommendations that may apply to this particular site once the new remediation plan is approved:

- Facilitate city building permits needed for implementation of remediation plan. The Regional Board and contractors are often delayed by what are fairly simple installations like a concrete pad, which apparently are not scheduled in an expedited manner and subject to same scrutiny as any other building permit. This can delay the clean-up

process. The city may need to consider implementing a more prioritized or triage type of permitting system that can accelerate building permits associated with hazardous waste sites. The same is needed for hooking up any treatment facilities to the sewer system.

- More pressure on Regional Board and potentially responsible parties could be useful. Many of the hazardous waste sites throughout the city appear to be moving slowly. Some of this is expected given the technical challenges, lack of resources, etc. But some political pressure from the city could speed things up. One potential strategy is for the city council to send a letter encouraging more speedy progress on all sites. However, it would take some work by the NRC or City Staff to determine which sites are really seem delayed. For example, this particular site is moving slowly so a letter might help, despite the fact that the Regional Board seems to be operating in good faith.

Date: May 19th, 2010

Site Name: 5th & G Street - USDA Site, Shell Station, Hoffman Automotive

Contaminant of concern: PCE, Gasoline and other petroleum products

Commissioner's Name: Dean T. Newberry

Outside Agency:

USDA:

RWQCB: Brian Taylor betaylor@waterboards.ca.gov , (916) 464-3291

Shell Station: (T0611307549)

RWQCB: David Stavarek, dstavarek@waterboards.ca.gov , (916) 464-4673

Unocal: #4846(T0611300181)

RWQCB: James Munch, jmunch@waterboards.ca.gov , (916) 464-4618

These Sites (USDA, Shell Station and Hoffman Automotive) have been completed, closed and developed.

They are listed on the State Water Resources Control Board [Geotracker](#) website as “Closed”.

Continued review of these sites is a waste of taxpayer, city, county and NRC resources.

Remove these sites from the Hazardous Waste Site Update List.

Date: March 21,2011

Site Name: Lewis Cleaners - 670 G Street

Contaminant of concern: PCE

Outside Agency: SRWQCB Central Valley Region 5S

Contact: Chris Cochrane, cmcochrane@waterboards.ca.gov, telephone # 916-464-4820
Case#: SL186162974

Assessment: This site is a mess. This site is not being remediated at this time. Neighbors of the site have an active PCE leak under their house. The state has installed a ventilation system in their house to protect the occupants.

The Geotracker depicts 21 monitoring wells, 1 leaking underground storage tank and 1 other cleanup site (the PCE) .

I recommend that the NRC forward a recommendation to the City Council to ask the city to engage with the other parties with the goal of continuing site remediation and cleaning up the site to protect the health and welfare of the residents of the City of Davis.

Date of Site Review: June 14, 2010

Site Name & Location: Davis Liquor and Food - 4810 Chiles Road (case #570302)

Commissioner's Name: Herman Boschken

City Contact: Diane Jensen (Public Works)

Regulating Agency Contact Name & Number: Regional Water Quality Control Board (lead agency) – Central Valley Region 5S, David Stavarek (916) 464-4673

Contaminants: Gasoline (TPHg), benzene, and MTBE

Background: The site is an active retail station dispensing gasoline and diesel at a convenience store. In April 1999, two 10,000 gallon and one 12,000 gallon diesel USTs were replaced with three gasoline and two diesel USTs. Soil and groundwater investigations have defined an elliptical plume of gasoline hydrocarbons beneath the site that is approximately 50 feet trending northwest to southwest. The plume is centered beneath dispenser islands. The vertical limit of the plume is approximately 30 feet bgs. In March 2005, concentrations of TPHg, benzene and MTBE in shallow groundwater were as high as 6,500, 310 and 110 ug/l, respectively.

Changes Since Last Update: Between 2007 and early 2010, the site was in remediation after tests in December 2006 on the nearest water well (MW3) showed continued presence of TPHg, benzene and MTBE at levels of 5000 ug/l, 430 ug/l and 27 ug/l, respectively (deemed a serious condition). Between November 2006 and February 2007, a groundwater extraction system was utilized to reduce contaminant levels. Subsequent to the extraction procedure, three tests at MW3 were taken in 2007 (March, June and October) to determine concentrations of TPHg, benzene and MTBE. In January, 2008, a fourth test showed no detection of these contaminants, indicating a successful remediation.

Conclusion: A “NO FURTHER ACTION REQUIRED” letter was issued by SWRCB on May 27, 2010

Specific Recommendations: SWRCB now considers this case CLOSED.

Date of Site Review: 5 February 2009

Site Name & Location: **Munich Amalgamated / Court Galvanizing - 2500 Fifth Street, Davis**

Commissioner’s Name: Charles Ehrlich

Regulating Agency Contact Name & Number: Regional Water Quality Control Board – Central Valley Region, Amy Terrell (916) 464-4673

Background:

Groundwater monitoring conducted in August 2008 show that the constituents of concern are predominately zinc and sulfate, which are mostly located on-site in the area of the former evaporation pond. The concentration of the pollutants chromium and nickel have declined to levels near or below their respective cleanup levels, as shown in the August 2008 groundwater monitoring results.

A groundwater extraction and treatment process that Mr. Munich operated between about 1994 and 2001 was responsible for reducing the extent and quantity of metal contaminants in groundwater.

A few sacks of dried metal hydroxide precipitate from this treatment process remained on-site after the treatment process stopped, and Mr. Munich is currently working with Yolo County Environmental Health to identify the appropriate disposal location for this precipitate.

AST

aterrell@waterboards.ca.gov

Date: May 2010

Site Name & Location: 203 J Street

Commissioners Name: Brook Gale, Mark Lubell (2010)

City Contact Name and Number:

Regulating Agency Contact Name and Number:

California Regional Water Quality Control Board, Marie T. McCrink, PG, HG, Engineering Geologist, 916-464-4816 (pre-2010 contact; not sure if relevant)

DURIN LINDERHOLM (Case Worker) Central Valley Regional Water Quality Control Board, 916 464 4657, dlinderholm@waterboards.ca.gov Cori Condon (Supervisor); 916 464 4619

To review file: Student intern Veronica Finol 916 464 4776

Contaminants: Trichloroethene (TCE) and Tetrachloroethene (PCE) is present from light industrial manufacturing site; contaminants most likely from dumping. There has been some temporary monitoring but no permanent monitoring station is established due to lack of funds and delay by potentially responsible parties. The MCL standard for TCE is 5 micrograms per liter; most recent monitoring data says there is as high as 28,000 micrograms per liter in some localized areas. Predominant direction of the plume is moving in Southeast and there is one city well that is in the path of the plume. There was TCE detected in one nearby well but there is not a confirmed link to this particular site.

Background: 1970' - 1980's J. F. Wilson produced sheep castration devices. The solvent TCE was involved. Discovered from complaints via odors a number of years ago and there has been intermittent groundwater and soil gas testing in the past. The site is part of the overall site clean-up program of the Regional Board

(http://www.swrcb.ca.gov/centralvalley/water_issues/site_cleanup/cleanup_overview.pdf)

There is currently no permanent remediation and monitoring plan in place for this site, although the Regional Board has some level of casework developed.

Planned activities for 2010-11: The site needs to have a permanent monitoring and remediation plan in place. There has been a pilot study approved by the Regional Board that suggests a soil vapor extraction system will be the appropriate technology. There may also be a place for liquid extraction; e.g.; groundwater pumping and remediation. The potentially responsible party is supposed to hire a consultant to complete a monitoring and remediation plan but this apparently has not happened. The Regional Board is in the process of sending enforcement orders, starting with informal letters, directing the potentially responsible party to submit clean-up plans. Lack of compliance could eventually end up in a lawsuit and while the Regional Board staff did not confirm it, it seems there has been at least some discussion of this possibility.

Community involvement: None

Conclusion: This appears to be a fairly serious hazardous waste site given high concentrations and proximity of city wells. On the positive side, it seems like the plume is not moving too quickly so city water supplies are not in immediate jeopardy. But the lack of a permanent monitoring network and ongoing monitoring activities makes it difficult to know exactly what the situation is.

Specific Recommendation – as appropriate:

- The Regional Board commented that they do not have adequate communication with City of Davis regarding drinking water data from nearby wells. The City of Davis needs to contact the Regional Board to deliver the appropriate data.
- The City of Davis should consider adjusting their groundwater extraction to minimize the use of the current wells. If groundwater extraction is too high, it risks creating a cone of depression that could mobilize the pollutants at a higher rate.
- The City of Davis should support the Regional Board as needed in any enforcement actions, including a lawsuit.
- Community pressure would be helpful as well; explore working with the Frontier Fertilizer Group to create broader network of citizen involvement.

Date: October 19, 2010

Site Name & Location: Davis Amtrak Station - 840 Second Street

Commissioners Name: Jennifer Holman

City Contact Name and Number:

Regulating Agency Contact Name and Number: California Regional Water Quality Control Board, Marie T. McCrink, PG, HG, Engineering Geologist, 916-464-4816

Contaminants: Small PCE plume. This year, PCE was detected in groundwater samples taken from two wells on site in concentrations of 5.88 micrograms per liter ($\mu\text{g/L}$) and 1.67 $\mu\text{g/L}$, respectively. California's MCL for PCE is 5.0 $\mu\text{g/L}$.

Background: The Union Pacific Railroad Company (UPRR), Davis Amtrak Station is located east of G Street and South of Third Street in Davis. The city of Davis purchased the Amtrak Station from UPRR in the mid-1990s. Historical operations at the site have resulted in discharges of PCE to groundwater. The affected groundwater is limited in aerial extent to a small area located in the center of the station. Groundwater is currently encountered at about 25-30 feet below ground surface. There is however, seasonal variation in the depth to groundwater ranging from five to ten feet per year. Regional groundwater flow is to the southeast. Local site groundwater flow is variable, predominantly to the southeast, and ranging from east to south.

Changes since last update: None.

Planned activities for coming year: Annual monitoring of 2 wells on site. Other wells are being monitored by Cable Car Wash. Continue annual monitoring. Monitor attenuation of plume.

Community involvement: None

Conclusion: Long term monitoring to continue.

Specific Recommendation – as appropriate: None

Date: October 19, 2010

Site Name & Location: Cable Car Wash - 904 Third Street

Commissioners Name: Jennifer Holman

City Contact Name and Number:

Regulating Agency Contact Name and Number: Regional Water Quality Control Board, David Stavarek and Pat Vellines, (916) 464-4673

Contaminants: MtBE, gasoline hydrocarbons

Background: Established in 1970 as a retail gasoline station and car wash, their three 10,000-gallon USTs were removed in 1998. Soil and groundwater investigations have defined a plume of gasoline hydrocarbons beneath the site that trends northwest-southeast approximately 400 feet and approximately 150 feet northeast-southwest. The center of the plume is approximately 15 feet east of the site. The vertical limit of the plume is approximately 85 feet bgs. In June 2004 MtBE was the only gasoline hydrocarbon detected at 0.51 micrograms per liter ($\mu\text{g/L}$) at 85 feet bgs. In June 2004 concentrations of total petroleum hydrocarbons as gasoline, benzene, and MtBE in shallow groundwater were as high as 30,000, 6,000, and 740 $\mu\text{g/L}$, respectively. In September 2005 concentrations of total petroleum hydrocarbons as gasoline, benzene, and MtBE in shallow groundwater were as high as 15,000, 1,800, and 69 micrograms per liter ($\mu\text{g/L}$), respectively.

Last year, the RWQCB was expecting a report soon (by October 10), which was expect to include plans for a new pilot test injecting ozone or hydrogen peroxide. If the remediation seemed effective, that it was expected to continue for at least 6 months. The RWQCB looked forward to a final report on that process in July 2009.

Changes since last update: While the expectations and hopes of last year have not been met in full, according to the report filed in 2010, testing indicates that there is a statistically significant trend of decreasing contamination. Estimated time for meeting groundwater quality objectives is about 16 years with a range of 12 to 22 years.

Planned activities for coming year:

Community involvement: N/A

Conclusion: Site cleanup is ongoing.

Specific Recommendation – as appropriate: Continue monitoring progress of cleanup efforts.

Date: 20 November 2010

Site Name & Location: Old Davis Landfill Site

The Old Davis Landfill is located approximately one mile north of Covell Boulevard, west of Pole Line Road. The site is owned by the City of Davis.

Commissioner's Name: Mary Greaves

City Contact: Marie Graham, Public Works Department, 530-757-5686

State Agency Contact: California Regional Water Quality Control Board - Central Valley Region, Todd Del Frate. 916-464-4737

Contaminants of Concern: Since 1999, three organic compounds have been detected at the site: vinyl chloride, DCB (Dichlorobenzene), and Freon 12 (dichlorodifluoromethane). Vinyl Chloride was detected once at 2.8 ppb in 2001, and DCB has not been detected since 2000. Freon 12 continues to be detected in monitoring well DM1. In high concentrations, dichlorodifluoromethane can cause narcosis, unconsciousness, cardiac arrhythmias, cardiac arrest, and asphyxiation, either as a result of dichlorodifluoromethane's narcotic effects or as a consequence of its displacement of oxygen in the atmosphere. Elevated concentrations of selenium, chloride, and nitrate have been detected in some of the monitoring wells, possibly associated with background levels and the former treatment plant (see below).

Background: The Old Davis Landfill covers approximately 31 acres and was also the site of the former City of Davis Wastewater Treatment Plant. The site was used as a burn dump in the 1940s and 50s. Landfill operations began in 1969. The site was used for disposal of residential, commercial, industrial, and demolition-type wastes; detailed records were not kept for waste disposed at the site. The landfill consists of 5 inactive cells that were excavated 10 to 20 feet below grade. Cells were unlined, and no leachate collection systems were installed. The Old Davis Landfill has been inactive since 1975, when disposal operations were transferred to the

present day site of the Yolo County Central Landfill. The landfill was capped with three to four feet of cover in the early 1980s.

In 1992, Dames and Moore conducted a Solid Wastewater Quality Assessment Test (SWAT) that consisted of drilling, installing, and sampling five monitoring wells – three on-site (DM-MW1 through 3) and two off-site (HLA-1 and HLA-2). They completed their investigation with an Evaluation Monitoring Report (EMP) in 1995 by drilling and sampling cone penetrometers at eight locations; installing and sampling two additional off-site monitoring wells, DM-4 and MD-5; and conducting slug tests to determine on and off site aquifer characteristics. The EMP was completed in 1996 and a Corrective Action Plan (CAP) was submitted to the Regional Water Quality Control Board (RWQCB) in June 1997. Since 1999, the City has voluntarily monitored the site as proposed in the CAP (two times per year); the site is not under RWQCB waste discharge requirements.

Changes since last update: Per the City of Davis “Final Sep 2010” report, water quality results for September 2010 are as follows: “No organic compounds were detected at the Reporting Limit from this sampling event. Prior to September 2008, all organic samples submitted to the contract lab were analyzed using EPA Method 8021; thereafter, the organic compounds have been analyzed using EPA Method 8260 and are reported at the Method Detection Limit; previous results were reported at the Reporting Limit. The EPA defines MDL as “the minimum concentration that can be determined with 99% confidence that the true concentration is greater than zero.” Freon-12 has been detected at MW-DM1 fairly consistently since 2001 and Chloroethane and Diethyl Ether were detected in March of 2008 and March of 2009, respectively.”

Planned activities for coming year: The City will continue monitoring the site, taking samples and filing reports to the RWQCB twice a year. The next scheduled sampling is for next month (February 2011). The city has requested closure of the site from the RWQCB.

Community involvement: Other than occasional inquiries, there is no ongoing community involvement. Portions of the site are leased to the go-cart track and a paint ball gaming business.

Conclusion: Overall, the concentrations of inorganic constituents at the Old Davis Landfill have not changed significantly over the last ten years. The site is monitored by the City and the RWQCB as an inactive site. The following data are from the September 2010 Hazardous Waste Site report: All monitoring wells showed traces of organics at levels between the MDL (Method detection Level) and RL (Reporting Limit) Freon-12 has been detected at MW-DM1 fairly consistently since 2001 and Chloroethane and Diethyl Ether were detected in March of 2008 and March of 2009, respectively. All levels have been well below the Action Level for Freon, Chloroethane concentrations were just above the PQL (Practical Quantification Limit), and there is no current regulation for Diethyl Ether. There have been fewer and fewer detections of organics over time.

Elevated general minerals also continue to be detected, including TDS, chloride, nitrate, sulfate, and alkalinity. Elevated nitrate levels are likely attributable to the former waste water treatment

plant.

Directional flow of groundwater for 2010 sampling event showed most trends towards the south and east.

Specific Recommendations: Continue to monitor site until the City receives an order from the RWQCB, which could include a conceptual closure plan and implementation of an engineered cover for the final closure of the site.

Sources:

- Marie Graham, Public Works Department, personal communication.
 - California Regional Water Quality Control Board - Central Valley Region, Todd Del Frate. 916-464-4737.
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Date: July 2010

Site Name & Location: **Timperley Property - 1700 Olive Drive**, Clean-up and Abatement Order 92-043

Regulating Agency Contact Name and Number: Regional Water Quality Control Board (Lead Agency) Case #570077, Central Valley Region 5S – David Stavarek – (916)464-4673, general number is 464-3291.

Commissioner's Name: Adrienne Kandel

Contaminants: petroleum hydrocarbons, minimal MtBE,

Background: The site has had several automobile dealerships since 1967, and includes automobile and boat repair now. A 1000 gallon underground storage tank and associated piping were installed in 1966 and removed in 1988. Site investigations from 1989 to 1992 show gasoline hydrocarbons leaked into soil and groundwater, and subsequently migrated to the southwest. Gasoline constituents include carcinogenic and non-carcinogenic compounds (Benzene, Toluene, Ethyl benzene, and Xylene (BTEX)) and the gasoline oxygenate MtBE.

City water supply Well 24 is 330 feet southwest of the leakage site, and was initially sealed to prevent penetration of substances to a depth of 50 feet below ground surface (bgs). Shallow groundwater in the area is typically 20 feet bgs but can extend to 50 feet bgs during drought periods. Accordingly the surface seal was deepened to 186 feet in 1993. Testing of this seal showed pumping from this well did not influence shallow groundwater beneath the site.

Because of the proximity to a water supply well, the Central Valley Regional Water Quality Control Board (“the Board”) issued Cleanup and Abatement Order 92-043 in March 1992, to set a specific schedule for investigation and remediation of soil and groundwater.

For remediation, soil vapor extraction and groundwater pumping began in 1993 in the primary zone of contamination (20 -55 feet deep). Groundwater pumping continued through 1996 but soil vapor extraction ended in 1995 because rising water levels covered the well screens.

Under the Cleanup and Abatement Order the responsible party was required to define the vertical extent of contaminants. Monitoring wells were constructed with well screens from 66 to 81 feet bgs to define the vertical extent of gasoline hydrocarbons in groundwater.

In September 2005 total petroleum hydrocarbons were at 4700 micrograms per liter, including 37 mcg/l of benzene and 4.4 mcg/l of MtBE in shallow groundwater. The vertical extent of the hydrocarbons appears to be limited to a smear zone from 20 to at least 55 feet bgs. A March 2007 reading showed MtBE at 0.9 mcg/l in a deep well screened 66.5 to 81.5 feet bgs, an apparent drop from 2005. Concentrations may have fallen because of natural biological degradation and mineralization. As the plume does not appear to be migrating, it does not appear the drop in MtBE is due to dilution.

MTBE contamination is now below the action level of 5 micrograms/liter (5 ppb), a secondary action level based on taste and odor threshold. In its most recent sampling, A March 2007 reading showed MtBE concentrations of 4.9 4.9 micrograms/liter (mcg/l), approaching that threshold, in Monitoring Well 13. The Board attributes this MtBE contamination to the former Pacific Bell underground storage tank less than 20 feet from Well 13, rather than to Timperley. It's a drop from 2002 MTBE measured levels of 13 mcg/l.

4.9 mcg/l is not necessarily safe. Current EPA secondary standards for MtBE are based on taste and odor because there is little research to date on health effects of drinking low-dose MtBE-laced water. EPA and other researchers are studying health effects now, and EPA is considering setting health standards. On August 26, 2009 the Board issued a letter saying no further action was required by Timperley property owners, that investigation and remediation were satisfactorily completed. Note the Board cannot hold Timperley responsible for any pollution caused by Pacific Bell.

Changes since last update: Monitoring and remediation have been completed, and the Board issued a "No Further Action" letter on August 26, 2009. The case is closed and the responsible party has presumably destroyed the wells according to Yolo County standards permits.

Conclusion: Pollution from the Timperley site has dropped to tolerable levels according to tests to date, and does not currently threaten the nearby City well because they do not go deep enough to contaminate the water bearing zones below the well seal. The Pacific Bell former underground storage tank site nearby could turn out to be questionable, however. MtBE concentrations approached EPA's odor and taste threshold, as measured in a Timperley site monitoring well, but appeared to be dropping. Research continues into what level of MtBE would be unhealthy.

Specific Recommendation: Presumably, Monitoring Well 13 has been closed. If not, the City should have it checked for MtBE from the former Pacific Bell tank. In any case, the City should continue watching for MtBE leakage into City Well 24. The City should also watch the EPA website for further findings on or regulation of MtBE. The 4.9 mcg/l Pacific Bell plume is uncomfortably close to the 5.0 mcg/l odor and taste threshold. .
(<http://www.epa.gov/mtbe/water.htm>)

Date: October 19, 2010

Site Name & Location: Arco Station - 705 Russell Blvd.

Commissioners Name: Jennifer Holman

City Contact Name and Number:

Regulating Agency Contact Name and Number: Regional Water Quality Control Board, Pat Vellines, (916) 464-4673

Contaminants: TPHg, benzene, MtBE, TBA, 1,2-DCA

Background: This is an active ARCO service station. In December 1990 ARCO replaced the old USTs with four new 10,000-gallon USTs. Site investigations performed since 1990 show gasoline hydrocarbons in a circular plume centered beneath the site. In July 2005, TPHg, benzene, MtBE, TBA, and 1,2-DCA in shallow groundwater (56 feet bgs) were as high as 20,000, 11,000, 1,000, 5,200, and 0.51 µg/L, respectively. In July 2005, at 82 to 89 feet bgs, MtBE, TBA, and 1,2-DCA were as high as 1.2, 9.8, and 1.2 µg/L, respectively. TPHg and benzene in deeper groundwater are non-detect.

Last year, it was reported that ARCO and the adjoining property owner were expected to renew negotiations on an agreement to allow ARCO right of access to investigate the plume. The RWQCB was following up with both owners to assist gaining access.

Changes since last update: In April 2010, testing indicated that gasoline hydrocarbons appear to be delineated beneath the site, with total petroleum hydrocarbons as gasoline, benzene, MtBE, and tertiary butyl alcohol (TBA) up to 4,800, 2,300, less than 25, and 4,700 ug/L, respectively, at MW-3, near the center of the site (just east of the dispenser islands). Because of these lowish levels, the RWQCB stated that the site should be evaluated as a possible low risk closure case, but a workplan for a risk assessment must be prepared. In October 2010, a workplan was approved.

Planned activities for coming year: The RWQCB expected soil sample results, comparing screening levels and modeling results by December 14, 2010.

Community involvement: N/A

Conclusion: Site assessment is ongoing.

Specific Recommendation – as appropriate: Continue monitoring regulatory activities on site.

Date of Site Review: June 14, 2010

Site Name & Location: George Jandera Property - 1600 8th Street

Commissioner's Name: Herman Boschken

City Contact: Diane Jensen (Public Works)

Regulating Agency Contact Name & Phone Number: Regional Water Quality Control Board (lead agency) –Central Valley Region 5S, David Stavarek (916) 464-4673; email: dstavarek@waterboards.ca.gov

Contaminants: TPHg, benzene, MTBE and 1,2-DCA

Background: Formerly operated as George Jandera Mobile Service Station, three fuel hydrocarbons USTs and one waste oil UST were removed in 1991. Soil and groundwater investigations have defined a plume of gasoline hydrocarbons beneath the site, and vertically the plume extends down to 90 feet bgs. In March 2004, concentrations of TPHg, benzene, MTBE, DIPE, and 1,2-DCA in shallow groundwater were as high as 61,000, 18,000, 680 and 180 ug/l, respectively. At 90 feet, these contaminants were as high as 280, 18, 0.93 and 2.4 ug/l, respectively.

In August 2005, concentrations of 4 contaminants in shallow groundwater were as high as 86,000, 19,000, 720 and 28 ug/l, respectively. At 70 feet bgs, the contaminants were as high as 220, 28, 22 and 40 ug/l, respectively, and at 90 feet bgs, were as high as 58, 3, <0.5 and 16 ug/l, respectively. Quarterly groundwater monitoring is performed and shows the plume to be relatively stable.

In 2006, the responsible party undertook efforts to determine the extent of the plume under adjacent properties as an initial phase of remediation. Along with this, the RWQCB has periodically retested evaporation wells to determine the size of remediation that would be required to eventually close the case

Changes Since Last Update: The plume remains stabilized and SWRCB issued an “approved remediation plan” in 2008. Implementation was started in that year but was suspended due to

lack of funds. As with many UST cases, the SWRCB UST Cleanup Fund stopped payment of reimbursements in October, 2008, and did not resume payments until December 2009. The funding lapse resulted in stoppage of work by the implementation consultants and resulted in significant delay in the schedule of proposed work.

Conclusion: This is an active case site involving current remediation activities. Case closure cannot be estimated at this time.

Specific Recommendations: Future updates should concentrate on remediation progress and results of periodic testing by the RWQCB.

Date: June 2010

Commissioner's Name: Adrienne Kandel

Site Name & Location: **Shell Station, 1944 Anderson Road**, Davis

Regulating Agency Contact Name and Number: Regional Water Quality Control Board (Lead Agency) - Case #570077, Central Valley Region 5S – David Stavarek – (916)464-4673, general number 464-3291

Contaminants: petroleum hydrocarbons including MTBE, DIPE (di-isopropyl ether, one of several gasoline oxygenates replacing benzene), TBA (tertiary butyl alcohol, gasoline oxygenate and also a breakdown product of MTBE).

Background: This is an active Shell gasoline station. In October 1996, 3 old fuel underground storage tanks were replaced with 2 new ones. Regional Board staff has requested Shell to define the lateral and vertical extents of the plume. Soil and groundwater investigations have defined a plume of gasoline hydrocarbons in groundwater beneath the site that has migrated approximately 260 feet south of the site, beneath the parking lot of the supermarket on Anderson and Covell.

Shallow monitoring wells have screens from 30 to 45 feet below ground surface (bgs) and deep wells are from 60 to 65 feet bgs. Monitoring well S-4B is screened from 15 to 25 feet. Groundwater has been 18 to 34 feet below ground surface since the wells were installed in 1999.

Data from other leaking underground fuel storage tank sites in the Central Valley indicate that groundwater plumes generally migrate no more than 50 to 150 feet from the source where they stabilize, then naturally degrade biologically and chemically over years to decades.

The nearest active drinking wells are all greater than 1000 feet from the site.

Regional Board staff requested that Shell evaluate some remediation options.

The 2 major compounds of concern are benzene and MTBE, a known carcinogen and suspected carcinogen, respectively. MtBE is the more mobile of these two compounds and generally defines the leading edge of gasoline hydrocarbon plumes in groundwater. MtBE may migrate up to three times the distance of the benzene portion of the plume.

The most current groundwater sampling results of February 2008 indicate that benzene is below detection limits in shallow groundwater beneath the property, and MtBE was only detected in monitoring well S1 in the southwest corner of the property at 4.0 mcg/l, and at 1.5 mcg/l at S-12, 60 feet south of the site. Benzene was only detected in monitoring well S-6 at 18 mcg/l, 60 feet west of the site, and is from a gasoline hydrocarbon plume that has migrated beneath Anderson Road from the Chevron Station site. The Chevron Station site is across Anderson Road to the west of the Shell site. Gasoline hydrocarbons have not been detected in the shallow monitoring wells on the Shell site indicating there is no current leakage.

Analytical results from the deep monitoring wells indicated that benzene is below detection limits in all onsite and offsite monitoring wells. MtBE was 9.2 mcg/l in S-9, located at the southwest corner of the site, 1.4 mcg/l in S-14 and 3.0 mcg/l at S-15, both located 75 feet south of the site, and 84 mcg/l at S-16 located approximately 240 feet south of the site. MtBE at S-16 indicates the downgradient extent of the MtBE plume has not been defined, and this downgradient portion of the plume exceeds water quality goal of 5 mcg/l. The MtBE in groundwater is most likely not a threat to human health through dermal contact and air inhalation, but a risk assessment will be necessary to determine whether there are any human health risks from the MtBE.

The February 2008 analytical results indicate that onsite well S-4A had 8.3 mcg/l of DIPE, following a general downward trend of concentrations, albeit with some fluctuation. Earlier readings were 36 mcg/l in Aug 2007, 2.1 mcg/l in Aug 2006, and 120 mcg/l in Feb 2007.

Offsite well S16 found 55/mcg/l of DIPE in Feb 2008, up from 39 mcg/l in Feb 2006. These differences most likely represent changes in the plume due to groundwater fluctuations, rather than new leakage.

TBA was detected at 75 mcg/l in S16 during February 2008, but has also fluctuated: in Nov 2005 it was 10mcg/l, in May 2006 it showed 5, in Nov 2006 it had 130 mcg/l, and in June 2007 it had 24 mcg/l. In August and November 2007 it showed < 10 mcg/l. The Board may choose to require a small amount of remediation.

Changes since last update: none reported

Planned activities for coming year: Per David Stavarek, "Shell is continuing a modified (reduced) quarterly groundwater sampling and monitoring program. They are in the process of doing soil vapor sampling to collect samples for a health risk assessment. They will prepare a report that includes a health risk assessment for indoor air risk from petroleum hydrocarbon vapors in soil and groundwater, and direct contact to petroleum hydrocarbons beneath the site. In addition, they will calculate the mass of petroleum hydrocarbons remaining beneath the site

and estimate a degradation rate for the remaining petroleum hydrocarbons. This work is the next step needed for case closure. The consultant indicated there have been some delays due to availability of subcontractors. A report of this work is expected within 90 days.”

Community involvement: None I know of.

Conclusion: Unless the planned health risk assessment shows otherwise, I’d accept the Regional Board staff’s conclusion that the site does not pose an overly serious threat to groundwater because the plume is not near a water supply well, appears to be degrading, and based on concentrations and distribution doesn’t appear to be large mass of contaminants.

Specific recommendation: The City should keep watching this site until case closure.

Date: June 2010

Site Name & Location: **Circle K (Conoco Phillips) - 1930 Lake Blvd**

Commissioner’s Name: Adrienne Kandel

Regulating Agency Contact Name and Number: Regional Water Quality Control Board (Lead Agency) - Case #570077, Central Valley Region 5S – David Stavarek – (916)464-4673, general number is 464-3291

Contaminants: MtBE, some xylene, total petroleum hydrocarbons as gasoline (TPHg), TBA (tertiary butyl alcohol), TAME (tertiary amyl methyl ether).

Circle K is an active gasoline station plus convenience store, with 3 underground storage tanks. City of Davis Well No. 30 is located approximately 300 feet southwest of the site, upgradient of the Circle K site. The well seal is over 150 feet deep on this well.

Soil and groundwater investigations have defined an elliptical plume of gasoline hydrocarbons in groundwater that trends northeast to southwest beneath the site, and extends about 100 feet northeast of the site. The highest concentrations of contaminants are at the northeast corner of the Circle K site, in shallow groundwater approximately 35 feet below ground surface. But in October 2005 3.9 mcg/l of MtBE and 0.57 mcg/L benzene were detected in a deep monitoring well screened at a depth of 135 to 140 feet below ground surface (bgs). Concentrations have decreased since October 2005 as groundwater is purged from this well before each groundwater sampling event (the groundwater purging may be removing a small amount of contamination that entered the deep water zone when the boring for this well was drilled).

In October 2005 concentrations of total petroleum hydrocarbons as gasoline (TPHg) and MtBE in shallow groundwater were as high as 3,000 and 7,200 mcg/l, respectively. MtBE is the main constituent of concern. BTEX contaminants (Benzene, Toluene, Ethyl benzene, and Xylene) have generally been below detection limits to occasional trace concentrations in all monitoring wells since the monitoring wells were installed in 1999. However, in April 2006, BTEX were

1,600, 230, 270, and 480 mcg/l, respectively, in MW-2. ConocoPhillips' consultant had no explanation for this anomalously high BTEX in MW-2.

The most recent groundwater monitoring data from January 2008 indicated total petroleum hydrocarbons as gasoline and MtBE were as high as 3,400 and 7,400 micrograms per liter, respectively. Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected in any of the monitoring wells, except for 1.6 mcg/liter of xylenes in one well. TBA, and TAME were up to 580 and 130 mcg/l, respectively. Additional wells are planned to define the downgradient limits of the plume, northeast of the site (pending an access agreement with offsite property owners).

For remediation, Conoco Phillips intends to install a soil vapor extraction system and ozone sparging system. The soil vapor extraction system is designed to remove volatile and semi-volatile petroleum hydrocarbons from soil (vadose zone) above groundwater and the capillary fringe/top of the shallow groundwater zone. The ozone sparging system injects ozone gas into the groundwater to facilitate hydrocarbon degradation. The remediation will require use of 3 offsite properties. Conoco Phillips has obtained the needed right of access on one of the properties, and the project is being delayed as they negotiate right of access to two other properties. (Ultimately, the owners of those sites will have to accept access to which they can attach reasonable conditions, or be responsible for investigation and cleanup of the portion of the plume beneath their property).

Changes since last update: Per David, Stavarek, "ConcoPhillips is continuing with modified (reduced) quarterly groundwater sampling and monitoring program. The consultant, Stantec, is in the process of constructing an ozone sparge system to remediate groundwater beneath the site and beneath adjacent properties. Stantec submitted on 6 July 2010 to Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff a Notice of Intent (NOI) to remediate groundwater using ozone sparging, and Central Valley Water Board staff will use the NOI to prepare a Notice of Applicability (NOA) to be signed by our Executive Officer. A NOA to operate the ozone sparging system should be issued within 60 days, after which, the remediation system may be operated on a continuous basis.

Planned activities for coming year: Ozone sparging (In ozone sparging, gaseous and/or dissolved ozone is injected in a number of sites just below the contaminated groundwater, so the ozone will oxidize with the organic chemicals as it makes its way up to the soil. Ozone sparging turns they types of hydrocarbons at this site into carbon dioxide and water, leaving only oxygen as its own by product).

Community involvement: None I know of.

Conclusion: The City should remain appraised of progress on remediation.

Date: October 25, 2010

Site Name & Location: LEHR Superfund Site

Commissioner's Name: Dean T. Newberry

Contaminant of concern: Cr6

Assessment: This site is progressing and meeting requirements.

I have briefly reviewed the latest comments on the cleanup efforts at LEHR at UC Davis.

The California Department of Substance Control maintains on line data for this site.
The file name is: LAB FOR ENERGY RELATED HEALTH RESEARCH (48990004).

It is reported that most of the site has been cleaned up. There is ongoing monitoring of surface and underground water in the area. The primary constituent of concern is Hexavalent Chromium. Field tests are complete and the remediation plan has been approved. Gaps in the remediation plan identified by Dr. Fred Lee have been addressed. The Remedial Action Completion Report is due next year. The site is expected to achieve Certification by 2016.