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Downtown Infrastructure Study

SUBMITTED TO THE

City of Sacramento
Economic Development Department

September 2011

NOLTE
BEYOND ENGINEERING

FINAL REPORT FOR THE

DOWNTOWN INFRASTRUCTURE STUDY

City Agreement #2010-0699

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INTRODUCTION

The 2030 General Plan adopted in March 3, 2009 sets forth a new direction for the City of Sacramento. The Plan sets forth the Guiding Vision that "Sacramento be the most livable City in America." Downtown Sacramento will be vibrant with arts, culture, entertainment, and a 24 hour population. The Plan favors developing inward, rather than expanding outward through encouragement of infill development, and reuse of underutilized properties. This Downtown Infrastructure Study is based on the build out assumptions contained in the General Plan.

The Downtown Infrastructure Study project area encompasses more than 54 City blocks bounded by I Street to the north, 17th Street to the east, Capitol Mall to the south and 3rd Street to the west. Within the limits of the Study boundary, there are 12 proposed projects and 19 potential opportunity sites that have been defined as having development or redevelopment potential. There are an additional 5 proposed projects and 2 opportunity sites in the vicinity of the Study Area.

Newly envisioned land uses for these sites will present added infrastructure demands. Existing sanitary sewer, storm drainage, water, electrical power, telecommunications, and natural gas infrastructure capacity must be analyzed and modifications proposed to adequately serve these new demands. Prudent infrastructure planning requires that the effects of potential redevelopment of this Study area to the infrastructure outside the plan area also be considered.

The Downtown Infrastructure Study will assist the City's Economic Development Department in attracting development to the downtown area. This Study is a preliminary engineering, planning level effort that will aid the City and developers in attracting development funding assistance and provide potential developers with information to evaluate their probable infrastructure costs. This study identifies potential opportunities to provide integrated infrastructure at least cost, through phasing options or the application of sustainable design principals and value engineering design considerations.

LAND USE

The City of Sacramento Planning Department performed an analysis of the development potential within the Downtown Infrastructure Study project area. The assessment divided the developments into two main categories, Proposed Projects and Opportunity Sites. Within the Study Area boundary there are 12 Proposed Projects and 19 potential projects that have been identified. There are an additional 5 Proposed Projects and 2 Opportunity Sites in the vicinity of the Study Area.

Development Potential: Each of the Proposed Projects and Opportunity Sites has been assigned a development potential. The majority of the projects are envisioned as mixed-use projects that incorporate a combination of residential, office, and commercial/retail uses. Only a few of the Proposed Projects are considered single use office or commercial. Each project has been assigned a development potential for the anticipated number of residential units and square footage, square footage of commercial/retail, and square footage of office.

Proposed Projects: The Proposed Projects are those projects where some form of entitlement application has been submitted to the City Planning Department. The development potential information for each project is taken from the actual planning application.

Opportunity Sites: The Opportunity Sites projects are specific sites that are deemed suitable for re-use through higher intensity land uses. The projects may consist of one parcel or group of parcels combined together to make up a total project footprint. The development potential for each of these sites has been estimated using the parcel area and applying a Floor Area Ratio (FAR) factor. The majority of the projects have been assigned a FAR of 8 with five of the project sites assigned a FAR of 6. To determine the potential total project square footage, the parcel area is multiplied by the FAR. For example, a one-acre parcel has a total parcel area of 43,560 square feet. This area is multiplied by a FAR factor of 8 to yield a total development potential of 348,480 square feet.

Each project site has been assigned a ratio of the total project square footage for each of the different uses - residential, office, and commercial/retail. For the projects with a FAR of 8, the ratio of the total project square footage applied is 60% residential, 30% office, and 10% commercial/retail. For the projects with a FAR of 6, the ratio of the total project square footage applied is 50% residential, 15% office, and 35% commercial/retail.

The total number of residential units for each project is estimated assuming an average of 850 square feet per unit. The unit count for the project is then rounded to the nearest whole number.

Figure II-1 shows the location of each of the Proposed Projects and Opportunity Sites. The following table summarizes the Proposed Projects and Opportunity Sites showing the anticipated development for each of the projects.

TABLE II-1
PROPOSED PROJECTS AND OPPORTUNITY SITES

Project ID	Project Title	Development Type	Project Type	Parcel Area (Acres)	Parcel Area (Square Feet)	Floor Area Ratio (FAR)	Total Project (Square Feet)	Office (Square Feet)	Commercial/Retail (Square Feet)	Residential (Square Feet)	Residential Units
1	Opportunity Site	RMX*	Opportunity Site	1.98	86,374	8.0	690,992	207,298	69,099	414,595	488
2	THE TOWERS ON CAPITOL MALL	CMX	Proposed Project	2.43	106,006	17.0	1,800,000	0	80,000	1,720,000	810
3	Opportunity Site	RMX*	Opportunity Site	0.63	27,410	8.0	219,280	65,784	21,928	131,568	155
4	DOWNTOWN PLAZA	COM	Proposed Project	0.78	34,041	2.3	78,346	0	78,346	0	0
5	LOT A PROJECT	OFF	Proposed Project	0.96	41,715	16.0	668,195	668,195	0	0	0
6	Opportunity Site	RMX*	Opportunity Site	0.90	39,064	8.0	312,512	93,754	31,251	187,507	221
7	MARSHAL HOTEL	RMX	Proposed Project	0.37	16,019	9.6	154,446	0	6,546	147,900	174
8	701 L STREET	RMX	Proposed Project	0.78	34,125	17.1	583,332	240,000	10,500	332,832	85
9	700 K STREET	RMX	Proposed Project	1.16	50,561	11.0	554,250	0	27,450	526,800	319
10	Opportunity Site	RMX*	Opportunity Site	0.26	11,124	8.0	88,992	26,698	8,899	53,395	63
11	Opportunity Site	RMX*	Opportunity Site	0.75	32,837	8.0	262,696	78,809	26,270	157,618	185
12	Opportunity Site	RMX*	Opportunity Site	1.15	50,277	8.0	402,216	120,665	40,222	241,330	284
13	800 K STREET	RMX	Proposed Project	0.79	34,291	6.8	231,647	0	17,730	213,917	178
14	831 L STREET	RMX	Proposed Project	0.78	33,790	10.5	356,050	349,550	6,500	0	0
15	Opportunity Site	RMX*	Opportunity Site	1.17	51,143	8.0	409,144	122,743	40,914	245,486	289
16	Opportunity Site	RMX*	Opportunity Site	0.82	35,506	8.0	284,048	85,214	28,405	170,429	201
17	METROPOLITAN	RMX	Proposed Project	0.98	42,553	15.1	642,000	0	13,000	629,000	320
18	CATHEDRAL SQUARE	RMX	Proposed Project	0.70	30,289	7.7	232,910	0	7,290	225,620	242
19	Opportunity Site	RMX*	Opportunity Site	0.19	8,092	8.0	64,736	19,421	6,474	38,842	46
20	Opportunity Site	RMX*	Opportunity Site	0.15	6,693	8.0	53,544	16,063	5,354	32,126	38
21	Opportunity Site	RMX*	Opportunity Site	0.18	7,785	8.0	62,280	18,684	6,228	37,368	44
22	Opportunity Site	RMX*	Opportunity Site	0.45	19,387	8.0	155,096	46,529	15,510	93,058	109
23	CAPITOL GRAND TOWER*	RMX	Proposed Project	0.59	25,504	45.9	1,170,000	55,000	557,500	557,500	278
24	Opportunity Site	RMX*	Opportunity Site	0.87	37,831	8.0	302,648	90,794	30,265	181,589	214
25	MERIDIAN II	RMX	Proposed Project	0.90	38,995	13.5	526,928	520,428	6,500	0	0
26	Opportunity Site	RMX*	Opportunity Site	0.46	20,193	8.0	161,544	48,463	16,154	96,926	114
27	Opportunity Site	RMX*	Opportunity Site	1.16	50,450	6.0	302,700	45,405	105,945	151,350	178
28	Opportunity Site	RMX*	Opportunity Site	0.43	18,519	6.0	111,114	16,667	38,890	55,557	65
29	Opportunity Site	RMX*	Opportunity Site	0.44	18,976	6.0	113,856	17,078	39,850	56,928	67
30	Opportunity Site	RMX*	Opportunity Site	0.75	32,668	6.0	196,008	29,401	68,603	98,004	115
31	Opportunity Site	RMX*	Opportunity Site	0.37	16,301	6.0	97,806	14,671	34,232	48,903	58
	Downtown Infrastructure Study Area Totals			**24.30**	**1,058,519**		**11,289,316**	**2,997,314**	**1,445,855**	**6,846,148**	**5,340**
Additional Projects Outside Project Study Area											
32	Opportunity Site	RMX*	Opportunity Site	2.06	89,612	8.0	716,896	215,069	71,690	430,138	506
33	EPIC TOWER	CMX	Proposed Project	0.92	40,287	17.2	691,180	39,000	34,000	625,330	354
34	Opportunity Site	RMX*	Opportunity Site	0.59	25,816	8.0	206,528	61,958	20,653	123,917	146
35	CAPITAL WEST SIDE PROJECTS EIR	CMX	Proposed Project	4.86	211,593	6.9	1,456,000	1,400,000	56,000	0	0
36	CADA EAST END GATEWAY	RMX	Proposed Project	0.54	23,535	7.7	180,357	0	5,217	175,140	117
37	CADA EAST END GATEWAY #2	CMX	Proposed Project	0.45	19,572	1.8	34,471	0	9,206	25,265	35
38	CADA EAST END GATEWAY #3	RMX	Proposed Project	0.71	30,736	1.3	39,196	0	14,505	24,691	26
	Additional Project Totals			**10.13**	**441,151**		**3,324,628**	**1,716,027**	**211,271**	**1,404,481**	**1,184**

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Downtown Infrastructure Study - Land Use Plan

FIGURE II-1

ALLEYS & BULB-OUTS

General Information

Alleys: Alleys within the City of Sacramento are typically located midblock and oriented in an east-west direction. These alleys provide the adjacent parcels an area for utility connections, emergency access, delivery access, parking access, and solid waste pickup. Current City standards require alleys to be 20 feet in width and constructed with a concrete surface. Several of the alleys have a significant low point at the center of the block due to the raising of the streets in the Downtown Area between 1864 to 1876. The midpoint of these alleys is at the lower elevation of the old streets.

Bulb-Outs: Pedestrian enhanced intersections have been increasingly used throughout the Downtown and suburban areas in the City of Sacramento. Sidewalk bulbing returns (bulb-outs) are used as a way to provide a more pedestrian friendly intersection. Bulb-outs are generally used on street corners at intersections with vehicular traffic in both directions (two-way streets). Bulb-outs are typically not used on intersections with vehicle traffic in a single direction (one-way streets) to allow for full traffic turning movements. At intersections where each of the intersecting roadways is a one-way street, bulb-outs are not typically used. Bulb-outs can be classified as a Full Bulb-out where the sidewalk corner on each street is extended into the intersection, or a Half Bulb-out where the sidewalk is extended on only one of the streets of the intersection. Half Bulb-outs are used at intersections with a one-way street and a two-way street. Typical examples of each type of bulb-out (full & half) are depicted in Figure III-3.

Existing Conditions

For this study, only the alleys adjacent to parcels identified as Proposed Projects or Opportunity Sites were evaluated within the Infrastructure Study Ares (see Figure III-1). While other existing alleys within the Study Area may be in need of repair/replacement, the focus of this study is to identify the improvements related to support development of the Proposed Projects or Opportunity Sites.

Each alley was evaluated for type of surfacing and condition of that surface. The visual inspection of each alley was completed in January 2011 and pictures have been provided in Appendix A. Conditions vary greatly as some alleys are constructed according to the City's latest standards and in excellent condition, while others are constructed of asphalt and have significant structural damage. Table III-1 below provides a summary of the evaluated alleys including their location, surfacing type and condition.

Proposed Conditions

Alleys: With development of the Proposed Projects and Opportunity Sites within the Study Area, limited access will be provided to the developing parcels along the street frontage. The primary vehicular access will be provided at the rear of the frontage lots by utilizing the existing alleys. The alley must be fully improved if it is used as the main vehicular access to a project. The development of a single parcel in the middle of a block could trigger the need to improve the pavement of the full length of the alley access to the main connecting side street. These alley improvements can be cost prohibitive to a single developing parcel in the middle of a block that would need improvements to the entire alley length out to the main street.

The City's standard for alley improvements is 6-inch concrete paving (per Design and Procedures Manual, Section 15, Plate 15-14). The concrete paving is a requirement because the typical standard 20 foot alley does not meet the minimum requirements for street width for Federal roadway maintenance funds. The concrete paving provides a longer lasting surface; however, the initial construction costs are considerably more expensive.

However, the City has allowed the use of asphalt pavement on alleys in selected areas within the City. The use of asphalt paving in the Study area may be allowed for a project on a case by case basis with approval from the City's Department of Transportation. For the purposes of this study, concrete paving has been used to provide a conservative estimate for the cost of alley pavement reconstruction.

TABLE III-1
ALLEY CONDITIONS & RECOMMENDATIONS

Alley	Location	Surfacing	Condition	Pictures	Recommendation	Length
1	I-J Alley between 6th Street & 7th Street	Concrete	Good - some patching and minor structural failures	1A-1D	Repair minor structural failures	321
2	I-J Alley between 7th Street & 8th Street	Asphalt	Poor - significant patching and pavement failure	2A-2D	Replace entire length of alley with new concrete pavement	321
3	I-J Alley between 10th Street & 11th Street	Concrete	Good - some patching and minor structural failures	3A-3D	Repair minor structural failures	327
4	I-J Alley between 11th Street & 12th Street	Concrete	Poor	4A-4D	Replace entire length of alley with new concrete pavement	319
5	I-J Alley between 12th Street & 13th Street (partial alley on west half of block only)	Asphalt	Poor	5A-5B	Replace entire length of alley with new concrete pavement	168
6	I-J Alley between 14th Street & 15th Street	Asphalt	Good - some minor structural failures	6A-6D	Repair minor structural failures	320
7	I-J Alley between 16th Street & 17th Street	Concrete	Excellent	7A-7D	No repairs are necessary.	320
8	J-K Alley between 10th Street & 11th Street	Asphalt	Fair - some patching and minor failures	8A-8D	Replace entire length of alley with new concrete pavement	328
9	J-K Alley between 16th Street & 17th Street	Concrete	Poor - some patching and significant pavement failure	9A-9D	Replace entire length of alley with new concrete pavement	322
10	K-L Alley between 16th Street & 17th Street	Concrete	Excellent (east side), Under construction (west side)	10A-10D	No repairs are necessary.	320
11	K-L Alley between 14th Street & 15th Street	Asphalt	Excellent	11A-11D	No repairs are necessary.	355
12	K-L Alley between 11th Street & 12th Street	Concrete	Good - some cracking	12A-12D	Repair minor structural failures	316
13	K-L Alley between 9th Street & 10th Street	Concrete	Fair - significant uneven patching (west side), Excellent (east side)	13A-13D	Replace 3/4 length of alley with new concrete pavement	325
14	K-L Alley between 8th Street & 9th Street	Asphalt	Poor - significant patching and pavement failure	14A-14D	Replace entire length of alley with new concrete pavement	316
15	K-L Alley between 7th Street & 8th Street	Asphalt	Poor - broken pavement (west side), Good - some pavement failure (east side)	15A-15D	Replace entire length of alley with new concrete pavement	320
16	K-L Alley between 6th Street & 7th Street (partial alley off 7th street only)	Concrete	Good	16A-16B	No repairs are necessary.	100
17	L-Capitol Alley between 8th Street & 9th Street	Concrete	Excellent	17A-17D	No repairs are necessary.	318

As noted in the Existing Conditions section above, many of the existing alleys are observed to be in "fair" to "poor" condition. For the purposes of this Study, it is assumed the pavement surface of each of the alleys in "fair" to "poor" condition will be replaced for the entire length of the alley. For the alleys observed to be in "good' condition, it is assumed that repairs of the minor structural failures will be accomplished. For those alleys observed to be in "excellent" condition, no repairs are envisioned as being necessary.

The K/L Alley between 14th & 15th Streets appears to have been newly resurfaced using asphalt pavement. Since the pavement is in "excellent" condition, no repairs are recommended and replacing the pavement with concrete pavement is not recommended. The K/L Alley between 16th & 17th is currently under construction from work associated with development of the 1600 K Street project on the north side of the westerly end of the alley. This project is expected to improve the westerly end of the alley; therefore, no new pavement work is anticipated for this alley. The specific recommendation for each alley section is noted in Table III-1 and depicted on Figure III-1.

Bulb-Outs: Depending on the condition of the existing street frontage improvements (i.e. sidewalks, curb & gutter, and landscape planters), it is envisioned that existing improvements will generally be repaired and/or fully replaced with the development of the Proposed Projects and Opportunity Sites within the Study Area. To encourage a pedestrian friendly environment, bulb-outs will be required for the project street frontage improvements at intersection corners immediately adjacent to the development.

Only the street corners immediately adjacent to the developments are affected. The improvement of the intersection street corners on the opposite sides of the streets are not the responsibility of the project development.

Due to the unique nature of the Downtown Sacramento street grid system currently with numerous one-way streets, only Half Bulb-outs are necessary within the Study Area. Bulb-outs are not proposed along the K Street Mall (K Street from 7th to 13th Streets) area as this area is currently open only to Regional Transit Light Rail and pedestrian traffic. The K Street Mall contains numerous pedestrian friendly enhancements at the intersections.

The City has recently approved the re-opening the K Street Mall to allow vehicular traffic (Cars on K) with limited parking/pedestrian loading areas. This City funded project is expected to have construction completed by January 2012. Pedestrian friendly intersection improvements have been incorporated into the project design. Also, the 6th & L Street and 6th & Capitol Mall intersections already have bulb-outs installed on the easterly corners of 6th Street with recent development of the block.

The locations of the anticipated bulb-outs within the Study Area are depicted on Figure III-2. The bulb-out designs shown in this Report are intended to provide initial guidance/planning level detail only. Final bulb-out design and locations are subject to review and approval of the City Traffic Engineer. Each project specific bulb-out designs will need to consider the following to ensure traffic and pedestrian safety.

- Land use
- Design vehicle to serve land use (WB 50 or other)
- Street type - Is the street on a major roadway or collector?
- Is the street on a truck route?
- Provide appropriate truck turning template diagram for each location / intersection to confirm vehicle doesn't cross over centerline.
- Verify that no unusual design elements are present (power poles, inlets, etc.)

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Downtown Infrastructure Study - Alleys Plan

FIGURE III-1

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Downtown Infrastructure Study - Bulb-Out Plan

FIGURE III-2

0 250 500 1,000 Feet

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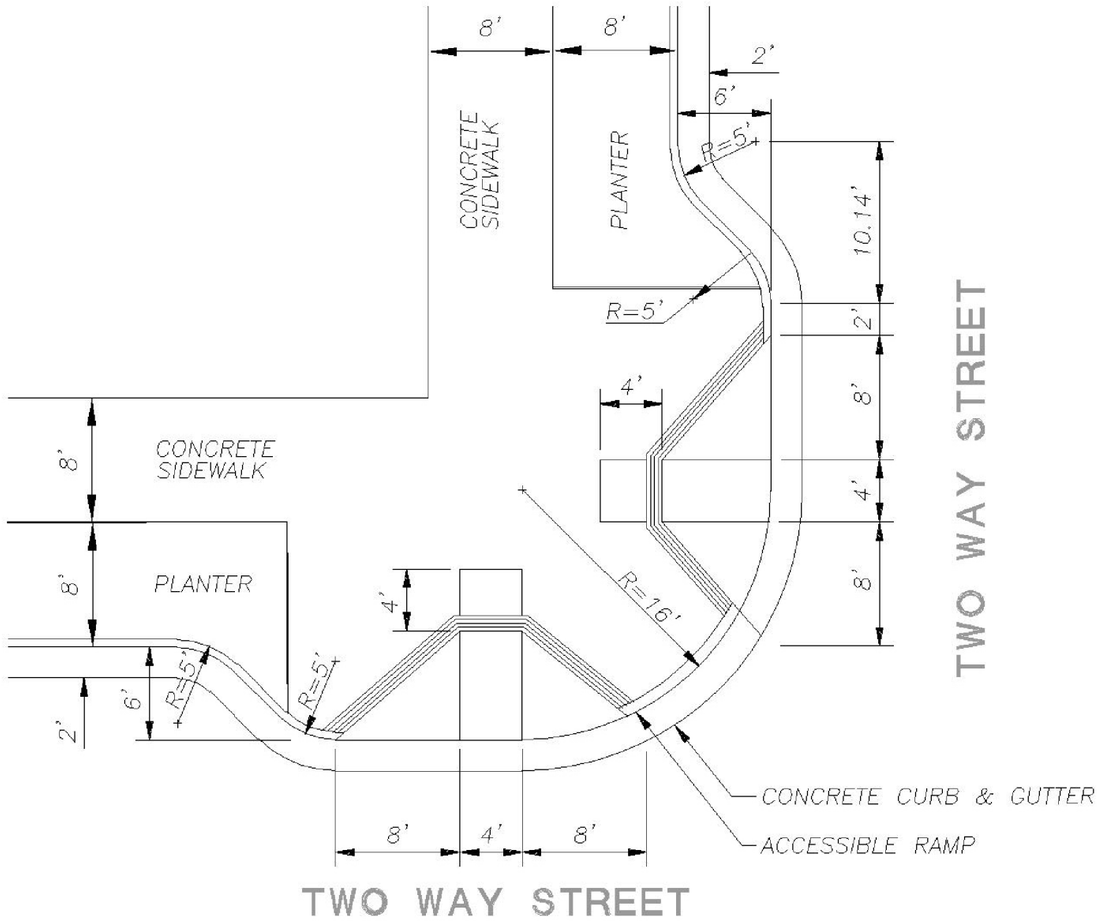
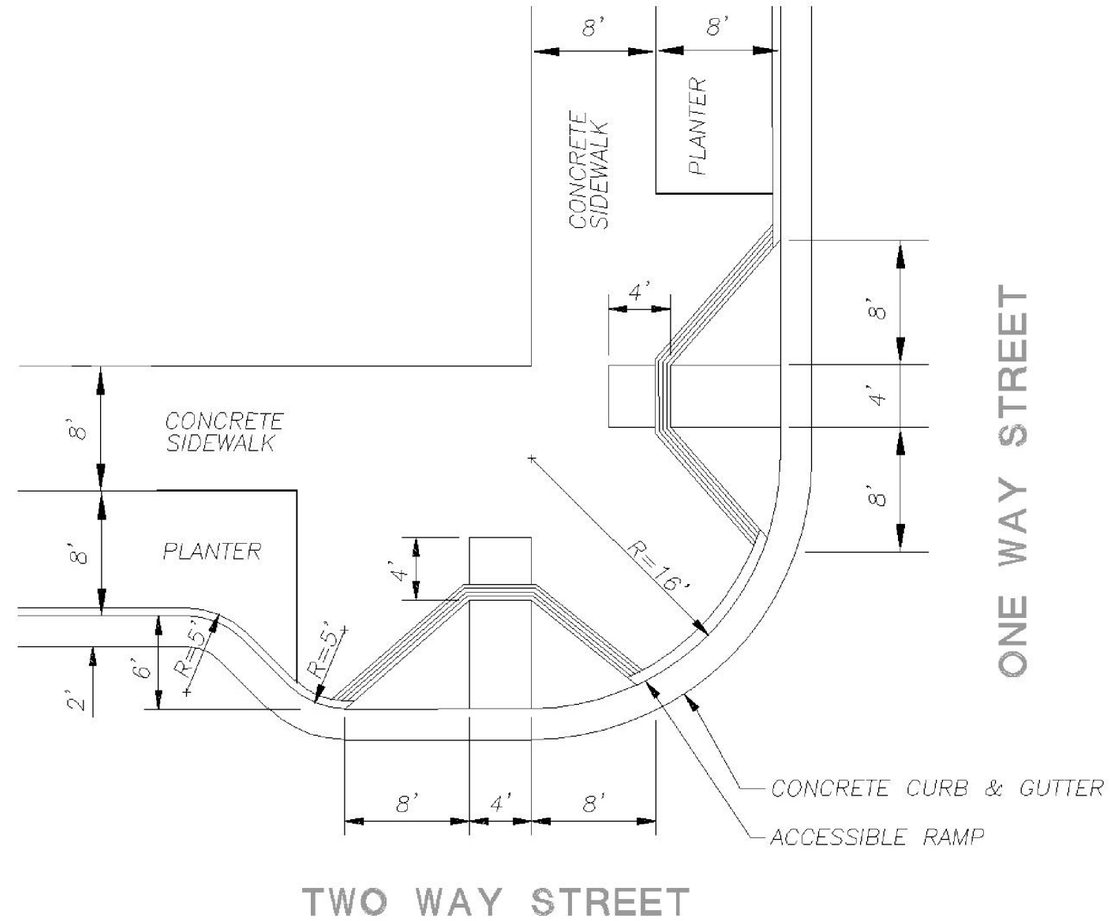


TYPICAL FULL BULB-OUT
NOT TO SCALE



TYPICAL HALF BULB-OUT
NOT TO SCALE

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Downtown Infrastructure Study - Typical Bulb-Out

FIGURE III-3

STORMWATER & SANITARY SEWER

General Information

The Downtown Infrastructure Study project area is located within an area served by both the Combined Sewer System (CSS) and Storm Drainage Basin 52. The CSS is the legacy storm drain and sanitary sewer system that conveys both storm water and sanitary flows. It encompasses approximately 7,500 acres of the Downtown, East Sacramento and Land Park areas. Another 3,700 acres including the River Park, California State University and far eastern Sacramento areas utilize the system for sanitary sewer only. The City discontinued constructing combined sewer and storm systems in 1946 although connection to the existing CSS was allowed.

The City of Sacramento's storm drainage requirements are handled by numerous drainage basins. Most of these basins are located outside of the CSS area. Storm Drainage Basin 52 is the basin that provides storm drainage collection for the portion of the CSS that includes the westerly portion of the Downtown Infrastructure Study area. Storm drainage within this area is gravity piped to the pumping station (Pump Station 52) located near the Crocker Museum. The pump station discharges directly to the Sacramento River. Sanitary sewer piping from the Basin 52 area is collected with a separated gravity system and connected to the CSS.

Combined Sewer System

The CSS is a collection system of pipes that convey both sanitary sewage and stormwater in a single pipeline. The piping system is greatly oversized for the sanitary sewer component, but inadequate for the City's current drainage design standard of 10-year capacity.

The CSS area is currently regulated by the Central Valley Regional Water Quality Control Board (RWQCB) per Cease and Desist Order No. 85-342. The order, including its amendments, requires the City to make operational improvements to reduce combined sewer and runoff overflows and to ultimately provide 10-year capacity for the CSS.

The Combined Sewer System is plagued by combined sewer outflows and overflows where flows to the CSS exceed the system's capacity. Outflows are when surcharges to the CSS that flow onto the streets. Overflows are defined as the rare instances when untreated flows discharge to the Sacramento River. Outflows and the rare overflow usually occur only during heavy storm events.

The City has developed an improvement program to reduce CSO events. These improvements include rehabilitating and expanding Sumps 1/1A and 2, rehabilitating and converting Pioneer Reservoir into a treatment facility, rehabilitating and up-sizing of the sewer mains in the CSS, and rehabilitating the Combined Wastewater Treatment Plant. Many of these projects have been completed.

Currently all flows into the CSS are conveyed westerly to two pumping stations (Sump 2 and 1/1A) located on the Sacramento River. For secondary treatment and disinfection of the flow, the City has entered into an agreement with the Sacramento Regional Wastewater Treatment Plant (SRWTP) to convey 60 million gallons per day (mgd). This treatment capacity is currently sufficient for dry weather flows.

During heavy storms where the capacity is exceeded, the Combined Wastewater Treatment Plant (CWTP) at South Land Park Drive and 35th Avenue is utilized to provide primary treatment of an additional 130 mgd. Excess flows from SRWTP and CWTP are diverted to the Pioneer Reservoir storage and treatment facility that has a capacity of 350 mgd. When all three treatment facilities (SRWTP, CWTP, and Pioneer) have reached capacity, excess flows are directly discharged into the Sacramento River without treatment from Sump 2. When the pipeline system and treatment plant capacities are surpassed, the excess flows flood local streets in the downtown area through maintenance holes and catch basins.

The City of Sacramento has adopted the Combined Sewer Development Fee (City Code 13.08.490) which is an impact mitigation fee that requires mitigation of any significant increase in wastewater flows over the

present level. If a proposed development project is determined to have a significant impact on the CSS, an acceptable mitigation plan is required by the City. The current CSS Development Fee is $117.99 per ESD for up to 25 ESD and $2,944.30 per ESD for more than 25 ESDs. The payment of the fees mitigates the project's sewer impacts.

In lieu of paying the fees, a developer may mitigate the impacts to the system with a Mitigation Plan approved by the Department of Utilities. The Mitigation Plan could include on-site storage with retention, sewer main up-sizing, diversion of flows, rerouting or replacement of pipes, connection to separated areas, and/or other mitigation measures depending on the site.

There is a second fee associated with the sanitary sewer system, the Facility Impact Fee levied by the Sacramento Regional County Sanitation District (SRCSD). This fee pays for planning, designing, construction and other related costs for wastewater conveyance, treatment and disposal facilities for the system's expansion.

The SRCSD Facility Impact Fee currently is calculated by multiplying the ESDs generated by the development by the fee of $2,800 per ESD for infill projects. It is possible in certain cases to receive a credit of 1 ESD per parcel as credit for previously paid fees. The County's policy determines when the credit is allowed. The County has published the method of calculating the ESDs for the different types of development. Additional information is available on line at http://www.srcsd.com.

Storm Drain – Basins 52, 73 and 114

Basin 52 serves the storm drainage needs of approximately 320 acres, bounded generally by the tracks north of I Street, Sacramento River, S Street, and 7th & 10th Streets. There are two additional smaller storm drainage basins, Basins 73 & 114 that are pumped into the Basin 52 system and are generally considered part of the larger Basin 52 system for planning purposes.

Basin 114 serves the area bounded by 3rd to 5th Streets and I to J Street. The sump for Basin 114 is located near at the intersection of 4th and J Streets. Basin 73 serves the depressed section of 5th Street from J Street to L Street. The sump for Basin73 is located just west of 5th Street in Downtown Plaza. These combined basins discharge stormwater through the levee into the Sacramento River at Sump 52, located at the Crocker Museum site at 3rd and P Streets. The limits of each of these Basins (52, 73 & 114) together with the CSS are shown on Figure IV-1.

Basin 52 utilizes a system of pipelines conveying stormwater to Sump 52. The system is currently over capacity, and allows fairly significant street flooding even during the 2-year storm event. This flooding is comprised only of stormwater, not sanitary sewage. Property flooding for at-grade structures is only anticipated during the 100-year storm event, although underground structures are at risk during smaller storm events.

The Basin 52 Stormwater Master Plan dated May 1996 has determined the recommended improvements for the shed area. The improvements include construction of a new pump station and storage basin, new outfall lines to the river, upsizing 8,800 feet of pipe and replacement in kind of 3,300 feet of pipe, as the life cycle requires.

The costs to complete the improvements as documented by the Master Plan exceed existing sources of potential funding. The City is currently requiring new development projects to construct portions of the improvements to the system. The major recommended improvements from the Master Plan (with current revisions noted) are located in Appendix G.

Existing Conditions

Combined Sewer System

The Combined Sewer System (CSS) that serves both the sanitary sewage and stormwater needs of the area consists of pipes ranging in size from 4 inches to 120 inches in diameter. The largest pipe in the CSS is the 120 inch Pioneer Interceptor (force main) which conveys flows from Sump 2 to Pioneer Reservoir. Piping material includes brick, PVC, RCP and VCP. Flows for the system are through the corridor from the north to the south.

The local drainage and sanitary sewage is typically collected in 8-inch to 12-inch piping systems located in the alleyways and streets. The collection system has collector pipelines ranging in size from 24 to 36 inch diameter located in 7th, 9th, 13th 15th, and 17th Streets. These flows are collected south of the project.

Storm Drain - Basin 52

The Basin 52 piping system ranges from 12 inches to 54 inches in diameter. In the Downtown Infrastructure Study area, the piping is located between 3rd Street and 7th Street, inclusively. The larger collection mains are located in 3rd Street, 4th Street, and 7th Streets. The system generally flows southwesterly towards the Basin 52 Pump Station located adjacent to the Crocker Museum at the corner of 3rd and P Streets.

Proposed Improvements

Combined Sewer System

The Downtown Infrastructure Study area is considered essentially developed at this time with the main land uses of office, commercial with some residential. The majority of the Proposed Projects and Opportunity Sites are envisioned as mixed-use projects that incorporate a combination of residential, office, and commercial/retail uses. Sanitary sewer flows are expected to increase because of the future increased office, commercial and residential land uses. Since the sites are previously developed with highly impervious surfaces (i.e. roof tops, parking lots, sidewalks, etc.), the stormwater runoff flows from the projects are not anticipated to increase with the development. The increased sanitary sewer flow will still be relatively small compared to the stormwater component of the CSS design flows.

Sanitary Sewer: The anticipated development of the Downtown Infrastructure Study area is expected to increase the sanitary sewer flows due to the increase in the residential, office, and commercial uses. The addition of over 5,000 new residences, almost 3 million square feet of office, and almost 1.5 million of commercial/retail uses will impact the existing sewer system.

The City of Sacramento Design Standards for sewer generation rates (Section 9 – Sanitary Sewer Design Standards) contain average daily flow rates for residential and non-residential uses. The existing standard for sewer generation is 400 gallons per day (gpd) per Equivalent Single Family Dwelling Unit (ESD). For more recent planning studies, the City has used a lower generation rate of 310 gpd per ESD. This is based on the stricter water usage construction standards limiting the flow per fixture unit that have been adopted over the last decade. With the State's adoption of CalGreen construction standards, even further reductions will be realized. However, this lower generation rate has not been formally adopted as the City's standard, and is therefore subject to change.

A factor of 0.55 ESD per residential unit was selected based on the nature of the high density urban infill residential. The factor is consistent with other recent planning studies for the Railyards and Richards Boulevard Specific Plans. This factor when multiplied by 310 gpd per ESD yields a sewer generation rate of 170 gpd per residential unit. This factor has not been formally adopted as the City's standard, and is therefore subject to change.

For the non-residential land uses, the City's standards recommend 0.2 ESDs per 1000 square feet for general office/commercial buildings. This generation rate has been applied to both the Office and Commercial/Retail land uses, and yields a rate of 62 gpd per 1000 square feet.

To generate the peaking factors (PF) for the sewer flows, a new equation has been developed by the City. This new equation is based on recent research involving peaking factors observed in the City collection system together with peaking factor curves from Sacramento Area Sewer District (SASD) and the Cities of Los Angeles & Portland. Based on this research, the following peaking factor equation was approved by the City to generate peaking factors for Average Dry Weather Flows (ADWF) ranging from 0 to 10 million gallons per day (mgd). However, this factor has not been formally adopted as the City's standard, and is therefore subject to change.

The equation for the peaking factor is:

$$PF = 1.9 \times Q^{-0.1}$$

Where Q = Average Dry Weather Flow (mgd). The minimum peaking factor is 1.5, and the maximum peaking factor is 3.0.

Multiplying the peaking factor (PF) to the ADWF yields the Peak Dry Weather Flow (PDWF). The Peak Wet Weather Flow (PWWF) is calculated by adding the PDWF with the inflow and infiltration (I&I). The I&I for each project is calculated by multiplying the area of the parcel by a factor of 1,900 gpd per acre. This I&I factor is also a new City guideline, but has not been formally adopted as the City's standard, and it therefore subject to change. The following equation represents the calculation of the PWWF.

$$PWWF = PF \times (1.9 \times Q^{-.01}) + I\&I$$

The calculation of the PWWF for each project is presented in Table IV-1. The total peak flow from all of the Proposed Projects and Opportunity Sites is estimated to be 2,261,367 gpd. (Note: The total peak flow for the sum of the projects is calculated by summing the ADWFs and then applying a peaking factor based on the summed flow). The peak flow of in 2,261,367 gpd equates to 3.50 cubic feet per second (cfs) which is a more typical expression for storm drainage flows.

TABLE IV-1
SANITARY SEWER FLOW CALCULATIONS

Project ID	Project Title	Development Type	Project Type	Parcel Area (Ac)	Total Project (ft²)	Office (ft²)	Commercial/ Retail (ft²)	Residential Units	Office ESDs	Commercial/ Retail ESDs	Residential ESDs	Total ESDs	ADWF per ESD (gpd)	ADWF (gpd)	PF	PDWF (gpd)	I & I Factor (gpd/ac)	I & I Flow (gpd)	PWWF (gpd)	PWWF (cfs)
1	Opportunity Site	RMX*	Opportunity Site	1.98	690,992	207,298	69,099	488	41.5	13.8	268.4	323.7	310	100,341	2.39	239,929	1900	3,767	243,696	0.38
2	THE TOWERS ON CAPITOL MALL	CMX	Proposed Project	2.43	1,800,000	0	80,000	810	0.0	16.0	445.5	461.5	310	143,065	2.31	330,167	1900	4,624	334,791	0.52
3	Opportunity Site	RMX*	Opportunity Site	0.63	219,280	65,784	21,928	155	13.2	4.4	85.3	102.8	310	31,866	2.68	85,456	1900	1,196	86,652	0.13
4	DOWNTOWN PLAZA	COM	Proposed Project	0.78	78,346	0	78,346	0	0.0	15.7	0.0	15.7	310	4,857	3.24	15,722	1900	1,485	17,207	0.03
5	LOT A PROJECT	OFF	Proposed Project	0.96	668,195	668,195	0	0	133.6	0.0	0.0	133.6	310	41,428	2.61	108,223	1900	1,820	110,042	0.17
6	Opportunity Site	RMX*	Opportunity Site	0.90	312,512	93,754	31,251	221	18.8	6.3	121.6	146.6	310	45,431	2.59	117,590	1900	1,704	119,294	0.18
7	MARSHAL HOTEL	RMX	Proposed Project	0.37	154,446	0	6,546	174	0.0	1.3	95.7	97.0	310	30,073	2.70	81,117	1900	699	81,816	0.13
8	701 L STREET	RMX	Proposed Project	0.78	583,332	240,000	10,500	85	48.0	2.1	46.8	96.9	310	30,024	2.70	80,997	1900	1,488	82,485	0.13
9	700 K STREET	RMX	Proposed Project	1.16	554,250	0	27,450	319	0.0	5.5	175.5	180.9	310	56,091	2.53	142,154	1900	2,205	144,360	0.22
10	Opportunity Site	RMX*	Opportunity Site	0.26	88,992	26,698	8,899	63	5.3	1.8	34.7	41.8	310	12,949	2.93	37,997	1900	485	38,482	0.06
11	Opportunity Site	RMX*	Opportunity Site	0.75	262,696	78,809	26,270	185	15.8	5.3	101.8	122.8	310	38,057	2.63	100,265	1900	1,432	101,697	0.16
12	Opportunity Site	RMX*	Opportunity Site	1.15	402,216	120,665	40,222	284	24.1	8.0	156.2	188.4	310	58,397	2.52	147,403	1900	2,193	149,596	0.23
13	800 K STREET	RMX	Proposed Project	0.79	231,647	0	17,730	178	0.0	3.5	97.9	101.4	310	31,448	2.69	84,448	1900	1,496	85,944	0.13
14	831 L STREET	RMX	Proposed Project	0.78	356,050	349,550	6,500	0	69.9	1.3	0.0	71.2	310	22,075	2.78	61,414	1900	1,474	62,888	0.10
15	Opportunity Site	RMX*	Opportunity Site	1.17	409,144	122,743	40,914	289	24.5	8.2	159.0	191.7	310	59,421	2.52	149,727	1900	2,231	151,958	0.24
16	Opportunity Site	RMX*	Opportunity Site	0.82	284,048	85,214	28,405	201	17.0	5.7	110.6	133.3	310	41,315	2.61	107,957	1900	1,549	109,505	0.17
17	METROPOLITAN	RMX	Proposed Project	0.98	642,000	0	13,000	320	0.0	2.6	176.0	178.6	310	55,366	2.54	140,499	1900	1,856	142,355	0.22
18	CATHEDRAL SQUARE	RMX	Proposed Project	0.70	232,910	0	7,290	242	0.0	1.5	133.1	134.6	310	41,713	2.61	108,892	1900	1,321	110,214	0.17
19	Opportunity Site	RMX*	Opportunity Site	0.19	64,736	19,421	6,474	46	3.9	1.3	25.3	30.5	310	9,448	3.03	28,614	1900	353	28,967	0.04
20	Opportunity Site	RMX*	Opportunity Site	0.15	53,544	16,063	5,354	38	3.2	1.1	20.9	25.2	310	7,807	3.09	24,098	1900	292	24,390	0.04
21	Opportunity Site	RMX*	Opportunity Site	0.18	62,280	18,684	6,228	44	3.7	1.2	24.2	29.2	310	9,047	3.04	27,516	1900	340	27,856	0.04
22	Opportunity Site	RMX*	Opportunity Site	0.45	155,096	46,529	15,510	109	9.3	3.1	60.0	72.4	310	22,431	2.78	62,304	1900	846	63,150	0.10
23	CAPITOL GRAND TOWER*	RMX	Proposed Project	0.59	1,170,000	55,000	557,500	278	11.0	111.5	152.9	275.4	310	85,374	2.43	207,466	1900	1,112	208,578	0.32
24	Opportunity Site	RMX*	Opportunity Site	0.87	302,648	90,794	30,265	214	18.2	6.1	117.7	141.9	310	43,993	2.60	114,234	1900	1,650	115,884	0.18
25	MERIDIAN II	RMX	Proposed Project	0.90	526,928	520,428	6,500	0	104.1	1.3	0.0	105.4	310	32,670	2.68	87,394	1900	1,701	89,095	0.14
26	Opportunity Site	RMX*	Opportunity Site	0.46	161,544	48,463	16,154	114	9.7	3.2	62.7	75.6	310	23,443	2.77	64,829	1900	881	65,710	0.10
27	Opportunity Site	RMX*	Opportunity Site	1.16	302,700	45,405	105,945	178	9.1	21.2	97.9	128.2	310	39,733	2.62	104,229	1900	2,201	106,429	0.16
28	Opportunity Site	RMX*	Opportunity Site	0.43	111,114	16,667	38,890	65	3.3	7.8	35.8	46.9	310	14,527	2.90	42,142	1900	808	42,950	0.07
29	Opportunity Site	RMX*	Opportunity Site	0.44	113,856	17,078	39,850	67	3.4	8.0	36.9	48.2	310	14,953	2.89	43,252	1900	828	44,080	0.07
30	Opportunity Site	RMX*	Opportunity Site	0.75	196,008	29,401	68,603	115	5.9	13.7	63.3	82.9	310	25,684	2.74	70,379	1900	1,425	71,804	0.11
31	Opportunity Site	RMX*	Opportunity Site	0.37	97,806	14,671	34,232	58	2.9	6.8	31.9	41.7	310	12,921	2.94	37,924	1900	711	38,636	0.06
	Downtown Infrastructure Study Area Totals			**24.30**	**11,289,316**	**2,997,314**	**1,445,855**	**5,340**	**599.5**	**289.2**	**2,937.0**	**3,825.6**		**1,185,946**	1.87	**2,215,196**	1900	**46,170**	**2,261,367**	**3.50**
Additional Projects Outside Project Study Area																				
32	Opportunity Site	RMX*	Opportunity Site	2.06	716,896	215,069	71,690	506	43.0	14.3	278.3	335.7	310	104,052	2.38	247902	1900	3,909	251,810	0.39
33	EPIC TOWER	CMX	Proposed Project	0.92	691,180	39,000	34,000	354	7.8	6.8	194.7	209.3	310	64,883	2.50	162058	1900	1,757	163,816	0.25
34	Opportunity Site	RMX*	Opportunity Site	0.59	206,528	61,958	20,653	146	12.4	4.1	80.3	96.8	310	30,015	2.70	80976	1900	1,126	82,102	0.13
35	CAPITAL WEST SIDE PROJECTS EIR	CMX	Proposed Project	4.86	1,456,000	1,400,000	56,000	0	280.0	11.2	0.0	291.2	310	90,272	2.42	218148	1900	9,229	227,377	0.35
36	CADA EAST END GATEWAY	RMX	Proposed Project	0.54	180,357	0	5,217	117	0.0	1.0	64.4	65.4	310	20,272	2.81	56880	1900	1,027	57,907	0.09
37	CADA EAST END GATEWAY #2	CMX	Proposed Project	0.45	34,471	0	9,206	35	0.0	1.8	19.3	21.1	310	6,538	3.14	20543	1900	854	21,397	0.03
38	CADA EAST END GATEWAY #3	RMX	Proposed Project	0.71	39,196	0	14,505	26	0.0	2.9	14.3	17.2	310	5,332	3.21	17099	1900	1,341	18,440	0.03
	Additional Project Totals			**10.13**	**3,324,628**	**1,716,027**	**211,271**	**1,184**	**343.2**	**42.3**	**651.2**	**1,036.7**		**321,364**	2.13	**683,993**	1900	**19,242**	**703,235**	**1.09**

Abbreviations:
ESD = Equivalent Single Family Dwelling Unit
ADWF = Average Dry Weather Flow
PF = Peaking Factor
PDWF = Peak Dry Weather Flow
I & I = Inflow and Infiltration
PWWF = Peak Wet Weather Flow

Sanitary Sewer Comparison to Storm Drainage: Since this majority of the sewer collection system within the Downtown Study Area also collects and conveys storm drainage flows, a comparison is made to storm drainage flow rates.

The stormwater runoff characteristics of the current and proposed land uses are similar. As a result, the peak stormwater flow rate and volume of rainfall-runoff is not expected to significantly change when the land use changes. The expected increased sewer flows will increase the total combined peak flow rate in the collection system.

The overall size of the 54 City block Downtown Infrastructure Study area is approximately 224 acres. The peak sewer flow represents an average increase of 0.0156 cfs per acre. This is a relatively small increase in amount when compared to typical 10-year peak stormwater design flow rates of approximately 2 cfs per acre for small highly impervious (95%) watersheds. However, the City's policy requires proposed projects to "do no harm" when utilizing the City's Drainage system. Development projects must demonstrate any impacts are mitigated to a pre-project condition or better.

For comparison, the average 10-year peak stormwater flow rate for the Downtown Infrastructure Study area is calculated using the City's Design Standards, (Section 11 - Storm Drainage Design Standards). The Sacramento Method is used to calculate the average peak flow:

$$Q_{peak} = kA^n$$

Where: Q_{peak} = peak flow in cfs

A = cumulative drainage area in acres

k = a function of percent impervious (from Table 11.3-1 of Section 11)

n = a function of percent impervious (from Table 11.3-1 of Section 11)

Using a high impervious rate of 90% for the Study Area, the factors for a 10-year peak flow are k = 2.08 and n = 0.819 respectively. The 10-year peak flow rate for the 224 acre Study Area is calculated to be:

$$Q_{10\text{-year peak}} = 2.08 \times 224^{0.819}. = 175 \text{ cfs}$$

The sewer PWWF of 3.5 cfs represents a 2% increase in flow over the 175 cfs. While not all of the Study Area stormwater flows into the CSS, this gives a general indication of the overall Study area impacts on the larger CSS system.

The 10-year peak stormwater discharge for each of the Proposed Projects and Opportunity Sites is presented in Table IV-2. A comparison is to the calculated PWWF for each project site is presented. The peak sewer flow generally represents less than 10% of the peak 10-year stormwater runoff. Only a few of the very high density projects with a significant residential component exceed 10%.

This flow comparison clearly shows that stormwater represents more than 90% of the total flow that is conveyed in the CSS. This fact, coupled with the fact that stormwater is somewhat easier to detain, is the basis of the proposed recommendations.

TABLE IV-2
STORMWATER VS. SANITARY SEWER FLOW COMPARISON

Project ID	Project Title	Development Type	Project Type	Parcel Area (ac)	Percent Impervious	k (10yr)	n (10yr)	Q_{peak} (10yr)	PWWF (cfs)	PWWF/ Q_{peak} (%)
1	Opportunity Site	RMX*	Opportunity Site	1.98	90%	2.08	0.819	3.64	0.38	10.3%
2	THE TOWERS ON CAPITOL MALL	CMX	Proposed Project	2.43	90%	2.08	0.819	4.31	0.52	12.0%
3	Opportunity Site	RMX*	Opportunity Site	0.63	90%	2.08	0.819	1.42	0.13	9.4%
4	DOWNTOWN PLAZA	COM	Proposed Project	0.78	90%	2.08	0.819	1.70	0.03	1.6%
5	LOT A PROJECT	OFF	Proposed Project	0.96	90%	2.08	0.819	2.01	0.17	8.5%
6	Opportunity Site	RMX*	Opportunity Site	0.90	90%	2.08	0.819	1.90	0.18	9.7%
7	MARSHAL HOTEL	RMX	Proposed Project	0.37	90%	2.08	0.819	0.92	0.13	13.8%
8	701 L STREET	RMX	Proposed Project	0.78	90%	2.08	0.819	1.70	0.13	7.5%
9	712 K STREET	RMX	Proposed Project	1.16	90%	2.08	0.819	2.35	0.22	9.5%
10	Opportunity Site	RMX*	Opportunity Site	0.26	90%	2.08	0.819	0.68	0.06	8.8%
11	Opportunity Site	RMX*	Opportunity Site	0.75	90%	2.08	0.819	1.65	0.16	9.5%
12	Opportunity Site	RMX*	Opportunity Site	1.15	90%	2.08	0.819	2.34	0.23	9.9%
13	800 K STREET	RMX	Proposed Project	0.79	90%	2.08	0.819	1.71	0.13	7.8%
14	831 L STREET	RMX	Proposed Project	0.78	90%	2.08	0.819	1.69	0.10	5.8%
15	Opportunity Site	RMX*	Opportunity Site	1.17	90%	2.08	0.819	2.37	0.24	9.9%
16	Opportunity Site	RMX*	Opportunity Site	0.82	90%	2.08	0.819	1.76	0.17	9.6%
17	METROPOLITAN	RMX	Proposed Project	0.98	90%	2.08	0.819	2.04	0.22	10.8%
18	CATHEDRAL SQUARE	RMX	Proposed Project	0.70	90%	2.08	0.819	1.54	0.17	11.0%
19	Opportunity Site	RMX*	Opportunity Site	0.19	90%	2.08	0.819	0.52	0.04	8.6%
20	Opportunity Site	RMX*	Opportunity Site	0.15	90%	2.08	0.819	0.45	0.04	8.4%
21	Opportunity Site	RMX*	Opportunity Site	0.18	90%	2.08	0.819	0.51	0.04	8.5%
22	Opportunity Site	RMX*	Opportunity Site	0.45	90%	2.08	0.819	1.07	0.10	9.1%
23	CAPITOL GRAND TOWER*	RMX	Proposed Project	0.59	90%	2.08	0.819	1.34	0.32	24.1%
24	Opportunity Site	RMX*	Opportunity Site	0.87	90%	2.08	0.819	1.85	0.18	9.7%
25	MERIDIAN II	RMX	Proposed Project	0.90	90%	2.08	0.819	1.90	0.14	7.3%
26	Opportunity Site	RMX*	Opportunity Site	0.46	90%	2.08	0.819	1.11	0.10	9.2%
27	Opportunity Site	RMX*	Opportunity Site	1.16	90%	2.08	0.819	2.35	0.16	7.0%

TABLE IV-2 (CONTINUED)
STORMWATER VS. SANITARY SEWER FLOW COMPARISON

Project ID	Project Title	Development Type	Project Type	Parcel Area (ac)	Percent Impervious	k (10yr)	n (10yr)	Q_{peak} (10yr)	PWWF (cfs)	PWWF/ Q_{peak} (%)
28	Opportunity Site	RMX*	Opportunity Site	0.43	90%	2.08	0.819	1.03	0.07	6.4%
29	Opportunity Site	RMX*	Opportunity Site	0.44	90%	2.08	0.819	1.05	0.07	6.5%
30	Opportunity Site	RMX*	Opportunity Site	0.75	90%	2.08	0.819	1.64	0.11	6.8%
31	Opportunity Site	RMX*	Opportunity Site	0.37	90%	2.08	0.819	0.93	0.06	6.4%
Additional Projects Outside Project Study Area										
32	Opportunity Site	RMX*	Opportunity Site	2.06	90%	2.08	0.819	3.76	0.39	10.4%
33	EPIC TOWER	CMX	Proposed Project	0.92	90%	2.08	0.819	1.95	0.25	13.0%
34	Opportunity Site	RMX*	Opportunity Site	0.59	90%	2.08	0.819	1.36	0.13	9.4%
35	CAPITAL WEST SIDE PROJECTS EIR	CMX	Proposed Project	4.86	90%	2.08	0.819	7.59	0.35	4.6%
36	CADA EAST END GATEWAY	RMX	Proposed Project	0.54	90%	2.08	0.819	1.26	0.09	7.1%
37	CADA EAST END GATEWAY #2	CMX	Proposed Project	0.45	90%	2.08	0.819	1.08	0.03	3.1%
38	CADA EAST END GATEWAY #3	RMX	Proposed Project	0.71	90%	2.08	0.819	1.56	0.03	1.8%

Stormwater Peak Flows Based on Sacramento Method : $Q_{peak} = kA^n$
Q_{peak} = Peak Flow in cfs
A = cumulative drainage area in acres
k = a function of percent impervious (from Table 11.3-1 in Section 11)
n = a function of percent impervious (from Table 11.3-1 in Section 11)

Recommended System Improvements: The recommended improvements to reduce the impacts to the CSS system is to separate the sewer from the storm drainage flows within the alleys. The majority of the developments in the Downtown Infrastructure Study area are served with a combined sewer and storm drainage pipeline in the rear alleyway. These pipelines while more than adequately sized for the sanitary sewer flows, are typically undersized for storm drainage flows. The easiest and least costly solution is to continue to let the existing system function as a sanitary sewer system, and provide a new separated system for the storm drainage flows in a larger piped system.

The existing system is generally comprised of 6-inch to 10-inch pipelines in the alleys. The proposed system would add a separate 18-inch storm drain pipeline to the alleys. Adding an 18 inch pipeline to an existing alley may prove difficult, and will need to be analyzed on a project by project basis. The location of the proposed 18-inch pipelines is shown on Figure IV-2.

The separated storm drain will provide a better storm drainage system in the vicinity of each project. In conjunction with the Downtown Combined Sewers Upsizing Project discussed below, these improvements will mitigate the impacts to the CSS from the increased sanitary sewer flows from the development in the Downtown Infrastructure Study area.

Downtown Combined Sewers Upsizing Project

The City of Sacramento, Department of Utilities has developed a planned program for strategically upsizing selected CSS pipelines in the Downtown Sacramento area. The project is being implemented in phases. Portions of the system improvements have already been installed. Future segments of the system area currently under design. Figure IV-3 depicts the conceptual system layout for the upsizing project. The portion of the system through the Downtown Infrastructure Study area include the following:

- Upsizing the existing CSS to a 48-inch pipeline in 7th Street between H Street and K Street. This segment of the system has been completed.
- Upsizing the existing 24-inch CSS in 7th Street between K Street and P Street to 60 inches.
- Installing a new 36-inch in L Street between 7th Street and 9th Street.

The improvements for the Downtown Combined Sewers Upsizing Project are shown in this report for reference only. The costs for these project improvements are being funded by the Combined Sewer Development Fees. Developers within the Downtown Infrastructure Study area shall pay the Combined Sewer Development fees associated with the proposed project impacts.

Storm Drain - Basin 52

The construction of the improvements identified in the Basin 52 Master Plan is not required to be constructed by the Downtown Infrastructure Study developers by current City policy. However, the portions of the piping system within the Downtown Infrastructure Study have been included in the cost estimate. These pipes include:

- Upsizing the existing 21-inch storm drain in J Street between 3rd and 5th Streets to 42 inches in diameter.
- Upsizing the 30-inch storm drain in 3rd Street between J Street and the connection with the Old Sacramento drainage pipeline north of L Street to 42 inches.
- Upsizing the 33-inch storm drain in 3rd Street between L Street and the connection with the Old Sacramento drainage pipeline north of L Street to 48 inches.
- Upsizing the 33-inch storm drain in 3rd Street between L Street and Capitol Mall to 54 inches.

- Installation of a 15-inch main in Capital Mall between 3rd and 4th Streets.

The additional improvements outside the Downtown Infrastructure Study area have not been included in this report. These additional improvements include a pumping station, retention storage basin, outfall to the Sacramento River, and land costs all located to the southwest of the Downtown Infrastructure Study area. The projected costs for these improvements from the 1996 Master Plan estimated to be approximately $14,900,000. The costs equated in current dollar value are anticipated to be greater.

The costs for these improvements are currently not included in the City's Capital Improvement Program, and no funding will be available in the foreseeable future. If a financial plan to fund the improvements is developed in the future, developers in the Downtown Infrastructure Study area would be expected to pay their proportionate share.

3rd Street CSS Relief Sewer Project

The upsizing of the existing sanitary sewer system was studied by Nolte for the City Utility Department in 2007. This pipeline conveys primarily sanitary sewer flows with some existing storm drainage flows entering the system at the Railyards project. With the development of the Railyards, it is intended that the majority of the stormwater flows will be conveyed directly to the Sacramento River with the construction of a new stormwater collections system and pump station. The increased sewer flows from the Railyards development together diverted sewer flows from the Richards Boulevard Specific Plan area and development along 3rd Street will require the existing 3rd Street CSS pipeline to be upsized. The construction of the improvements identified in the 3rd Street CSS Relief Sewer Project is not required to be constructed by the Downtown Infrastructure Study developers by current City policy. However, the portions of the piping system within the Downtown Infrastructure Study have been included in the cost estimate. These pipes include:

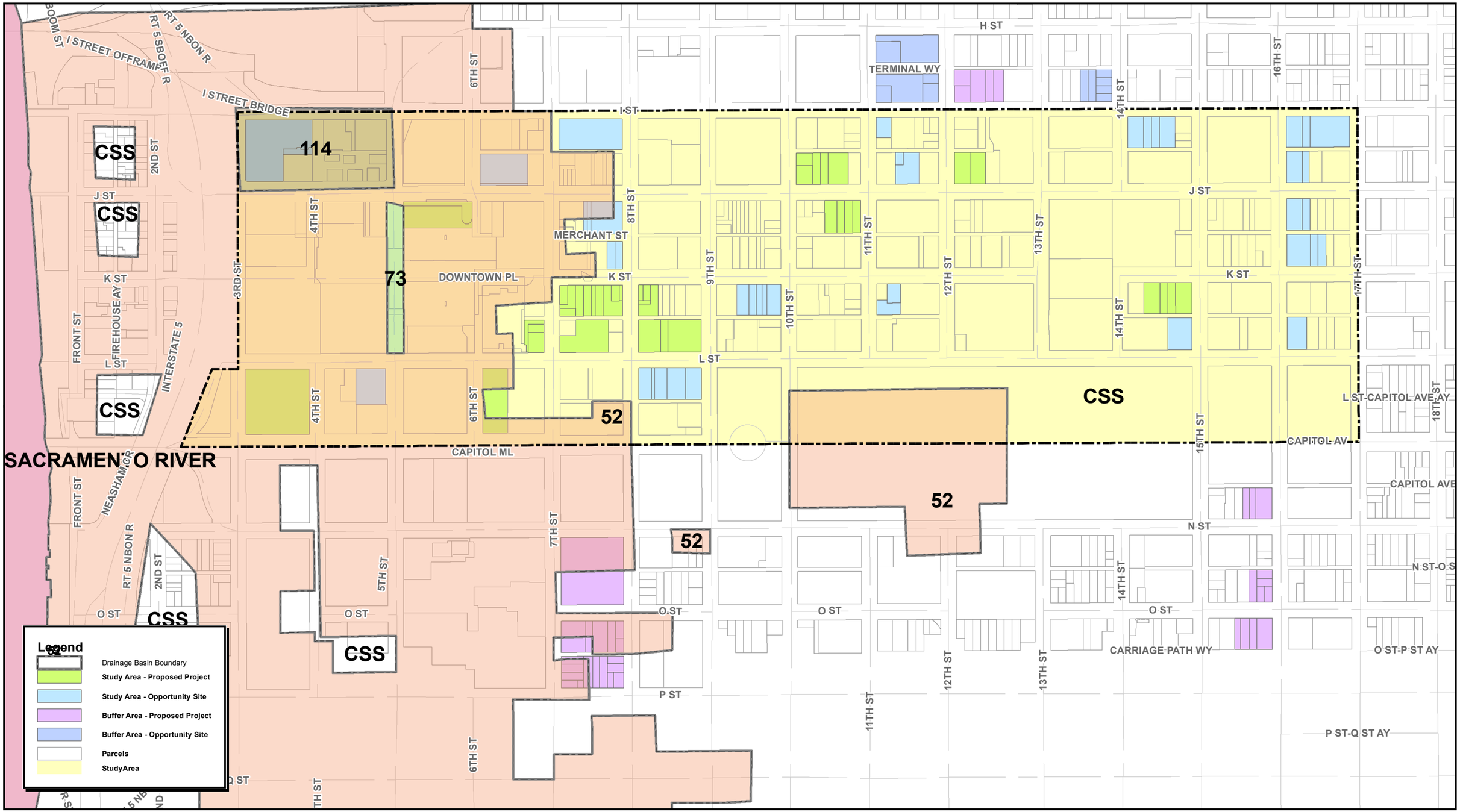
- Upsizing the existing 21-inch storm drain in J Street between 3rd and 5th Streets to 42 inches in diameter.
- Upsizing the 30-inch storm drain in 3rd Street between J Street and the connection with the Old Sacramento drainage pipeline north of L Street to 42 inches.
- Upsizing the 33-inch storm drain in 3rd Street between L Street and the connection with the Old Sacramento drainage pipeline north of L Street to 48 inches.
- Upsizing the 33-inch storm drain in 3rd Street between L Street and Capitol Mall to 54 inches.
- Installation of a 15-inch main in Capital Mall between 3rd and 4th Streets.

Stormwater Quality

The City of Sacramento adopted the Stormwater Quality Design Manual (SQDM) for the Sacramento and South Placer Regions (May 2007), a joint effort of the communities in the greater Sacramento region. The SQMD provides locally-adapted information for design and selection of three categories of stormwater quality control measures: source control, runoff reduction and treatment control. Per the requirements, multi-family and commercial, projects greater than 1 acre are required to implement permanent post-construction treatment measures.

The Downtown Infrastructure Study area is subject to the requirements of the SQDM only for those projects that fall within the boundary of Basin 52. All projects greater than 1 acre will be required to comply with the stormwater quality measures outlined in the SQMD. These measures may include treatments measures such as bioswale planters, stormwater treatment vaults, green roofs, etc. either used as a single treatment or as a combination of several measures. Developers are urged to discuss their project with the Stormwater Quality Section of the City's Utility Department while in the planning stages so that proper permanent post construction stormwater quality treatment measures can be effectively implemented into the project.

The remainder of the Study area is within the Combined Sewer System (CSS) which is under a separate permit regulations for stormwater discharges. The stormwater flows from the CSS are treated at the SRWTP, CWTP, and the Pioneer treatment facilities. Therefore, projects within the CSS are not required to have additional stormwater quality control measures.



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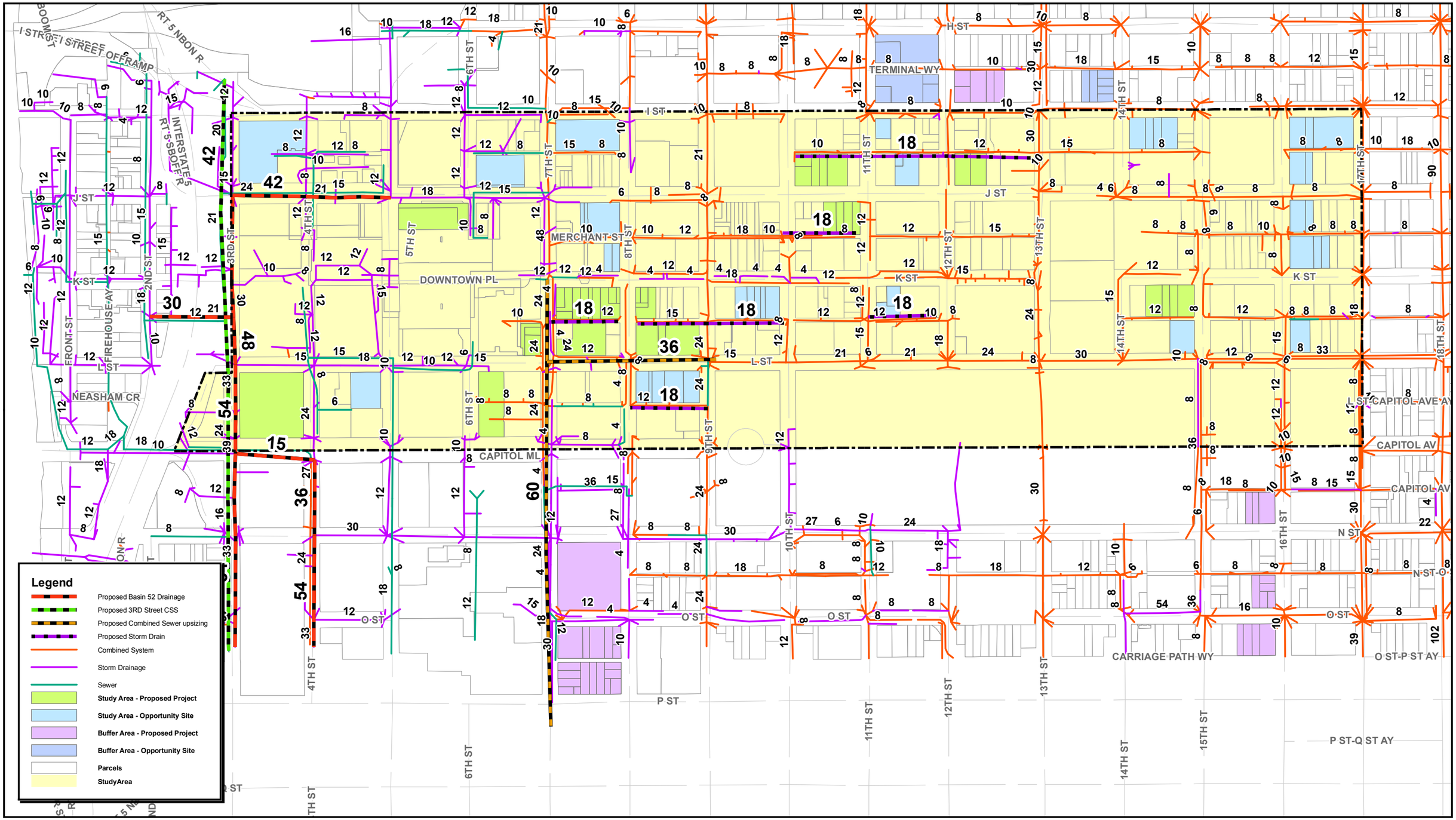
Downtown Infrastructure Study - Stormwater Basin

FIGURE IV-1



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Downtown Infrastructure Study - Stormwater and Sanitary Sewer

FIGURE IV-2

0 150 300 600 Feet

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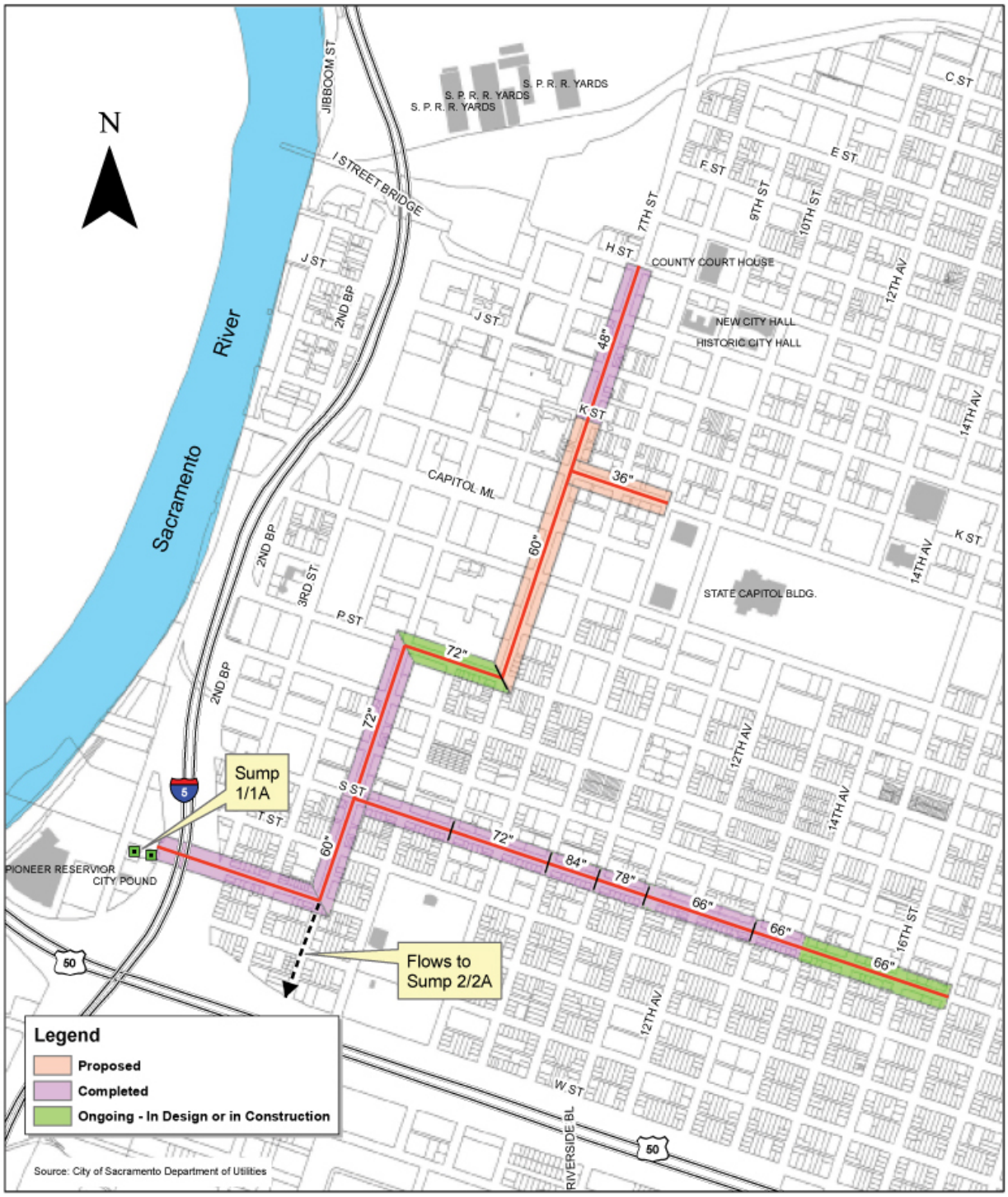
Figure IV-3 Downtown Combined Sewers Upsizing Project



WATER SUPPLY

General Information

The City of Sacramento provides domestic water to the Downtown Infrastructure Study project area. The City utilizes both surface water and groundwater to meet the water demands. The City treats surface water diverted from the Sacramento and American Rivers through the Sacramento River Water Treatment Plant (SRWTP) and the E.A. Fairbairn Water Treatment Plant (FWTP), respectively. Additionally the City extracts groundwater from both the North Sacramento and Central Sacramento basins. The current reliable water production capacity is approximately 280 mgd.

Sacramento River Water Treatment Plant: The SRWTP began operation in 1924 with an initial capacity of 32 million gallons per day (mgd), and treats water diverted from the Sacramento River approximately one-half mile downstream of the confluence of the American River. A new water intake structure, located approximately 700 feet downstream of the old intake structure, was completed in 2003. Other expansions and modifications completed by the City since the 1920s have increased the treatment plant's design capacity to 160 mgd. Currently, due to the conditions of the existing facilities and hydraulic constraints, the SRWTP's reliable capacity is limited to 135 mgd. Design is underway for a project to rehabilitate the older facilities at the SRWTP to bring the capacity back to 160 mgd.

E.A. Fairbairn Water Treatment Plant: The FWTP is located adjacent the American River approximately seven miles upstream with the Sacramento River. The FWTP began operation in 1964 and has a current capacity of 200 mgd following an expansion completed in 2005. Currently, the California Department of Public Health (CDPH) has permitted a capacity of 160 mgd. However, the amount of water diverted is further limited by the so-called Hodge Flow Criteria. Generally, during the time of peak demand, most often in June, July, or August, the Hodge Flow Criteria could limit the diversion rate at the FWTP to 100 mgd.

Groundwater Wells: The City currently operates 27 municipal groundwater supply wells; 25 wells are located in the northern portion of the City, north of the American River, while the remaining 2 are located south of the American River. The total pumping capacity of the City's municipal supply wells is approximately 20.7 mgd, assuming 90 percent of the production capacity is available.

The City maintains eleven enclosed distributed water storage reservoirs with a total capacity of 45 million gallons. This water is used to meet the water demand for fire flows, emergencies, and peak hours where they exceed the maximum day supply rates. In addition to the reservoirs, the SRWTP & FWTP together maintain a combined on-site storage of over 43 million gallons.

The City operates pumping facilities throughout the area. There are 18 high lift service pumps at the SRWTP and FWTP. The City also maintains pumping facilities at ten of the City's storage reservoirs. These pump stations are of varying sizes and capacities.

The City differentiates the water mains into two distinct categories: water distribution mains and water transmission mains. Water distribution mains are smaller pipelines located in the streets and alleys utilized for water services. Water transmission mains are larger pipelines utilized to convey water to the distribution mains.

It is the City's policy to utilize the water distribution mains only for water services, fire services and fire hydrants. These pipes are typically 4 inches to 12 inches in diameter. If no smaller pipe is available, existing water mains 14 inches and 16 inches in diameter may be considered distribution mains. These pipes may be tapped only with the approval of the City of Sacramento Department of Utilities.

Transmission mains are 18 inches and larger in diameter. They are used to convey large volumes of water from the treatment plants to selected points throughout the distribution system. They are also utilized to transfer water to and from the storage reservoirs to meet fluctuating daily and seasonal demands. These mains cannot be tapped for water services, fire services or fire hydrants Considering each service tap is a potential weakening of the water main, the City currently has the policy to restrict the installation of service taps until

after a project has been reviewed and approved by the City. This is to restrict the number of taps to the mains to those that are in the ultimate location per an approved development plan. This reduces the number of service taps that are abandoned due to changes in the development plans.

The City Department of Utilities has an active Capital Improvement Program (CIP) for maintaining and upgrading the water supply system. The implementation of the water improvements to necessary to serve a specific project site is typically the responsibility of future developers. The City's policy is to require the developer to construct any infrastructure necessary to support the project in question. To determine if water needs for a project can be met a water supply test is performed on the existing system. If the existing water system is sufficient to meet the needs, no infrastructure upgrades are necessary. If the existing infrastructure is found to be insufficient for the project's needs, the developer is required to construct necessary infrastructure improvements.

The current City policy could prove burdensome to a small developer whose project exceeds the capacity of the water system. One project could, under this approach, be held responsible for major infrastructure improvements, creating the possibility of a financial responsibility making the project no longer viable. One possible mitigation for this problem could include the developer entering into agreements with adjacent developers to construct the required facilities as a small assessment district. This process: however, would be complex, expensive, and could be infeasible due to intractable owners.

The infrastructure improvements required for all new development will need to meet current City standards. Looped water main systems are typically required due to the unreliability of dead end mains, and the potential for water quality problems as a result of stagnant water. Additional water main installation may also be required depending on the existing system layout. The City's meter program will require all new water services to be metered.

Temporary source of water for construction is easily acquired two different ways. First, the contractor can purchase a construction service. This utilizes the ultimate water service tap. Secondly, the contractor can purchase rights to use water from an adjacent fire hydrant.

For additional information, the document titled "Department of Utilities Water Distribution System – Commonly Used Criteria", which summarizes the City's planning and design criteria is located in the Appendix C.

Existing Conditions

The Downtown Infrastructure Study project area is generally served by several major transmission mains ranging in size from 14-inch to 42-inch in diameter together with an extensive system of service mains ranging in size from 6-inch to 12-inch diameter.

A major transmission main serving the greater Downtown Sacramento area from the SRWTP enters the area at the west end of I Street through a set of dual 30/36 inch diameter pipelines that converge to a single 42-inch diameter pipeline at the 5th & I Street intersection. This 42-inch pipeline continues easterly through the Study area along I Street decreasing in size to a 36-inch and then to a 16-inch as it branches north and south to serve the greater Downtown area. At 6th Street it branches northerly to an 8-inch service main, southerly to a 24-inch transmission main, and continues easterly as a 36-inch transmission main. At 9th Street it branches northerly to a 14-inch transmission main, southerly to an 18-inch transmission main, and continues easterly as a 36-inch transmission main. At 11th Street the 36-inch transmission main turns northerly outside the Study area to H Street then easterly following H Street beyond the limits of the Study area. A 16-inch transmission main continues easterly on I Street to 12th Street where it branches northerly and southerly to a 20-inch transmission main. At 14th Street it branches again to a 16-inch transmission main both northerly & southerly, and continues easterly as a 16-inch transmission main until it leaves the Study area at 17th Street.

The 24 inch transmission main in 6th Street jogs easterly at J Street to 7th Street around the Westfield Downtown Plaza Mall Shopping Mall, then back to 6th Street at L Street, and continues southerly through the Study area. The 9th Street transmission main is an 18-inch transmission main from I Street to the K/L

Alley where it reduces to a 16-inch transmission main to Capitol Mall where it reduces again to a 14-inch transmission main south of the Study area. A 24-inch transmission main is located in 12th Street through the Study area. The 16-inch transmission main at 14th Street continues south to J Street where it jogs east to 15th Street around the Sacramento Convention Center Complex to K Street, back to 14th Street, and then southerly to L Street where it joins a 16-inch transmission main connected to the 20-inch transmission main in 12th Street. The I Street, 6th Street, and 12th Street transmission mains are identified as a Critical Water Main by the City Utilities Department.

There are no wells or reservoirs within the limits of the Study area. The nearest reservoir outside of the SRWTP is the Alhambra Reservoir located to the east of the Study area Alhambra Boulevard on the block bounded by Alhambra Boulevard, J Street, 33rd Street, & L Street. This reservoir together with the SRWTP are identified by the City as a Critical Infrastructure items.

The existing Downtown Study area is generally well served by an extensive system of service mains ranging in size from 6-inch to 12-inch diameters. Upsizing of the existing mains has been performed over the years as development of the Downtown Study area has occurred. However, some of the system mains are cast iron pipelines which have demonstrated a history of problems associated with mains reaching the end of their useful life. Hydraulic testing of these mains has determined a severe reduction in capacity. Continued replacement/upsizing of the cast iron mains, and the smaller 6-inch and 8-inch mains is envisioned in order to provide adequate domestic and fire suppression needs.

Proposed Conditions

Water Demands: The types of development envisioned with the Proposed Projects and Opportunity Sites are high density urban infill type projects. Housing units in these projects typically are smaller units (700-1000 square feet) with a smaller per capita occupancy rate per unit than single-family or multi-family units in suburban areas. The domestic water demands for these high density residential units is anticipated to be significantly reduced from the City's typical single family or multi-family water usage criteria.

The City's water demand criteria for an Equivalent Single Family Dwelling (ESD) unit is 400 gallons per day (gpd) per unit. A reduced water demand rate of 310 gpd has been used in recent planning efforts, and should be used for projects in the Downtown Infrastructure Study area. The City's criteria allows a reduction for multi-family units by applying a factor of 0.75 ESD. For the type of high-density residential urban infill development with smaller unit sizes and fewer people per unit, a factor of 0.55 ESD per unit should be used for the proposed project domestic water demands within the Study Area. This yields a generation rate of 170 gpd per unit. This is similar to the factors used for the Railyards and Richards Boulevard Specific Plan areas.

For the non-residential land uses, the City's standards recommend 0.2 ESDs per 1000 square feet for office/commercial buildings for general planning purposes. This generation rate is generally applied to both the Office and Commercial/Retail land uses, and yields a rate of 62 gpd per 1000 square feet. Factors for specific land uses such as restaurants, bars, dry cleaners, etc. with anticipated higher usage vary from 0.2 to 2.0 ESD per 1000 square feet.

The recent adoption by the State of California of SB7 – "20x2020" Water Conservation Standards requiring a 20% reduction in urban water usage by the year 2020 and the CalGreen Building Code will require reductions in overall water usage through stricter indoor and outdoor usage. These requirements mandating water conservation will further justify the use of the reduced water rates for the Study Area development.

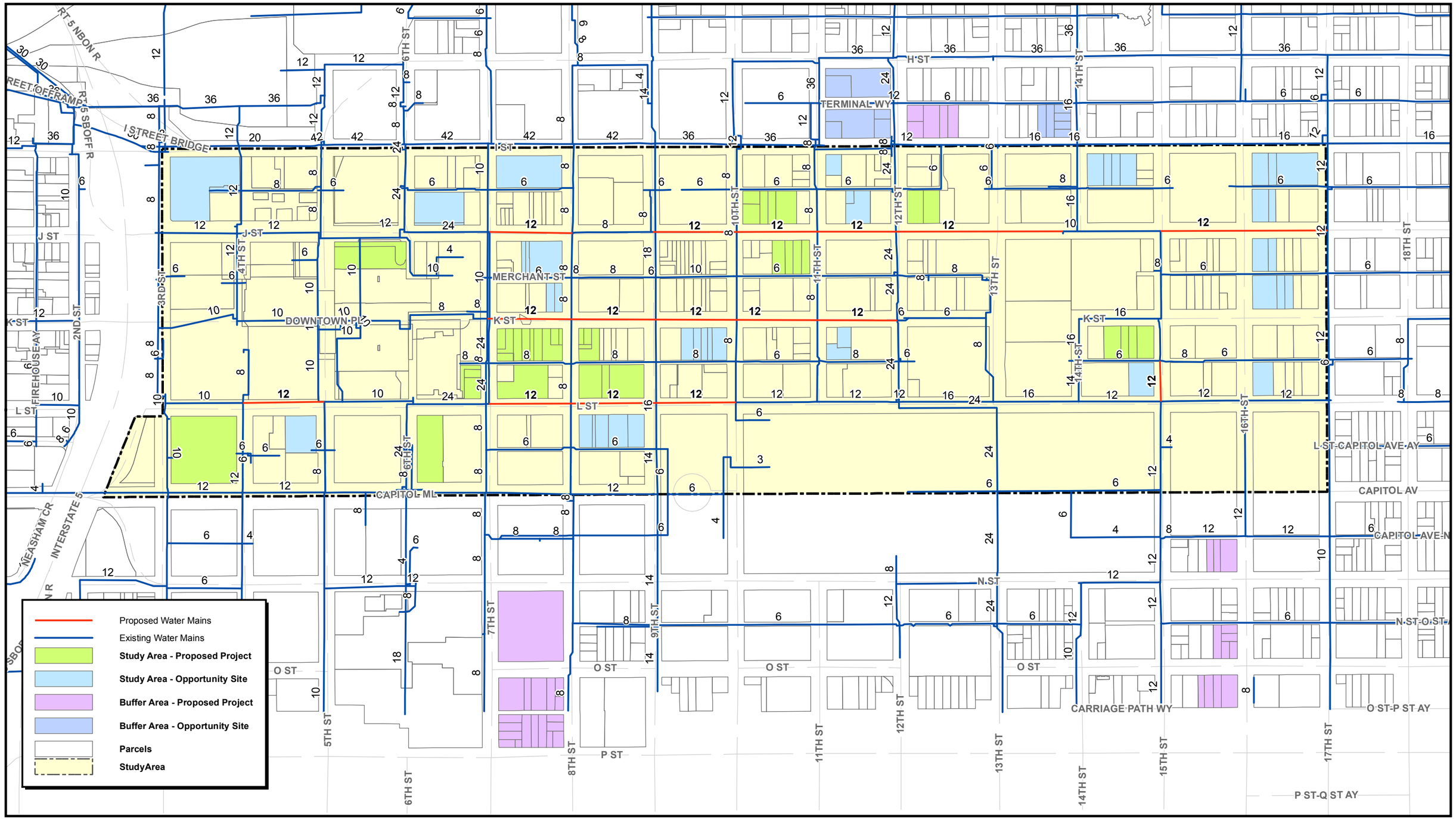
Infrastructure: The plan for the Downtown Infrastructure Study project area is to upgrade the existing water system supply grid to provide the Proposed Projects and Opportunity Sites with adequate water for both domestic and fire suppression needs. The existing water system in generally adequate, but will require strategic upgrades to serve the proposed projects.

The existing transmission mains are not anticipated to be a requirement for development within the limits of the Study Area. The development of the Sacramento Railyards area just north of the Study Area will require

relocation/replacement of the 30 & 36-inch transmission mains located near the northwest corner of the Study Area. These mains will be the responsibility of the City and the Railyards developer.

Extensions of the existing service main system is envisioned to provide adequate service to the developments with the Study Area. The proposed extensions of the existing service main system will be accomplished using new 12-inch watermains. The existing system of 8, 10, & 12-inch service mains will be retained provided they adequately serve future development with sufficient hydraulic capacity. The proposed 12-inch watermain along the K Street Mall (7th to 12th Streets) corridor may prove difficult and expensive to install due to the conflicting presence of the existing Light Rail system. The proposed water system improvements are depicted on Figure V-1.

The existing 6-inch and 8-inch mains located within the alleys can be retained to provide fire and domestic water service to the adjacent existing buildings. The alleyway mains will be retained as installation and maintenance of new services are more easily performed from the alleys. If alley improvements/activation projects occur, it is recommended older pipelines be replaced concurrent with other surface improvements.



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Downtown Infrastructure Study - Water Plan

FIGURE V-1

0 250 500 1,000 Feet

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NATURAL GAS

General Information

The Pacific Gas & Electric Company (PG&E) supplies natural gas to the Sacramento area. During the winter, approximately 70 percent is imported from Canada and the balance is supplied from California production wells. During the summer, this ratio is reversed. Also during the summer, gas prices are lower so gas is stored in underground reservoirs for use during winter peak use periods.

In the Downtown Infrastructure Study area there are both high pressure and low pressure distribution systems. High pressure system pipelines, generally 4-inch diameter and larger, carry gas at approximately 40 pounds per square inch (psi). Low pressure system pipelines, generally 2-inch diameter, carry gas at a pressure of seven inch water column (about 0.25 psi). Service is generally provided from the low pressure system unless usage exceeds about 3000 cubic feet per hour; however, in this area the system is all high pressure. Regulators are used to reduce high pressure to low pressure.

Existing Conditions

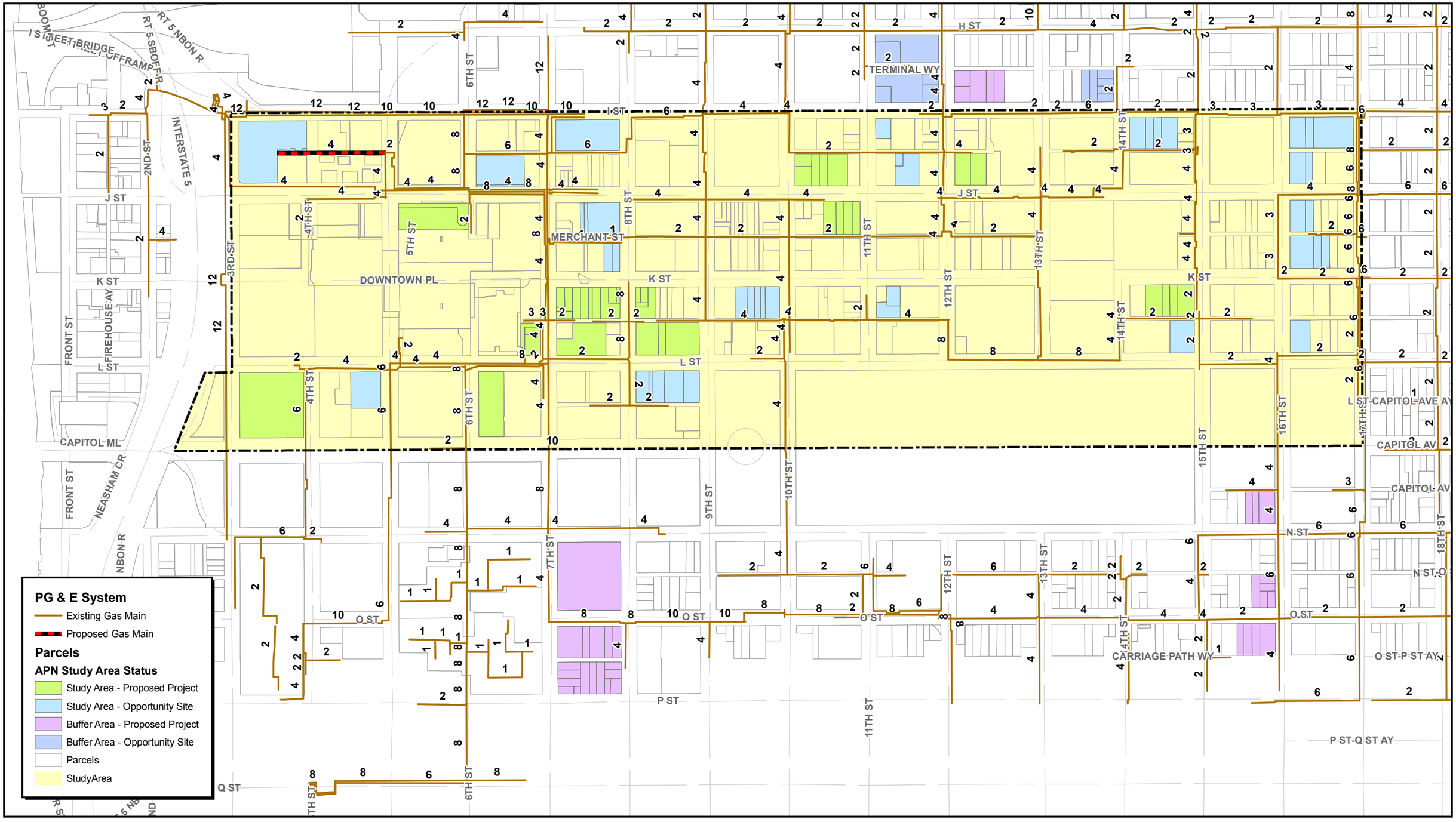
The high pressure gas system in the Downtown Infrastructure Study area generally is served by a grid system throughout the Study area. The high pressure system pipelines range in size from 4-inch to 12-inch diameter. There is a 12-inch diameter pipeline in located along the edge of the Study area in 3rd Street, in I Street (from 3rd to 7th) and in 7th Street north of the Study area. The low pressure system is predominantly comprised of 1-inch and 2-inch diameter pipelines in some cases parallel to the high pressure mains.

Proposed Improvements

PG&E has stated the majority of the existing gas infrastructure in the Downtown Infrastructure Study area should be adequate to serve the anticipated development proposed for the Proposed Projects and Opportunity Sites in the Study area with relatively minor additions. PG&E has indicated an existing 2 inch diameter main located in the I/J Alley westerly of 5th Street will need to be upsized to a 4 inch diameter main.

This proposed system demands are based on assumptions of typical gas usage for the general land use types for office, commercial/retail, and residential proposed. If an unusually large gas user locates in the area, the facilities will be upgraded as necessary in order to accommodate the user.

If the user is a core (non-interruptible) customer in the service area and will accept service at 7 inch water column pressure, the company is generally obligated by Public Utilities Commission regulations to provide service without additional cost for service. If the user is a non-core (interruptible) user, or needs an elevated pressure service for large volume use, there are charges for service according to the company's new business tariffs.



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Downtown Infrastructure Study - Natural Gas

FIGURE VI-1

0 150 300 600 Feet

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ELECTRICAL

General Information

The Sacramento Municipal Utility District (SMUD) provides electrical service to customers located within the Downtown Infrastructure Study area. Power is transmitted to the Downtown Infrastructure Study area by a series of underground 115 kilovolt (kV) transmission lines that feed underground 12 kV distribution and underground/overhead 21 kV systems. An underground 115 kV loop connects SMUD Station A located at 6th and H Streets, Station B located at 19th and O Streets, and Station D located at 8th and R Streets. This loop is also connected to the North City (north of 20th & C Streets) and Mid City (35th & R Streets) substations.

Station D, Mid City and the North City substations drop the 115 kV to 21 kV and Station A and Station B transform 115 kV to 12 kV to serve the overall downtown area. The 12 kV system is a high reliability network with redundant feeds, intended to serve the high-rise core area where considerations such as keeping elevators and newspaper presses operating are important. The 21 kV system serves the balance of the downtown area and will likely be used to serve new development within the greater downtown area and outside of the downtown core.

Existing Conditions (Facilities)

As stated above, the 115 kV transmission system is connected to Station A located on the north side of H Street between 6th and 7th Streets just outside the Study area. The transmission lines are located in H Street from the Substation to 5th Street and then in 5th Street south through the Study area.

The southerly portion of downtown Sacramento is served by the 21 kV distribution system. This system is fed by Station D and by Mid City. Station D has two 40 Million Volt Amperes (MVA) transformer banks. Mid City has two 37.5 MVA and two 21 MVA banks. The 21 MVA banks could be changed out to 37.5 MVA banks if it became necessary to serve the demands of the area.

The 12 kV network has limited capacity for expansion. It is served by Station A which has six banks (ranging 20-25 MVA) and Station B which contains three 37.5 MVA transformer banks and have no further room for additional transformer banks. The 115 kV circuits utilize pressurized oil-filled cables with pumps that circulate oil through the cables. Repairs or relocations are difficult and expensive, and require importing technicians from out of state where this older technology is more common. Connections are expensive for customers, requiring large underground vaults and redundant transformers and feeds, with fire suppression and dewatering facilities.

Regulatory Context

The energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards, Title 24. These are contained in the California Code of Regulations, Title 24, Part 2, Chapter 2-53. Enforcement of the regulations is addressed in the California Code of Regulations, Title 20, Chapter 2, Subchapter 4, Article 1. Title 24 applies to all new construction of both residential and non-residential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting.

Proposed Improvements

Based on land use projections given in this Downtown Infrastructure Study, SMUD estimates that the additional electrical load from development may be 30 to 35 megawatts, and is not likely to exceed 40 megawatts. This load can be fed by the existing transmission and distribution system without adding major components in the Downtown Infrastructure Study Area. However, additional major equipment and infrastructure external to the Study Area will be required as electrical demand approaches area electrical capacity. This would require additional duct banks and splice vaults along 5th and 6th Streets. There is also a possibility of extending a feeder tie on 7th or 12th Streets from the north but this may be external to the Study Area. These improvements will be identified in SMUD's five year system plan as the need arises.

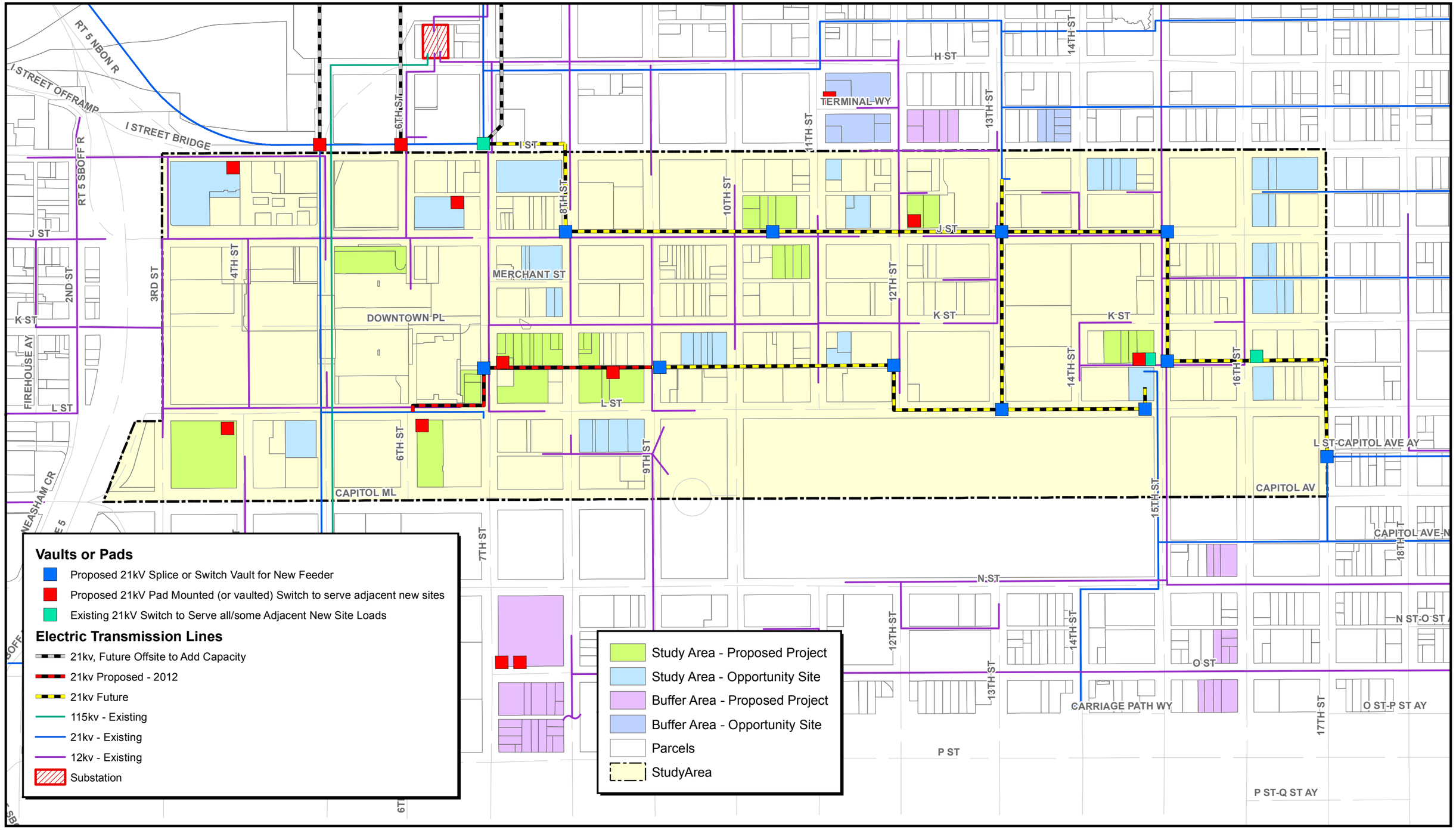
Extension of the existing 21 kV distribution system will be required to serve the Proposed Projects and Opportunity Sites.

In the near term, SMUD anticipates extending the existing 21kV system from the intersection of 6th & L Streets east on L to 7th, north on 7th to the K/L Alleyway, then east in the Alleyway to 9th Street. This extension of the system is proposed for construction in 2012. The future extensions of the 21kV are anticipated mainly along J Street from 8th to 15th, 13th Street from just north of the I/J Alleyway to the L Street, the K/L Alleyway from 9th to 12th and from 15th to 17th, and L Street from 12th to 15th Street. The proposed system extensions are depicted in Figure VII-1.

The future 21 kV routes and switchgear locations are subject to change based on the sequence that sites develop, specific load requirements, other utility conflicts, availability of required space for splicing manholes, duct banks, etc. These routes would provide the 21 kV feeder system to within two blocks of the identified Proposed Projects and Opportunity Sites. Additional infrastructure (switchgear, conduit, pull boxes, etc.) to serve these sites will need to be determined with SMUD and the individual site developers

In accordance with SMUD's Rules and Regulations, offsite infrastructure for the 21kV extension will be provided by SMUD. All onsite infrastructure will be provided by the site owner/developer. This is applicable when receiving service from SMUD's preferred source.

The project developer will be required to install service to the proposed project. The proposed development site plan will need to incorporate adequate space (including working clearances) for the placement of above ground pad mounted switches and transformers. If room is not available on the project site or immediately adjacent to the project site, more expensive underground vaults within the street section or building setback will be required. These vaults are very large (typically 9' x 20'), and costly to install. The costs of the transformer and installation are paid by the project developer. To eliminate the challenge and expense of installing the underground vaults, developers are encouraged to plan adequate space for pad mounted switches and transformers when developing the project site plan.



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Downtown Infrastructure Study - Electrical Plan

Figure VII-1

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TELECOMMUNICATIONS

General

Within the Downtown Infrastructure Study Area there are numerous telecommunications providers. The following are the main providers for telephone and cables services.

AT&T – Telecommunications

AT&T supplies local and long distance telephone service, and also data communications, in most of the Sacramento Area. The Downtown Infrastructure Study Area is served by the Main Wire Center at 14th and J Streets.

AT&T serves the Downtown Infrastructure Area with a predominantly underground conduit system. There is a small portion of aerial system at the edge of the Study area on 17th Street northerly of J Street. The main lines are generally located in the streets with the feeder lines located in the alleys.

Recently developed properties often place the aerial facilities underground, generally in a joint trench with other utilities in an alley or along the street frontage. Cabling in underground conduits can be either copper wire or fiber optic cable.

Comcast / AT&T Broadband

Comcast provides cable television service in the Sacramento Area. AT&T Broadband leases conduit space and fiber optic cable capacity from Comcast in the Downtown Sacramento Area.

Comcast serves the Sacramento area with a combination of underground and overhead fiber optic and copper coaxial cable. The signal is generated at a downtown site on N Street near the Capitol, and is distributed to hub sites throughout the service area, from which local service is distributed. There are four different service nodes located in and around the Downtown Infrastructure Study Area.

SureWest

In addition to AT&T and Comcast, SureWest Broadband also provides telecommunications service in the Downtown Sacramento Area. Some of their fiber system is actually in the Comcast / AT&T manhole and conduit system.

The SureWest system through the Downtown Infrastructure Study Area is centered around the core area of the existing larger buildings. SureWest also operates some aerial facilities.

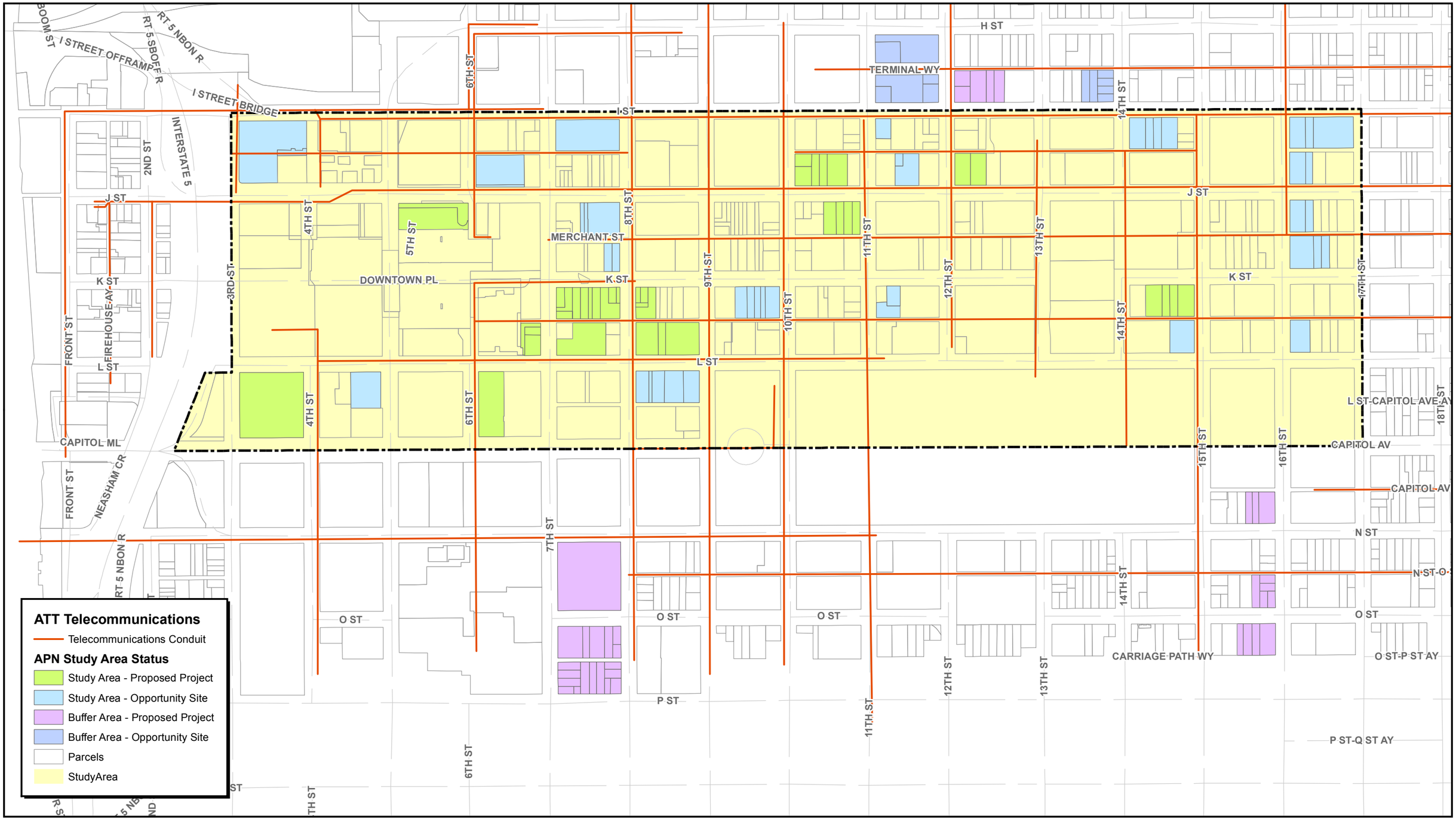
Electric Lightwave

Electric Lightwave, Inc. (ELI) provides data and communications, internet, local and long distance voice communications in the Sacramento area for non-residential customers.

ELI serves the Sacramento area with a combination of underground and overhead fiber optic cable and copper cable. The Downtown Infrastructure Study Area is served by a switching site at 650 J Street, and the company has fiber optic connections to most AT&T switching sites. Some customer sites may be connected to ELI facilities using AT&T T-1 connections.

Proposed Telecommunications

The Telecommunications providers have indicated the existing system within the Downtown Infrastructure Study area should be sufficient to serve the Proposed Projects and Opportunity sites with relatively minor additions. In general, service to each of the new sites will be coordinated with the main electrical service in a common joint trench. Typically, a few 2-inch conduits will be added to the joint trench for service to the projects. Extension of the existing systems can also utilize the proposed 21kV conduit trench proposed by SMUD for the electrical system.



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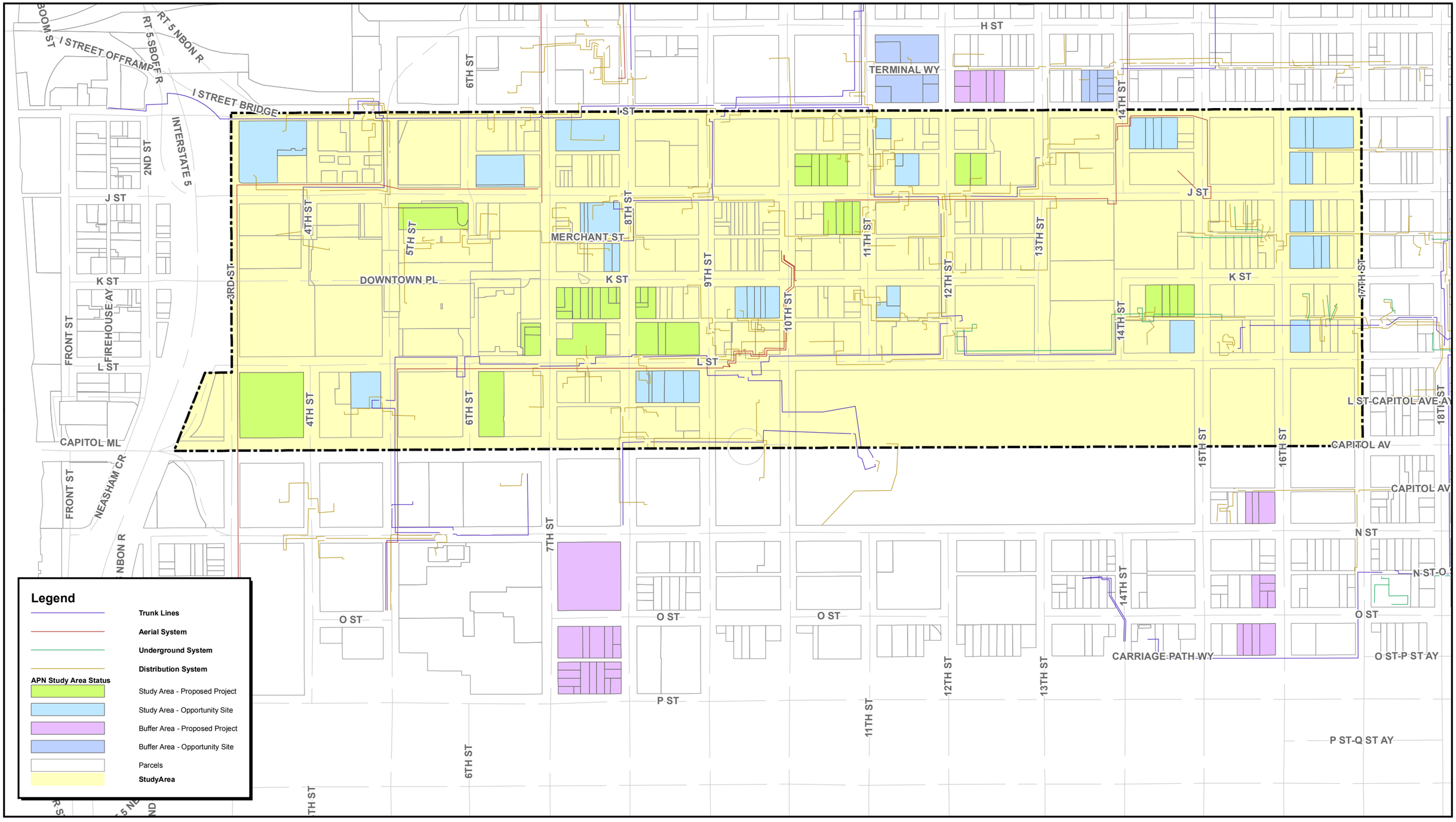
Downtown Infrastructure Study - Existing AT&T Telecommunications

FIGURE VIII-1

0 150 300 600 Feet

NOLTE BEYOND ENGINEERING



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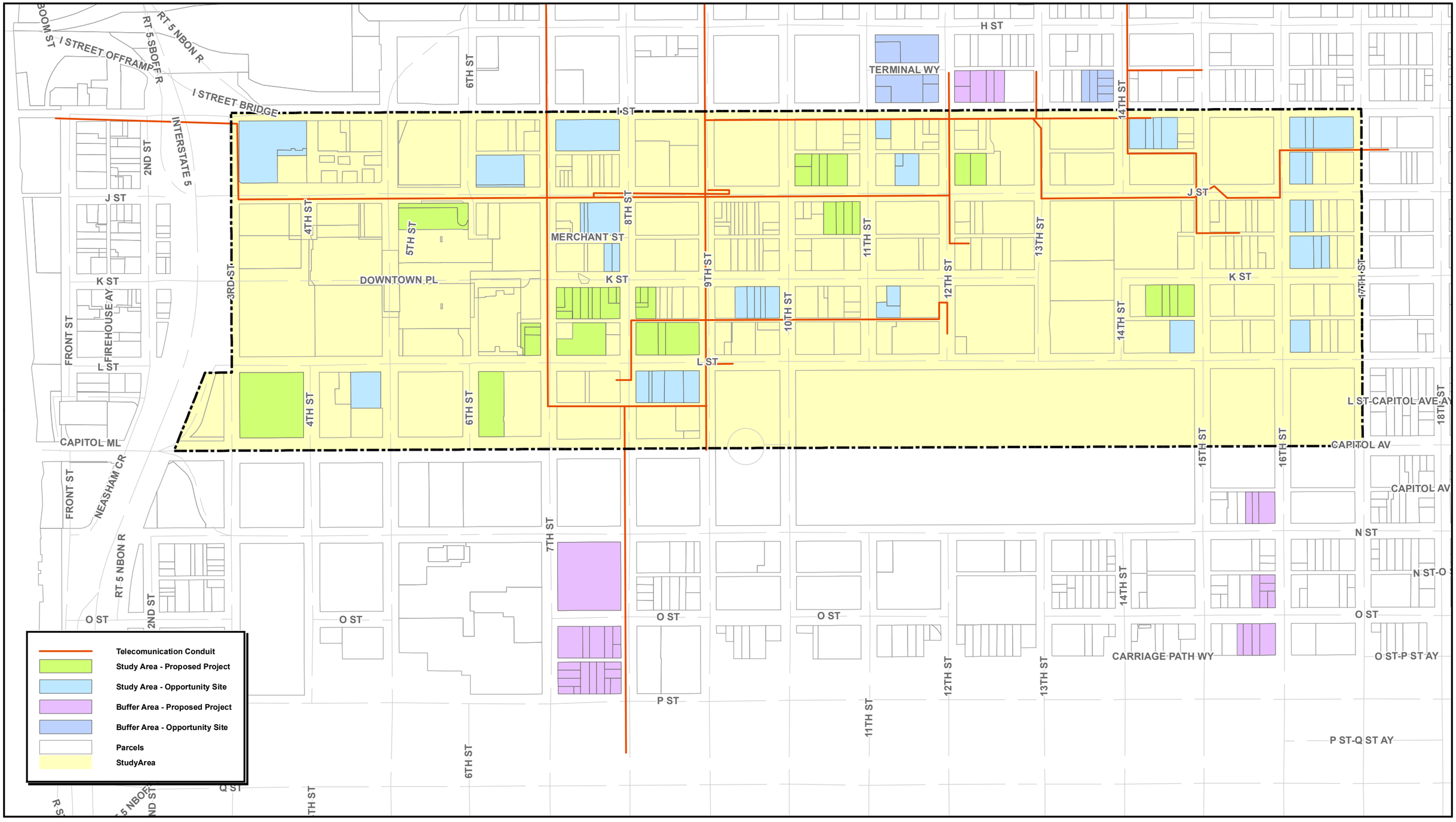
Downtown Infrastructure Study - Existing Comcast/ATT Broadband

FIGURE VIII-2

0 150 300 600 Feet

NOLTE BEYOND ENGINEERING



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Downtown Infrastructure Study - Existing Surewest

FIGURE VIII-3

HISTORIC RESOURCES

Introduction and Methodology

In response to a request from Nolte Associates, Architectural Resources Group (ARG) has completed a historic resource analysis for the City of Sacramento's Downtown Infrastructure Study Area (Study Area). The Study Area, which is one mile long by one-third of a mile wide, is bound by 3rd Street on the west, 17th Street on the east, I Street on the north, and the Capitol Mall on the south. ARG identified all designated historical resources within the Study Area, plus a one block-wide Buffer Area surrounding the Study Area.

To complete its assessment, ARG reviewed the City of Sacramento's Register of Historic and Cultural Resources, an updated version of which the City released in September 2010. The register identifies all listed City of Sacramento Landmarks and Historic Districts, as well as all properties within the City that have been designated as historical resources at state and/or national levels. ARG also reviewed parcel-level GIS data provided by the City for the study area. No historical research was conducted as part of the present effort, nor was any properties that are not designated historical resources evaluated.

Additional clarifying information was provided by the City's Preservation Office and is included in this analysis. This report does not include an analysis of any specific archaeological resources within the Study Area or Buffer Area. The entire downtown area is considered a high sensitivity area for cultural resources.

Overview of Historical Resources within Study Area

Explanation of Buffer Area

ARG identified all designated historical resources within the Study Area, plus a one block-wide Buffer Area surrounding the Study Area. Specifically, the Buffer Area is bound by H Street on the north, 18th Street on the east, N Street on the south, and by the Interstate I-5 right-of-way on the west. This Buffer Area has been selected to capture those historical resources that, though outside the Study Area, are sufficiently close to it that they could conceivably be impacted by development within the Study Area. For instance, a historic resource within the Buffer Area could be impacted by new construction within the Study Area that is incompatible with the property's historic setting, or by ground borne vibrations from construction at the edge of the Study Area (especially if pile driving is used as a construction method). The size of the blocks within and surrounding the Study Area (400 by 400 feet square) make it unnecessary to extend the Buffer Area beyond a one-block width, as no potential impacts to historic resources beyond the one-block buffer are anticipated. In addition, the buffer on the west side of the Study Area has been set to correspond to the Interstate I-5 right-of-way, which, at all points between I Street and the Capitol Mall is at least 250 feet wide. Given this width, it is not anticipated that any historic resources west of I-5 could be impacted by any project within the Study Area.

Count of Designated Historic Resources

The Study Area and Buffer Area each contain a variety of historic properties designated at the local, state and national levels. Specific counts are included in the table below. Due to multiple designations, a single property could be counted in more than one row. For example, properties listed in the National Register of Historic Places (NRHP) are automatically listed in the California Register of Historical Resources (CRHR). There are no National Historic Landmarks within the Study Area or Buffer Area.

	Study Area		Buffer Area	
Designation	Individual Properties	Historic Districts	Individual Properties	Historic Districts
National Register of Historic Places	10	1	6	0
California Register of Historical Resources	20	1	6	0
Sacramento Register of Historic & Cultural Resources	64	5	28	1

Appendix D: Inventory of Historic Resource

Relevant information – including address, parcel number, building name, and historic designation – about each of the designated historic resources within the Study Area and Buffer Area is included in Figure IX-1. This information was drawn from the City of Sacramento's Register of Historic and Cultural Resources. Some property names were edited for clarity and consistency.

Figure IX-1: Map of Historic Resources

The location of each of the designated historic resources within the Study Area and Buffer Area is shown in Figure IX-1. Each property containing an historic resource has been shaded one of three colors. Properties listed on the NHRP have been shaded purple, properties listed on the CRHR but not the NHRP have been shaded light blue, and properties that are local landmarks but not listed on the NRHP or CRHR are shaded dark green. (Note that all NRHP-designated properties and, with one exception (the Montgomery Ward Building at 830 K Street), all CRHR-designated properties within the Study Area and Buffer Area are also designated City of Sacramento Landmarks.) The numerical label given to each historic property corresponds to the "Map ID" number in the table in Appendix D.

This map was compiled from GIS data layers available at the City of Sacramento website (http://www.cityofsacramento.org/gis/) and the Sacramento County website (http://www.sacgis.org/GISDataPub/), which were then adapted to the present Study Area. The "Local Landmarks" layer was altered slightly, to reflect historic properties that have been moved outside the Study and Buffer areas.

Properties Designated City of Sacramento Landmarks

Mirroring the structure of the recently updated Sacramento Register of Historic and Cultural Resources, we first discuss local landmarks and districts in the Study Area and Buffer Area, before describing properties listed in the CRHR and the NRHP.

The Study Area includes 63 City of Sacramento Landmarks:

1. 1000-1006 4th Street (California Fruit Building, 1914)
2. 1010 5th Street/428 J Street (Travelers Hotel, 1914)
3. 923 7th Street (John Arnold and Company Grocery, c. 1857-1858)
4. 1009-1011 7th Street (Pioneer Hall, c. 1868)
5. 1015 7th Street (Merchants National Bank, 1921)
6. 1122-1128 7th Street (Hotel Clayton, 1910-1911)
7. 903 8th Street (Sacramento City Library, 1918)
8. 1013-1015 9th Street (The People's Acceptance Building, 1878-1879)
9. 1017-1031 9th Street (I.O.O.F. Temple, 1870)
10. 1107 9th Street (Forum Building, 1911)
11. 1117-1131 9th Street (Siller Building, 1912-1913)
12. 1220 9th Street (1930)
13. 1010-1012 10th Street (Ms. Dora Werner-Hair Dresser, 1912-1913)
14. 1011 10th Street (American Trust Company, 1938)

15. 1017 10th Street (1911-1912)
16. 1016-1020 10th Street (Hart Brothers Cafeteria, 1925)
17. 1310 10th Street (California State Capitol, 1860-1874)
18. 10th to 15th St, L to N St (California State Capitol Grounds, 1870)
19. 915 11th Street (1878)
20. 921 11th Street (Sacramento BPOE Building, 1925-1926)
21. 1017-1025 11th Street (Cathedral of the Blessed Sacrament, 1887)
22. 1020 11th Street/1029-1031 K Street (Mohr and Yoerk Realty Co., 1910-1911)
23. 1106 11th Street/1024 K Street (Hotel Regis, 1911-1912)
24. 1110 11th Street (Howe Apartments, 1913-1914)
25. 1127-1131 11th Street (Sacramento Medical Dental Building, 1928)
26. 1011-1013 12th Street (W.D. Fuller and Company, 1923-1924)
27. 1001-1005 15th Street (1915)
28. 1012 15th Street (St. Paul's Episcopal Church, 1903)
29. 1015 15th Street (A.C. Westerguard Auto Repair, 1927-1928)
30. 1122 17th Street (Young Women's Christian Association, 1932)
31. 914 Capitol Avenue (State Library and Courts, 1928)
32. 910 I Street – Cesar Chavez Plaza Park (A.J. Stevens Statue, 1888)
33. 910 I Street – Cesar Chavez Plaza Park (Coleman Memorial, 1926)
34. 1200 I Street (BF Goodrich Tire Center, c. 1930)
35. 600 J Street/1007 6th Street (Ramona Hotel, 1930)
36. 629-631 J Street (National Gold Bank of D.O. Mills and Co., 1912)
37. 700 J Street/1007 7th Street (Capital National Bank/Crocker National Bank, 1915-1916)
38. 727 J Street (Sylvester Tyron Building, 1860-1861)
39. 900 J Street (Ruhstaller Building, 1898)
40. 904 J Street (Gogings Drug Store, c. 1856)
41. 920 J Street (John Bellmer & Company, 1871-1872)
42. 926 J Street (Cal Western Life Insurance Co., 1925)
43. 1008 J Street (Fred Mayes Jeweler's Clock, c. 1925-1935)
44. 1123-1131 J Street (Masonic Temple, 1918-1920)
45. 1208 J Street (Neva/Emigh Hardware, 1910-1911)
46. 1230 J Street (Public Market, 1923)
47. 1515 J Street (Sacramento Memorial Auditorium, 1925-1927)
48. 1530 J Street (W.I. Elliot Company, 1922)
49. 1624-1630 J Street (Kost Building, 1910)
50. 700 K Street (Pacific State Savings Bank, 1929)
51. 712 K Street (date unknown)
52. 716 K Street (c. 1870)
53. 717 K Street (Ochsner Building/Sun Building, 1904)
54. 818 K Street (S.H. Kress and Company/Dress Building, 1931)
55. 830 K Street (Department of Rehabilitation/Montgomery Ward Building, 1936)
56. 825-831 K Street (Hale Brothers and Company/River City Bank, 1881)
57. 1013 K Street (Crest Theater/Empress Theater, 1910-1911)
58. 1100 K Street (PG&E Company, 1912)
59. 1130 K Street/1111 12th Street (Weinstock, Lubin, and Company, 1923-1924)
60. 1217 K Street (Esquire Theater, 1940)
61. 1414 K Street (Pacific Telephone Inland Division Headquarters, 1924-1925)
62. 809 L Street/1117-1123 8th Street (American Cash Apartments)
63. 1121 L Street (Senator Hotel and Office Building, 1924)
64. 1531 L Street (Firestone Store #7586, 1929)

Befitting the downtown location of the Study Area, this list consists primarily of commercial and institutional buildings, with a smattering of multi-family residential buildings. As shown in Figure IX-1, many of these landmarks are located within local historic districts.

The Buffer Area includes 28 City of Sacramento Landmarks:

65. 813 6th Street (Hall of Justice, 1916)
66. 816 12th Street (Jim Denny's, 1914)
67. 819-827 14th Street (c. 1900-1905)
68. 815 17th Street (1910)
69. 818 18th Street (c. 1905)
70. 820 18th Street (1905-1910)
71. 1310 18th Street (c. 1890)
72. 1320 18th Street (c. 1900-1905)
73. 915 Capitol Avenue (Office Building Number One/Jesse Unruh Building, 1925)
74. 1716 Capitol Avenue (1891)
75. 1717 Capitol Avenue (c. 1910)
76. 1718 Capitol Avenue (c. 1910)
77. 1720 Capitol Avenue (1893)
78. 1725 Capitol Avenue (c. 1870)
79. 1730 Capitol Avenue (c. 1870-1875)
80. 1210 H Street (c. 1910)
81. 1300 H Street (Charles Lais House, 1894)
82. 1530 H Street (Governor's Mansion and Carriage House, 1898)
83. 1616 H Street (c. 1905-1910)
84. 401 I Street (Southern Pacific Railroad Sacramento Depot, 1925)
85. 435 I Street (Railway Express Agency Building, 1926)
86. 801 I Street (US Postal Service Metro Station, 1933)
87. 915 I Street (City Hall, 1911)
88. 1700 I Street (I Street Market)
89. 1700 J Street (R.H. Black Package Grocery Company, 1926)
90. 1700 L Street (California State Automobile Association, 1931)
91. 1701 L Street (Evangelical Lutheran Church)
92. 1619 N Street (Thomas Jefferson Elementary School, 1923)

Unlike the Study Area, many of the historic resources in the Buffer Area are single-family residences, especially in the blocks east of the Study Area.

Properties Designated Contributors to City of Sacramento Historic Districts

There are five City of Sacramento Historic Districts that intersect the Study Area:

- Capitol Historic District, which includes the State Capitol Building and Grounds and associated governmental buildings;
- Cathedral Square Historic District, which is centered around the Cathedral of the Blessed Sacrament (1887);
- Memorial Auditorium Historic District, which includes the Memorial Auditorium and two blocks to the south;
- Merchant Street Historic District, which includes Pioneer Hall (1868) and is significant as the site of Sacramento's early twentieth century banking center; and
- Plaza Park/CBD Historic District, which represents the core of Sacramento's business district with a particular focus on the era between 1910 and 1930.

The locations of the districts are shown in Figure IX-1. All five districts were created via Ordinance No. 85-076, which was enacted July 30, 1985.

In addition, there are two districts that intersect the Buffer Area:

- Capitol Avenue Historic District, which consists primarily of late nineteenth century houses built in the Italianate or Queen Anne styles; and
- Depot Historic District, which includes the Southern Pacific Railroad Sacramento Depot and the Railway Express Agency Building.

Like the districts that intersect the Study Area, the Capitol Avenue Historic District was created via Ordinance No. 85-076, enacted July 30, 1985. The City of Sacramento's Register of Historic and Cultural Resources does not specify when the Depot Historic District was created.

The City of Sacramento's Register of Historic and Cultural Resources does not identify contributing buildings for districts designated prior to 2004. It is therefore possible that there are properties within each of these historic districts that are considered contributing resources (and thus historic resources), even though they are not designated local landmarks.

Properties Listed in California Register of Historical Resources

The Study Area includes 20 properties listed in the California Register of Historical Resources:

- 1010 5th Street/428 J Street (Travelers Hotel, 1914)
- 1009-1011 7th Street (Pioneer House, c. 1868)
- 1015 7th Street (Merchants National Bank, 1921)
- 903 8th Street (Sacramento City Library, 1918)
- 1310 10th Street (California State Capitol, 1860-1874)
- 10th to 15th St, L to N St (California State Capitol Grounds, 1870)
- 921 11th Street (Sacramento BPOE Building, 1925-1926)
- 1020 11th Street/1029-1031 K Street (Mohr and Yoerk Realty Co., 1910-1911)
- 1106 11th Street/1024 K Street (Hotel Regis, 1911-1912)
- 914 Capitol Avenue (State Library and Courts, 1928)
- 629-631 J Street (National Gold Bank of D.O. Mills and Co., 1912)
- 700 J Street/1007 7th Street (Capital National Bank, 1915-1916)
- 900 J Street (Ruhstaller Building, 1898)
- 1123-1131 J Street (Masonic Temple, 1918-1920)
- 1230 J Street (Public Market, 1923)
- 717 K Street (Ochsner Building/Sun Building, 1904)
- 818 K Street (S.H. Kress and Company/Dress Building, 1931)
- 830 K Street (Department of Rehabilitation/Montgomery Ward Building, 1936)
- 831 K Street (Hale Brothers and Company/River City Bank, 1881)
- 1121 L Street (Senator Hotel and Office Building, 1924)

All but one of these – the former Montgomery Ward Building at 830 K Street – are also Sacramento Landmarks. The former Montgomery Ward Building is within the locally-designated Plaza Park/CBD Historic District, but it is not an individually designated local Landmark. The State Capitol is California State Historic Landmark number 872.

The Buffer Area includes six properties listed in the California Register of Historical Resources:

- 813 6th Street (Hall of Justice, 1916)
- 915 Capitol Avenue (Office Building Number One/Jesse Unruh Building, 1925)
- 1530 H Street (Governor's Mansion and Carriage House, 1898)
- 401 I Street (Southern Pacific Railroad Sacramento Depot, 1925)
- 435 I Street (Railway Express Agency Building, 1926)
- 801 I Street (US Postal Service Metro Station, 1933)

The Study Area and Buffer Area also include one historic district listed in the CRHR, the California State Capitol Complex. This district, which is also listed in the NRHP, is discussed below.

Properties Listed in National Register of Historic Places

Of the 20 CRHR-designated properties within the Study Area, 10 are listed in the National Register of Historic Places:

- 1010 5th Street/428 J Street (Travelers Hotel, 1914)
- 1009-1011 7th Street (Pioneer Hall, c. 1868)
- 1015 7th Street (Merchants National Bank, 1921)
- 903 8th Street (Sacramento City Library, 1918)
- 1310 10th Street (California State Capitol, 1860-1874)
- 10th to 15th St, L to N St (California State Capitol Grounds, 1870)
- 914 Capitol Avenue (State Library and Courts, 1928)
- 900 J Street (Ruhstaller Building, 1898)
- 1123-1131 J Street (Masonic Temple, 1918-1920)
- 1121 L Street (Senator Hotel and Office Building, 1924)

Though designated separately as City of Sacramento Landmarks, the California State Capitol and Grounds are in fact part of a single National Register listing dating from 1973. This designation includes the area from 10th to 15th Streets between L and N Streets. This listing was expanded in 1984 to encompass the large block to the west, which includes the State Library and Courts Building, Office Building Number One, and the fountain between them.

Each of the six CRHR-designated properties within the Buffer Area is also listed in the National Register of Historic Places:

- 813 6th Street (Hall of Justice, 1916)
- 915 Capitol Avenue (Office Building Number One/Jesse Unruh Building, 1925)
- 1530 H Street (Governor's Mansion and Carriage House, 1898)
- 401 I Street (Southern Pacific Railroad Sacramento Depot, 1925)
- 435 I Street (Railway Express Agency Building, 1926)
- 801 I Street (US Postal Service Metro Station, 1933)

The Southern Pacific Railroad Sacramento Depot and Railway Express Agency Building are in fact part of a single National Register nomination from 1975.

Other Historic Resource Issues

District Contributors

Seven local historic districts intersect the Study Area and/or Buffer Area. As mentioned above, the City of Sacramento's Register of Historic and Cultural Resources does not identify contributing buildings for any of these historic districts. It is therefore possible that there are properties within these historic districts that are

considered contributing resources (and thus historic resources for purposes of the California Environmental Quality Act), even though they are not designated local landmarks.

Properties Identified through CEQA Review or Historic Resource Survey

Many properties within the downtown area have been evaluated as part of project review processes that have been completed to comply with the terms of the California Environmental Quality Act. There may be properties within the Study and Buffer areas that, although they are not designated historic resources, have been determined through these environmental review and historic resource survey processes to constitute historical resources for purposes of CEQA.

In particular, 726 K Street, 701 L Street and 1001 K Street have been identified as potentially eligible historical resources through historical resource survey evaluation or CEQA review processes. Certain alley façades in the Study Area have also been identified as potentially eligible resources.

In addition, it should be noted that most of the buildings within the Study Area and Buffer Area are over 45 years of age. In general, the historic significance of a property over 45 years of age would need to be evaluated as part of the CEQA review process pertaining to any projects in the immediate vicinity of that property.

Raised Streets and Hollow Sidewalks (RSHS) Historic District

Remnants of a network of raised streets and hollow sidewalks from the 1860s and 1870s extend throughout much of the Study Area and Buffer Area. Between 1862 and 1878, the streets of Sacramento's business district were raised to avoid perpetual flooding and maintain the City's commercial and political importance. This initiative was part of a larger flood-control effort that included constructing levees and re-routing the American River. Specifically, the raised streets are supported on either side by below-ground, brick retaining walls and buttresses constructed by nineteenth-century property owners approximately 14 feet from the front of the building façades. Streets were filled with dirt from the former American River riverbed and local farms, and paved, on average, nine and one-half feet above their original elevation. The spaces between brick retaining walls and building façades were topped off with planks, creating hollow sidewalks. Today, raised streets are paved with asphalt or cobblestones – the latter a historic recreation installed in the 1970s during the redevelopment of Old Sacramento Historic District.

The Sacramento Old City Association (SOCA) has led a recent effort to survey and evaluate Sacramento's network of raised streets and hollow sidewalks, including documentation of the Raised Streets and Hollow Sidewalks Historic District on State of California DPR 523 forms. This evaluation identified significant features and characteristics, both below and at current grades, and analyzed both the historic significance and historic integrity of these features. According to the DPR 523D (District Record) that Heather Lavezzo Downey completed for SOCA in December 2010, the network of raised streets and hollow sidewalks constitute a historic district that is significant under National Register Criterion A within the contexts of Social History, Commerce, Politics/Government, Community Planning & Development and Engineering for its association with Sacramentans' decision to raise the streets in their business district in the 1860s and 1870s. Furthermore, it is significant under Criterion C for its association with the method of construction by which Sacramento and other cities, such as Chicago, were raised in the 1850s and 1860s. Finally, the District is significant under Criterion D for its potential to yield potential information about nineteenth-century vernacular design and construction of retaining walls and bulkheads to raise the street, on average, nine and one-half feet above the grade, yet retain hollow sidewalk spaces.

The Raised Streets and Hollow Sidewalks Historic District extends easterly from Front Street to the western sidewalk along 12th Street, between the southern sidewalk along H Street to the north and the southern sidewalk along L Street to the south. Much of this district sits within the Study Area and Buffer Area. It should be noted, though, that this network of raised streets is not wholly intact. Portions, most notably K Street between Second and Seventh Streets, have been significantly altered or demolished. Figure IX-2

identifies the locations of the hollow sidewalk segments that were documented through a 2009 survey of the area. In general, the CEQA review process pertaining to a project within the Historic District boundary will need to include assessment of whether any raised street/hollow sidewalk remnants exist in the immediate vicinity of the project and, if so, whether those remnants retain sufficient integrity to be considered contributing elements to the Historic District.

Archaeological Resources

This report does not include an analysis of any specific archaeological resources within the Study Area or Buffer Area. Because the downtown area is considered a high sensitivity archaeological area, the City currently requires that a qualified archaeologist (meeting the *Secretary of the Interior's Professional Qualifications Standards*) undertake sample testing of areas to be excavated prior to commencement of any construction downtown. The City's Preservation Director reviews the testing report to determine whether any significant resources may be present. If resources are likely present, the archaeologist completes a full evaluation report that includes specification of measures that mitigate project-related impacts to identified resources. This evaluation report is submitted to the City's Preservation Director and the State Historic Preservation Officer (SHPO) for review and approval. If Native American-related artifacts are present, the report is also submitted to the Native American Heritage Commission (NAHC) and tribal representatives or monitors as requested. Depending on the findings of the evaluation report, an artifact treatment plan may be needed, and a qualified archaeologist may be required to conduct on-site monitoring of project-related excavations. If Native American artifacts are present, members of relevant Native American tribes may be involved in both on-site monitoring and development of the artifact treatment plan.

Federal, State and Local Significance Criteria

The National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic resources and includes listings of buildings, structures, sites, objects and districts that possess historic, architectural, engineering, archaeological or cultural significance at the national, state or local level. As described in National Register Bulletin Number 15, *How to Apply the National Register Criteria for Evaluation*, a property must have both historical significance and integrity to be eligible for listing in the NRHP.

To be significant, a property must be "associated with an important historic context."[1] The National Register identifies four possible context types, of which at least one must be applicable to the property at the national, state, or local level. As listed under Section 8, "Statement of Significance," of the NRHP Registration Form, these are:

- Property is associated with events that have made a significant contribution to the broad patterns of our history.
- Property is associated with the lives of persons significant in our past.
- Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- Property has yielded, or is likely to yield, information important to prehistory or history.[2]

Second, for a property to qualify under the National Register's Criteria for Evaluation, it must also retain "historic integrity of those features necessary to convey its significance."[3] While a property's significance relates to its role within a specific historic context, its integrity refers to "a property's physical features and

[1] National Park Service, *How to Apply the National Register Criteria for Evaluation*, National Register Bulletin 15, 3.
[2] National Park Service, *How to Complete the National Register Registration Form,* National Register Bulletin 16A, 75
[3] National Park Service, National Register Bulletin 15, 3.

how they relate to its significance."[4] To determine if a property retains the physical characteristics corresponding to its historic context, the National Register has identified seven aspects of integrity:

- Location is the place where the historic property was constructed or the place where the historic event occurred.
- Setting is the physical environment of a historic property.
- Design is the combination of elements that create the form, plan, space, structure, and style of a property.
- Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.
- Association is the direct link between an important historic event or person and a historic property.[5]

Since integrity is based on a property's significance within a specific historic context, an evaluation of a property's integrity can only occur after historic significance has been established.[6]

The California Register of Historical Resources

The California Register of Historical Resources (CRHR) is the authoritative guide to the State's significant historical and archeological resources. It serves to identify, evaluate, register and protect California's historical resources. The CRHR program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for historic preservation grant funding and affords certain protections under the California Environmental Quality Act. All resources listed on or formally determined eligible for the NRHP are eligible for the CRHR. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

The California Register criteria are modeled on the National Register criteria discussed above. An historical resource must be significant at the local, state, or national level under one or more of the following criteria:

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, state or the nation.[7]

Like the NRHP, evaluation for eligibility to the California Register requires an establishment of historic significance before integrity is considered. California's integrity threshold is slightly lower than the federal level. As a result, some resources that are historically significant but do not meet NRHP integrity standards may be eligible for listing on the California Register.[8]

California's list of special considerations is shorter and more flexible than the NRHP. It includes some allowances for moved buildings, structures, or objects, as well as lower requirements for proving the significance of resources that are less than 50 years old and a more elaborate discussion of the eligibility of reconstructed buildings.

[4] Ibid., 44.
[5] Ibid., 44-45.
[6] Ibid., 45.
[7] California Office of Historic Preservation, Technical Assistance Series 6, 1.
[8] Ibid., 2.

The California Historic Resource Status Codes are a series of ratings created by the California Office of Historic Preservation (SHPO) to quickly and easily identify the historic status of resources listed in the state's historic properties database. These codes were revised in August 2003 to better reflect the many historic status options available to evaluators. The following are the seven major status code headings:

- Properties listed in the National Register or the California Register.
- Properties determined eligible for listing in the National Register or the California Register.
- Appears eligible for National Register or California Register through Survey Evaluation.
- Appears eligible for National Register or California Register through other evaluation.
- Properties recognized as historically significant by local government.
- Not eligible for listing or designation.
- Not evaluated for National Register or California Register or needs revaluation.

City of Sacramento Register of Historic and Cultural Resources

The criteria and requirements for designation as a local landmark, historic district or contributing resource are specified in Article IV ("Sacramento Register of Historic and Cultural Resources") of Chapter 17.134 ("Historic Preservation") of Sacramento's City Code. These criteria and requirements are as follows:

Listing on the Sacramento Register - Landmarks

A nominated resource shall be listed on the Sacramento Register as a landmark if the city council finds in due process that all of the following requirements are satisfied:

- The nominated resource meets one or more of the following criteria:
  - It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation,
  - It is associated with the lives of persons significant in the city's past,
  - It embodies the distinctive characteristics of a type, period or method of construction,
  - It represents the work of an important creative individual or master,
  - It possesses high artistic values, or
  - It has yielded, or may be likely to yield, information important in the prehistory or history of the city, the region, the state or the nation.
- The nominated resource has integrity of location, design, setting, materials, workmanship and association.
- The nominated resource has significant historic or architectural worth, and its designation as a landmark is reasonable, appropriate and necessary to promote, protect and further the goals and purposes of this chapter.

Listing on the Sacramento Register—Historic Districts

A geographic area nominated as a historic district shall be listed on the Sacramento register as a historic district if the city council finds in due process that all of the following requirements are satisfied:

- The area is a geographically definable area.
- The area possesses either:
  - A significant concentration or continuity of buildings unified by: (A) past events, or (B) aesthetically by plan or physical development, or
  - The area is associated with an event, person, or period significant or important to city history.
- The designation of the geographic area as a historic district is reasonable, appropriate and necessary to protect, promote and further the goals and purposes of this chapter and is not inconsistent with other goals and policies of the city.

Listing on the Sacramento Register - Contributing Resources

A nominated resource shall be listed on the Sacramento register as a contributing resource if the council finds in due process that all of the following requirements are satisfied:

- The nominated resource is within a historic district;
- The nominated resource either embodies the significant features and characteristics of the historic district or adds to the historical associations, historical architectural qualities or archaeological values identified for the historic district;
- The nominated resource was present during the period of historical significance of the historic district and relates to the documented historical significance of the historic district;
- The nominated resource either possesses historic integrity or is capable of yielding important information about the period of historical significance of the historic district; and
- The nominated resource has important historic or architectural worth, and its designation as a contributing resource is reasonable, appropriate and necessary to protect, promote and further the goals and purposes of this chapter.

CEQA and Historical Resources

When a proposed project may cause a substantial adverse change in the significance of an historical resource, the California Environmental Quality Act (CEQA) requires a city or county to carefully consider the possible impacts before proceeding (Public Resources Code Section 21084.1). CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (Section 21084.1). The Act explicitly prohibits the use of a categorical exemption within the CEQA Guidelines for projects which may cause such a change (Section 21084).

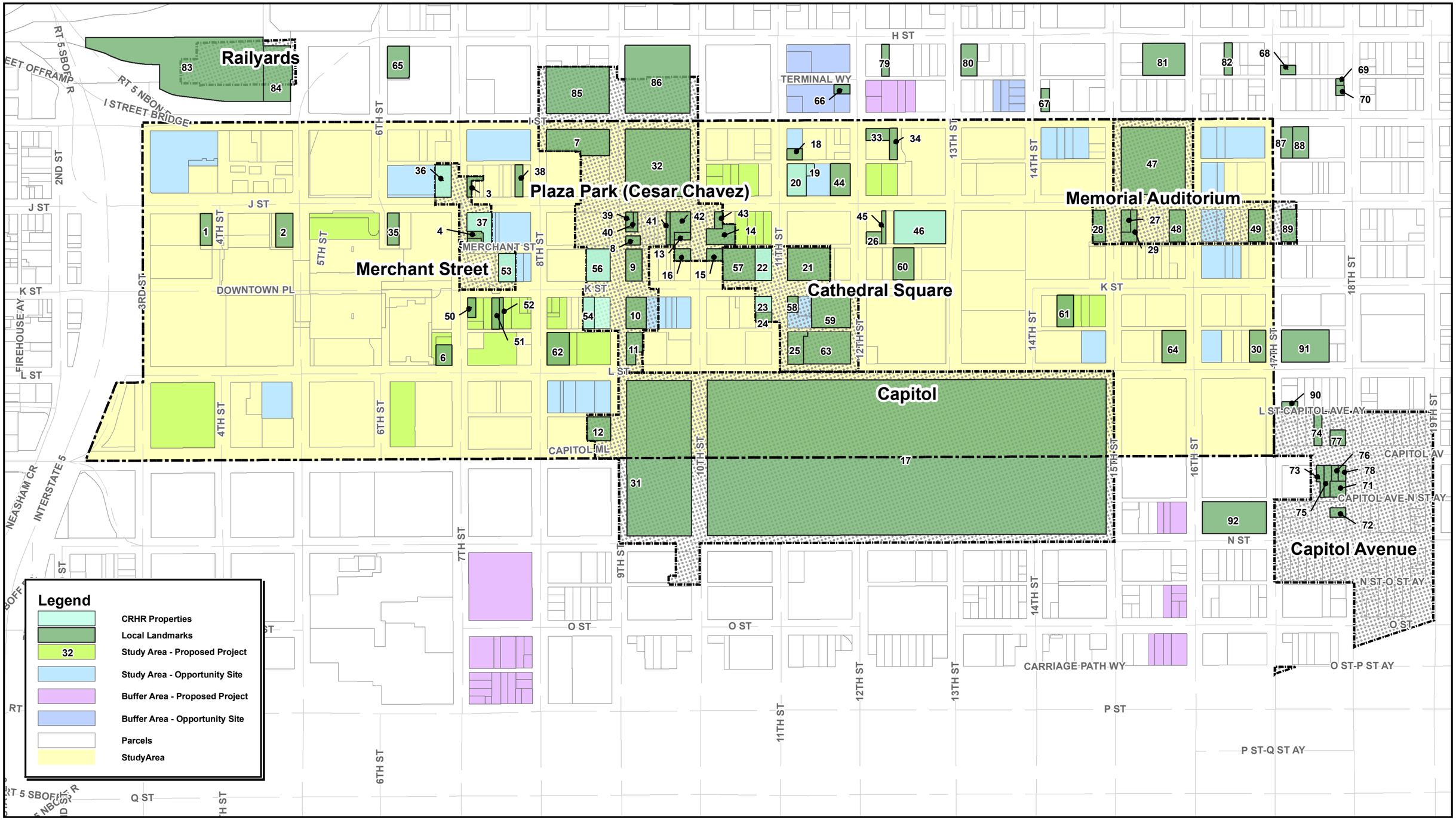
A "substantial adverse change" in the significance of a historical resource is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Further, that the significance of an historical resource is "materially impaired" when a project:

- "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the California Register of Historical Resources; or
- "demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources... or its identification in an historical resources survey..., unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- "demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA" (Guidelines Section 15064.5(b)).

Current CEQA law provides that an EIR must be prepared whenever it can be fairly argued, on the basis of substantial evidence in the administrative record, that a project may have a significant effect on a historical resource (Guidelines Section 15064(f)(1)). A mitigated Negative Declaration may be used where all potentially significant effects can be mitigated to a level of insignificance (Guidelines Section 15064(f)(2)). For example, a mitigated Negative Declaration may be adopted for a project that mitigates significant effects on an historical resource by meeting the Secretary of *Interior's Standards for Rehabilitation* and local historic preservation regulations.

For the purposes of CEQA (Guidelines Section 15064.5), the term "historical resources" shall include the following:

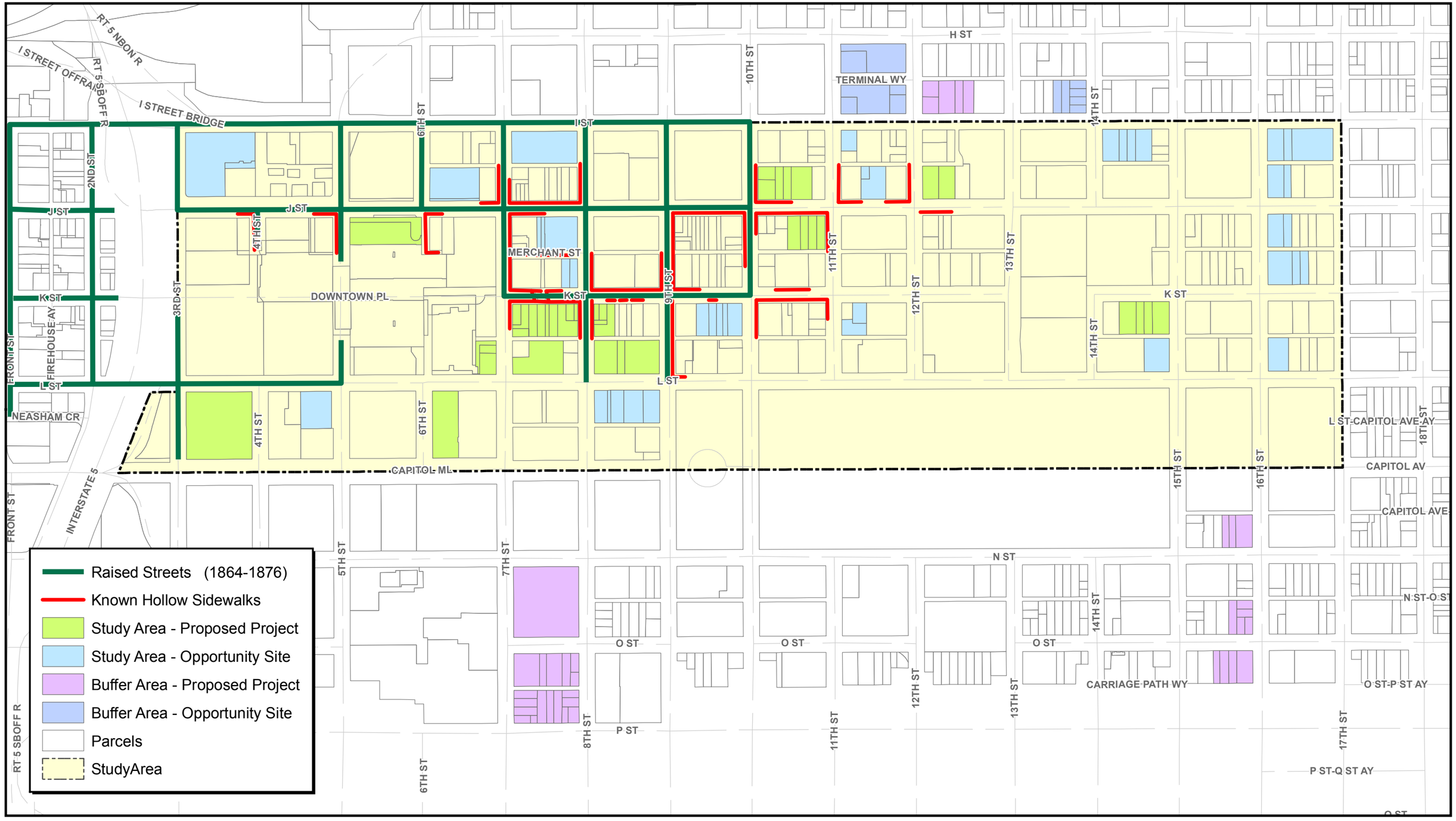
- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in, the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et.seq.).
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources (Public Resources Code Section 5024.1, Title 14 CCR, Section 4852) as follows:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;
    - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    - Has yielded, or may be likely to yield, information important in prehistory or history. (Guidelines Section 15064.5).



September 2011

Downtown Infrastructure Study - Historic Resource Analysis

FIGURE IX-1



September 2011

Downtown Infrastructure Study - Hollow Sidewalks & Raised Streets

FIGURE IX-2

TOXICS

Introduction

AMEC Geomatrix Inc. (AMEC) has conducted this evaluation of potential environmental issues ("toxics") related to development of the Downtown Infrastructure Study Project Area (or Study Area [Figure X-1]). The Study Area includes properties with known or potential soil and groundwater contamination that should be considered during planning and redevelopment. It is important to identify these properties and gain an understanding of the nature of these impacts because they have the potential to add cost, time and uncertainty to a redevelopment project.

To assist the City and potential developers in evaluating properties that have been or are potentially impacted, AMEC has compiled and reviewed available information regarding historic property use and contaminant releases for properties within the Study Area and the immediate vicinity.

This report summarizes AMEC's findings of this evaluation and provides a tool for the City and potential developers to use to determine if a redevelopment property has known and potential environmental impacts. This report also includes a narrative of the potential development limitations associated with the soil and groundwater contamination that exist or may exist within the Study Area. This document is not intended to be a property-specific environmental site assessment. Developers should conduct an environmental site assessment for properties within the Study Area and potentially substantial investigation prior to starting redevelopment.

To evaluate the potential for environmental impacts on properties within the Study Area, AMEC completed the following activities:

- Identified historical and current land use in the Study Area in order to assess hazardous chemicals that may have been used and potentially released to the environment;
- Reviewed the geology and hydrogeology beneath the Study Area in order to determine the direction of groundwater flow and to gain a better understanding of subsurface impacts; and
- Researched regulatory agency records of properties within and in the immediate vicinity of the Study Area in order to identify documented releases to soil and groundwater.

The results of these activities are discussed in detail in the following sections of this report.

Land Use

Historical and current land use within the Study Area was investigated to assess potential use of hazardous chemicals that may have been released into the environment. For the purposes of this investigation properties have been categorized into agricultural, industrial, commercial, municipal, and residential land use. Agricultural land use generally includes farming activities and feed stores which may have handled pesticides. Industrial land use generally includes foundries, metal fabrication, locomotive and ship construction and repair, energy generating facilities, shipping yards, machine shops, and tanneries which may have handled metals, solvents, and petroleum hydrocarbons. Commercial land use generally includes retail facilities, fueling stations, auto repair and service stations, dry cleaners, and restaurants which may have handled petroleum hydrocarbons and solvents. Municipal land use generally includes offices and halls which are not likely to have handled chemicals. Residential land use includes dwellings which may have handled petroleum hydrocarbons (e.g., heating oil).

Historical Land Use

Due to the size and diverse history of the Study Area, historical land use is described on a large scale (multiple blocks) rather than on a property by property basis. Historical information was obtained by reviewing Sanborn Fire Insurance Maps between 1895 and 1970 (EDR, 2010b) (SPL, 2010), topographic maps between

1893 and 1992 (EDR, 2010c), aerial photographs between 1947 and 2005 (EDR, 2010d), and city directories between 1920 and 2005 (EDR, 2010e).

Prior to 1848, the Study Area was committed primarily to agricultural land use. Following the discovery of gold in California, Sacramento developed as a major shipping port and quickly became a major commercial center (CSH, 2010). During this period downtown Sacramento was established with industrial land use along the waterfronts and commercial, residential, and agricultural land use extending further to the east. Industrial land use during this period included foundries, locomotive and ship repair shops, and coal storage facilities.

In the late 1850s, business production associated with the California Gold Rush began to decrease and the number of agricultural and industrial related businesses outnumbered the gold mining related businesses in Sacramento. In 1852 a fire destroyed 85% of Sacramento and brick buildings were constructed on top of the fire debris to replace the previous wooden structures (CSH, 2010). In 1855 operations began in The Railyard and included locomotive repair and maintenance, metal fabricating, painting, and coal and fuel storage. In 1862, the largest flood on record prompted residents to raise downtown Sacramento by 15 feet. Between 1862 and 1869 the reinforced brick walls were constructed along the front of the sidewalks and fill material (from unknown sources) was placed in the streets between brick walls. As of 1895, coal warehouses, dry cleaners, lime and plaster storage structures existed north of the Study Area along I Street. Iron works, foundries, coal storage facilities, machine shops, and lumber mill businesses existed west of the Study Area along the Sacramento River waterfront. During this period, the Study Area had primarily residential land use.

Between 1900 and the 1950s properties along the waterfront (west of the Study Area) continued to be used for industrial and commercial uses while properties to the east of the Study Area were used for municipal, commercial, and residential use. Agricultural land use existed on the outskirts of the downtown Sacramento to the north, east, and south. During this period the Study Area was commercial and residential land use. Commercial land use in the Study Area included dry cleaner businesses, auto repair facilities, fueling stations, and restaurants.

From the 1950s through the present, downtown Sacramento has progressively decreased in industrial and agricultural land use and increased in commercial, municipal, and residential land use. During this period the Study Area had similar changes. Commercial land use included dry cleaner businesses, auto repair facilities, fueling stations, retail, and restaurants.

Hazardous chemicals that may have been used and potentially released to properties within the Study Area based on past use include heavy metals and semi-volatile organic compounds (SVOCs) associated with the fire in 1852; oils and solvents from machine shops and auto repair facilities, gasoline from fueling stations; petroleum hydrocarbons, Stoddard Solvent, and chlorinated solvents from dry cleaner businesses; and heating oil commonly used to heat dwellings in the early 1900s. Hazardous chemicals from industrial properties located upgradient of the Study Area (north-northwest) that may have impacted groundwater and migrated into the Study Area include petroleum hydrocarbons and solvents.

Current Land Use

The current land use within the Study Area and immediate vicinity is generally described below:

- Mixed commercial-residential land use exists throughout the Study Area. Commercial businesses include a shopping mall, restaurants, hotels, gasoline stations, automotive repair, dry cleaners, and various retail stores.
- Municipal land use exists throughout downtown Sacramento but is primarily located in the central and southeastern portions of the Study Area, around the State Capitol Building. Municipal properties primarily exist as office buildings.
- Industrial land use primarily exists outside of the Study Area to the north and northwest and primarily consists of recyclers, manufacturers, and food processing plants.

Based on the current land use within the Study Area, hazardous chemicals released to soil and groundwater include petroleum hydrocarbons from automotive repair and fueling stations and solvents from dry cleaner operations.

Geology and Hydrogeology

Information available on geology and hydrogeology of downtown Sacramento were reviewed to determine a better understanding of subsurface impacts including soil types above the groundwater and the direction of groundwater flow to use in the assessment of groundwater near the Study Area.

Downtown Sacramento exists at an elevation of approximately 30 feet above mean sea level (msl). It is located just east and south of the confluence between the American River and the Sacramento River. The topography is flat with a gradual dip to the south-southeast away from the confluence. The geology underlying Sacramento primarily consists of thick sequences of alluvial and riverbed sediments which have eroded from the Sierra Nevada Mountain Range. These deposits are thousands of feet thick, range from cobble to clay sized clasts, and have high permeability.

The geology of the unsaturated or vadose zone consists of flood plain deposits generally consisting of clays and sands with some gravel. The vadose zone is approximately 10 feet thick.

Groundwater monitoring and groundwater extraction activities are currently being performed in the downtown Sacramento area to support efforts to remediate contaminated groundwater emanating from the former Union Pacific Railyard (herein referred to as The Railyard) property located at 401 I Street in Sacramento, California (Figure X-1) (ERM, 2010). According to *2010 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report* (ERM, 2010), the depth to first groundwater generally exists approximately 10 feet below ground surface (bgs). Groundwater beneath downtown Sacramento exists in five distinct groundwater-bearing zones and the thickness of these zones range between 25 feet and 65 feet. The direction of groundwater flow in the groundwater bearing zones are generally to the south-southeast with an approximate gradient of 0.0003 feet per foot (ft/ft). Details regarding the locations of the groundwater monitoring wells, the groundwater extraction system, and monitoring results are presented in Appendix E.

Regulatory Records Search Results

AMEC retained Environmental Data Resources Inc. (EDR), to search federal, state, local and tribal environmental regulatory databases and identify properties located within the Study Area that have a documented environmental releases and/or those that use, store, or dispose of regulated chemicals. The search area was extended approximately a quarter of a mile beyond the Study Area to identify sources of groundwater contamination that may be present up-gradient (north-northwest). The results of the regulatory records search are presented in the EDR Radius MapTM Report with GeoCheck®, dated December 16, 2010 (EDR Report) (EDR, 2010a). Due to the extensive nature of this data the supporting documentation is not included in this report, but can be made available upon request.

Open Cases

Due to the broad search area and the diverse information provided in the EDR Report, a narrowed search of the databases (summarized on Table 1) was performed to identify properties that have a documented release of hazardous chemicals. The results of the narrowed search indicate that releases have been documented at 54 properties within the Study Area (Table 2) and that there are 368 properties within a quarter mile of the Study Area (Appendix F, Table 3). Due to the large number of documented properties outside the Study Area, only the releases most likely to have potential to impact soil or groundwater within the Study Area are discussed in this report. To provide a mechanism for which specific case information can be obtained, the EDR ID Number for each release has been included on Tables 2 and 3. The EDR Report can be searched for details of a particular release using the EDR ID Number and the "find" feature in Adobe Reader ®.

While Tables 2 and 3 present all documented releases within the Study Area and surrounding properties, they do not specify which environmental cases have been closed and which cases are under active investigation

and remediation. In order to determine which properties have open environmental cases, additional regulatory records were obtained from the Department of Toxic Substances Controls (DTSC) Envirostor (http://www.envirostor.dtsc.ca.gov/public/) and the State Water Resources Control Board (SWRCB) Geotracker databases (http://geotracker.swrcb.ca.gov/). The open environmental cases located within the Study Area and in the immediate vicinity are discussed below.

TABLE 1
SELECTED DATABASES WITH IMPACTS TO SOIL AND GROUNDWATER

Database Name(Database Acronym)	Description of Database Contents
Federal Delisted National Priority List (NPL)	Sites that were once a part of the NPL or list of high priority sites across the United States where known releases or threatened releases of hazardous substances, pollutants, or contaminants have been documented.
Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)	Sites which are either proposed to or on the NPL and sites which are in the screening and assessment phase for possible inclusion into the NPL.
Federal CERCLIS-No Further Remedial Action Planned (CERCLIS-NFRAP)	Sites that have been removed and archived from the inventory of CERCLIS which indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the NPL. It does not mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.
Federal Resource Conservation Recovery Act (RCRA) Correctional Action Activity (CORRACTS)	RCRA sites where nationally-defined corrective action activities have been performed.
Federal Engineering Controls Registry (US ENG CONTROLS)	Sites where engineering controls have been put in place.
Federal Emergency Response Notification System (ERNS)	Sites with reported releases of oil and hazardous substances as reported by the U.S.EPA.
State NPL (RESPONSE)	Confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. According to the EDR Report, these confirmed release sites are generally high priority and high risk potential.
State CERCLIS (ENVIROSTOR)	Sites with known contamination or sites which there may be reasons to investigate further as reported by the DTSC.
State Leaking Underground Storage Tank (LUST)	Sites with LUSTs as reported by the State Water Resources Control Board (SWRCB).
State Spills, Leaks, Investigations, Cleanup (SLIC)	Sites with reported spills, leaks, investigations, and cleanup activities.
State Voluntary Cleanup Program (VCP)	Low threat sites with either confirmed or unconfirmed releases and the responsible parties have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide for coverage of DTSC's costs.
Sacramento County Cleanup Sites (CS)	Sites where unauthorized releases of potentially hazardous materials have occurred.
US BROWNFIELDS	EPA's list of Brownfield sites addressed by Cooperative Agreement Recipients and Brownfields properties addressed by Targeted Brownfields Assessments.
HIST Cal Sites	Sites with known and potential hazardous substances as reported by the DTSC. This database is no longer updated and has been replaced by the ENVIROSTOR database.

TABLE 1
SELECTED DATABASES WITH IMPACTS TO SOIL AND GROUNDWATER

Database Name(Database Acronym)	Description of Database Contents
LIENS	Sites with environmental liens for California where DTSC is a lien holder.
DEED	Sites with recorded land use restrictions as reported by the DTSC. Land use restrictions are administrative controls designed to protect the public from unsafe exposures to hazardous substances and wastes.
Hazardous Materials Incident Reporting System (HMIRS)	Sites with hazardous material spill incidents reported to the Department of Transportation. The source of this information is the U.S. EPA.
California Hazardous Material Incident Reporting System (CHMIRS)	Sites with reported hazardous material incidents (i.e., accidental releases or spills). The source of this information is the California Office of Emergency Services.
CONSENT	Sites with major legal settlements that establish responsibility and standards for cleanup at NPL sites.
Record of Decision (ROD)	Sites where a ROD was established. ROD documents mandate a permanent remedy at an NPL site containing technical and health information to aid the cleanup.
Toxic Chemical Release Inventory System (TRIS)	Sites that release toxic chemicals into the air, water, and land in reportable quantities under SARA Title 111, Section 313. The source of this information is the U.S. EPA.
CORTESE and HIST CORTESE	*Sites designated by the SWRCB, Integrated Waste Board (IWMB), and DTSC with the known release of contamination to soil or groundwater or properties where environmental assessments have been performed. This database is no longer updated.*
State GEOTRACKER (GEOTRACKER)	Sites with groundwater contamination as reported by the SWRCB.

Notes

Information based on *The EDR Radius Map TM Report with Geocheck®, City of Sacramento, Downtown Infrastructure Study,900 K Street, Sacramento, California, 95814. Inquiry Number 2947641.1s. December 16, 2010. (EDR Report) (Appendix E).* This table contains descriptions of select databases with documented releases to soil or groundwater. Other databases that document permitted facilities that handle hazardous substances or petroleum product were excluded from this table because they do not provide information on releases to soil or groundwater.

TABLE 2
IMPACTS TO SOIL AND GROUNDWATER WITHIN THE STUDY AREA

ADDRESS[1,2]	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1001 I ST	95814		CHMIRS	I1433	S109035384
1001 I ST			CHMIRS	I1430	S110375829
1013 K ST		CREST RETAIL	Sacramento Co. CS	I 111	S102428484
1017 10TH ST	95812	OLD SHASTA HOTEL	Sacramento Co. CS	I 452	S106782277
1050 12TH ST	95814	SOUTHERN PACIFIC RAILROAD	US BROWNFIELDS	F 265	1012171671
1050 12TH ST	95814	UNION PACIFIC RAILROAD	US BROWNFIELDS	F 266	1012171679
1100 14TH ST	95818	CONVENTION CENTER	Sacramento Co. CS	W 693	S102436230
1120 7TH ST	95814	A-B-C CLEANERS	ENVIROSTOR	E 83	S100189381
1120 N ST	95816		CHMIRS	Y1537	S100277390
1200 I ST	95841	HITEC AUTOMOTIVE INC	Sacramento Co. CS	F 368	S102956264
1200 I ST	95841	HITEC AUTOMOTIVE INC	LUST	F 368	S102956264
1200 I ST	958140000	DISCOUNT TIRE CENTERS #53	CHMIRS	F 442	S103625268
1205 L ST	95814	HYATT REGENCY HOTEL	HIST CORTESE	Q 734	S102058617
1205 L ST	95814	HYATT REGENCY HOTEL	LUST	Q 734	S102058617
1205 L ST		HYATT REGENCY HOTEL	Sacramento Co. CS	Q 671	S102431586
1219 K ST	95814		CHMIRS	Q 437	S100278036
12TH ST / K ST			CHMIRS	Q 421	S100222228
1300 CAPITOL MALL	95814	STATE CAPITOL	Sacramento Co. CS	Z 615	S102438073
1300 CAPITOL MALL	95814	STATE CAPITOL	HIST CORTESE	Z 615	S102438073
1300 CAPITOL MALL	95814	STATE CAPITOL	LUST	Z 615	S102438073
1315 10TH ST			CHMIRS	Y 720	S105677604
1400 I ST		GRAND AUTO	Sacramento Co. CS	T 604	S104857539
1401 Q ST	95814	FREMONT COMMUNITY GARDEN	US BROWNFIELDS	BI2329	1009569525
1407 J ST	95814	PACIFIC BELL	Sacramento Co. CS	L 346	S101628218
1407 J ST	95814	PACIFIC BELL	HIST CORTESE	L 351	S105025985

TABLE 2
IMPACTS TO SOIL AND GROUNDWATER WITHIN THE STUDY AREA

ADDRESS[1,2]	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1407 J ST	95814	PACIFIC BELL	LUST	L 351	S105025985
1407 J. ST	95814		CHMIRS	L 348	S105651869
1431 L ST		KRAUS FAMILY TRUST	Sacramento Co. CS	W 661	S106198528
1431 L ST	95814	KRAUS REVOCABLE TRUST	LUST	W 674	S103707672
1501 L ST	95814	15TH & L INVESTORS	Sacramento Co. CS	AD 675	S106859274
1501 L ST	95814	15TH & L INVESTORS	LUST	AD 675	S106859274
1515 8TH ST	95814		CHMIRS	AL1991	S103706540
1530 L ST	95814	FORMER CHEVRON #3-0205	HIST CORTESE	AA 669	S104025382
1530 L ST	95814	FORMER CHEVRON #3-0205	LUST	AA 669	S104025382
1530 L ST		FORMER CHEVRON STATION #3-0205	Sacramento Co. CS	AA 678	S105155802
1601 J ST (AKA 925 16TH ST)	95814	CHEVRON #9-4176	Sacramento Co. CS	I 88	S102316260
1601 J ST (AKA 925 16TH ST)	95814	CHEVRON #9-4176	HIST CORTESE	I 88	S102316260
1601 J ST (AKA 925 16TH ST)	95814	CHEVRON #9-4176	LUST	I 88	S102316260
1601 L ST	95814	SHELL OIL PRODUCTS US 170736	Sacramento Co. CS	X 685	1009402594
1601 L ST	95814	FORMER SHELL SERVICE STATION	LUST	X 680	S106567486
1601 L ST	95814	FORMER SHELL SERVICE STATION	LUST	X 723	S108541445
1617 K ST		SHRA	Sacramento Co. CS	V 715	S102437506
1622 K ST		SACRAMENTO REDEVELOPMENT AGENCY	SLIC	V 613	S102316477
1622 K ST		SACRAMENTO REDEVELOPMENT AGENCY	Sacramento Co. CS	V 613	S102316477
1622 K ST	95814	1622 K STREET	SLIC	V 732	S105174056
1622 K ST	95814	1622 K STREET	LUST	V 732	S105174056
1630 I ST		VOGEL FAMILY INVESTMENTS	Sacramento Co. CS	K 245	S104795587
1630 I ST	95814	WAREHOUSE (VACANT)	HIST CORTESE	K 244	S100231806
1630 I ST	95814	WAREHOUSE (VACANT)	LUST	K 244	S100231806
16TH ST	00000	CADA PROPERTIES SITE 1	US BROWNFIELDS	X 694	1009805929

TABLE 2
IMPACTS TO SOIL AND GROUNDWATER WITHIN THE STUDY AREA

ADDRESS[1,2]	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1701 K ST	95814	LONGS DRUG STORE #588	Sacramento Co. CS	V 689	S102430402
1701 K ST	95814	NIELLO CHEVROLET	HIST CORTESE	V 679	S101300920
1701 K ST	95814	NIELLO CHEVROLET	LUST	V 679	S101300920
1728 CAPITOL LANE	95814	1728 CAPITOL LANE	ERNS	X1679	94362093
1728 CAPITOL LANE			CHMIRS	X1678	S105637209
17TH/J ST		SCHAAP-BRENNER TIRE CENTER	Sacramento Co. CS	V1528	S102436561
300 J ST	95618		CHMIRS	A 60	S109038235
301 CAPITOL MALL		CAPITOL GATEWAY	SLIC	H 229	S105892106
301 CAPITOL MALL		CAPITOL GATEWAY	LUST (refer to Geotracker)		
425 I ST		SUSD	Sacramento Co. CS	A1600	S104795583
428 J ST	958140000	PDC PROPERTIES	LUST	A 20	S103981309
500 CAPITOL MALL	95814	GEORGE TSAKOPOULOS	Sacramento Co. CS	P 399	S104970688
510 DOWNTOWN PLAZA		SHRA LOT D	Sacramento Co. CS	J 97	S102437510
5TH / I ST	95814	FEDERAL COURTHOUSE - SACR	HIST CORTESE	D1576	S100539092
5TH / I ST	95814	FEDERAL COURTHOUSE - SACRAMENTO	DEED	D1577	S106568278
5TH / I ST	95814	FEDERAL COURTHOUSE - SACRAMENTO	VCP	D1577	S106568278
5TH / I ST	95814	FEDERAL COURTHOUSE - SACRAMENTO	ENVIROSTOR	D1577	S106568278
600 J ST	95819		CHMIRS	B 48	S107450479
651 I ST	95814	MAIN JAIL	Sacramento Co. CS	B1547	U003786673
651 I ST	95814	SACRAMENTO COUNTY JAIL	LUST	B1548	S108723529
715 L ST	95814	715 "L" STREET	ERNS	G 138	90173472
715 17TH ST			CHMIRS	AT1988	S105677632
715 L ST	95814	GREYHOUND BUS	Sacramento Co. CS	G 129	S101300928
715 L ST	95814	GREYHOUND BUS	HIST CORTESE	G 129	S101300928
715 L ST	95814	GREYHOUND BUS	LUST	G 129	S101300928

TABLE 2
IMPACTS TO SOIL AND GROUNDWATER WITHIN THE STUDY AREA

ADDRESS[1,2]	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
715 L ST			CHMIRS	G 128	S100278995
715 L ST	95814-3312		CHMIRS	G 131	S100279868
721 CAPITOL MALL			CHMIRS	U 505	S100216875
7TH ST / E ST	95814		CHMIRS	CD2694	S100276509
7TH ST / D ST	95814		CHMIRS	CY2768	S100220104
801 I ST	95801	FEDERAL BUILDING	Sacramento Co. CS	C1556	U001614998
801 I ST	95801	US POST OFFICE/FEDERAL BLDG	HIST CORTESE	C1554	S103672726
801 I ST	95801	US POST OFFICE/FEDERAL BLDG	LUST	C1554	S103672726
805 5TH ST	95816		CHMIRS	D1734	S100221748
805 L ST		LOUIE GARAGE	Sacramento Co. CS	E 336	S104586376
805-809 L ST	95814	LOUIE BROTHERS GARAGE	LUST	E 339	S101300929
830 E ST		830 E STREET	HMIRS	CL2657	2007434320
901 10TH ST	95814	CHEVRON #9-0915 (FORMER)	Sacramento Co. CS	I 534	S102427109
901 10TH ST	95814	CHEVRON #9-0915 (FORMER)	HIST CORTESE	I 534	S102427109
901 10TH ST	95814	CHEVRON #9-0915 (FORMER)	LUST	I 534	S102427109
915 CAPITOL MALL	95818	JESS UNRUH BLDG	HIST CORTESE	S 704	S102434612
915 CAPITOL MALL	95818	JESS UNRUH BLDG	LUST	S 704	S102434612
915 CAPITOL MALL		STATE OF CALIFORNIA	Sacramento Co. CS	S 621	S102438074
915 I ST	95814	CITY OF SAC/PUBLIC WORKS	Sacramento Co. CS	C1539	S102820544
915 I ST	95814	CITY OF SAC/PUBLIC WORKS	HIST CORTESE	C1539	S102820544
915 I ST	95814	CITY OF SAC/PUBLIC WORKS	LUST	C1539	S102820544
917 8TH ST		SHRA	Sacramento Co. CS	C 34	S102437508
921 11TH ST	95814	ELKS BUILDING	Sacramento Co. CS	F 589	S101590487
921 11TH ST	95814	ELKS BUILDING	HIST CORTESE	F 296	S102438870
921 11TH ST	95814	ELKS BUILDING	LUST	F 296	S102438870

TABLE 2
IMPACTS TO SOIL AND GROUNDWATER WITHIN THE STUDY AREA

ADDRESS[1,2]	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
0 N ST	95814	LOT X CITY OF SACRMNTO DEV SITE	LUST (refer to Geotracker)		

Notes

1 = Information based on *The EDR Radius Map ™ Report with Geocheck®, City of Sacramento, Downtown Infrastructure Study,900 K Street, Sacramento, California, 95814. Inquiry Number 2947641.1s. December 16, 2010.* (EDR Report) (Appendix E). This table only contains select databases with documented releases to soil or groundwater. Other databases that document permitted facilities that handle hazardous substances or petroleum product were excluded from this table because they do not provide information on releases to soil or groundwater.

2 = Addresses were compiled by multiple regulatory agencies and may contain errors associated with transcription. All listed addresses are located in Sacramento, California.

3 = The database acronyms are defined in Table 1 and in the EDR Report.

4 = Refer to the Overview Map and Detail Maps provided in the EDR Radius Map Report for the plotted location of the provided MAP ID.

5 = Refer to the EDR Radius Map Report for details of the database listing (e.g., contamination, media affected, regulatory status).

Open Cases within the Study Area

Nine properties were identified within the Study Area as open environmental cases. The locations of these properties are presented on Figure X-1. Each of these properties is identified below with a brief description of the current status of the environmental case.

- **Former Chevron #9-4176 at 1601 J Street** – This property is a Leaking Underground Storage Tank (LUST) site and has a documented release of gasoline with groundwater being affected. The site is currently undergoing groundwater monitoring.
- **Greyhound Bus at 715 L Street** – This property is a LUST site and has a documented release of diesel with groundwater being affected. The site is currently undergoing groundwater monitoring.
- **Pacific Bell at 1407 J Street** – This property is a LUST site and has a documented release of diesel with groundwater being affected. The site is currently undergoing groundwater monitoring.
- **Former Chevron #9-0915 at 901 10th Street** – This property is a LUST site and has a documented release of gasoline with groundwater being affected. The site is currently being investigated to determine the extent of impacts.
- **Former Chevron #3-0205 at 1530 L Street** – This property is a LUST site and has a documented release of gasoline with groundwater being affected. The site is currently undergoing groundwater monitoring.
- **Former Shell Service Station at 1601 L Street** – This property is a LUST site and has a documented release of gasoline with groundwater being affected. The site is currently undergoing remediation.
- **Jess Unruh Building at 915 Capitol Mall** – This property is a LUST site and has a documented release of heating oil with groundwater being affected. The site is currently undergoing groundwater monitoring.
- **Capitol Gateway at 301 Capitol Mall – This property is a Cleanup Program Site and has a** documented release of diesel and other heavy end petroleum hydrocarbons (waste oil/motor oil/hydraulic oil). Details on the media affected and the current activities were not specified from the available sources of information.
- **Sacramento Redevelopment Agency at 1622 K Street** – This property is a Cleanup Program Site and has a documented release of petroleum based fuels with groundwater being affected. Details on the media affected and the current activities were not specified from the available sources of information.

Open Cases outside the Study Area

Six open environmental cases with impacted groundwater located within a quarter mile up-gradient (north-northwest) of the Study Area were identified. The locations of each property are identified on Figure X-1. Each of these properties is listed below with a brief description of the current status of the environmental case.

- **The Railyard at 401 I Street** – A large groundwater plume containing chlorinated solvents and 1,4-dioxane is known to have impacted groundwater beneath the Study Area. The approximate lateral extent of the groundwater plume beneath the Study Area is shown on Figure X-1. Additional details pertaining to this property are described later in this report.
- **Lot X City of Sacramento Development Site at 0 N Street (northwest corner of N St and 3rd Street)** – This property is a LUST site and has a documented release of heating oil with soil and groundwater being affected. The site is currently under assessment.
- **Sacramento County Jail at 651 I Street** – This property is a LUST site and has a documented release of diesel with soil and groundwater being affected. The site is currently being investigated to determine the extent of impacts.

- **City of Sacramento/Fleet Management/Former City of Sacramento Crime Lab Redevelopment Site at 631 H Street** – This property is a LUST site and has a documented release of diesel with groundwater being affected. The site is currently being investigated to determine the extent of impacts.
- **Downtown Parking Garage at 725 7th Street** – This property is a LUST site and has a documented release of gasoline with groundwater being affected. The site is undergoing groundwater monitoring.
- **1125 I Street Commercial Property at 1125 I Street** – This property is a LUST site and has a documented release of diesel and xylenes with soil and groundwater being affected. This site is currently being investigated to determine the extent of impacts.

Potential Historical Releases

AMEC also reviewed EDRs proprietary databases to identify properties which were historically used as dry cleaners, auto stations, or stored regulated chemicals in underground storage tanks (USTs). Based on historical disposal techniques typically used at these businesses, it is common to have a release of hazardous chemicals to the environment that may require an environmental assessment be performed prior to redevelopment.

The properties associated with historical dry cleaners within the Study Area are presented in Table 4 and the properties associated with historical auto stations and historical UST sites are presented together on Table 5 (most properties with auto stations also have USTs). The identified properties included:

- 124 historical dry cleaner businesses (Table 4); and
- 209 historical automobile stations or historical UST sites (Table 5).

Land Use Restrictions

The EDR report also identified one land use restriction that exists for the Federal Courthouse property located at 5th and I Street. Land use restrictions are administrative controls designed to protect the public from unsafe exposures to hazardous substances and wastes.

TABLE 4
HISTORICAL DRY CLEANER BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1004 5TH ST	BROWN J L	EDR Historical Cleaners	B 49	1009143359
1007 13TH ST	QUALITY CLEANERS & DYERS	EDR Historical Cleaners	L 120	1009145707
1007 13TH ST	QUALITY CLEANERS & DYERS	EDR Historical Cleaners	L 142	1009145634
1007 4TH ST	LEE SAM LAUNDRY	EDR Historical Cleaners	A 40	1009147590
1007 8TH ST	BRANCH OFFICES	EDR Historical Cleaners	C 188	1009145253
1007 8TH	BRANCH OFFICES	EDR Historical Cleaners	C 425	1009146043
1008 J ST	BESS SAML	EDR Historical Cleaners	I 315	1009143356
1009 13TH ST	ONE HOUR MARTINIZING	EDR Historical Cleaners	L 185	1009146496
1009 4TH ST	FONG MING	EDR Historical Cleaners	A 68	1009148122
1010 6TH ST	SACRAMENTO HAT WORKS	EDR Historical Cleaners	B 47	1009148010
1010 9TH ST	GERBER J A	EDR Historical Cleaners	E 546	1009143452
1011 5TH ST	ACME CLEANERS AND LAUNDRY	EDR Historical Cleaners	B 3	1009145185
1011 8TH ST	BRANCH OFFICES	EDR Historical Cleaners	C 543	1009145161
1013 6TH ST	BAUMBACK HARRY	EDR Historical Cleaners	B 17	1009146398
1014 7TH ST	HING KEE LAUNDRY	EDR Historical Cleaners	B 151	1009148023
1016 4TH ST	FONG MING	EDR Historical Cleaners	A 71	1009144310
1016 6TH ST	TIGER MAX	EDR Historical Cleaners	B 54	1009147711
1017 8TH ST	WHITE WAY CLEANERS	EDR Historical Cleaners	C 179	1009145558
1019 3RD ST	LEE ELLEN MRS	EDR Historical Cleaners	A 65	1009143796
1019 4TH ST	FONG LAUNDRY	EDR Historical Cleaners	A 63	1009146090
1020 6TH ST	GOLDEN GATE LAUNDRY	EDR Historical Cleaners	B 57	1009144314
1021 3RD ST	LEE S ELLEN LAUNDRY	EDR Historical Cleaners	A 45	1009145717
1021 5TH ST	OCK LEE HAND LAUNDRY	EDR Historical Cleaners	B 67	1009148120
1022 6TH ST	OSUGA P T	EDR Historical Cleaners	B 9	1009145085
1023 5TH ST	SPOTLESS CLEANERS	EDR Historical Cleaners	B 27	1009145186
1024 8TH ST	BALLIS ANGELO	EDR Historical Cleaners	C 566	1009147810
1026 10TH ST	RIZA GEO	EDR Historical Cleaners	I 199	1009145154
1027 6TH ST	VICTORY LAUNDRY & CLEANERS	EDR Historical Cleaners	B 28	1009145733
1028 10TH ST	BOYLE BROS	EDR Historical Cleaners	I 280	1009143398
1030 10TH ST	BOYLE BROS	EDR Historical Cleaners	I 324	1009144616
1106 4TH ST	FONG LEE	EDR Historical Cleaners	A 39	1009144309

TABLE 4
HISTORICAL DRY CLEANER BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1106 J ST	BALLIS ANGELO	EDR Historical Cleaners	F 162	1009147709
1108 5TH ST	SWAN CLEANERS	EDR Historical Cleaners	J 226	1009146123
1108 K ST	BALDWIN G A	EDR Historical Cleaners	M 345	1009145547
1115 7TH ST	STEIN LOUIS	EDR Historical Cleaners	E 325	1009145202
1115 8TH ST	STILSON L C	EDR Historical Cleaners	E 171	1009145165
1117 5TH ST	DZIUK E J	EDR Historical Cleaners	J 167	1009146169
1118 10TH ST	WARD MAX	EDR Historical Cleaners	M 403	1009145555
1118 5TH ST	MODERN LAUNDRY	EDR Historical Cleaners	J 262	1009144622
1119 7TH ST	NEW WORLD LAUNDRY	EDR Historical Cleaners	E 166	1009145145
1120 7TH ST	A B C CLEANERS	EDR Historical Cleaners	E 247	1009145083
1121 5TH ST	CANSON C H	EDR Historical Cleaners	G 344	1009145791
1121 8TH ST	SALMONSKI WIADYSLAW	EDR Historical Cleaners	E 197	1009144613
1121 9TH ST	MEYERS L R	EDR Historical Cleaners	E 291	1009145143
1122 10TH ST	LIONDAKIS CHARLIE	EDR Historical Cleaners	M 410	1009145801
1122 5TH ST	NAKAO KANGIRO	EDR Historical Cleaners	G 216	1009145169
1123 K ST	STERLING CLEANERS	EDR Historical Cleaners	M 361	1009145551
1125 3RD ST	YOSHIDA GORO	EDR Historical Cleaners	A 10	1009145181
1125 5TH ST	LEE YUEN	EDR Historical Cleaners	G 295	1009145062
1125 8TH ST	BARDFELD DAVID	EDR Historical Cleaners	E 415	1009145548
1126 2ND ST	KING G L	EDR Historical Cleaners	AI1712	1009144318
1127 2ND ST	MATORIAN ABR	EDR Historical Cleaners	AI1694	1009146158
1127 9TH ST	HOSKINS W T	EDR Historical Cleaners	E 300	1009146465
1129 8TH ST	DE LUXE HATTERS	EDR Historical Cleaners	E 515	1009147693
1130 8TH ST	CAPITAL LAUNDRY & CLEANERS	EDR Historical Cleaners	E 95	1009145061
1131 8TH ST	GLUMM HAIDEE MRS	EDR Historical Cleaners	E 156	1009143453
1131 9TH ST	LEONARD J L	EDR Historical Cleaners	E 314	1009143888
1217 5TH ST	TILLETT G E	EDR Historical Cleaners	G 93	1009145172
1217 J ST	THOMAS PARISIAN CLEANING & DYE WORKS	EDR Historical Cleaners	F 125	1009145203
1220 4TH ST	FUJII & YASUTAKE	EDR Historical Cleaners	N 355	1009145147
1221 4TH ST	CREDIC WILLIE	EDR Historical Cleaners	N 257	1009146093
1223 J ST	KEENE R C	EDR Historical Cleaners	F 585	1009145170

TABLE 4
HISTORICAL DRY CLEANER BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1224 7TH ST	CENTRAL HAND LAUNDRY	EDR Historical Cleaners	G 299	1009145792
1224 I ST	I STREET LAUNDRY & CLEANERS	EDR Historical Cleaners	F 207	1009145716
1227 J ST	THOMAS F CO	EDR Historical Cleaners	F 529	1009145089
1234 J ST	DOUGLASS N F	EDR Historical Cleaners	F 223	1009146402
1235 J ST	MEE WAH	EDR Historical Cleaners	F 259	1009146933
1311 J ST	TILLETT R J	EDR Historical Cleaners	L 124	1009147588
1330 I ST	DE LUX CLEANERS	EDR Historical Cleaners	L 181	1009145814
1403 I ST	EYE STREET LAUNDRY & CLEANERS	EDR Historical Cleaners	T 739	1009145429
1405 J ST	LAYBOURN C V	EDR Historical Cleaners	L 343	1009143887
1406 I ST	AH LUN	EDR Historical Cleaners	T 492	1009146432
1416 J ST	UNIVERSAL CLEANERS	EDR Historical Cleaners	L 377	1009145204
1426 J ST	YEE THOS	EDR Historical Cleaners	L 386	1009144732
1431 L ST	PARIS CLEANERS	EDR Historical Cleaners	W 716	1009145086
1524 N ST	LIN WM	EDR Historical Cleaners	AB1607	1009144324
1603 J ST	BALL ALPHONSE	EDR Historical Cleaners	K 489	1009145188
1604 J ST	LOWES LAUNDRY	EDR Historical Cleaners	K 504	1009144325
1605 J ST	FICETTI DRY CLEANING CO	EDR Historical Cleaners	K 490	1009143450
1612 K ST	MITCHELL L D	EDR Historical Cleaners	V 617	1009145184
304 J ST	SAM S LAUNDRY & DRY CLEANER	EDR Historical Cleaners	A 5	1009145723
307 K ST	MILLER J M	EDR Historical Cleaners	A 8	1009145144
307 L ST	MORIMOTO WAKAMATSU	EDR Historical Cleaners	N 191	1009145081
311 L ST	L STREET STEAM LAUNDRY	EDR Historical Cleaners	N 294	1009145228
313 L ST	OKAMOTO TSUGUO	EDR Historical Cleaners	N 330	1009143349
315 J ST	FOO CHONG	EDR Historical Cleaners	A 1	1009144311
319 L ST	TANAKA G	EDR Historical Cleaners	N 225	1009145167
321 L ST	CANSON F C	EDR Historical Cleaners	N 288	1009143441
402 J ST	WEISBERG DAVID	EDR Historical Cleaners	A 6	1009145177
419 P ST	OSUGA P T	EDR Historical Cleaners	AS2078	1009145150
420 J ST	JAY STREET LAUNDRY	EDR Historical Cleaners	A 53	1009144317
422 K ST	PAPPAS LOUIS	EDR Historical Cleaners	J 576	1009148119
423 K ST	AMERICAN HAT WORKS	EDR Historical Cleaners	J 121	1009147811

TABLE 4
HISTORICAL DRY CLEANER BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
423 L ST	CANSON F C	EDR Historical Cleaners	J 281	1009145818
425 L ST	GOM CHONG LUM	EDR Historical Cleaners	J 327	1009143454
427 L ST	HIGAKI KAZUO	EDR Historical Cleaners	J 556	1009144316
429 K ST	BOYLE BROS	EDR Historical Cleaners	J 224	1009145550
429 L ST	CANSON F C	EDR Historical Cleaners	J 526	1009146400
504 I ST	MYRICK A L	EDR Historical Cleaners	D1533	1009144698
511 J ST	VETERANS CLEANERS	EDR Historical Cleaners	B 58	1009146294
513 K ST	CHUEY YEE	EDR Historical Cleaners	J 578	1009144308
515 K ST	BOYLE BROS	EDR Historical Cleaners	J 514	1009144615
522 J ST	COHN HARRY	EDR Historical Cleaners	B 26	1009146463
522 L ST	HOME LAUNDRY	EDR Historical Cleaners	G 287	1009144677
527 J ST	FONG SING HAND LAUNDRY	EDR Historical Cleaners	B 35	1009145432
624 J ST	GEE CHONG	EDR Historical Cleaners	B 12	1009144312
627 L ST	LYONS SOLOMON	EDR Historical Cleaners	G 148	1009145196
814 I ST	CHONG SAN FONG	EDR Historical Cleaners	C 751	1009143345
825 L ST	OAKLAND LAUNDRY	EDR Historical Cleaners	E 373	1009148121
827 I ST	GELB MORRIS	EDR Historical Cleaners	C1561	1009145193
900 8TH ST	KING CHAS	EDR Historical Cleaners	C 747	1009145195
902 4TH ST	LEE IRENE MRS	EDR Historical Cleaners	A 14	1009144319
904 12TH ST	HINES ALBT	EDR Historical Cleaners	F 165	1009145146
904 7TH ST	ISAACS ROBT	EDR Historical Cleaners	B 61	1009144623
906 12TH ST	OAKLAND LAUNDRY	EDR Historical Cleaners	F 251	1009145846
908 4TH ST	WAH LUN	EDR Historical Cleaners	A 41	1009145173
909 6TH ST	HING YEE	EDR Historical Cleaners	B 13	1009143444
912 12TH ST	GLESE O A	EDR Historical Cleaners	F 416	1009144625
916 8TH ST	RIVETT S CARPET CLNG WORKS	EDR Historical Cleaners	C 18	1009145546
918 5TH ST	LOTUS LAUNDRY	EDR Historical Cleaners	D 64	1009145719
921 6TH ST	HUGGARD D A	EDR Historical Cleaners	B 15	1009145794
923 7TH ST	DAGUE A C	EDR Historical Cleaners	B 62	1009144619
927 L ST	HARRY S LAUNDRY	EDR Historical Cleaners	M 460	1009144315
930 N ST	PRESTO CLEANERS	EDR Historical Cleaners	AC1570	1009146160

TABLE 4 HISTORICAL DRY CLEANER BUSINESSES WITHIN THE STUDY AREA				
ADDRESS[1,2]	**FACILITY NAME**	**Database Listing[3]**	**EDR Report, MAP ID[4]**	**EDR Report ID Number[5]**

Notes

1 = Information based on *The EDR Radius Map ™ Report with Geocheck®, City of Sacramento, Downtown Infrastructure Study,900 K Street, Sacramento, California, 95814. Inquiry Number 2947641.1s. December 16, 2010.* (EDR Report) (Appendix E)

2 = Addresses were compiled by multiple regulatory agencies and may contain errors associated with transcription. All listed addresses are located in Sacramento, California.

3 = Refer to the EDR Radius Map Report for the definition of acronyms.

4 = Refer to the Overview Map and Detail Maps provided in the EDR Radius Map Report for the plotted location of the provided MAP ID. An excerpted copy of the Detail Map is provided in Figure 3.

5 = Refer to the EDR Radius Map Report for details of the database listing (e.g., contamination, media affected, regulatory status).

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1000 I ST	STANDARD STATIONS INC	EDR Historical Auto Stations	I 584	1009021138
1001 I ST	RIPPON & ROBINSON	EDR Historical Auto Stations	I1462	1009022335
1009 13TH ST	KISBEY R H	EDR Historical Auto Stations	L 186	1009021632
1013 14TH ST	BRUSH C H	EDR Historical Auto Stations	W 567	1009020062
1015 11TH ST	BRADLEY S GARAGE	EDR Historical Auto Stations	F 174	1009022126
1015 13TH ST	REEDER S WELDING WORKS AND MACHINE SHOP	EDR Historical Auto Stations	L 248	1009019533
1015 15TH ST	PROFESSIONAL REPAIR OUTLET	EDR Historical Auto Stations	R 473	1009020573
1017 12TH ST	PACIFIC WHEEL & BRAKE STATION	EDR Historical Auto Stations	F 82	1009020157
1017 17TH ST	SORENSEN T S	EDR Historical Auto Stations	V1515	1009021001
1020 14TH ST	VOLLENWEIDER EMIL	EDR Historical Auto Stations	W 574	1009020698
1020 J ST	DON LEE	EDR Historical Auto Stations	I 164	1009022077
1022 14TH ST	DE GASTON A H	EDR Historical Auto Stations	W 580	1009020068
1025 16TH ST	DOWNTOWN GULF STATION	EDR Historical Auto Stations	R 597	1009021038
1027 J ST	GRIBBIN W J	EDR Historical Auto Stations	I 160	1009022139
1030 I ST	PARINO NOTCH	EDR Historical Auto Stations	O 208	1009021609
1031 I ST	RICHFIELD OIL CO	EDR Historical Auto Stations	O1511	1009021066
1031 L ST	MILLER E W	EDR Historical Auto Stations	M 527	1009020630
1100 I ST	CARMAN & DAVISON	EDR Historical Auto Stations	F 235	1009020557
1105 13TH ST	TRIBURG C F	EDR Historical Auto Stations	L 404	1009021982
1106 K ST	PHELPS W B	EDR Historical Auto Stations	M 340	1009019532
1108 4TH ST	CECCARELLI LOUIS	EDR Historical Auto Stations	A 30	1009023174
1108 I ST	UNION GARAGE	EDR Historical Auto Stations	F 258	1009019969
1109 I ST	UNION GARAGE	EDR Historical Auto Stations	F1525	1009020686
111 12TH ST	SMITH R E	EDR Historical Auto Stations	EQ3465	1009021185
1110 I ST	UNION GARAGE	EDR Historical Auto Stations	F 384	1009020687
1111 11TH ST	DALMA GARAGE	EDR Historical Auto Stations	M 378	1009022132
1111 12TH ST	POLLEY W W	EDR Historical Auto Stations	Q 474	1009019958
1111 I ST	UNION GARAGE	EDR Historical Auto Stations	F1521	1009020688
1112 I ST	UNION GARAGE	EDR Historical Auto Stations	F 153	1009021704

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1113 I ST	UNION GARAGE	EDR Historical Auto Stations	F1508	1009020689
1114 I ST	UNION GARAGE	EDR Historical Auto Stations	F 170	1009020690
1115 I ST	UNION GARAGE	EDR Historical Auto Stations	F1522	1009020691
1116 15TH AVE	LANGNER & RIFKIN	EDR Historical Auto Stations	W 629	1009021673
1116 15TH ST	LANGNER & RIFKIN	EDR Historical Auto Stations	W 714	1009022281
1116 I ST	UNION GARAGE	EDR Historical Auto Stations	F 316	1009020692
1117 12TH ST	STROTHERS CAL	EDR Historical Auto Stations	Q 483	1009021135
1117 13TH ST	ONEIL BROS & WESTLAKE	EDR Historical Auto Stations	L 420	1009020155
1117 15TH AVE	LANGNER & RIFKIN	EDR Historical Auto Stations	R 627	1009021674
1117 I ST	UNION GARAGE	EDR Historical Auto Stations	F1509	1009020693
1118 15TH AVE	LANGNER & RIFKIN	EDR Historical Auto Stations	W 632	1009021675
1118 I ST	UNION GARAGE	EDR Historical Auto Stations	F 234	1009020694
1120 N ST	OLANCHA	HIST UST	Y1582	U001615158
1121 16TH ST	FOUR WHEEL BRAKE SERVICE & WHEEL ALIGNING	EDR Historical Auto Stations	AA 635	1009019241
1121 I ST	GASTMAN M J JR	EDR Historical Auto Stations	F1513	1009020567
1121 I ST	GOODYEAR TIRE AND RUBBER CO	HIST UST	F1514	U001615111
1129 I ST	PACIFIC TRAILWAYS	HIST UST	F1661	U001615163
1130 11TH ST	STATIONS	EDR Historical Auto Stations	M 418	1009020735
114 CAPITOL AVE	JACKSON C A	EDR Historical Auto Stations	CE2448	1009020521
114 I ST	BOCK F E	EDR Historical Auto Stations	AW1996	1009020058
115 12TH ST	HOLLOWELL S L	EDR Historical Auto Stations	EQ3463	1009020620
1200 7TH ST	SHELL SERVICE INC	EDR Historical Auto Stations	G 106	1009020705
1200 I ST	GOODRICH SILVERTOWN INC	EDR Historical Auto Stations	F 319	1009020571
1200 K ST	MOELLER AUTO SALES CO	EDR Historical Auto Stations	Q 432	1009021639
1201 I ST	ROBBINS FLYING A SERVICE	EDR Historical Auto Stations	F1506	1009021376
1205 I ST	ALLEN G E	EDR Historical Auto Stations	F 761	1009020050
1205 K ST	WELSH O R	EDR Historical Auto Stations	Q 429	1009019609
1207 4TH ST	L & M GARAGE	EDR Historical Auto Stations	N 193	1009022140
1208 17TH ST	DE MARTINI ROY	EDR Historical Auto Stations	X 700	1009020069

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1209 J ST	ROONEY W B	EDR Historical Auto Stations	F 201	1009021626
1210 J ST	MORROW & ARNOLD	EDR Historical Auto Stations	F 414	1009021640
1211 J ST	WILLIAMS ANDW	EDR Historical Auto Stations	F 173	1009021097
	WILLIAMS ANDW	EDR Historical Auto Stations	F 469	1009021098
1212 K ST	CAPITAL CHEVROLET CO	EDR Historical Auto Stations	Q 436	1009023394
1213 J ST	WILLIAMS ANDW	EDR Historical Auto Stations	F 158	1009021099
1214 7TH ST	THOMPSON J L	EDR Historical Auto Stations	G 271	1009020833
1215 I ST	BENEDIX H F	EDR Historical Auto Stations	F 760	1009021598
1217 16TH ST	MARTIN R M	EDR Historical Auto Stations	X 706	1009020426
1217 7TH ST	RELIABLE ELECTRIC WORKS	EDR Historical Auto Stations	G 286	1009019612
1221 I ST	BOWMAN CARRIAGE CO	EDR Historical Auto Stations	F 763	1009021836
1223 16TH ST	BERTERO J J	EDR Historical Auto Stations	X 725	1009019619
1223 7TH ST	KUNZ E J	EDR Historical Auto Stations	G 298	1009120560
1224 5TH ST	ASTARGO & BENTON	EDR Historical Auto Stations	G 126	1009020409
1228 K ST	BAKER F B REAR	EDR Historical Auto Stations	Q 455	1009020055
1229 7TH ST	RUSSELL G E	EDR Historical Auto Stations	G 320	1009023393
1229 I ST	FIRE DEPARTMENT ENGINE #2	HIST UST	F 766	U001615102
1229 I ST	FIRE STATION #2	HIST UST	F 765	U001615104
1231 L ST	STACK J F	EDR Historical Auto Stations	Q 731	1009021188
1233 L ST	WALKER J D	EDR Historical Auto Stations	Q 639	1009020763
1235 L ST	BOWMAN C K	EDR Historical Auto Stations	Q 638	1009021037
13 9TH ST	MOORE G E	EDR Historical Auto Stations	DO3020	1009020150
1300 16TH ST	HAPP F T	EDR Historical Auto Stations	X 610	1009020736
1300 I ST	DOWNTOWN FORD SALES INC	EDR Historical Auto Stations	L 213	1009021010
1300 J ST	MAHAN BROS GARAGE	EDR Historical Auto Stations	L 117	1009021636
1300 K ST	CAPITOL CHEVROLET CO	EDR Historical Auto Stations	W 558	1009020836
1300 L ST	CAPITOL PARK SERVICE	HIST UST	Z 703	U001615059
1301 L ST	ONEIL BRO S CHEVRON SERVICE	EDR Historical Auto Stations	Z 625	1009021384
1307 I ST	BAILEY GEO REAR	EDR Historical Auto Stations	L1505	1009023086
1308 K ST	DE GASTON A H	EDR Historical Auto Stations	W 561	1009021419

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1310 K ST	BAKER F E REAR	EDR Historical Auto Stations	W 562	1009023087
1311 I ST	DAY AND NIGHT GARAGE	EDR Historical Auto Stations	L 770	1009022133
1316 K ST	LANGNER & RIFKIN	EDR Historical Auto Stations	W 564	1009018830
1317 K ST	COFFING C M	EDR Historical Auto Stations	W 559	1009020838
1318 J ST	MAHAN BROS	EDR Historical Auto Stations	L 240	1009019529
1320 K ST	DAVISON H A REAR	EDR Historical Auto Stations	W 565	1009020411
1323 I ST	ACME RADIATOR SERVICE	EDR Historical Auto Stations	L 768	1009023519
1327 J ST	WILBER FRANCIS	EDR Historical Auto Stations	L 243	1009020056
1401 L ST	A-R SERVICE STATION	EDR Historical Auto Stations	W 660	1009021109
1410 J ST	FISHER L D REAR	EDR Historical Auto Stations	L 369	1009021265
1411 I ST	STEWART-WARNER SPEEDOMETER SERVICE	EDR Historical Auto Stations	T 742	1009023809
1413 L ST	CAIRO & LA PORT REAR	EDR Historical Auto Stations	W 636	1009021000
1415 I ST	BENEDIX HOWARD	EDR Historical Auto Stations	T 749	1009019618
1417 L ST	TOURIST GARAGE REAR	EDR Historical Auto Stations	W 670	1009019968
1418 J ST	LOW GLENN	EDR Historical Auto Stations	L 379	1009021635
1422 K ST	STEVENSON G R	EDR Historical Auto Stations	R 602	1009021003
1431 K ST	KEEGAN J E	EDR Historical Auto Stations	R 600	1009021631
1431 L ST	SHELL SERVICE INC	EDR Historical Auto Stations	W 649	1009022661
1500 K ST	HUBACHER CADILLAC INC	EDR Historical Auto Stations	R 733	1009023310
1501 I ST	OXFORD MOTORS LTD BRITISH MOTOR CARS	EDR Historical Auto Stations	K 741	1009021698
1501 L ST	HUBACHER CADILLAC INC	EDR Historical Auto Stations	AD 656	1009020602
1508 K ST	ARNOLD E G	EDR Historical Auto Stations	R 666	1009020053
1510 J ST	BRYANT MOTOR CO	EDR Historical Auto Stations	R 449	1009023089
1512 K ST	STRAWDERMAN L J	EDR Historical Auto Stations	R 646	1009021980
1515 I ST	BOWMAN S BODY SHOP	EDR Historical Auto Stations	K 744	1009020421
1515 J ST	MEMORIAL AUDITORIUM	HIST UST	K 445	U001615140
1515 J ST	SACRAMENTO MEMORIAL AUDITORIUM	HIST UST	K 446	U001615184
1516 J ST	SIMMONS G B	EDR Historical Auto Stations	K 454	1009019270
1520 K ST	MILLER AUTOMOBILE CO	EDR Historical Auto Stations	R 640	1009020430
1530 J ST	WINTER VOLVO	EDR Historical Auto Stations	K 463	1009020397

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1530 L ST	HALEY & WENDT CHEVRON SERVICE	EDR Historical Auto Stations	AA 699	1009022100
1531 I ST	DON S RICHFIELD SERVICE	EDR Historical Auto Stations	K 746	1009023255
1600 I ST	EDDIE S UNION SERVICE	EDR Historical Auto Stations	K 104	1009022350
1600 H ST	UNION OIL SS #5382	HIST UST	K1798	U001615219
1600 H ST	UNION OIL SS#5382	HIST UST	K1800	U001615220
1601 H ST	MANSION PHILLIPS 66	EDR Historical Auto Stations	K1838	1009020980
1601 I ST	ARMSTRONG W T	EDR Historical Auto Stations	K 98	1009018952
1601 K ST	BROWN D H	EDR Historical Auto Stations	AA 658	1009022014
1601 L ST	CONVENTION CENTER SHELL	EDR Historical Auto Stations	X 724	1009020497
1601J' ST	94176	HIST UST	K 488	U001615030
1604 K ST	OWENS M H	EDR Historical Auto Stations	AA 657	1009020156
1605 K ST	CARROLL BROS	EDR Historical Auto Stations	AA 637	1009021102
1609 CAPITOL AVE	MC KINTY A J	EDR Historical Auto Stations	X 607	1009019186
1610 I ST	ARNOLD E G REAR	EDR Historical Auto Stations	K 116	1009019616
1611 I ST	WINTER MOTOR CO	EDR Historical Auto Stations	K 736	1009024831
1612 I ST	ELM GARAGE	EDR Historical Auto Stations	K 119	1009022136
1616 I ST	WINTER MOTOR CO INC DATSUN AND VOLVO	EDR Historical Auto Stations	K 140	1009020697
1616 K ST	WEST COAST TRANSMISSION SERVICE	EDR Historical Auto Stations	V 691	1009025012
1621 K ST	JOES AUTOMOTIVE	EDR Historical Auto Stations	V 614	1009023218
1621 L ST	ADAMS GEO	EDR Historical Auto Stations	X 701	1009019613
1628 L ST	BOYLE J C	EDR Historical Auto Stations	X 608	1009021041
1629 J ST	MC FARLANE S SERVICE	EDR Historical Auto Stations	K 523	1009022830
1630 K ST	SACRAMENTO SUPER SERVICE INC	EDR Historical Auto Stations	V 687	1009018836
1630 L ST	STANDARD STATIONS INC	EDR Historical Auto Stations	X 707	1009120697
1631 J ST	BOYLE J C	EDR Historical Auto Stations	K 524	1009021040
1631 K ST	STANDARD TRANSMISSION EXCHANGE	EDR Historical Auto Stations	V 710	1009021585
1700 K ST	CAPITAL OLDSMOBILE INC	EDR Historical Auto Stations	V1569	1009022202
315 L ST	SACRAMENTO GARAGE	EDR Historical Auto Stations	N 205	1009020047
331 J ST	TOWER BRIDGE SERVICE STATION	EDR Historical Auto Stations	A 21	1009021389
400 I ST	PETE S AUTO SERVICE	EDR Historical Auto Stations	A1565	1009020520

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
401 I ST	SACRAMENTO (P&M)	HIST UST	A1632	U001615177
401 I ST	SACRAMENTO LOCOMOTIVE WORKS	HIST UST	A1638	U001615182
405 L ST	SILVA R C	EDR Historical Auto Stations	J 180	1009019963
430 I ST	EIRI SHELL SERVICE	EDR Historical Auto Stations	A1552	1009020600
430 N ST	DIAMOND GARAGE	EDR Historical Auto Stations	P1527	1009022134
500 L ST	SCHAAP G D	EDR Historical Auto Stations	G 560	1009019960
501 L ST	TOM S SHELL SERVICE	EDR Historical Auto Stations	G 90	1009021386
504 L ST	CARROLL BROS GARAGE	EDR Historical Auto Stations	G 517	1009022266
516 L ST	SOUTHSIDE MOTORS	EDR Historical Auto Stations	G 221	1009019242
518 L ST	LIBERTY GARAGE	EDR Historical Auto Stations	G 147	1009019180
521 I ST	SELLINGER G P	EDR Historical Auto Stations	D1606	1009019961
522 I ST	DAL PORTO DOMINIC	EDR Historical Auto Stations	D1526	1009020064
523 I ST	DAL PORTO DOMENIC	EDR Historical Auto Stations	D1604	1009019699
531 I ST	THOMPSON S CHEVRON SERVICE	EDR Historical Auto Stations	D1605	1009022749
601 L ST	STATIONS	EDR Historical Auto Stations	G 241	1009020732
606 J ST	RAMONA GARAGE	EDR Historical Auto Stations	B 36	1009023175
608 L ST	OLEARY WM	EDR Historical Auto Stations	G 536	1009022125
612 L ST	OLEARY W J	EDR Historical Auto Stations	G 353	1009019194
614 L ST	CHAMBERS B I	EDR Historical Auto Stations	G 76	1009018940
617 J ST	RAMONA GARAGE ANNEX	EDR Historical Auto Stations	B 23	1009023442
624 L ST	STRAUCH E C	EDR Historical Auto Stations	G 211	1009019272
704 N ST	BYBEE S SERVICE	EDR Historical Auto Stations	U 759	1009021346
709 L ST	CENTRAL GARAGE	EDR Historical Auto Stations	G 113	1009021603
715 I ST	CIVIC CENTER GARAGE	EDR Historical Auto Stations	B1538	1009021974
715 L ST	HESS J T	EDR Historical Auto Stations	G 127	1009021625
715 L ST	GREYHOUND LINES, INC.-WEST	HIST UST	G 132	U001560194
720 I ST	ASSOCIATED OIL CO	EDR Historical Auto Stations	B 740	1009021995
724 L ST	BAKER H E	EDR Historical Auto Stations	G 254	1009020054
726 L ST	BERRY HOTEL GARAGE	EDR Historical Auto Stations	G 255	1009023172
801 I ST	FEDERAL BUILDING	HIST UST	C1556	U001614998

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
806 K ST	ASSOCIATED OIL CO	EDR Historical Auto Stations	E 426	1009021104
809 I ST	BARR G W	EDR Historical Auto Stations	C1549	1009022010
809 L ST	BODWELL L A	EDR Historical Auto Stations	E 341	1009023088
810 L ST	HESS & KIPP	EDR Historical Auto Stations	E 363	1009022078
811 L ST	GOLDEN BEAR GARAGE	EDR Historical Auto Stations	E 354	1009022138
815 L ST	HUNT E A	EDR Historical Auto Stations	E 360	1009021629
818 CAPITOL AVE	SWAIN H L	EDR Historical Auto Stations	FR3558	1009021702
819 L ST	LYNCH W F	EDR Historical Auto Stations	E 365	1009020715
821 N ST	BYBEE N P	EDR Historical Auto Stations	AC 738	1009021007
824 L ST	SPURGEON C E	EDR Historical Auto Stations	E 381	1009020717
825 L ST	LYNCH W F	EDR Historical Auto Stations	E 372	1009020424
830 L ST	BYBEE & DOUD	EDR Historical Auto Stations	E 387	1009019269
830 L ST	BUDGET RENT A CAR	HIST UST	E 389	U001615051
831 N ST	HARLIS P B	EDR Historical Auto Stations	AC 750	1009020649
900 13TH ST	MILLER G J JR	EDR Historical Auto Stations	F 161	1009021149
901 10TH ST	CAPITOL CITY CHEVRON	EDR Historical Auto Stations	I 535	1009020928
901 16TH ST	HALEY S TEXACO SERV	EDR Historical Auto Stations	K 107	1009020844
901 10TH ST	90915	HIST UST	I 433	U001615029
903 16TH ST	SCHESTEDT & KEIFE	EDR Historical Auto Stations	K 159	1009018838
909 12TH ST	STANDARD STATIONS INC DIVISION OFFICE	EDR Historical Auto Stations	F 215	1009021191
909 12TH ST	STANDARD STATIONS INC DIV OFC	EDR Historical Auto Stations	F 477	1009021377
910 12TH ST	AUTOMOTIVE MAINTENANCE CO	EDR Historical Auto Stations	F 75	1009019617
911 16TH ST	CRAWFORD-HOOKE CO	EDR Historical Auto Stations	K 321	1009021150
913 16TH ST	SHIELDS ALDEN D CO	EDR Historical Auto Stations	K 335	1009021978
915 5TH ST	COMMERCIAL GARAGE REAR	EDR Historical Auto Stations	D 22	1009022268
916 13TH ST	ANDREWS AUTOMOTIVE SERVICE	EDR Historical Auto Stations	F 601	1009020416
917 13TH ST	EDSON THEO	EDR Historical Auto Stations	F 323	1009020516
918 9TH ST	MILLER H F	EDR Historical Auto Stations	C 69	1009022141
920 13TH ST	SWANEY R R	EDR Historical Auto Stations	F 551	1009019273
924 J ST	UNION SERVICE STATIONS INC OFFICE	EDR Historical Auto Stations	I 249	1009020731

TABLE 5
HISTORICAL AUTO STATIONS AND HISTORICAL UST BUSINESSES WITHIN THE STUDY AREA

ADDRESS[1,2]	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
925 L ST	FORD MOTOR CO GOVT AFFAIRS OFC	EDR Historical Auto Stations	M 456	1009023106

Notes

1 = Information based on *The EDR Radius Map ™ Report with Geocheck®, City of Sacramento, Downtown Infrastructure Study,900 K Street, Sacramento, California, 95814. Inquiry Number 2947641.1s. December 16, 2010.* (EDR Report) (Appendix E)

2 = Addresses were compiled by multiple regulatory agencies and may contain errors associated with transcription. All listed addresses are located in Sacramento, California.

3 = Refer to the EDR Radius Map Report for the definition of acronyms.

4 = Refer to the Overview Map and Detail Maps provided in the EDR Radius Map Report for the plotted location of the provided MAP ID. An excerpted copy of the Detail Map is provided in Figure 3.

5 = Refer to the EDR Radius Map Report for details of the database listing (e.g., contamination, media affected, regulatory status).

Summary of Findings

This evaluation includes a review of the historical and current land use to assess the potential release of hazardous chemicals, an evaluation of subsurface soil and groundwater conditions, and a search of regulatory records to identify documented and potential releases to soil and groundwater within the Study Area. Documented environmental impacts related to properties within the Study Area and immediate vicinity are discussed in more detail in the following subsections.

The Railyard

The Railyard is approximately 240-acres and is located northwest of the Study Area at 401 I Street. Previous locomotive repair and maintenance, metal fabricating, painting, coal and fuel storage activities performed at this property have resulted in significant impacts to soil and groundwater. Contaminated groundwater from The Railyard is documented to have migrated to the south-southeast and impacted groundwater beneath most of the Study Area. The primary contaminants of detected beneath the Study Area emanating from The Railyard include chlorinated VOCs and 1,4-dioxane. The lateral extent of the groundwater impact includes the area encompassed by P Street to the south, 4th Street to the west, and 13th Street to the east (Figure X-1). Details of the groundwater impacts are described in ERM (2010) (Appendix E).

Leaking Underground Storage Tank Sites

LUST sites are located throughout the Study Area. USTs installed prior to the 1980s were primarily constructed as single walled steel tanks and most of these USTs corroded and leaked petroleum products. During the 1980s and 1990s, many of the USTs were removed and sites that achieved their cleanup goals obtained case closure from the regulatory oversight agency. It should be noted that most of the case closure letters include language that affirms that the case may be reopened if the property is redeveloped or if a change in land use occurs.

Seven LUST sites with open environmental cases were identified within the Study Area that will likely require that additional environmental investigation, remediation, and/or mitigation activities be performed prior to redevelopment.

Five properties with open LUST cases were identified up-gradient (north-northwest) of the Study Area that may have groundwater contamination that has migrated beneath the Study Area.

The search for potential releases that may have occurred from the operation of historical automobile stations or historical USTs identified 209 properties of concern (Table 5). Properties with these historical issues may require that an environmental assessment be performed prior to development.

Dry Cleaner Facilities

Dry cleaner facilities historically used petroleum based solvents or chlorinated solvents as cleaning agents. Petroleum based solvents and Stoddard solvents were used until the mid-1930s when the chlorinated solvent perchloroethylene (PCE) was developed. Prior to the existence of disposal regulations, dry cleaner solvents were often poured into drains (that leaked) or discharged to the ground. Due to the chemical properties of chlorinated solvents, impacted groundwater plumes are difficult to remediate.

Although no open environmental cases were identified for dry cleaner businesses within the Study Area, downtown Sacramento area has an extensive history of dry cleaner operations which existed within and up-gradient of the Study Area. Records searched indicate 124 historical dry cleaner businesses as having operated within the Study Area (Table 4). Based on historical disposal practices, it is likely that chlorinated solvents and possibly petroleum based solvents were released to soil or groundwater from these properties.

The Federal Courthouse

A land use restriction exists for the Federal Courthouse property located at 5th and I Street. Land use restrictions are administrative controls designed to protect the public from unsafe exposures to hazardous substances and wastes. The land use restriction for this property may need to be removed prior to redevelopment which may require special requirements.

Fill Material

Fill material from unknown sources has been placed in downtown Sacramento and may contain elevated contaminant concentrations. During redevelopment, properties with fill material may require testing of soils and off-site disposal at a permitted landfill.

Other Relevant Properties outside the Study Area

A number of properties exist outside of the Study Area with known sources of groundwater contamination. However, based on data from other sites indicate that groundwater flow is toward the south-southwest, it was considered unlikely that impacted properties located to the west and east of the Study Area (cross-gradient) or impacted properties located south of the Study Area (down-gradient) would impact the Study Area.

Other properties located north-northwest (up-gradient) of the Study Area but a significant distance away include the Southern Pacific Purity Oil property located at 1324 A Street and Jiboom Junkyard property located at 240 Jiboom Street. Of the three former manufactured gas plants identified, only one was located to the northwest and is part of The Railyard investigation.

Potential Development Limitations

AMEC has compiled and reviewed available information regarding historic property use and contaminant releases for each property within and in the immediate vicinity of the Study Area. Based on the findings, redevelopment within the Study Area may be subject to additional requirements to address known and potential impacts. These requirements may, but are not limited to, include the activities listed below.

- Due to shallow groundwater conditions and the widespread occurrence of chlorinated solvents in groundwater in the Study Area, an indoor air assessment may be required.
- Regulatory agencies may require additional site characterization and remediation prior to redevelopment.
- Impacted soil may need to be treated or disposed of at a permitted landfill;
- Dewatering may be required during excavation or construction of the foundation or subsurface structures. In addition to obtaining the proper permits for disposal, impacted groundwater may require pre-treatment before it can be discharged to stormwater systems or sanitary sewers: dewatering activities may also alter the water table and alter the flow of contaminants in groundwater which may disrupt cleanup activities at other sites (e.g., The Railyard).
- Environmental cases which are currently closed or documented as requiring No Further Action, may be re-opened if redevelopment activities are performed. Regulatory agencies may require that the remaining contaminants in the subsurface be re-assessed in accordance with the planned redevelopment.

An EDR Report ID has been assigned for each item listed in Tables 2 through 5. These ID numbers were provided so that details for properties not discussed within the body of this report can be identified. Detailed information can be obtained from the EDR Report using the "find" feature in Adobe Reader ®.

Report Limitations

This report provides a general search of documented soil and groundwater contamination within the Study Area and in the immediate vicinity and includes a narrative of the potential development limitations that may

exist. This document is not intended to be substituted for a property-specific environmental site assessment. At the time that this document was prepared, information on the proposed redevelopment activities were not available for review. The narrative of potential development limitations is generalized and does not imply that such activities will be required to be performed. Alternatively, the exclusion of a potential development limitation does not imply that one does not exist.

References

Central Valley Regional Water Quality Control Board (CVRWQCB), 1998, Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins. September 15.

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DWR, 2010, Levee Repair – History of Levees, http://www.water.ca.gov/levees/history/. Accessed webpage on December 22.

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EDR, 2010b, Certified Sanborn® Map Report. Inquiry Number 2891662.3. October 13.

EDR, 2010c, EDR Historical Topographic Map Report. Inquiry Number 2891662.4. October 13.

EDR, 2010d, The EDR Aerial Photo Decade Package. Inquiry Number 2891662.5. October 19.

EDR, 2010e, The EDR-City Directory Abstract. Inquiry Number 2891662.6. October 12.

ERM-West, Inc. (ERM), 2010, 2010 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report, The Railyards, Sacramento , California, October 8.

The Seattle Public Library (SPL), 2010. Databases and Web Sites. Website address: https://ezproxy.spl.org/login?qurl=http%3a%2f%2fsanborn.umi.com. Sanborn Map Collection. Accessed December 22.

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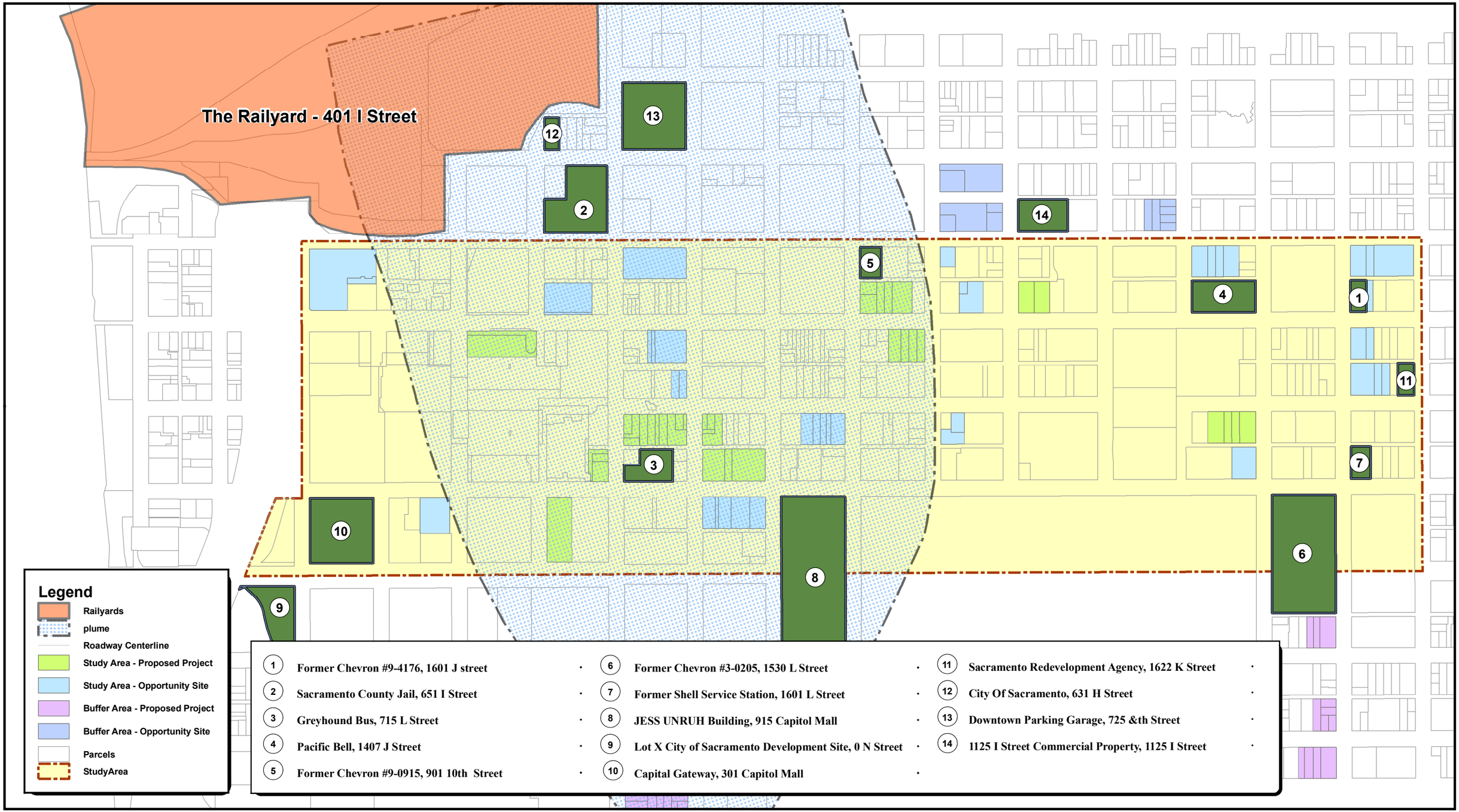
Center for Sacramento History (CSH), 2010, Sacramento History Online, http://www.sacramentohistory.org/. Accessed webpage on December 22.



September 2011

Downtown Infrastructure Study - Toxics

FIGURE X-1

0 150 300 600 Feet

NOLTE BEYOND ENGINEERING

OPINION OF PROBABLE CONSTRUCTION COSTS

The costs presented here to construct the infrastructure necessary for the Downtown Infrastructure Study area are intended to be planning level only. They include the general costs for the overall buildout of the proposed development of the plan area using today's dollars. This estimate is not intended to be utilized for the actual costs for specific projects. The final costs for each specific project will need to be estimated separately and could be considerably different than those shown here due to the uncertainty of the order, timing and scope of the actual development to be constructed. The estimates have been developed solely to give interested parties a magnitude of the scale of the costs of improvements.

The unit costs are based on actual costs of recent development within the Downtown Sacramento, planning level costs utilized by various City departments as well as engineering judgment. Final unit costs for each specific project will depend on the actual labor and materials costs for the conditions at the time of construction. These conditions might include the scope of the development and the schedule of the completion of the project. It should be noted that costs to construct infrastructure within the Downtown Sacramento area are significantly higher than costs generally associate with development in the outlying suburban or previously undeveloped areas due to the increased costs associated with working within existing roadways with numerous existing utilities, traffic control, and limited working hours.

The estimates are generally separated into the corresponding infrastructure report chapters for the different utilities. The estimates are limited to the work within immediate the Study area boundary. Assumptions and clarifications for the costs are noted at the bottom of the individual sheets.

Right-of-way/easement acquisition has not been included in the estimates since it is expected that the improvements will be constructed within the existing road right-of-way.

CONSTRUCTION COST ESTIMATE SUMMARY

A. STREETWORK	
Alleys & Bulb-Outs	$1,296,600
B. STORMWATER & SANITARY SEWER SYSTEM	
Basin 52 Improvements	$3,019,100
Separated Drainage System	$1,328,900
C. WATER DISTRIBUTION SYSTEM	$1,665,700
D. ELECTRICAL/TELECOMMUNICATIONS	$9,888,000
TOTAL CONSTRUCTION (A-D)	**$17,198,300**

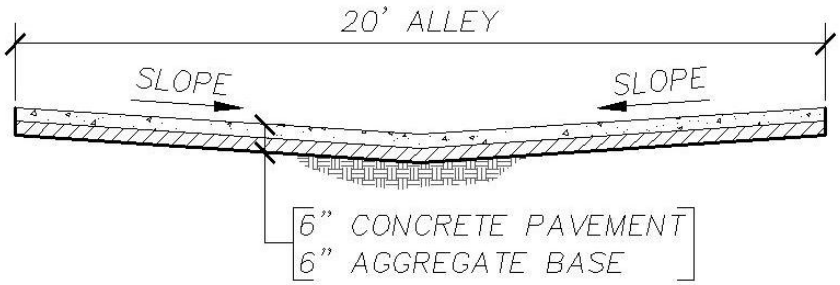
STREETWORK COSTS

DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
A. STREETWORK				
1. Alley Pavement Replacement[1]	2,410	LF	$142.50	$343,425
2. Alley Pavement Repair[2]	1,280	LF	$28.50	$36,480
3. Bulb-Outs (Half)[3]	10	EA	$38,850.00	$388,500
4. Bulb-Outs (Full)[4]	0	EA	$45,080.00	$0
	Subtotal			**$768,405**
	35% Contingency			$268,900
	Subtotal & Contingency			$1,037,300
	15% Engineering			$155,600
	10% Construction Management			$103,700
TOTAL STREETWORK				**$1,296,600**

Notes:

1. Only the Alleys within the Downtown Infrastructure Study area boundary are included in the quantities for replacement and repair.
2. Alley repair is assumed to be 20% of the cost per LF for full replacement.
3. Only the 10 Half Bulb-Outs adjacent to projects within the Downtown Infrastructure Study area boundary are included in the quantity. There are an additional 4 Half Bulb-Outs adjacent to the Additional Projects outside the project Study area boundary that are not included in the quantity.
4. There are no Full Bulb-Outs anticipated within the Downtown Infrastructure Study area. Unit Price shown is for reference only.

ALLEY PAVEMENT REPLACEMENT

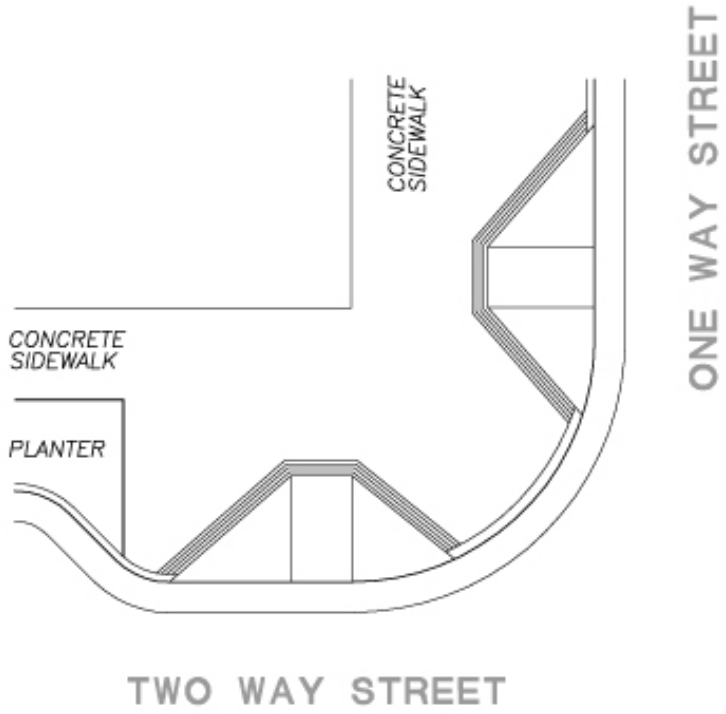


DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
1. Alley Pavement Replacement				
a. Earthwork	0.75	CY	$30.00	$22.50
b. 6" Concrete Pavement	20	SF	$5.00	$100.00
c. 6" Aggregate Base	20	SF	$1.00	$20.00
TOTAL STREET COSTS PER LF				**$142.50**

Assumptions:

1. One foot depth of earthwork over entire cross section.
2. "V" Gutter to be placed on center of alley.

HALF BULB-OUT

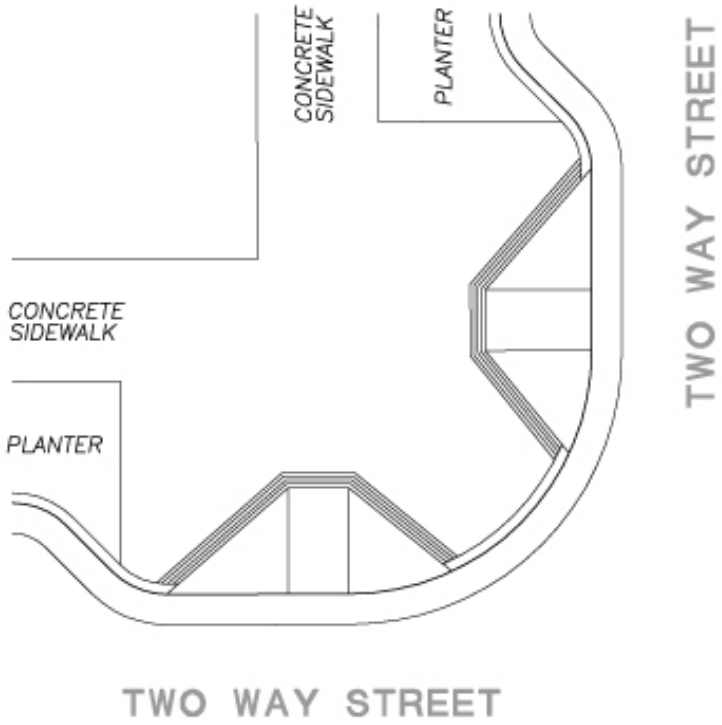


	DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
3.	Bulb-Outs (Half)				
a.	Demolition/Pavement Removal	1283	SF	$2.00	$2,566.00
b.	Pavement Sawcut	74	LF	$1.50	$111.00
c.	Earthwork	95	CY	$28.00	$2,660.00
d.	4" Asphalt Concrete	216	SF	$3.50	$756.00
e.	12" Aggregate Base	216	SF	$2.00	$432.00
f.	Curb and Gutter No. 4	66	LF	$35.00	$2,310.00
g.	Sidewalk	823	SF	$12.00	$9,876.00
h.	Street Light	1	EA	$6,000.00	$6,000.00
i.	Traffic Signal Adjustment	1	EA	$5,000.00	$5,000.00
j.	Landscaping	64	SF	$10.00	$640.00
k.	Modification of Existing Drainage	1	EA	$8,500.00	$8,500.00
TOTAL STREET COSTS PER LF					**$38,850**

Assumptions:

1. Two feet depth of earthwork over modified portion of the street and sidewalk.
2. 1 DI, 25 feet of pipe, and a manhole required to modify existing drainage.

FULL BULB-OUT



	DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
4.	Bulb-Outs (Full)				
a.	Demolition/Pavement Removal	1465	SF	$2.00	$2,930.00
b.	Pavement Sawcut	81	LF	$1.50	$121.50
c.	Earthwork	108.5	CY	$28.00	$3,038.00
d.	4" Asphalt Concrete	237	SF	$3.50	$829.50
e.	12" Aggregate Base	237	SF	$2.00	$474.00
f.	Curb and Gutter No. 4	74	LF	$35.00	$2,590.00
g.	Sidewalk	901	SF	$12.00	$10,812.00
h.	Street Light	1	EA	$6,000.00	$6,000.00
i.	Traffic Signal Adjustment	1	EA	$5,000.00	$5,000.00
j.	Landscaping	128	SF	$10.00	$1,280.00
k.	Modification of Existing Drainage	1	EA	$12,000.00	$12,000.00
TOTAL STREET COSTS PER LF					**$45,075**

Assumptions:

1. Two feet depth of earthwork over modified portion of the street and sidewalk.
2. 2 DI's, 50 feet of pipe, and a manhole required to modify existing drainage.

DRAINAGE SYSTEM COSTS

DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
B. STORMWATER & SANITARY SEWER				
1. 1 Basin 52 Improvements[1]				
a. Storm Drain Manhole	5	EA	$10,500.00	$52,500
b. Storm Drain Pipe, 15"	1,016	LF	$150.00	$152,400
c. Storm Drain Pipe, 42"	2,042	LF	$500.00	$1,021,000
d. Storm Drain Pipe, 48"	1,024	LF	$550.00	$563,200
	Subtotal			**$1,789,100**
	35% Contingency			$626,200
	Subtotal & Contingency			$2,415,300
	15% Engineering			$362,300
	10% Construction Management			$241,500
TOTAL BASIN 52 IMPROVEMENTS				**$3,019,100**
2. 2 Separated Drainage System				
a. Storm Drain Manhole[2]	13	EA	$10,000.00	$130,000
b. Storm Drain Pipe, 18"	3,400	LF	$180.00	$612,000
c. Inlets[3]	13	EA	$3,500.00	$45,500
	Subtotal			**$787,500**
	35% Contingency			$275,600
	Subtotal & Contingency			$1,063,100
	15% Engineering			$159,500
	10% Construction Management			$106,300
TOTAL SEPARATED DRAINAGE SYSTEM				**$1,328,900**

Notes:

1. Only the portion of the Basin 52 Master Plan drainage system within the Downtown Infrastructure Study area boundary is included in this estimate.
2. Assume 1 new manhole at each end of an alley section in the street.
3. Assume 1 new inlet per alley section. Existing street inlets to be saved in place and connected to the new separated system.

WATER DISTRIBUTION SYSTEM COSTS

DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
C. WATER DISTRIBUTION SYSTEM				
1. Water, 12" (Including Fittings)	7,050	LF	$140.00	$987,000
	Subtotal			**$987,000**
	35% Contingency			$345,450
	Subtotal & Contingency			$1,332,450
	15% Engineering			$199,900
	10% Construction Management			$133,300
TOTAL WATER DISTRIBUTION SYSTEM				**$1,665,700**

ELECTRICAL/TELECOMMUNICATIONS COSTS

	DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
D. ELECTRICAL/TELECOMMUNICATIONS					
1.	Proposed 2012 21kV Joint Trench	1,400	LF	$400	$560,000
2.	Proposed 2012 Large Vault (9' X 20')	2	EA	$50,000	$100,000
3.	Proposed 2012 Standard Vault (4' X 6')	7	EA	$25,000	$175,000
4.	Future 21kV Joint Trench	9,550	LF	$400	$3,820,000
5.	Future 21kV Large Vault (9' X 20')	8	EA	$50,000	$400,000
6.	Future 21kV Standard Vault (4' X 6')	45	EA	$25,000	$1,125,000
	Subtotal				**$6,180,000**
	35% Contingency				$2,163,000
	Subtotal & Contingency				$8,343,000
	15% Engineering				$927,000
	10% Construction Management				$618,000
TOTAL ELECTRICAL/TELECOMMUNICATIONS					**$9,888,000**

Assumptions:

1. Proposed 2012 Joint Trench is assumed to have minimum of 2 - 6" & 2 - 4" electrical conduits, 4 - 4" telecommunications conduits and 4 - 2" cable conduits.
2. Future Joint Trench is assumed to have a minimum of 2 - 6" & 2 - 4" electrical conduits, 4 - 4" telecommunications conduits and 4 - 2" cable conduits.
3. Large vaults are assumed to be one every other block along the alignment.
4. Standard vaults are assumed to be 2 per block along the alignment.

APPENDIX A

ALLEYS

APPENDIX A

ALLEY	LOCATION	IMAGE
1	I-J Alley between 6th Street and 7th Street	1A-1D
2	I-J Alley between 7th Street and 8th Street	2A-2D
3	I-J Alley between 10th Street and 11th Street	3A-3D
4	I-J Alley between 11th Street and 12th Street	4A-4D
5	I-J Alley between 12th Street and 13th Street (partial alley on west half of block only)	5A-5B
6	I-J Alley between 14th Street and 15th Street	6A-6D
7	I-J Alley between 16th Street and 17th Street	7A-7D
8	J-K Alley between 10th Street and 11th Street	8A-8D
9	J-K Alley between 16th Street and 17th Street	9A-9D
10	K-L Alley between 16th Street and 17th Street	10A-10D
11	K-L Alley between 14th Street and 15th Street	11A-11D
12	K-L Alley between 11th Street and 12th Street	12A-12D
13	K-L Alley between 9th Street and 10th Street	13A-13D
14	K-L Alley between 8th Street and 9th Street	14A-14D
15	K-L Alley between 7th Street and 8th Street	15A-15D
16	K-L Alley between 6th Street and 7th Street (partial alley off 7th street only)	16A
17	L-Capitol Alley between 8th Street and 9th Street	17A-17D

ALLEY 1 – IMAGE A
I-J ALLEY BETWEEN 6TH STREET AND 7TH STREET
7TH STREET LOOKING WEST

ALLEY 1 – IMAGE B
I-J ALLEY BETWEEN 6TH STREET AND 7TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 1 – IMAGE C
I-J ALLEY BETWEEN 6TH STREET AND 7TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 1 – IMAGE D
I-J ALLEY BETWEEN 6TH STREET AND 7TH STREET
6TH STREET LOOKING EAST

ALLEY 2 – IMAGE A
I-J ALLEY BETWEEN 7TH STREET AND 8TH STREET
8TH STREET LOOKING WEST

ALLEY 2 – IMAGE B
I-J ALLEY BETWEEN 7TH STREET AND 8TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 2 – IMAGE C
I-J ALLEY BETWEEN 7TH STREET AND 8TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 2 – IMAGE D
I-J ALLEY BETWEEN 7TH STREET AND 8TH STREET
7TH STREET LOOKING EAST

ALLEY 3 – IMAGE A
I-J ALLEY BETWEEN 10TH STREET AND 11TH STREET
11ST STREET LOOKING WEST

ALLEY 3 – IMAGE B
I-J ALLEY BETWEEN 10TH STREET AND 11TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 3 – IMAGE C
I-J ALLEY BETWEEN 10TH STREET AND 11TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 3 – IMAGE D
I-J ALLEY BETWEEN 10TH STREET AND 11TH STREET
10TH STREET LOOKING EAST

ALLEY 4 – IMAGE A
I-J ALLEY BETWEEN 11TH STREET AND 12TH STREET
12TH STREET LOOKING WEST

ALLEY 4 – IMAGE B
I-J ALLEY BETWEEN 11TH STREET AND 12TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 4 – IMAGE C
I-J ALLEY BETWEEN 11TH STREET AND 12TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 4 – IMAGE D
I-J ALLEY BETWEEN 11TH STREET AND 12TH STREET
11TH STREET LOOKING EAST

ALLEY 5 – IMAGE A
I-J ALLEY BETWEEN 12TH STREET AND 13TH STREET
EAST END OF ALLEY LOOKING WEST

ALLEY 5 – IMAGE B
I-J ALLEY BETWEEN 12TH STREET AND 13TH STREET
12TH STREET LOOKING EAST

ALLEY 6 – IMAGE A
I-J ALLEY BETWEEN 14TH STREET AND 15TH STREET
14TH STREET LOOKING EAST

ALLEY 6 – IMAGE B
I-J ALLEY BETWEEN 14TH STREET AND 15TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 6 – IMAGE C
I-J ALLEY BETWEEN 14TH STREET AND 15TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 6 – IMAGE D
I-J ALLEY BETWEEN 14TH STREET AND 15TH STREET
15TH STREET LOOKING WEST

ALLEY 7 – IMAGE A
I-J ALLEY BETWEEN 16TH STREET AND 17TH STREET
16TH STREET LOOKING EAST

ALLEY 7 – IMAGE B
I-J ALLEY BETWEEN 16TH STREET AND 17TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 7 – IMAGE C
I-J ALLEY BETWEEN 16TH STREET AND 17TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 7 – IMAGE D
I-J ALLEY BETWEEN 16TH STREET AND 17TH STREET
17TH STREET LOOKING WEST

ALLEY 8 – IMAGE A
J-K ALLEY BETWEEN 10TH STREET AND 11TH STREET
11TH STREET LOOKING WEST

ALLEY 8 – IMAGE B
J-K ALLEY BETWEEN 10TH STREET AND 11TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 8 – IMAGE C
J-K ALLEY BETWEEN 10TH STREET AND 11TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 8 – IMAGE D
J-K ALLEY BETWEEN 10TH STREET AND 11TH STREET
10TH STREET LOOKING EAST

ALLEY 9 – IMAGE A
J-K ALLEY BETWEEN 16TH STREET AND 17TH STREET
17TH STREET LOOKING WEST

ALLEY 9 – IMAGE B
J-K ALLEY BETWEEN 16TH STREET AND 17TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 9 – IMAGE C
J-K ALLEY BETWEEN 16TH STREET AND 17TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 9 – IMAGE D
J-K ALLEY BETWEEN 16TH STREET AND 17TH STREET
16TH STREET LOOKING EAST

ALLEY 10 – IMAGE A
K-L ALLEY BETWEEN 16TH STREET AND 17TH STREET
17TH STREET LOOKING WEST

ALLEY 10 – IMAGE B
K-L ALLEY BETWEEN 16TH STREET AND 17TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 10 – IMAGE C
K-L ALLEY BETWEEN 16TH STREET AND 17TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 10 – IMAGE D
K-L ALLEY BETWEEN 16TH STREET AND 17TH STREET
16TH STREET LOOKING EAST

ALLEY 11 – IMAGE A
K-L ALLEY BETWEEN 14TH STREET AND 15TH STREET
15TH STREET LOOKING WEST

ALLEY 11 – IMAGE B
K-L ALLEY BETWEEN 14TH STREET AND 15TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 11 – IMAGE C
K-L ALLEY BETWEEN 14TH STREET AND 15TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 11 – IMAGE D
K-L ALLEY BETWEEN 14TH STREET AND 15TH STREET
14TH STREET LOOKING EAST

ALLEY 12 – IMAGE A
K-L ALLEY BETWEEN 11TH STREET AND 12TH STREET
11TH STREET LOOKING EAST

ALLEY 12 – IMAGE B
K-L ALLEY BETWEEN 11TH STREET AND 12TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 12 – IMAGE C
K-L ALLEY BETWEEN 11TH STREET AND 12TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 12 – IMAGE D
K-L ALLEY BETWEEN 11TH STREET AND 12TH STREET
12TH STREET LOOKING WEST

ALLEY 13 – IMAGE A
K-L ALLEY BETWEEN 9TH STREET AND 10TH STREET
9TH STREET LOOKING EAST

ALLEY 13 – IMAGE B
K-L ALLEY BETWEEN 9TH STREET AND 10TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 13 – IMAGE C
K-L ALLEY BETWEEN 9TH STREET AND 10TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 13 – IMAGE D
K-L ALLEY BETWEEN 9TH STREET AND 10TH STREET
10TH STREET LOOKING WEST

ALLEY 14 – IMAGE A
K-L ALLEY BETWEEN 8TH STREET AND 9TH STREET
8TH STREET LOOKING EAST

ALLEY 14 – IMAGE B
K-L ALLEY BETWEEN 8TH STREET AND 9TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 14 – IMAGE C
K-L ALLEY BETWEEN 8TH STREET AND 9TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 14 – IMAGE D
K-L ALLEY BETWEEN 8TH STREET AND 9TH STREET
9TH STREET LOOKING WEST

ALLEY 15 – IMAGE A
K-L ALLEY BETWEEN 7TH STREET AND 8TH STREET
7TH STREET LOOKING EAST

ALLEY 15 – IMAGE B
K-L ALLEY BETWEEN 7TH STREET AND 8TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 15 – IMAGE C
K-L ALLEY BETWEEN 7TH STREET AND 8TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 15 – IMAGE D
K-L ALLEY BETWEEN 7TH STREET AND 8TH STREET
8TH STREET LOOKING WEST

ALLEY 16 – IMAGE A
K-L ALLEY BETWEEN 6TH STREET AND 7TH STREET (PARTIAL ALLEY OFF 7TH STREET ONLY)
WEND END OF ALLEY LOOKING EAST

ALLEY 17 – IMAGE A
L-CAPITOL ALLEY BETWEEN 8TH STREET AND 9TH STREET
8TH STREET LOOKING EAST

ALLEY 17 – IMAGE B
L-CAPITOL ALLEY BETWEEN 8TH STREET AND 9TH STREET
CENTER OF ALLEY LOOKING WEST

ALLEY 17 – IMAGE C
L-CAPITOL ALLEY BETWEEN 8TH STREET AND 9TH STREET
CENTER OF ALLEY LOOKING EAST

ALLEY 17 – IMAGE D
L-CAPITOL ALLEY BETWEEN 8TH STREET AND 9TH STREET
9TH STREET LOOKING WEST

APPENDIX B

CITY UTILITY DEPARTMENT FEE SCHEDULE

APPENDIX B – CITY UTILITY DEPARTMENT FEE SCHEDULE

City of Sacramento, Department of Utilities

Fees are subject to change on every July 1st or at any time. For current fee schedule visit http://www.cityofsacramento.org/utilities/media-room/publications.cfm

Residential Fee Information – 08/14/11 to 06/30/12:

1. **Plan Check Fee:** Full Cost Recovery ($140 per hour)

2. **Residential Construction Water Use Fee:** $53.55

3. **Erosion & Sediment Control (ESC) Fee:**

Single Family Residence	$70.00

4. **Sewer Development Fee: (Either A or B)**

A. Combined Sewer Service Area

Single Family Residence	$117.99

B. Sewer Development Fee Service Area

4" Sewer Service	$146.71

5. **Water Development Fee*:**

Domestic and Irrigation Water Services	
¾" Meter	$1,439.57
1" Meter	$2,590.32
1 ¼" Meter	$3,818.60
1 ½" Meter	$5,017.67
2" Meter	$10,384.85

* Water Development Fee may be waived if conditions of Resolution No. 87-322 are met. Water Development Fee credit is given for existing water service connections.

6. ◆ **Water Service Installation Fee:**

Size	EASEMENT TAP* (Includes Yoke, Box & Fittings)		METER**	Service sizes other than 1" are offered only under special circumstances, and if approved a fee quote will be provided.
1"	$2,175.00	+	$385.00	

* Contractor excavates and exposes the water main for the City to install a service tap. City then installs water service connection from main line to the point of service. Contractor backfills trench and restores pavement. Incidentals work such as encroachment permit, traffic control is the Contractor's responsibility.

** When there is an existing water service connection the Contractor is responsible for providing and installing the Yoke, Box and Fittings per City Standard Detail W-402.
-If the water service connection was installed as a part of a residential subdivision the Yoke, Box and Fittings should already be installed.

7. ◆ **Water Service Abandonment Fee:**

1" to 3" - $1,085.00

◆ Items 6, 7 and 8 require additional administration and processing fees charged at a rate of $140 per hour. Typical charges are a half hour to an hour.

8. ◆ **Sewer Service Installation Fee:**

Size	EASEMENT TAP*
4	$594.67

* Contractor excavates and exposes the sewer line for the City to install a sewer tap. Contractor then installs sewer service connection from main line to the point of service, backfills trench and restores pavement. Incidentals work such as encroachment permit, traffic control is the Contractor's responsibility.

9. **County Sewer Contact Information:**

Sacramento Area Sewer District (SASD) and
Sacramento Regional County Sanitation District (SRCSD)
10060 Goethe Road, Sacramento, CA 95827
Administration – (916) 876-6000
Permit Services – (916) 876-6100
http://www.sacsewer.com/ http://www.srcsd.com/

Supervising Engineer's Signature and Date:
Robert Kp 8/9/11

City of Sacramento, Department of Utilities

Fees are subject to change on every July 1st or at any time. For current fee schedule visit http://www.cityofsacramento.org/utilities/media-room/publications.cfm

Commercial Plan Check - Fee Information - 08/14/11 to 06/30/12

1. **Plan Check; Tap & Meter Sales; Bldg. Flood Zone Review: Full Cost Recovery ($140 per hour)**

2. **Erosion & Sediment Control (ESC) Fee:**
ESC Fee is based on site acreage and building square footage.

Grading Permit		
Acreage		Fee
Min	Max	
0	0.99	$100
1	1.99	$200
2	4.99	$500
5	9.99	$800
10	--	$1,500

AND

Commercial/MFR Building Permit		
Square Footage		Fees
Min	Max	Fixed
0	4,999	$50
5,000	9,999	$100
10,000	19,999	$200
20,000	49,999	$500
50,000	--	$1,000

Single Family Residential		
Square Footage		Fee
--	--	$70.00

3. **Sewer Development Fee: (Either a or b)**

a. Combined Sewer Service Area

Development Size	Fee Amount
First 25 ESDs	$117.99 per each ESD
26 or more ESDs	$2,944.30 per each ESD exceeding 25

b. Sewer Development Fee Service Area

4″	$146.71
6″	$328.90
8″	$584.46
10″	$913.38
12″	$1,315.65

4. **Water Development Fee*:**

Domestic and Irrigation Water Services	
¾″ meter	$1,439.57
1″ meter	$2,590.32
1 ¼″ meter	$3,818.60
1 ½″ meter	$5,017.67
2″ meter	$10,384.85
3″ meter	$29,191.33
4″ meter	$64,756.73
6″ meter	$115,025.70
8″ meter	$142,959.52
10″ meter	$527,474.58

* Water Development Fee may be waived if conditions of Resolution No. 87-322 are met. Water Development Fee credit is given for existing water service connections.
* No Water Development Fee for fire service connections.

Supervising Engineer's Signature and Date:

City of Sacramento, Department of Utilities

Fees are subject to change on every July 1st or at any time. For current fee schedule visit http://www.cityofsacramento.org/utilities/media-room/publications.cfm

Commercial Plan Check - Fee Information - 08/14/11 to 06/30/12

5. ◆ **Domestic and Irrigation Water Service Installation Fee:**

Size	Easement Tap*		METER (Includes Yoke, Box & Fittings)
¾″	N/A		N/A
1″	$1,881.00		$679.00
1 ¼″	N/A		N/A
1 ½″	$2,166.00		$678.00
2″	$2,438.00		$741.00
3″	N/A	PLUS	$2,099.00
4″	$3,088.00		$3,000
6″	$3,327.00		$4,262.00
8″	$3,646.00		$5,856.00
10″	$6,026.00		$5,916.00
12″	$6,794.00		$8,068.00

*** 4" and larger water service connections** - Contractor excavates and exposes the water line for the City to install a tap and a gate valve. Contractor then installs water service connection from main line to the point of service, backfills trench and restores pavement. Incidental work such as encroachment permit, traffic control is the Contractor's responsibility.
2" and smaller water service connections - Contractor excavates and exposes the water line for the City to install a tap corporation stop and water pipe from the main to the point of service. Contractor backfills trench and restores pavement. Incidental work such as encroachment permit, traffic control is the Contractor's responsibility.

6. ◆ **Water Service Abandonment Fee:**

a. 1" to 3" - $1,085.00
b. 4" to 12" - $2,112.00

7. **Water Supply Test Fees:**

Engineering Analysis: $313.00
Field Test Fee: $640.00

8. ◆ **Sewer Service Installation Fee:**

Size	Easement Tap*
4	$594.67
6	$642.72
8	$690.77
10	$738.82
12	$786.87
14	N/A

*Contractor excavates and exposes the sewer line for the City to install a sewer tap. Contractor then installs sewer service connection from main line to the point of service, backfills trench and restores pavement. Incidentals work such as encroachment permit, traffic control is the Contractor's responsibility.

9. **County Sewer Contact Information:**
Sacramento Area Sewer District (SASD) and Sacramento Regional County Sanitation District (SRCSD)
10060 Goethe Road, Sacramento, CA 95827
Administration – (916) 876-6000 Permit Services – (916) 876-6100
http://www.sacsewer.com/ http://www.srcsd.com/

◆ Items 5, 6 and 8 require additional administration and processing fees charged at a rate of $140 per hour. Typical charges are a half hour to an hour.

Supervising Engineer's Signature and Date:
Robt Dlp 8/9/11

APPENDIX C

WATER SUPPLY

APPENDIX C – WATER SUPPLY

Water Distribution System Design Criteria

Commonly Used Criteria

Water Distribution System Design Criteria

CITY OF SACRAMENTO
WATER DISTRIBUTION SYSTEM DESIGN CRITERIA
SUMMARY SHEET

Min. System Pressure	*	Peak Hour Demand	30	psi	"Design & Procedures Manual", Sect. 13.4.1
	*	Maximum Day plus Fire Flow	20	psi	"
Max. System Pressure	*		50	psi	City Plant Operations & Distribution System Maintenance
Max. Velocity @ Peak Hour					
Distribution Mains	*	6" dia.	4	fps	"Water Dist. Master Plan" Oct. 1996, Black & Veatch
	*	8" - 12" dia.	5	fps	"
Transmission Mains	*	18" dia.	4	fps	"
	*	24" dia. and above	5	fps	"
Max. Velocity @ Max. Day plus Fire Flow					
Distribution Mains	*	6" dia. through 12" dia.	10	fps	"Water Dist. Master Plan" Oct. 1996, Black & Veatch
Transmission Mains	*	18" dia. and above	6	fps	"
Fire Flow Demands (1)	*	Single Family	1,500	gpm	City's Fire Protection Engineer
	*	Multifamily	2,000	gpm	"
	*	Commercial	3,000	gpm	"
	*	Industrial	Contact Fire Engineer		"
	*	Special Structures	Contact Fire Engineer		"
Average Day Demand	*	Residential	630.00	(gpd/unit)	"Estimate of Ultimate Annual Water Use", Oct 1991,Boyle Eng.
Land Use Factors	*	Multi-family	225.00	(gpd/unit)	"Estimate of Ultimate Annual Water Use", Oct 1991,Boyle Eng.
	*	Resid. - Low/Med Density	3.60	(acre-ft / acre-yr)	"
	*	Resid. - High Density	4.00	(acre-ft / acre-yr)	"
	*	Neighborhood Commercial	3.00	(acre-ft / acre-yr)	"
	*	Neighborhood Office	3.00	(acre-ft / acre-yr)	"
	*	Regional Commercial	3.00	(acre-ft / acre-yr)	"
	*	Regional Office	3.00	(acre-ft / acre-yr)	"
	*	Highrise Regional Office	10.22	(acre-ft / acre-yr)	"
	*	Public Office	3.00	(acre-ft / acre-yr)	"
	*	Warehouse	3.00	(acre-ft / acre-yr)	"
	*	Industrial	4.00	(acre-ft / acre-yr)	"
	*	Employee Intensive Industrial	3.50	(acre-ft / acre-yr)	"
	*	Parks & Recreation	4.20	(acre-ft / acre-yr)	"
	*	Parks & OS > 4 acres	Supplied by ground water irrigation wells		

CITY OF SACRAMENTO
WATER DISTRIBUTION SYSTEM DESIGN CRITERIA
SUMMARY SHEET - Continued

Land Use Factors	*	Schools	2.50	(acre-ft / acre-yr)	"
	*	Utilities	0.10	(acre-ft / acre-yr)	"
	*	Public Misc.	0.70	(acre-ft / acre-yr)	"
System Losses		Average 7.5 Percent			"
Peaking Factors	*	Max. Day Demand to Average Day Demand	1.8	multiplier	"Water Dist. Master Plan" Oct. 1996, Black & Veatch
	*	Peak Hour Demand to Max Day Demand	1.3	multiplier	"Water Dist. Master Plan" Oct. 1996, Black & Veatch
Hazen-Williams Coefficient	*	New Pipe	130		Industry Standard
(1) Consult City of Sacramento Fire Protection Engineer @ 264-5936					
Distribution main layout:					
		Residential (single family)			"Design & Procedures Manual", Sect. 13.4.2
	*	Twelve inch diameter mains on square mile grids.			
	*	Eight inch diameter mains on quarter mile (1300 feet) grids.			
	*	Six inch diameter mains within remainder.			
		Multi-Family, Office, Limited & General Commercial, Light Industrial			"Design & Procedures Manual", Sect. 13.4.3
	*	Twelve inch diameter mains on one-half mile grids.			
	*	Eight inch diameter mains within remainder.			
		Heavy Commercial/Industrial, Manufacturing Industrial Parks			"Design & Procedures Manual", Sect. 13.4.3
	*	Twelve inch dia. mains throughout distribution system.			
Circulating Water Mains - Maximum length of a circulating or looped water main with two or more tie-in connections.					"Design & Procedures Manual", Sect. 13.4.4
	*	Six inch diameter main is limited to a max. length of 1500 feet.			
	*	Eight inch diameter main is limited to a maximum length of 2000 feet.			
	*	Twelve inch diameter main is required if length of circulating main exceeds 2000 feet.			
Dead End Mains					"Design & Procedures Manual", Sect. 13.4.5
	*	Six inch diameter main is limited to a maximum length of 600 feet.			
	*	Eight inch diameter main is limited to a maximum length of 1200 feet.			
	*	Twelve inch diameter main is limited to a max. length of 2400 feet.			

* Water transmission mains are NOT to be tapped for the installation of water services or fire hydrants.
* Redundant distribution water mains may be required to parallel transmission mains in order to meet water demands during a transmission main outage.
*Locations of distribution main tie-ins to transmission mains will be determined on a case-by-case basis.

file: c:\new_development\distsystem\criteria.wk1 - Source: City of Sacramento, Utilities Department

Commonly Used Criteria

DEPARTMENT OF UTILITIES
WATER DISTRIBUTION SYSTEM - COMMONLY USED CRITERIA

July 1998

This document summarizes the commonly used planning and design criteria for the City's water distribution system. For additional information please reference the City's "Standard Specifications", "Design and Procedures Manual", "Uniform Fire Code", and "City Code".

System Requirements:

General Requirements:

System Reliability:

The City requires a reliable water distribution system that guarantees that no more than 40 dwelling units (or equivalent water demand) shall be affected by a water main shut down. This may require redundant mains and/or a redundant water supply.

Main Placement:

Water mains shall be placed along the centerline of new streets. For wide streets with dual water mains, the water mains shall be placed no closer than 8 feet from the center of the main to the lip of gutter.

For water mains located within public easements, the mains shall be placed no closer than 5 feet to the easement boundary line. The recommended minimum easement width for water distribution mains is 15 feet.

Separation:

Water mains are to be placed to provide 10 feet of horizontal clearance from parallel sanitary sewer lines in all streets where the width of street right-of-way is adequate and there is no interference from other utility lines.

Min / Max Cover:

The minimum depth of cover over water mains in areas of new street construction is 36 inches and 54 inches for unimproved streets. The maximum depth of cover for water mains in new streets or existing streets with full improvements (curbs, gutters, and sidewalks) is 48 inches. Depth of cover is measured from the top of the pipe to finish grade or pavement surface.

Transmission Mains:

Definition:

Pipeline used to transport water from the treatment plant to the distribution system. Generally, transmission mains are 18-inches in diameter and larger.

Layout:

Transmission mains shall be sized and placed per the Engineering Department of Utilities.

Design:

Transmission mains shall be designed and constructed per the Department of Utilities' special provisions for water main construction and the technical water transmission main drawings. Transmission mains shall be designed and constructed by the Department of Utilities unless other arrangements have been made between the City and a developer.

Blow-offs & Air/Vacuum Relief:

At a minimum, there should be a blow-off and an air/vacuum relief valve installed between valves. Blow-offs should be located at the low points of the pipe and air/vacuum relief valves should be located at the high points of the pipe.

Access Manholes:

Access manholes should be constructed every 2,000 linear feet and spaced between valves.

Dead End Mains:

Dead end transmission mains shall have a valve and a minimum of 3 feet of pipe with a dish head. The dish head shall have a plugged 4-inch outlet to attach a pipe with a valve for filling, testing, and disinfecting the transmission main.

Approved Pipe Materials:

The City prefers using ductile iron, concrete cylinder, or welded steel pipe for water transmission main projects. Use of an alternative pipe material requires written approval from the Department of Utilities, Engineering Division.

Corrosion Control:

Based on soil conditions and the surrounding environment, additional corrosion protection besides pipe coating may be required.

Taps:

Transmission mains shall only be tapped with distribution mains. The location of outlets, connections, and appurtenances shall be approved by the Department of Utilities, Engineering Division. Water services or fire hydrant taps shall NOT be allowed on transmission mains.

Distribution System:

Definition:

Distribution mains are pipelines that carry water from the transmission mains to the consumer. Distribution main are generally 12-inch in diameter and smaller. Distribution main sizes shall be 6, 8, or 12-inch diameter (4, 10, 14, and 16-inch diameter mains are not currently installed).

Layout:

The developer is responsible for laying out a water system within the development that meets the minimum distribution system grid, and satisfies the more critical of the following two conditions:

- At maximum day peak hour demand, the operating or "residual" pressure at all water service connections shall be a least 30 psi.
- At average maximum day demand plus fire flow, the operating or "residual" pressure in the area of the fire shall not be less than 20 psi.

Minimum Distribution System Grid:

Residential (single family)

- Twelve inch diameter mains on square mile grids.
- Eight inch diameter mains on quarter mile (1,300 feet) grids.
- Six inch diameter mains within remainder.

Multi-Family, Office, Limited & General Commercial, Light Industrial

- Twelve inch diameter mains on one-half mile grids.
- Eight inch diameter mains within remainder.

Heavy Commercial/Industrial, Manufacturing Industrial Parks

- Twelve inch diameter mains throughout distribution system.

***Circulating Water Mains (maximum length of a circulating or looped water main with two or more tie-in connections)*:**

- Six inch diameter main is limited to a maximum length of 1,500 feet.
- Eight inch diameter main is limited to a maximum length of 2,000 feet.
- Twelve inch diameter main is required if length of circulating main exceeds 2,000 feet.

Dead End Mains:

Water mains with only one supply source. Dead end mains shall be provided with a means of flushing.

- Six inch diameter main is limited to a maximum length of 600 feet.
- Eight inch diameter main is limited to a maximum length of 1200 feet.
- Twelve inch diameter main is limited to a maximum length of 2400 feet.

Dual Water Mains:

Dual water distribution mains, one water pipeline along each side of the street, may be required for all new streets constructed with a raised center median separating opposing lanes of traffic or right-of-way width of 100 feet or more. Dual mains may be required for streets less than 100 feet on a case-by-case basis.

Gate Valves:

In the design of water distribution systems, gate valves shall be the same size as the water main. The gate valves shall be placed adjacent to or within 3.5 feet of tee or cross fittings. In-line gate valves shall also be placed along water distribution mains at the following maximum intervals:

- No more than 1,200 feet apart for water mains 8-inches in diameter and smaller.
- No more than 1,500 feet apart for water mains 12-inches in diameter.
- Gate valves should be placed such that a maximum of 40 dwellings units would be affected by a water main shutdown.

Where valves are installed in long runs, valves shall be installed next to a fire hydrant branch. The fire hydrant is installed to locate the valve during an emergency.

Fire Hydrants:

Fire hydrant spacing shall follow the guidelines presented in the Uniform Fire Code Appendix III-B. In general, hydrants shall be spaced 500 feet apart in residential areas. Commercial areas will vary depending on required fire flow.

Fire hydrant leads shall match the pipe diameter of the main except when connected to a 12-inch main or larger in which case the lead shall be an 8-inch pipe.

Design:

Distribution system design shall be per the City's Public Works Department Design and Procedures Manual and Standard Specifications.

Approved Pipe Materials:

The City prefers using PVC or ductile iron pipe for water distribution projects. Use of another pipe material requires written approval from the Department of Utilities, Engineering Division.

Taps:

- Only one domestic water service per parcel is allowed unless otherwise approved by the Department of Utilities, Engineering Division.
- All new domestic and irrigation water services shall be metered.
- Multiple fire services maybe allowed per parcel. Fire services are not metered.
- All water connections shall comply with the City of Sacramento's "Cross Connection Policy".

General Conditions:

- If a proposed development is not contiguous to an existing public water main, the developer shall be responsible for the installation of any required off-site distribution system extensions.
- To be eligible for water service, the property to which service is to be extended must abut a dedicated public easement in which a city water main is constructed at a point immediately adjacent to the property. ***Exception:*** For landlocked parcels, the point of service shall be adjacent to the public right-of-way where the main is located. The service shall extend from the public main to the landlocked parcel within a private easement.
- Two points of connection to the public water distribution system is required for new subdivisions.
- When water main extensions are required for commercial or industrial development, the mains shall be extended along the full frontage of the property.

Source: City of Sacramento, Utilities Department

APPENDIX D

INVENTORY OF HISTORIC RESOURCES

Inventory of Historic Resources

					Historic Designation						
Map ID	APN	Address	Name	Date of Construction	NRHP	CRHR	Local Landmark	Local Landmark Ordinance No.	Date Enacted	Location	Notes
1	006-0087-047	1000-1006 4th Street	California Fruit Building	1914			X	Ord. No. 83-115	9/28/1983	Study Area	
2	006-0087-043	1010 5th St/428 J St	Travelers Hotel	1914	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
3	006-0034-017	923 7th Street	John Arnold and Company Grocery	c. 1857-1858			X	Ord. No. 82-046	6/15/1982	Study Area	
4	006-0094-002	1009-1011 7th Street	Pioneer Hall	c. 1868	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
5	006-0094-001	1015 7th Street	Merchants National Bank	1921	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
6	006-0091-024	1122-1128 7th Street	Hotel Clayton	1910-1911			X	Ord. No. 82-046	6/15/1982	Study Area	
7	006-0036-037	903 8th Street	Sacramento City Library	1918	X	X	X	Ord. No. 83-115	9/28/1983	Study Area	
8	006-0101-001	1013-1015 9th Street	The People's Acceptance Building	1878-1879			X	Ord. No. 82-046	6/15/1982	Study Area	
9	006-0101-021	1017-1031 9th Street	I.O.O.F. Temple	1870			X	Ord. No. 82-046	6/15/1982	Study Area	
10	006-0102-020	1107 9th Street	Forum Building	1911			X	Ord. No. 82-046	6/15/1982	Study Area	formerly APN 006-0102-001
11	006-0102-016	1117-1131 9th Street	Siller Building	1912-1913			X	Ord. No. 82-046	6/15/1982	Study Area	
12	006-0155-012	1220 9th Street		1930			X	Ord. No. 82-046	6/15/1982	Study Area	
13	006-0101-013	1010-1012 10th Street	Ms. Dora Werner-Hair Dresser	1912-1913			X	Ord. No. 82-046	6/15/1982	Study Area	
14	006-0103-020	1011 10th Street	American Trust Company	1938			X	Ord. No. 82-046	6/15/1982	Study Area	
15	006-0103-021	1017 10th Street		1911-1912			X	Ord. No. 82-046	6/15/1982	Study Area	
16	006-0101-015	1016-1020 10th Street	Hart Brothers Cafeteria	1925			X	Ord. No. 82-046	6/15/1982	Study Area	
17	006-0162-001	1310 10th Street	California State Capitol	1860-1874	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
17	006-0162-001	10th to 15th St, L to N St	California State Capitol Grounds	1870	X	X	X	Ord. No. 83-115	9/28/1983	Study Area	
18	006-0047-001	915 11th Street		1878			X	Ord. No. 3911	8/2/1977	Study Area	
19-20	006-0047-012	921 11th Street	Sacramento BPOE Building	1925-1926		X	X	Ord. No. 82-046	6/15/1982	Study Area	also APN 006-0047-011
21	006-0105-014	1017-1025 11th Street	Cathedral of the Blessed Sacrament	1887			X	Ord. No. 82-046	6/15/1982	Study Area	formerly APN 006-0105-011
22	006-0103-010	1020 11th St/1029-1031 K St	Mohr and Yoerk Realty Co.	1910-1911		X	X	Ord. No. 82-046	6/15/1982	Study Area	
23	006-0104-005	1106 11th St/1024 K St	Hotel Regis	1911-1912		X	X	Ord. No. 82-046	6/15/1982	Study Area	
24	006-0104-006	1110 11th Street	Howe Apartments	1913-1914			X	Ord. No. 82-046	6/15/1982	Study Area	
25	006-0106-006	1127-1131 11th Street	Sacramento Medical Dental Building	1928			X	Ord. No. 82-046	6/15/1982	Study Area	
26	006-0111-001	1011-1013 12th Street	W.D. Fuller and Company	1923-1924			X	Ord. No. 82-046	6/15/1982	Study Area	
27	006-0121-018	1001-1005 15th Street		1915			X	Ord. No. 3911	8/2/1977	Study Area	
28	006-0115-021	1012 15th Street	St. Paul's Episcopal Church	1903			X	Ord. No. 82-046	6/15/1982	Study Area	formerly APN 006-0115-006
29	006-0121-001	1015 15th Street	A.C. Westerguard Auto Repair	1927-1928			X	Ord. No. 82-046	6/15/1982	Study Area	
30	006-0124-006	1122 17th Street	Young Women's Christian Association	1932			X	Ord. No. 82-046	6/15/1982	Study Area	
31	006-0161-001	914 Capitol Avenue	State Library and Courts	1928	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
32	006-0042-001	910 I Street (Plaza Park)	A.J. Stevens Statue	1888			X	Ord. No. 83-115	9/28/1983	Study Area	
32	006-0042-001	910 I Street (Plaza Park)	Coleman Memorial	1926			X	Ord. No. 83-115	9/28/1983	Study Area	
33-34	006-0052-003	1200 I Street	BF Goodrich Tire Center	c. 1930			X	Ord. No. 82-046	6/15/1982	Study Area	also APN 006-0052-004
35	006-0091-001	600 J St/1007 6th St	Ramona Hotel	1930			X	Ord. No. 82-046	6/15/1982	Study Area	
36	006-0032-012	629-631 J Street	National Gold Bank of D.O. Mills and Co.	1912		X	X	Ord. No. 82-046	6/15/1982	Study Area	
37	006-0094-003	700 J St/1007 7th St	Capital National Bank/Crocker National Bank	1915-1916		X	X	Ord. No. 82-046	6/15/1982	Study Area	
38	006-0034-009	727 J Street	Sylvester Tyron Building	1860-1861			X	Ord. No. 82-046	6/15/1982	Study Area	
39	006-0101-003	900 J Street	Ruhstaller Building	1898	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
40	006-0101-004	904 J Street	Gogings Drug Store	c. 1856			X	Ord. No. 82-046	6/15/1982	Study Area	
41	006-0101-011	920 J Street	John Bellmer & Company	1871-1872			X	Ord. No. 82-046	6/15/1982	Study Area	
42	006-0101-012	926 J Street	Cal Western Life Insurance Co.	1925			X	Ord. No. 82-046	6/15/1982	Study Area	
43	006-0103-003	1008 J Street	Fred Mayes Jeweler's Clock	c. 1925-1935			X	Ord. No. 82-046	6/15/1982	Study Area	
44	006-0047-009	1123-1131 J Street	Masonic Temple	1918-1920	X	X	X	Ord. No. 82-046	6/15/1982	Study Area	
45	006-0111-003	1208 J Street	Neva/Emigh Hardware	1910-1911			X	Ord. No. 82-046	6/15/1982	Study Area	
46	006-0111-018	1230 J Street	Public Market	1923		X	X	Ord. No. 82-046	6/15/1982	Study Area	formerly APN 006-0111-007
47	006-0062-001	1515 J Street	Sacramento Memorial Auditorium	1925-1927			X	Ord. No. 83-115	9/28/1983	Study Area	
48	006-0121-008	1530 J Street	W.I. Elliot Company	1922			X	Ord. No. 82-046	6/15/1982	Study Area	

					Historic Designation						
Map ID	APN	Address	Name	Date of Construction	NRHP	CRHR	Local Landmark	Local Landmark Ordinance No.	Date Enacted	Location	Notes
49	006-0123-006	1624-1630 J Street	Kost Building	1910			X	Ord. No. 82-046	6/15/1982	Study Area	
50	006-0096-002	700 K Street	Pacific State Savings Bank	1929			X	Ord. No. 82-046	6/15/1982	Study Area	
51	006-0096-005	712 K Street		unknown			X	unknown	unknown	Study Area	see 700 K St environmental review
52	006-0096-006	716 K Street		c. 1870			X	Ord. No. 82-046	6/15/1982	Study Area	
53	006-0096-022	717 K Street	Ochsner Building/Sun Building	1904		X	X	Ord. No. 82-046	6/15/1982	Study Area	
54	006-0098-009	818 K Street	S.H. Kress and Company/Dress Building	1931		X	X	Ord. No. 82-046	6/15/1982	Study Area	
55	006-0098-010	830 K Street	Dept. of Rehabilitation/Montgomery Ward Building	1936		X		N/A	N/A	StudyArea	not a Sacramento landmark
56	006-0097-012	825-831 K Street	Hale Brothers and Company/River City Bank	1881		X	X	Ord. No. 82-046	6/15/1982	Study Area	
57	006-0103-011	1013 K Street	Crest Theater/Empress Theater	1910-1911			X	Ord. No. 82-046	6/15/1982	Study Area	
58	006-0106-002	1100 K Street	PG&E Company	1912			X	Ord. No. 82-046	6/15/1982	Study Area	
59	006-0106-004	1130 K St/1111 12th St	Weinstock, Lubin, and Company	1923-1924			X	Ord. No. 82-046	6/15/1982	Study Area	
60	006-0111-017	1217 K Street	Esquire Theater	1940			X	Ord. No. 82-055	7/6/1982	Study Area	
61	006-0116-002	1414 K Street	Pacific Telephone Inland Division Headquarters	1924-1925			X	Ord. No. 82-046	6/15/1982	Study Area	
62	006-0098-021	809 L St/1117-1123 8th St	American Cash Apartments	Unknown			X	Ord. No. 82-046	6/15/1982	Study Area	
63	006-0106-005	1121 L Street	Senator Hotel & Office Building	1924	X	X	X	Ord. No. 84-118	12/18/1984	Study Area	
64	006-0122-006	1531 L Street	Firestone Store #7586	1929			X	Ord. No. 82-046	6/15/1982	Study Area	
65	006-0031-005	813 6th Street	Hall of Justice	1916	X	X	X	Ord. No. 83-115	9/28/1983	Buffer Area	
66	006-0046-001	816 12th Street	Jim Denny's	1914			X	Ord. No. 82-046	6/15/1982	Buffer Area	
67	006-0055-009	819-827 14th Street		c. 1900-1905			X	Ord. No. 3911	8/2/1977	Buffer Area	
68	006-0065-001	815 17th Street		1910			X	Ord. No. 3911	8/2/1977	Buffer Area	
69	006-0065-010	818 18th Street		c. 1905			X	Ord. No. 3911	8/2/1977	Buffer Area	
70	006-0065-011	820 18th Street		1905-1910			X	Ord. No. 3911	8/2/1977	Buffer Area	
71	006-0176-006	1310 18th Street		c. 1890			X	Ord. No. 3911	8/2/1977	Buffer Area	
31	006-0176-008	1320 18th Street		c. 1900-1905			X	Ord. No. 3911	8/2/1977	Buffer Area	
72	006-0161-001	915 Capitol Avenue	Office Building Number One/Jesse Unruh Building	1925	X	X	X	Ord. No. 82-046	6/15/1982	Buffer Area	
73	006-0176-021	1716 Capitol Avenue		1891			X	Ord. No. 3911	8/2/1977	Buffer Area	
74	006-0175-016	1717 Capitol Avenue		c. 1910			X	Ord. No. 3911	8/2/1977	Buffer Area	
75	006-0176-003	1718 Capitol Avenue		c. 1910			X	Ord. No. 3911	8/2/1977	Buffer Area	
76	006-0176-004	1720 Capitol Avenue		1893			X	Ord. No. 3911	8/2/1977	Buffer Area	
77	006-0175-021	1725 Capitol Avenue		c. 1870			X	Ord. No. 3911	8/2/1977	Buffer Area	moved from 1715 8th Street
78	006-0176-005	1730 Capitol Avenue		c. 1870-1875			X	Ord. No. 3911	8/2/1977	Buffer Area	
79	006-0051-003	1210 H Street		c. 1910			X	Ord. No. 2009-013	8/25/2009	Buffer Area	
80	006-0053-001	1300 H Street	Charles Lais House	1894			X	Ord. No. 3911	8/2/1977	Buffer Area	
81	006-0061-003	1530 H Street	Governor's Mansion & Carriage House	1898	X	X	X	Ord. No. 3911	8/2/1977	Buffer Area	
82	006-0063-003	1616 H Street		c. 1905-1910			X	Ord. No. 3911	8/2/1977	Buffer Area	
83	002-0010-044	401 I Street	Southern Pacific Railroad Sacramento Depot	1925	X	X	X	Ord. No. 82-046	6/15/1982	Buffer Area	formerly APN 006-0023-002
84	002-0010-042	435 I Street	Railway Express Agency Building	1926	X	X	X	Ord. No. 82-046	6/15/1982	Buffer Area	formerly APN 006-0023-002
85	006-0035-010	801 I Street	US Postal Service Metro Station	1933	X	X	X	Ord. No. 82-046	6/15/1982	Buffer Area	
86-87	006-0041-013	915 I Street	City Hall	1911			X	Ord. No. 83-115	9/28/1983	Buffer Area	formerly APN 006-0041-012
88	006-0066-001	1700 I Street	I Street Market	Unknown			X	Ord. No. 82-046	6/15/1982	Buffer Area	also APN 006-066-014
89	006-0125-001	1700 J Street	R.H. Black Package Grocery Company	1926			X	Ord. No. 82-046	6/15/1982	Buffer Area	
90	006-0175-001	1700 L Street	California State Automobile Association	1931			X	Ord. No. 82-046	6/15/1982	Buffer Area	
91	006-0126-022	1701 L Street	Evangelical Lutheran Church	Unknown			X	Ord. No. 82-046	6/15/1982	Buffer Area	formerly APN 006-0126-016
92	006-0174-016	1619 N Street	Thomas Jefferson Elementary School	1923			X	Ord. No. 82-046	6/15/1982	Buffer Area	

APPENDIX E

THE RAILYARD, 2010 ANNUAL GROUNDWATER MONITORING AND REMEDIATION SYSTEMS OPERATION AND MAINTENANCE REPORT

September 2011
SAB043400

8 October 2010

Ms. Pamela Creedon
Executive Officer
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

Attention: Mr. Steven Meeks

Mr. Fernando Amador
Chief Sacramento Responsible Parties Unit
Northern California Central Cleanup Operations Branch
Site Mitigation Program
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Attention: Ms. Ruth Cayabyab

Subject: 2010 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report
The Railyards
Sacramento, California

Dear Ms. Creedon and Mr. Amador:

On behalf of S. Thomas Enterprises of Sacramento, LLC (Thomas), ERM-West, Inc. (ERM) has prepared this *2010 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report* for The Railyards in Sacramento, California. This report serves as the annual monitoring report in accordance with the Central Valley Regional Water Quality Control Board *Monitoring and Reporting Program* (M&RP) Order No. R5-2008-0821[1], and covers the period from July 2009 through June 2010 (identified as 'reporting period' for the remainder of the document). For the purposes of this report, the area presented in Figure 1 is defined as the Study Area. This annual report includes a presentation and assessment of

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[1] Unless specifically stated otherwise, all references to M&RP refer to M&RP Order No. R5-2008-0821, dated 21 October 2008.

groundwater and analytical results; an assessment of the status of the monitoring program; summarizes operation and maintenance activities conducted during the reporting period; and presents the status of soil and/or groundwater remediation for three interim remedial measures (IRMs) including the South Plume Source Area (SPS), South Plume Margin Area (SPM), and New Painting Facility (NPF) light nonaqueous-phase liquid (LNAPL) Area.

Each element of this annual report is designated to meet a specific requirement of the M&RP and/or the monitoring requirements for the treatment systems. The M&RP requirements for annual reports are listed on Table 1 and cross-referenced with the specific elements of this report. Monitoring requirements for the treatment systems as agreed upon with the Department of Toxic Substances Control (DTSC) are presented on Table 2. All groundwater monitoring and remediation activities conducted during the reporting period are presented on Table 3.

GROUNDWATER MONITORING AND SAMPLING

In compliance with the M&RP, groundwater monitoring activities, including water level measurements and/or groundwater sampling, were performed during July and October 2009, and March, April, May, and June 2010. All monitoring work was performed in accordance with the *Standard Operating Procedures for the SPTCo Sacramento Rail Yard* (ERM, February 1996). Well construction details for all monitored wells are presented on Table 4.

GROUNDWATER MONITORING

Water level data collected during the reporting period are presented on Table 5 and summarized below. Depth to water measurements were not collected from seven wells during the 19 May 2010 measurement event, for reasons presented on Table 5. Groundwater elevations were calculated based upon measurements collected for the upper Sand Zone (USZ), lower Sand Zone (LSZ), Gravel Zone (GZ), Interbedded B Zone, and Interbedded D Zone, and are posted and contoured in Figures 2 through 6. The groundwater elevations calculated from the 2010 annual groundwater monitoring event were used to assess any changes in historical groundwater direction and/or gradient.

Seventeen calculated groundwater elevations were noted as anomalous with respect to nearby groundwater elevations. Measurements from

nine USZ, three LSZ, three Interbedded B Zone, and one Interbedded D Zone wells were flagged as anomalous, as presented on Table 5. Anomalous measurements may be due to human error in recording of the data, differences in well construction (i.e., depth and screened interval) for wells constructed in the same zone, malfunctioning water-level measuring equipment, or measurement inaccuracies.

Flow Direction and Lateral Hydraulic Gradients

Historical flow directions and lateral hydraulic gradients for each water-bearing zone are presented on Table 6. Groundwater at The Railyards is broken into two generally distinct areas in each zone: the northern portion of The Railyards corresponding to the Lagoon Groundwater Study Area (LGWSA) (i.e., north of Central Shops) and areas to the north, and the southern portion corresponding to the South Plume Study Area (i.e., Central Shops area and all wells south of this area downtown). As illustrated in Figures 2 through 6 and Table 6, the groundwater flow directions in May 2010 appear generally consistent with the groundwater flow directions and gradients observed during previous sampling events.

Vertical Hydraulic Gradients

Consistent with M&RP requirements, vertical gradients have also been calculated for the site based on the May 2010 data. Given the large size of the property and the variable hydrogeology, vertical gradients between the water-bearing zones were calculated using the following grouping of closely spaced wells screened in the various water-bearing zones:

- USZ well W-15A, GZ well WCC-46, Interbedded B Zone well WCC-36, and Interbedded D Zone well NPW-03, representing conditions in the northern portion of the study area (LGWSA); and
- USZ well W-06, LSZ well SPW-12, GZ well WCC-41, Interbedded B Zone well SPW-08, and Interbedded D Zone well SPW-07, representing conditions in the southern portion of the study area (South Plume Study Area).

As presented on Table 7, the vertical gradients observed during May 2010 were typically in the downward direction and are consistent with gradients presented in the South Plume and LGWSA Remedial Investigation reports. The exception is an upward gradient from the GZ to the LSZ. An upward gradient between these two zones has happened on occasion, as discussed in the *Revised Draft Central Shops/South Plume*

Remedial Investigation Report (ERM, February 2002). These two zones are hydraulically interconnected.

Gradients within the containment wall are upward, indicating the treatment system objective of maintaining an inward and upward gradient within the containment wall was occurring. This was observed in both October 2009 and May 2010 at all USZ-LSZ well pairs except for one of the two Central Shops well pairs, CSW-43 and CSW-44, in October 2009, where the vertical gradient was observed to be zero, as presented in the *2009 Semiannual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report* (ERM, March 2010).

GROUNDWATER SAMPLING QUALITY SUMMARY

This section describes the scope of the 2010 annual groundwater monitoring and sampling event, presents the analytical results, and identifies noteworthy trends in chemical concentrations.

Summary of Field Activities and Analytical Program

The 2010 annual monitoring event was performed from 5 through 23 April 2010. Additional sampling was performed on 25 May and 28 June 2010 to address previously inaccessible wells or samples with missing or broken sample bottles from the primary sample collection event. The sampling program presented on Table 8 reflects the applicable M&RP annual sampling requirements. The field log sheets for the first and second quarters 2010, as well as a description of the sampling procedures, are provided in Appendix A. Due to site conditions, certain M&RP wells were not sampled during the 2010 annual monitoring event, as summarized on Table 8.

Chemical Occurrence

Volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), and metals have been detected in groundwater samples collected from The Railyards monitoring wells. Chemical detections and significant long-term trends are discussed below by chemical classification for each water-bearing zone. Current chemical results are presented on Tables 9 through 12. Quality assurance/quality control (QA/QC) reports for the data collected are included in Appendix B. Laboratory analytical reports are

included in Appendix C. Historical groundwater analytical tables, for the past 5 years, are presented in Appendix D.

Halogenated Volatile Organic Compounds

Samples were collected and analyzed for VOCs from 146 wells during the 2010 annual event. Analytical results associated with these samples are presented on Table 9. The sum of the individual halogenated VOCs (identified as total halogenated VOCs [THVOCs]), detected in groundwater samples, has been calculated and is also shown on Table 9. This calculation excludes the detected nonhalogenated VOCs such as 1,4-dioxane (1,4-DXE), and benzene, toluene, ethylbenzene, and xylenes (BTEX).

Halogenated VOCs most commonly detected in groundwater samples collected from monitoring wells at The Railyards are as follows:

Halogenated VOCs		
Chloroethane	1,1-Dichloroethene	Tetrachloroethene
1,1-Dichloroethane	cis-1,2-Dichloroethene	Trichloroethene
1,2-Dichloroethane	trans-1,2-Dichloroethene	Vinyl Chloride

THVOC concentration figures for the 2010 annual event have been prepared to assess the distribution and extent of VOCs in groundwater (Figures 7 through 10). The USZ, LSZ, GZ, and Interbedded B Zone have THVOC concentrations of sufficient density to be contoured. Data for the Interbedded D Zone were not of sufficient density to contour, and are posted with the Interbedded B Zone data.

As shown in the figures, historical monitoring results have been used to fill data gaps in the current monitoring network. The majority of the wells in the northern portion of The Railyards were abandoned in 2000 and 2001 in preparation for soil remediation in that area. To reflect the most current understanding of chlorinated VOC distribution in the northern portion of The Railyards, contours based on the October 1999 and April 2002 sampling events; December 2007 LGWSA HydroPunch investigation; December 2008 W-06 HydroPunch investigation; and April 2009 LGWSA HydroPunch investigation have been incorporated into the figures.

Upper Sand Zone

THVOC detections in the USZ for the 2010 annual event groundwater samples are posted and contoured in Figure 7. Noteworthy observations for the period include:

- A nondetectable concentration of THVOCs in well SPW-47 provides an important USZ monitoring point at The Railyards boundary, indicating the plume is defined downgradient and limited in extent.
- The 2010 annual event THVOC concentrations in wells at the former Manufactured Gas Plant (MGP) study area (NSW-11, NSW-12, NSW-14, and NSW-15) are nondetect. Based on consistent nondetect concentrations, Thomas recommends a discontinuation of sampling for halogenated VOCs. Aromatic VOC sampling will remain on a semiannual schedule.
- THVOC concentrations show a stable to decreasing trend in Central Shops Area wells as compared to the previous sampling events. Significant decreases were observed in wells CSW-41 and extraction wells CSW-03, CSW-07, CSW-14, and CSEXW-03.
- THVOC concentrations within well CNW-02 typically show a seasonal trend with higher concentrations detected during the second quarter of each year and significantly lower concentrations detected during the fourth quarter of each year. However, during the second quarter 2010, the THVOC concentration was consistent with the lower values. This indicates the plume may be stabilizing in this area.

Lower Sand Zone

THVOC detections in the LSZ for the 2010 annual event groundwater samples are posted and contoured in Figure 8. Noteworthy observations for the period include:

- As anticipated, based on chemical and groundwater dynamics, it appears the THVOC plume is migrating toward the extraction system on P Street along the South Plume Margin.
- The concentrations in Central Shops wells appear to be stable.
- As evidenced by THVOC concentrations decreasing in SPW-31, the lateral extent of the THVOC plume is defined to the west and not expanding in the LSZ.
- A decreased concentration in SPW-32, south of P Street, indicates extraction in the LSZ, combined with added extraction in the GZ,

along P Street is effectively capturing and controlling migration of the THVOC plume.

Gravel Zone

THVOC detections in the GZ for the 2010 annual event groundwater samples are posted and contoured in Figure 9. Noteworthy observations for the period include:

- THVOC concentrations in SPW-09 have shown a decreasing trend across three consecutive annual monitoring events, indicating the lateral extent of the THVOC plume is defined to the east and not laterally expanding in the GZ.
- The 2010 annual event THVOC concentrations in wells at the former MGP area (NSW-06 and NSW-13) are nondetect. Based on consistent nondetect concentrations, Thomas recommends a discontinuation of sampling for halogenated VOCs. Aromatic VOC sampling will remain on a semiannual schedule.

Interbedded Sequence

THVOC detections in the GZ for the 2010 annual event groundwater samples are posted and contoured in Figure 10. THVOC concentrations in the Interbedded B Unit and the Interbedded D Unit wells appear to be stable with slight fluctuations between events. There are no notable observations or trends for these zones.

Benzene, Toluene, Ethylbenzene, and Total Xylenes

To assess the ongoing effectiveness of the interim remedial activities in the SPS and SPM areas, and to assess conditions in the former MGP study area, samples for BTEX analyses were collected from 34 monitoring and extraction wells during the second quarter 2010. Table 9 presents VOC analytical results, including BTEX, for site wells sampled during the reporting period. Detections of BTEX are not included in the THVOC calculations.

During the 2010 annual event, BTEX compounds were detected in eight Central Shops wells (CSEXW-05, CSW-01, CSW-37, CSW-38, CSW-41, CSW-42, CSW-45, and CSW-46). The concentrations detected in these wells are very low, slightly above the detection limit.

During the 2010 annual event, BTEX compounds were detected in eight wells at the former MGP study area (NSW-01, NSW-05, NSW-06,

NSW-11, NSW-12, NSW-13, NSW-14, and NSW-15). The BTEX detections are consistent with historically detected concentrations.

1,4-Dioxane

Samples were collected and analyzed for 1,4-DXE from 143 wells. Detections of 1,4-DXE are not included in the THVOC calculations. The results of these analyses are presented on Table 9. Analytical results for 1,4-DXE for each water-bearing zone are summarized below.

Upper Sand Zone

1,4-DXE detections in the USZ for the 2010 annual event groundwater samples are posted and contoured in Figure 11. Noteworthy observations for the period include:

- The overall plume dimensions in the Central Shops area appear to be stable.
- Concentrations in wells CSW-21 and NPW-13 indicate decreasing trends.
- Concentrations in wells CSW-07 and SPW-47 appear to be stabilizing.
- The 1,4-DXE concentration in Central Shops well CSW-45 appears to be slightly increasing.

Lower Sand Zone

Concentrations of 1,4-DXE detected in LSZ groundwater during the 2010 annual event are posted in Figure 12. Noteworthy observations for the period include:

- The 1,4-DXE plume is generally stable in the Central Shops area wells.
- The 1,4-DXE concentration in Central Shops well CSW-13 appears to be increasing, an exception to the generally stable plume in the Central Shops area.
- The 1,4-DXE concentrations are generally decreasing in the South Plume area wells, indicating extraction in the LSZ combined with added extraction in the GZ are effectively capturing and controlling migration of the 1,4-DXE plume.
- The 1,4-DXE concentrations in wells SPEXW-06, SPW-22, SPW-26R, SPW-35, SPW-37, SPW-40, and WCC-62 all exhibit decreasing 1,4-DXE trends, indicating the plume appears to be effectively captured by the SPM extraction system along P Street.

- The 1,4-DXE concentration (well SPW-32) appears to be decreasing at the toe of the 1,4-DXE plume, south of P Street, also indicating the plume is being effectively captured by the SPM extraction system along P Street.
- The 1,4-DXE concentration in axis well SPW-18 appears to be decreasing.

Gravel Zone

Concentrations of 1,4-DXE detected in GZ groundwater during the 2010 annual event are posted in Figure 13. Noteworthy observations for the period include:

- Long-term trend analysis and plume dimensions indicate the 1,4-DXE concentrations are generally decreasing within the GZ.
- The Central Shops 1,4-DXE concentrations indicate the on-site plume is decreasing in extent, and shrinking back toward WCC-53.
- The 1,4-DXE plume in the Car Shop Nine (CSN) area appears to be decreasing in lateral extent as evidenced by decreasing concentrations in CNW-03, CNW-04, NPW-14, and NPW-15, and as can be seen on historical tables in Appendix D.
- The 1,4-DXE concentrations in wells CSW-18, WCC-43, and SPW-15 appear to be decreasing in the axis of the plume.
- The 1,4-DXE concentration in Central Shops well WCC-53 is relatively higher compared to prior events and not consistent with trends.
- Well SPW-27, south of P Street at the south end of the plume, significantly decreased from prior events, indicating the added extraction in the GZ is likely capturing and controlling migration of the 1,4-DXE plume.

Interbedded Sequence

Concentrations of 1,4-DXE detected in GZ groundwater during the 2010 annual event are posted in Figure 14. Noteworthy observations for the period include:

- Variations in concentrations do not reflect an overall significant change in the plume dimensions in the Interbedded sequence.
- The 1,4-DXE plume in the CSN area appears to be decreasing in lateral extent, as evidenced by decreasing concentrations in CNW-09,

CNW-10, CNW-11, and NPW-05, as can be seen on historical tables in Appendix D.

- The 1,4-DXE concentrations (well SPW-08) appear to be decreasing in the axis of the plume.
- The 1,4-DXE concentrations in well SPW-14, along the western plume boundary, appear to be decreasing.
- The 1,4-DXE concentrations in well SPW-21, along the eastern plume boundary, have fluctuated in the past 5 years as can be seen on historical tables in Appendix D.
- The 1,4-DXE concentrations (well SPW-25R) appear to be stabilizing toward the southeast edge of the plume.

The 1,4-DXE concentrations in the D Unit wells appear stable and consistent with historical concentrations, with one notable trend:

- SPW-07, located in the axis of the plume, appears to show fluctuations in 1,4-DXE concentrations.

Semivolatile Organic Compounds

During the second quarter 2010, groundwater samples were analyzed for SVOCs from 26 wells within the Central Shops area and the former MGP study area, and one well at the SPM. The results of the SVOC analyses are presented on Table 10 and Figures 15 and 16. SVOCs detected in groundwater during the 2010 annual event are as follows:

Polynuclear Aromatic Hydrocarbons (PAHs)	**Miscellaneous SVOCs**
Acenaphthene	Benzoic Acid
Acenaphthylene	Bis(2-Ethylhexyl)Phthalate
Anthracene	Butylbenzyl Phthalate
Benzo(a)Anthracene	Dibenzofuran
Fluoranthene	Diethylphthalate
Fluorene	Dimethylphthalate
2-Chloronaphthalene	Di-n-butylphthalate
2-Methylnaphthalene	Di-n-octylphthalate
2-Methylphenol	2,4-Dimethylphenol
Naphthalene	2,4-Dinitrophenol
Phenanthracene	4-Methylphenol
Pyrene	Phenol
	1,2,4-Trichlorobenzene
	2,4,6-Trichlorophenol

PAHs are typically associated with the presence of TPH, whereas miscellaneous SVOCs are often a result of sampling or laboratory contamination.

SVOCs were detected in groundwater samples collected in the following 23 wells:

Railyards Location	Well IDs
Extraction Wells at Central Shops source area	CSEXW-02, CSEXW-03, CSEXW-05, CSW-14
Central Shops source area (East Transfer Table)	CSW-15, CSW-16, CSW-24, CSW-32
Central Shops source area (NPF)	CSW-05, CSW-21, CSW-27
Former MGP Area	NSW-01, NSW-05, NSW-06, NSW-11, NSW-12, NSW-13, NSW-14, NSW-15
Downgradient of Central Shops	SPW-43, SPW-47, WCC-42, WCC-56

Within these 23 wells, the PAH detections occurred within known TPH source areas in USZ wells, and the concentrations detected in the 2010 annual event were consistent with previously reported results with the following exceptions:

- Concentrations of naphthalene in wells NSW-11 and NSW-14 appear to be decreasing, as seen in Figure 15 and the historical table in Appendix D.

Dissolved Metals

As required by the M&RP, samples were collected and analyzed for dissolved metals (arsenic, nickel, and lead) in groundwater from 47 wells during the 2010 annual event. Additionally, 12 of the wells sampled for metals were sampled to monitor a different suite of metals (arsenic, cadmium, copper, nickel, and selenium) in the vicinity of the State Printing Plant north of The Railyards. Table 11 presents the analytical results for metals. Concentrations of metals detected in the USZ and LSZ in the 2010 annual event are posted on Figures 17 and 18, respectively. Concentrations detected in the 2010 annual event were consistent with previously reported results.

Total Petroleum Hydrocarbons

As required by the M&RP, TPH samples were collected from 35 wells during the second quarter 2010. The selected wells are in the former

MGP area (9 wells), Central Shops (12 wells), SPM (2 wells), and north of the site (12 wells), and are sampled to monitor the presence of TPH in groundwater within and downgradient of the site, and in the vicinity of the State Printing Plant. Table 12 and Figures 19 and 20 present the results for the TPH analyses; the results are summarized below for gasoline-, diesel-, and motor oil-range hydrocarbons.

Gasoline-Range Hydrocarbons

Detected concentrations of gasoline-range hydrocarbons were relatively consistent with historical results. The results from NSW-14 show the lowest concentration in 2 years and the results from WCC-56 appear to be decreasing.

Diesel-Range Hydrocarbons

The 2010 annual event results are relatively consistent with previously reported concentrations from the 26 well samples. The results from NSW-11 show the lowest concentration in 4 years.

Motor Oil-Range Hydrocarbons

During the second quarter 2010, motor oil-range hydrocarbons were analyzed in well NPW-03. Motor oil-range hydrocarbons remain nondetect in NPW-03.

Additional Monitoring Conducted During the Reporting Period

The following subsections present additional activities conducted during the reporting period.

Well Modifications

Construction details for newly installed monitoring well NSW-16 and piezometers NSZ-03 through NSZ-08 are presented on Table 4. Numerous wells were abandoned in December 2009, and February, April, and June 2010. The abandoned wells are presented in Figure 1 and their status has been updated on Table 4. All well abandonment work details were presented in letters to the Department of Water Resources (DWR), which are reproduced here as Appendix E.

State Printing Plant Sampling

Twelve monitoring wells, LGW-12, NPW-03, NPW-04, NPW-06, NPW-09, NPW-10, NPW-11, NPW-12, NPW-13, W-15A, WCC-36, and WCC-46, in the vicinity of the State Printing Plant water supply wells, were sampled as a one-time event in conjunction with the 2010 annual monitoring event, as requested in the M&RP. The wells were sampled for TPH as diesel and dissolved metals (arsenic, cadmium, copper, nickel, and selenium). The sampling was completed in accordance with the *Sampling Workplan for Monitoring Wells Near State Printing Plant* (ERM, January 2009).

Multi-Depth Sampling

Multi-depth, low-flow groundwater samples were collected from wells CNW-02 and SPW-29 during the 2010 annual event to evaluate for vertical heterogeneity in contaminant distribution within the screened interval of the wells. These data will be used to select the appropriate sampling depth for future monitoring at these wells. The screened length of each well was divided into portions of either 2- or 3-foot increments. Samples were collected in the order from top downward using tubing and a peristaltic pump to minimize water column disturbance. Parameters were recorded at each interval and a sample was collected.

Sampling depths for CNW-02 were 22.5, 26.5, and 29 feet below top of casing (btoc). The three depth-discrete samples collected from CSN area well CNW-02 had THVOC results as follows:

- 859 micrograms per liter (µg/L) at 22.5 feet btoc;
- 850 µg/L at 26.5 feet btoc; and
- 829 µg/L at 29 feet btoc.

Based on the similarity in the results for THVOC and nondetect 1,4-DXE results, the highest THVOC concentration was chosen, and all future samples will be collected from 22.5 feet btoc. This sample collection depth is consistent with the indicated construction and use as a USZ well.

Sampling depths for SPW-29 were 20, 23.5, 27.5, and 31.25 feet btoc. The four depth-discrete samples collected from well SPW-29 had THVOC and 1,4-DXE results as follows:

- Nondetect for THVOCs and 1.4 µg/L for 1,4-DXE at 20 feet btoc;

- Nondetect for THVOCs and 1.2 µg/L for 1,4-DXE at 23.5 feet btoc;
- Nondetect for THVOCs and 1.4 µg/L for 1,4-DXE at 27.5 feet btoc; and
- 0.6 µg/L for THVOCs and 1.4 µg/L for 1,4-DXE at 31.25 feet btoc.

These results show minor stratification within this well with vinyl chloride detected only at the bottom of the well. This is consistent with the known conditions, which indicate that THVOC concentrations increase with depth in the Sand Zone. The intent of this well is to monitor for VOCs in shallow groundwater; therefore, future sampling of well SPW-29 will be from a sample intake depth of approximately 20 feet btoc.

REMEDIATION ACTIVITIES

This section presents the remediation systems operation and maintenance data, along with evaluations of effectiveness. The three remediation systems and their components are:

- SPS IRM:
  - Hydraulic containment wall around the East Transfer Table (ETT);
  - Groundwater extraction (GWE) system in the USZ within and adjacent to the ETT for hydraulic control and VOC removal, and GWE within the Repair Gang Shop, Cleaning Building, and Machine Shop Corridor; and
  - Soil vapor extraction (SVE) system.
- SPM IRM:
  - GWE in the LSZ along P Street between 7th and 9th Streets; and
  - GWE in the GZ along P Street between 7th and 9th Streets.
- NPF pilot study:
  - SVE system;
  - LNAPL thickness measurements and removal; and
  - Periodic air injection into four wells.

Each section below presents a brief summary of system status and operation data and an evaluation of system effectiveness.

SOUTH PLUME SOURCE AREA INTERIM REMEDIAL MEASURE

The objective of the SPS IRM is to hydraulically control the source of VOCs to the South Plume at the ETT and other Central Shops areas with elevated VOC concentrations. Figure 21 presents the SPS system map.

Operation Summary

Table 13 provides the daily operation summary for the groundwater and SVE systems for the reporting period, including system run times and shutdown causes. During the reporting period, groundwater extraction and SVE daily operational percent run times were reported at approximately 75 and 78 percent, respectively. Reduced system run times observed during this reporting period were primarily due to planned shutdowns in support of the abatement of hazardous materials within the treatment system building. Field log sheets for system operations are provided in Appendix F.

System Monitoring

System monitoring was conducted in accordance with the agreements with the DTSC as summarized on Table 2. Data QA/QC review is presented in Appendix B and the qualifiers are included on Tables 9 and 14.

Data collected during the reporting period include:

- Groundwater elevations (Table 5);
- Groundwater and groundwater treatment system influent and effluent samples for VOCs (Table 9);
- Groundwater extraction flow rates (Table 15); and
- Treatment system influent and effluent vapor samples for VOCs (Table 14).

For the reporting period, system monitoring revealed:

- Approximately 31.6 million gallons of groundwater were extracted and treated (Table 15).
- Approximately 78 pounds of VOCs were removed from groundwater.
- Vapor mass removal rates ranged from 0.2 to 3.4 pounds per day (based on monthly sampling results and observed vapor flow rates).

- Approximately 378 pounds of VOC mass in vapor during the period (based on calculated mass removal rates) were removed by the catalytic oxidation system.
- Since system startup on 8 April 1996, approximately 13,514 pounds of VOCs have been removed from the soil and groundwater and destroyed through Catalytic Thermal Oxidation.

Capture Zone Evaluation and Conclusions

Based on the data provided on Table 5 for the two monitoring events, vertical gradients were calculated using the following three well groups within the cutoff wall: CSW-45 (USZ)/CSW-46 (LSZ); CSW-43 (USZ)/CSW-44 (LSZ); and CSW-24 (USZ)/CSW-13 (LSZ)/WCC-53(GZ). These vertical gradients, for the October 2009 and May 2010 monitoring events, are presented on Table 16. As shown on the table, the vertical gradients observed were in the upward direction between the USZ and the LSZ for wells located at the Central Shops area within the containment wall in all instances except for one where a net gradient was not observed. The generally upward gradient is consistent with the treatment system objective of maintaining an inward and upward gradient within the containment wall.

Kriging and surface vector computation techniques (*Pond and Ditch Study Area Capture Zone Analysis* [ERM, October 1995]) were used to calculate flow near the extraction wells and capture zones for the USZ for October 2009 and May 2010 (Figures 22a and 22b, respectively) based on the 30-milligrams per liter (mg/L) THVOC contour used for system design included for comparison. As shown in Figures 22a and 22b, the SPS IRM groundwater extraction system capture zone encompasses the full area of the 30-mg/L THVOC contour used to design the system.

A large decrease in THVOC concentrations has occurred since the initiation of the SPS IRM. Concentrations outside the containment wall have decreased within the system design contour from 30 mg/L to around 0.2 mg/L. The original system design focused extraction on the area with the highest THVOC concentrations (30-mg/L contour). Currently, concentrations are well below the 30-mg/L concentrations throughout the site. In addition, the highest concentrations of THVOCs outside the containment wall are no longer in the area defined by the 30-mg/L contour. However, the concentrations in this area are still elevated. Therefore, the SPS IRM will continue to focus extraction in this area. The final remedy selected for the site, as referenced in the *Final Feasibility Study, Central Shops Study Area - Soil and South Plume Study*

Area – Ground Water (ERM, July 2010), will include a new set of criteria for the operation of the SPS system.

SOUTH PLUME MARGIN AREA INTERIM REMEDIAL MEASURE

The objective of the SPM IRM is to hydraulically control the southern margin of the South Plume to limit further migration of VOCs in the LSZ.

Operation Summary

The operating conditions and shutdown descriptions for the SPM system are presented on Table 17. The operating efficiency during this reporting period was approximately 100 percent. Field log sheets for system operations are provided in Appendix F.

System Monitoring

System monitoring was conducted during the reporting period in accordance with the IRM as summarized on Table 2. The QA/QC review for this data set is presented in Appendix B, and the qualifiers are included on Table 9. Data collected during the reporting period include:

- Groundwater elevations (Table 5);
- VOC concentrations in groundwater and groundwater extraction system effluent samples (Table 9); and
- Groundwater extraction flow rates (Table 15).

For the reporting period, system monitoring revealed:

- Approximately 76.9 million gallons of groundwater were extracted (Table 15).
- Approximately 3 pounds of VOCs were removed from groundwater.
- Overall, VOC concentrations were similar to those detected during previous sampling events.

Capture Zone Evaluation and Conclusions

Kriging and surface vector computation techniques were used to calculate flow near the LSZ extraction wells and capture zones as seen in Figure 23a and Figure 23b for October 2009 and May 2010, respectively. The cone of depression is most pronounced around SPEXW-08. SPEXW-08 operates

at approximately twice the rate of the other two LSZ extraction wells combined and generates less drawdown at the extraction well's head than either of those wells. This suggests that SPEXW-08 is set in a zone of higher hydraulic conductivity.

Capture zones for the GZ wells are shown in Figures 24a and 24b for October 2009 and May 2010, respectively. The cone of depression is most pronounced around SPW-38 (October 2009) and SPEXW-05/SPW-36 (May 2010). SPW-38 is located between SPEXW-04 and SPEXW-05. Drawdown near SPEXW-05/SPW-36 may also be influenced by SPEXW-08, as discussed above.

THVOC concentrations in the LSZ wells have fluctuated over time, but have decreased overall. THVOC concentrations in the GZ monitoring wells (SPW-27 and SPW-38) and extraction wells (SPEXW-04 and SPEXW-05) have also decreased subsequent to the activation of the GZ extraction wells during the previous reporting period. The capture zone analysis indicates the SPM system achieves hydraulic control across the width of both the LSZ and GZ.

NEW PAINTING FACILITY LIGHT NONAQUEOUS-PHASE LIQUID AREA

The objective of the NPF pilot study is to remove VOCs and LNAPL from the vadose zone within the boundary of the LNAPL area (Figure 21). Since 1999, numerous pilot studies have been initiated at the NPF. Remediation activities implemented at the NPF during this reporting period include SVE, limited air injection, and LNAPL removal using bailing techniques. Field log sheets are provided in Appendix F.

Soil Vapor Extraction

In 2008, the Sacramento Metropolitan Air Quality Management District approved the connection of three vapor wells (CSW-47, CSW-51, and Trench Well) at the NPF to the SPS remediation system. In late 2008, SVE was initiated at CSW-47 and CSW-51 (Trench Well was not activated due to low vapor concentrations) and these wells remained active during this reporting period.

Air Injection

Air injection was briefly performed at the NPF to understand if LNAPL trapped beneath the Clayey Silt Subunit can be reduced by free-phase mobilization, vapor-phase volatilization, and biostimulation. Air was injected (up to 17 cubic feet per minute) via a compressor in the NPF into four wells (CSW-48, CSW-56, CSW-57, and CSW-65) located within and around the area of maximum LNAPL impact. Startup activities for the NPF air injection system were initiated on 17 August 2009. On 15 September 2009, air injection was terminated due to electrical supply issues, and has remained offline to date. Air injection will be resumed in the future in conjunction with the installation of the final remedy.

Light Nonaqueous-Phase Liquid Removal

LNAPL thickness measurements and volumes of product recovered are reported on Table 18. LNAPL was removed on a weekly to monthly basis from wells containing greater than 6 inches of product, but was temporarily suspended in May 2010 due to the high level of effort compared to the minimal volume of LNAPL removed. Pumping of LNAPL with a portable product recovery pump was also tested, but yielded generally low rates of recovery. LNAPL removal will be reinitiated upon installation of the final remedy.

LNAPL removal data for the reporting period indicates:

- Approximately 173 gallons of LNAPL were removed during the reporting period (Table 18).
- Approximately 961 gallons of LNAPL have been removed by manual bailing/pumping at the NPF since the initiation of LNAPL removal.

CONCLUSIONS

Groundwater Monitoring Activities

Based on the information provided in this annual report, the THVOC and 1,4-DXE plumes appear generally stable and are not expanding in size. Based on consistent nondetect concentrations in the former MGP study area, Thomas recommends a discontinuation of sampling for halogenated VOCs in wells NSW-06, NSW-11, NSW-12, NSW-13, NSW-14, and NSW-15. Aromatic VOC sampling at these wells will remain on a semiannual schedule.

Groundwater Remediation Activities

A large decrease in THVOC concentrations has occurred since the initiation of the SPS IRM, and the system continues to exhibit a capture zone that encompasses the 30-mg/L THVOC design contour within the Central Shops. The SPS IRM system has been effective in removing mass from the soil and groundwater.

Overall, concentrations of THVOCs in the LSZ, GZ, and around the plume continue to show a decrease since startup of the SPM system. Groundwater extraction along the P Street plume margin in the GZ was initiated during the previous reporting period to improve plume capture. As discussed, the capture zone analysis, subsequent to the installation of the GZ extraction wells, indicates the SPM system is achieving hydraulic control across the width of both the LSZ and GZ.

CLOSING

If you have any questions or comments regarding this Annual Report, please contact Mr. Brian Magee at (916) 924-9378.

Sincerely,

for Benjamin Leslie-Bole
Partner-in-Charge

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CAD File:	Drawn By:	Date:	Project No.
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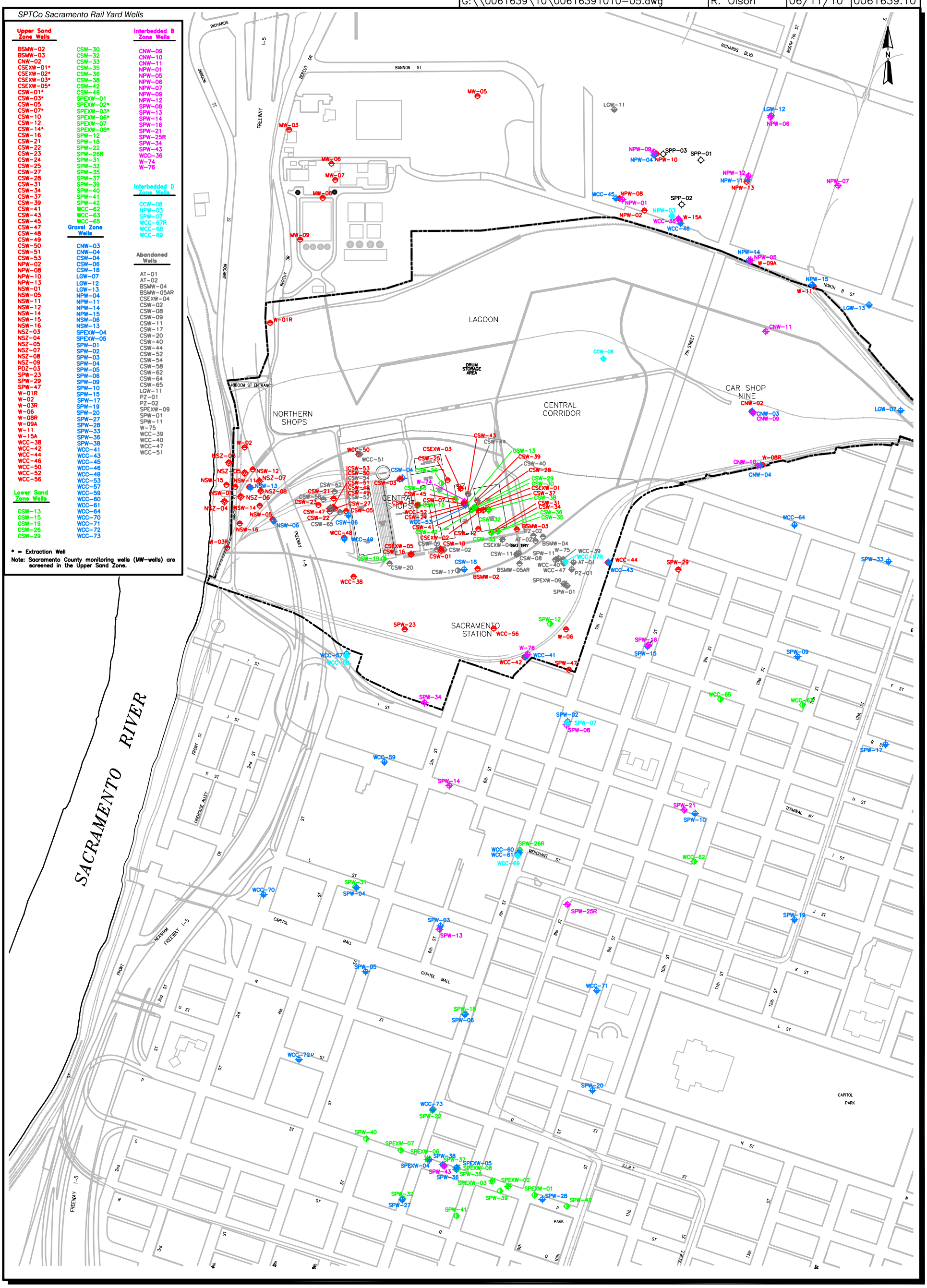

Figure 1
Monitoring and Extraction Well Locations
The Railyards
Sacramento, California

ERM 06/10

Project No. 0061639.15.0030
Date: 06/29/10
Drawn By: R. Olson
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LEGEND

CSW-12	Upper Sand Zone Monitoring Well
CSEXW-01	Upper Sand Zone Extraction Well
CSW-14	Active Extraction Well; Not Used for Contouring
	Sacramento River Elevation (May 19, 2010) Source: California Department of Water Resources, I Street Monitoring Station.
*	Water Level Anomalous; Not Used for Contouring
**	Water Level Impacted By Floating Non-Aqueous Phase Liquid; Not Used for Contouring
5.85	Groundwater Elevation (Feet MSL)
UTM	Unable to Measure
NM	Not Measured
6	Line of Equal Groundwater Elevation; Dashed Where Inferred
	The Railyards Boundary

Note: Water levels measured May 19, 2010.

Figure 2
Groundwater Elevations
Upper Sand Zone
May 2010
The Railyards
Sacramento, California

ERM 06/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-53.dwg	R. Olson	07/30/10	0061639.15

LEGEND

SPW-41	Lower Sand Zone Monitoring Well
SPEXW-03	Lower Sand Zone Extraction Well
SPEXW-08	Active Extraction Well; Not Used for Contouring
	Sacramento River Elevation (May 19, 2010) Source: California Department of Water Resources, I Street Monitoring Station; Not Used for Contouring
3.77	Groundwater Elevation (Feet MSL)
UTM	Unable To Measure
NM	Not Measured
*	Water Level Anomalous Not Used For Contouring
3.75	Line of Equal Groundwater Elevation; Dashed Where Inferred
	The Railyards Boundary

Note: Water levels measured May 19, 2010.

0 300 600
FEET

Figure 3
Groundwater Elevations
Lower Sand Zone
May 2010
The Railyards
Sacramento, California

ERM 06/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-54.dwg	R. Olson	06/28/10	0061639.15

LEGEND

SPW-38	Gravel Zone Monitoring Well	4.44	Groundwater Elevation (Feet MSL)
SPEXW-04	Gravel Zone Extraction Well	UTM	Unable to Measure
SPEXW-09	Active Extraction Well; Not Used for Contouring	NM	Not Measured
	Sacramento River Elevation (May 19, 2010) Source: California Department of Water Resources, I Street Monitoring Station; Not Used for Contouring	4.50	Line of Equal Groundwater Elevation: Dashed Where Inferred
*	Water Level Anomalous; Not Used For Contouring		The Railyards Boundary

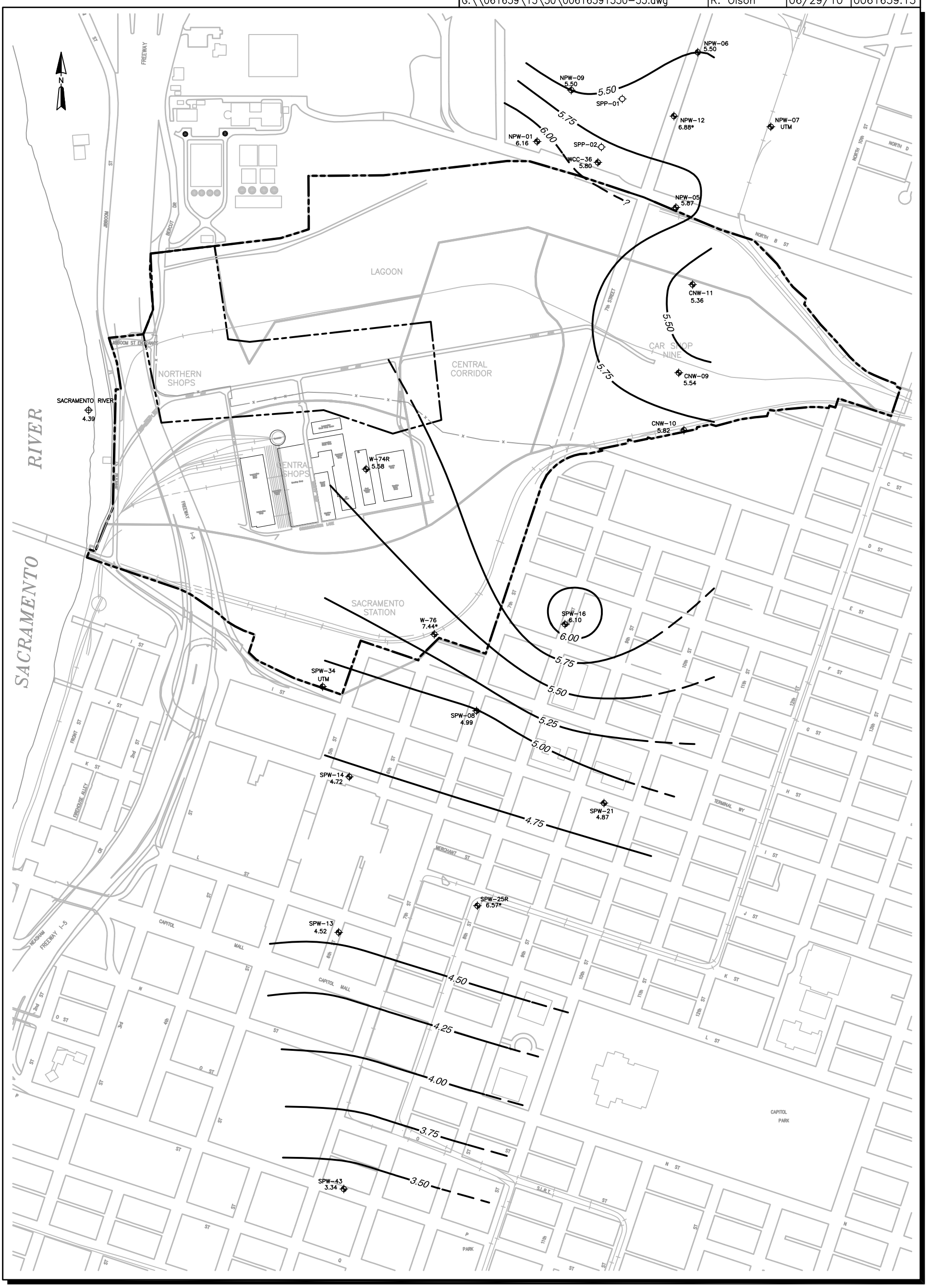
Note: Water levels measured May 19, 2010

0 300 600
FEET

Figure 4
Groundwater Elevations
Gravel Zone
May 2010
The Railyards
Sacramento, California

ERM 06/10

CAD File:	Drawn By:	Date:	Project No.
G:\\061639\15\30\00616391530-55.dwg	R. Olson	06/29/10	0061639.15



LEGEND

NPW-01 Interbedded B Zone Monitoring Well

SPP-01 California State Printing Plant Production Well

Sacramento River Elevation (May 19, 2010) Source: California Department of Water Resources, I Street Monitoring Station; Not Used for Contouring

4.99 Groundwater Elevation (Feet MSL)

* Water Level Anomalous; Not Used For Contouring

5.00 Line of Equal Groundwater Elevation; Dashed Where Inferred

The Railyards Boundary

Note: Water levels measured May 19, 2010.

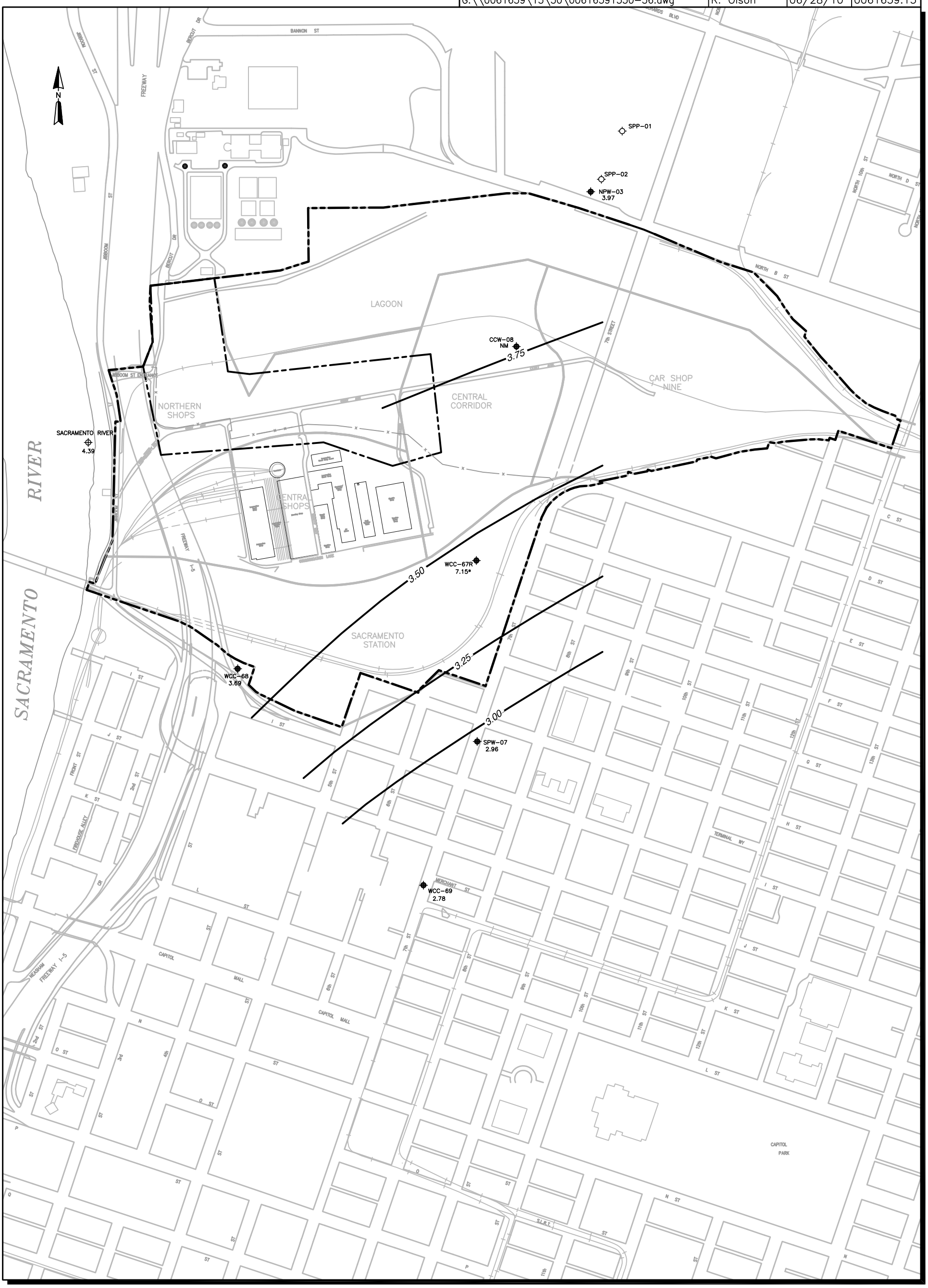
0 600 FEET

Figure 5

Groundwater Elevations
Interbedded Sequence B Zone
May 2010
The Railyards
Sacramento, California

ERM 06/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-56.dwg	R. Olson	06/28/10	0061639.15



LEGEND

- NPW-03 — Interbedded D Zone Monitoring Well
- SPP-01 — California State Printing Plant Production Well
- Sacramento River Elevation (May 19, 2010) Source: California Department of Water Resources, I Street Monitoring Station; Not Used for Contouring
- 2.99 — Groundwater Elevation (Feet MSL)
- 3.00 — Line of Equal Groundwater Elevation; Dashed Where Inferred; Queried Where Uncertain
- The Railyards Boundary

Note: Water levels measured May 19, 2010.

0 300 600
FEET

Figure 6
Groundwater Elevations
Interbedded Sequence D Zone
May 2010
The Railyards
Sacramento, California

ERM 06/10

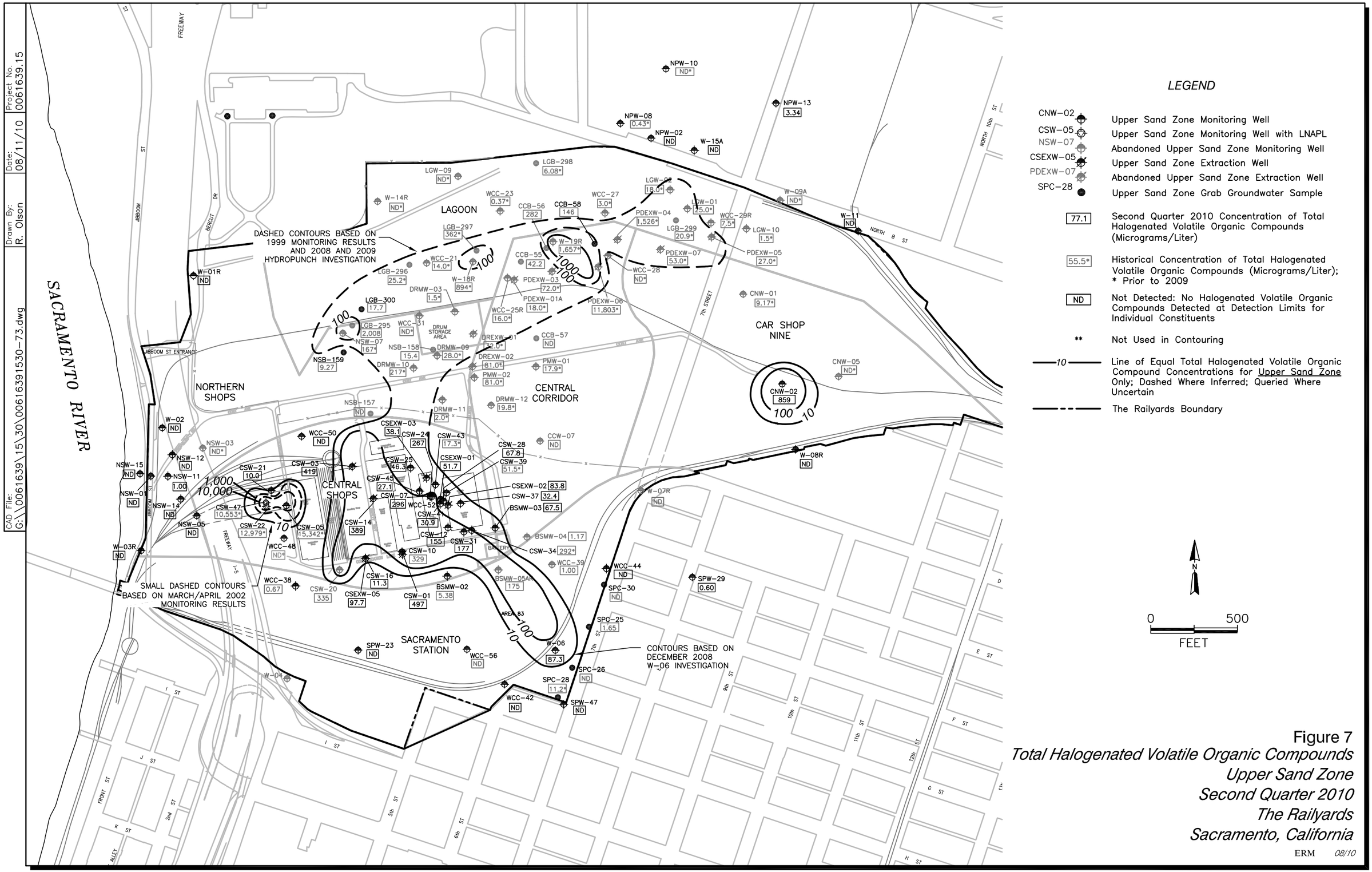
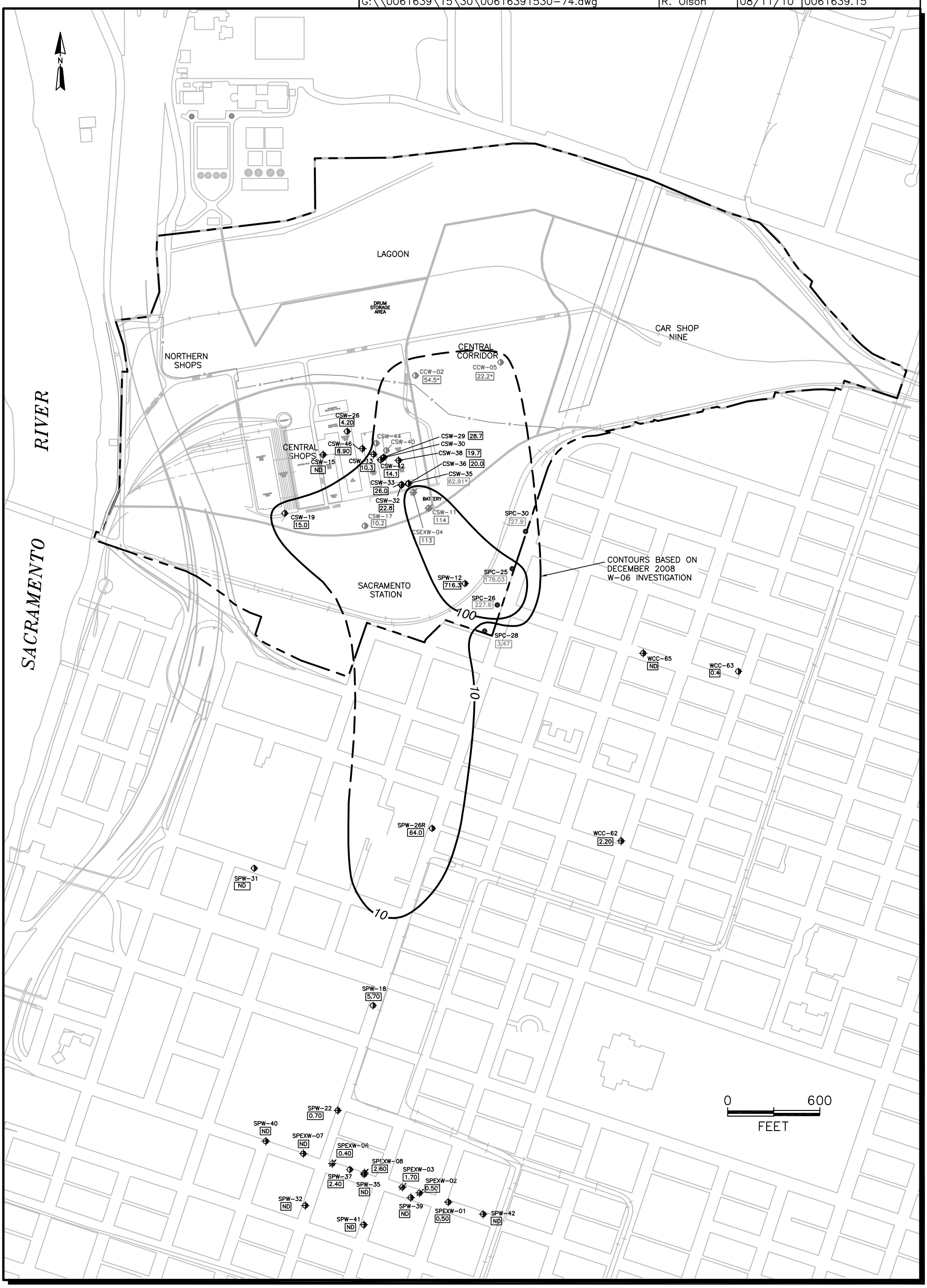


Figure 7
Total Halogenated Volatile Organic Compounds
Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 08/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-74.dwg	R. Olson	08/11/10	0061639.15



LEGEND

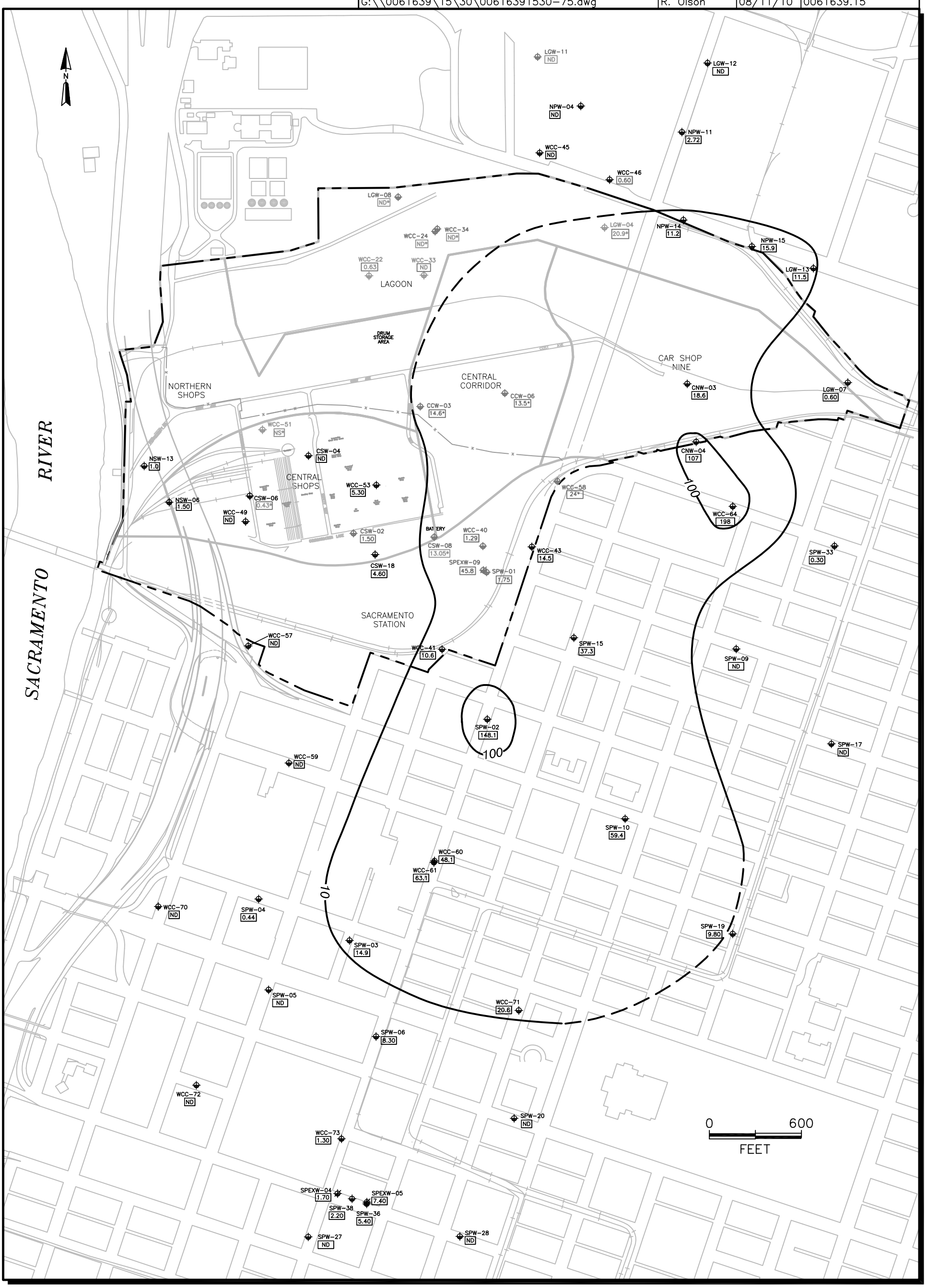
CCW-05	Abandoned Lower Sand Zone Monitoring Well
CSW-13	Lower Sand Zone Monitoring Well
SPEXW-06	Lower Sand Zone Extraction Well
SPC-28	Lower Sand Zone Grab Groundwater Sample
29.4	Second Quarter 2010 Concentration of Total Halogenated Volatile Organic Compounds (Micrograms/Liter)
ND	Not Detected: No Halogenated Volatile Organic Compounds Detected at Detection Limits for Individual Constituents
55.5*	Historical Concentration of Total Halogenated Volatile Organic Compounds (Micrograms/Liter); * Prior to 2009
10	Line of Equal Total Halogenated Volatile Organic Compound Concentrations for Lower Sand Zone Only; Dashed Where Inferred; Queried Where Uncertain
	The Railyards Boundary

Figure 8

Total Halogenated Volatile Organic Compounds
Lower Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 08/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-75.dwg	R. Olson	08/11/10	0061639.15



LEGEND

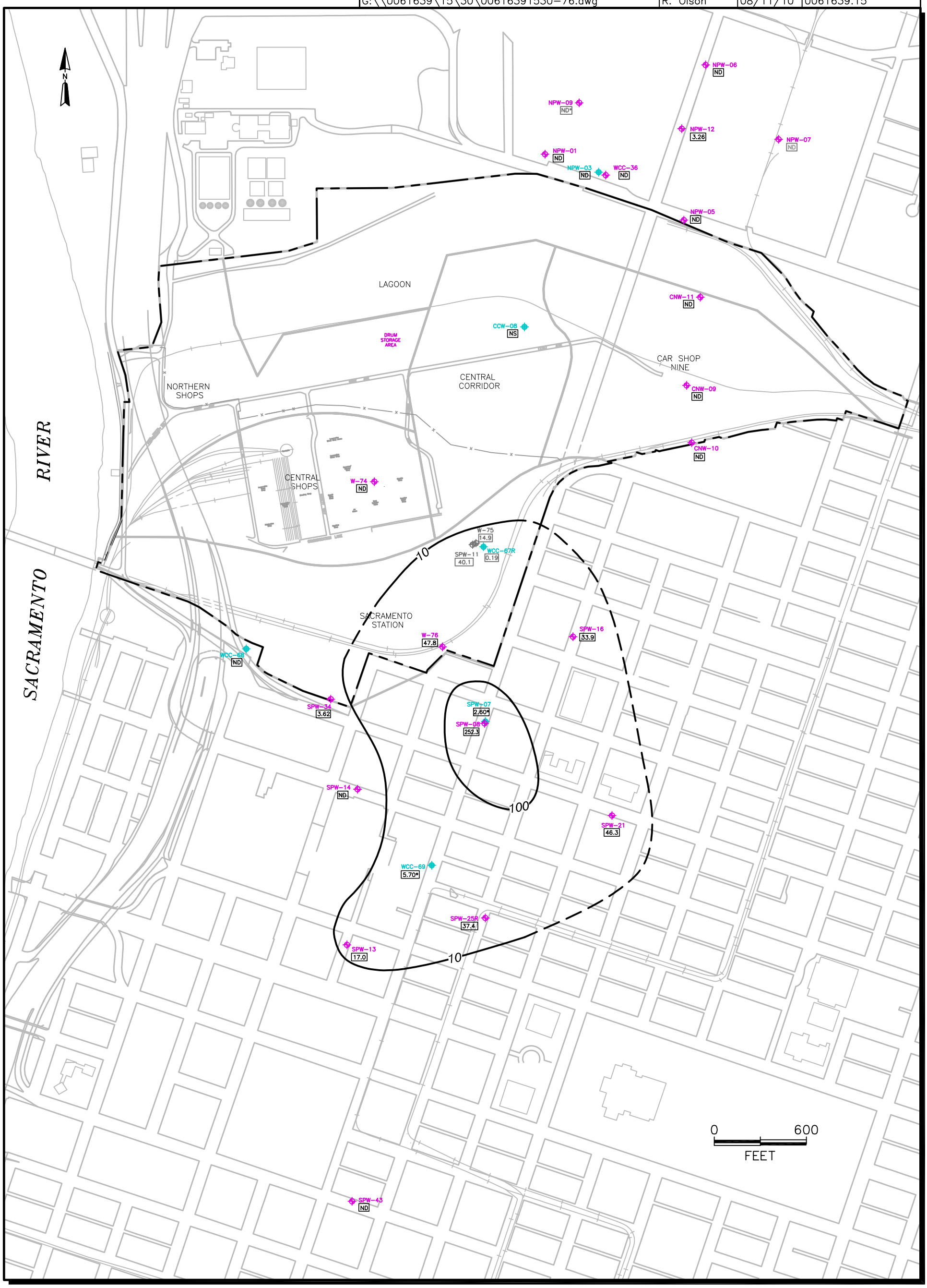
WCC-22	Abandoned Gravel Zone Monitoring Well
SPW-27	Gravel Zone Monitoring Well
SPEXW-05	Gravel Zone Extraction Well
2.09	Second Quarter 2010 Concentration of Total Halogenated Volatile Organic Compounds (Micrograms/Liter)
ND	Not Detected; No Halogenated Volatile Organic Compounds Detected at Detection Limits for Individual Constituents
55.5*	Historical Concentration of Total Halogenated Volatile Organic Compound Concentrations (Micrograms/Liter); * Prior to 2009
10	Line of Equal Total Halogenated Volatile Organic Compound Concentrations for Gravel Zone; Dashed Where Inferred; Queried Where Uncertain
	The Railyards Boundary

Figure 9

Total Halogenated Volatile Organic Compounds
Gravel Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 08/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-76.dwg	R. Olson	08/11/10	0061639.15



LEGEND

WCC-36	Interbedded B Zone Monitoring Well	55.5*	Historical Concentration of Total Halogenated Volatile Organic Compounds (Micrograms/Liter); * Prior to 2009
WCC-67R	Interbedded D Zone Monitoring Well		
11.6	Second Quarter 2010 Concentration of Total Halogenated Volatile Organic Compounds (Micrograms/Liter)	10	Line of Equal Total Halogenated Volatile Organic Compound Concentrations for Interbedded Sequence B Only; Dashed Where Inferred; Queried Where Uncertain
ND	Not Detected; No Halogenated Volatile Organic Compounds Detected at Detection Limits for Individual Constituents		
5.70*	Not Used for Contouring		The Railyards Boundary

Figure 10

Total Halogenated Volatile Organic Compounds
Interbedded Sequence
Second Quarter 2010
The Railyards
Sacramento, California

ERM 08/10

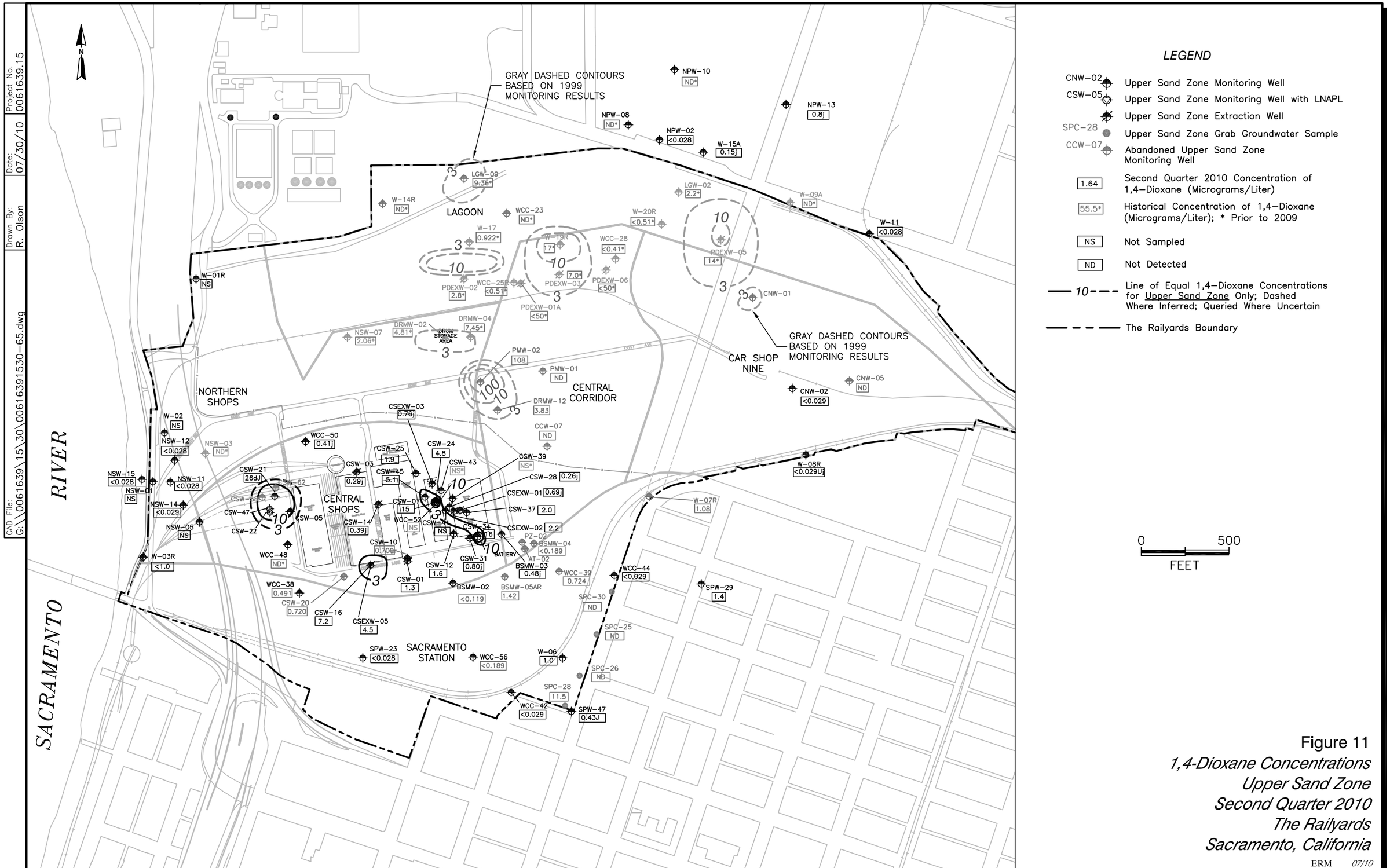
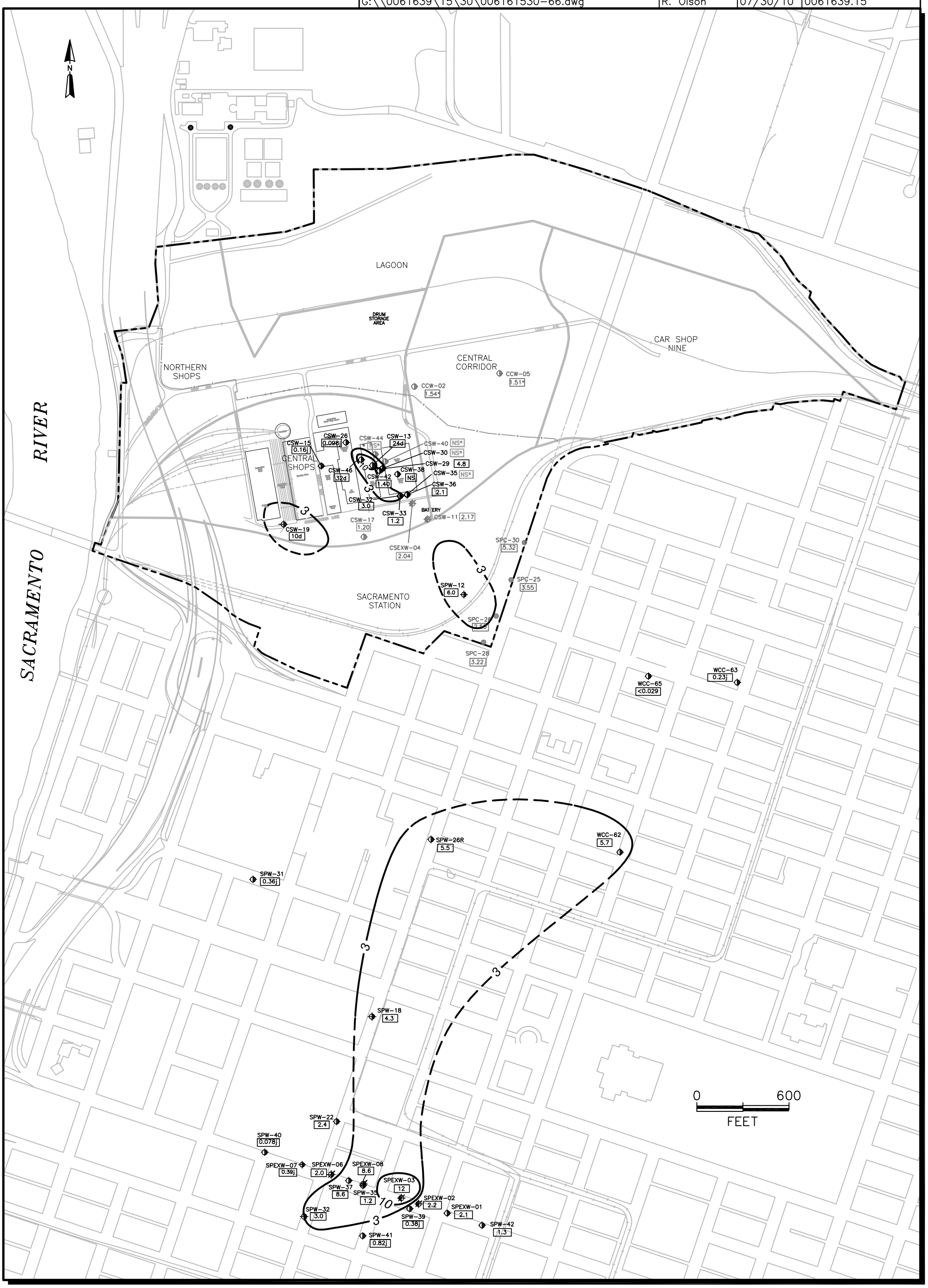


Figure 11
1,4-Dioxane Concentrations
Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 07/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\006161530-66.dwg	R. Olson	07/30/10	0061639.15



LEGEND

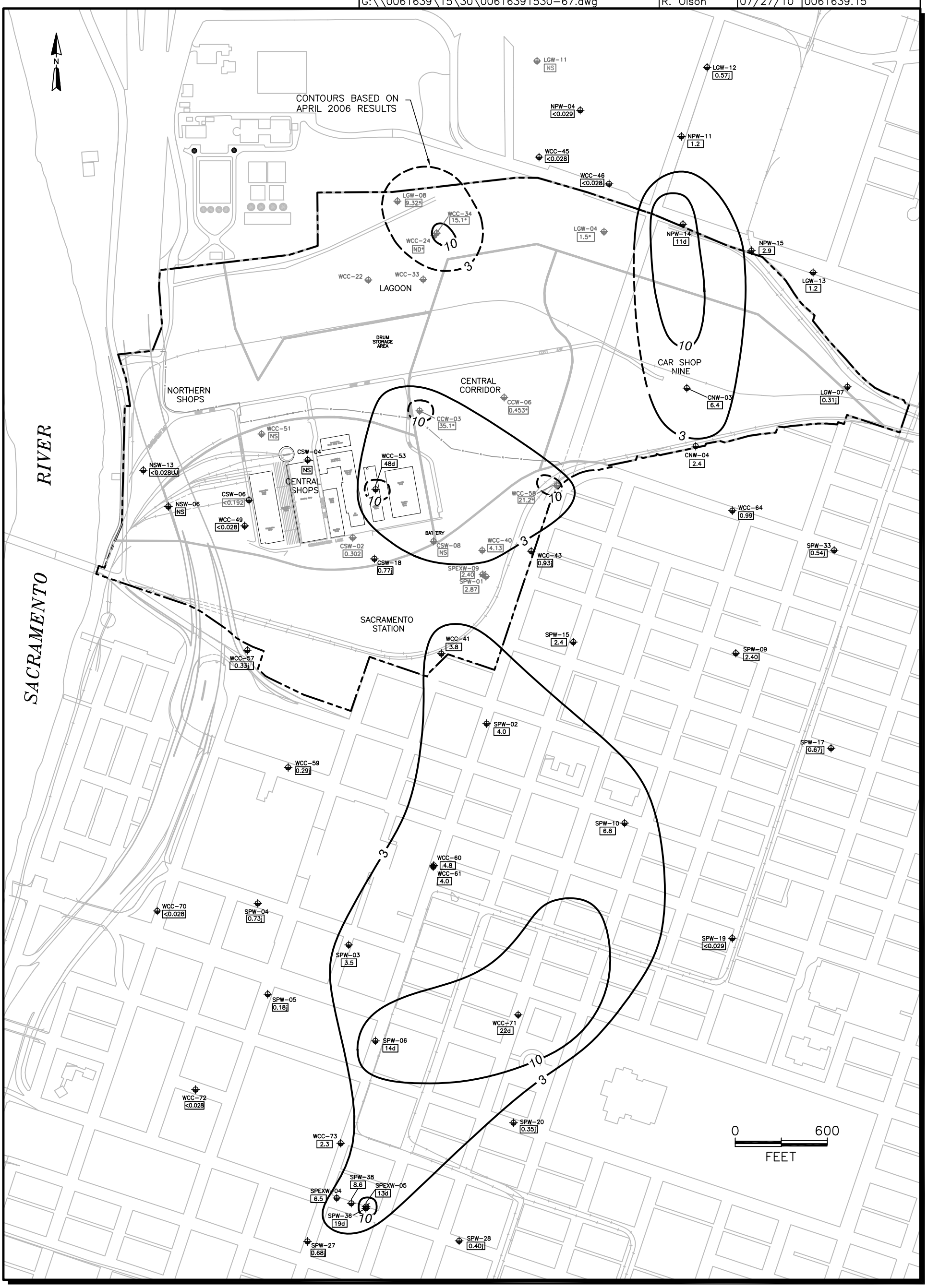
CSW-11	Lower Sand Zone Monitoring Well
SPEXW-07	Lower Sand Zone Extraction Well
CCW-05	Lower Sand Zone Abandoned Well
SPC-28	Lower Sand Zone Grab Groundwater Sample
NS	Not Sampled
3.19	Second Quarter 2010 Concentration of 1,4-Dioxane (Micrograms/Liter)
55.5*	Historical Concentration of 1,4-Dioxane (Micrograms/Liter); * Prior to 2009
10	Line of Equal 1,4-Dioxane Concentrations for Lower Sand Zone Only; Dashed Where Inferred; Queried Where Uncertain
	The Railyards Boundary

Figure 12

1,4-Dioxane Concentrations
Lower Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 07/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-67.dwg	R. Olson	07/27/10	0061639.15



LEGEND

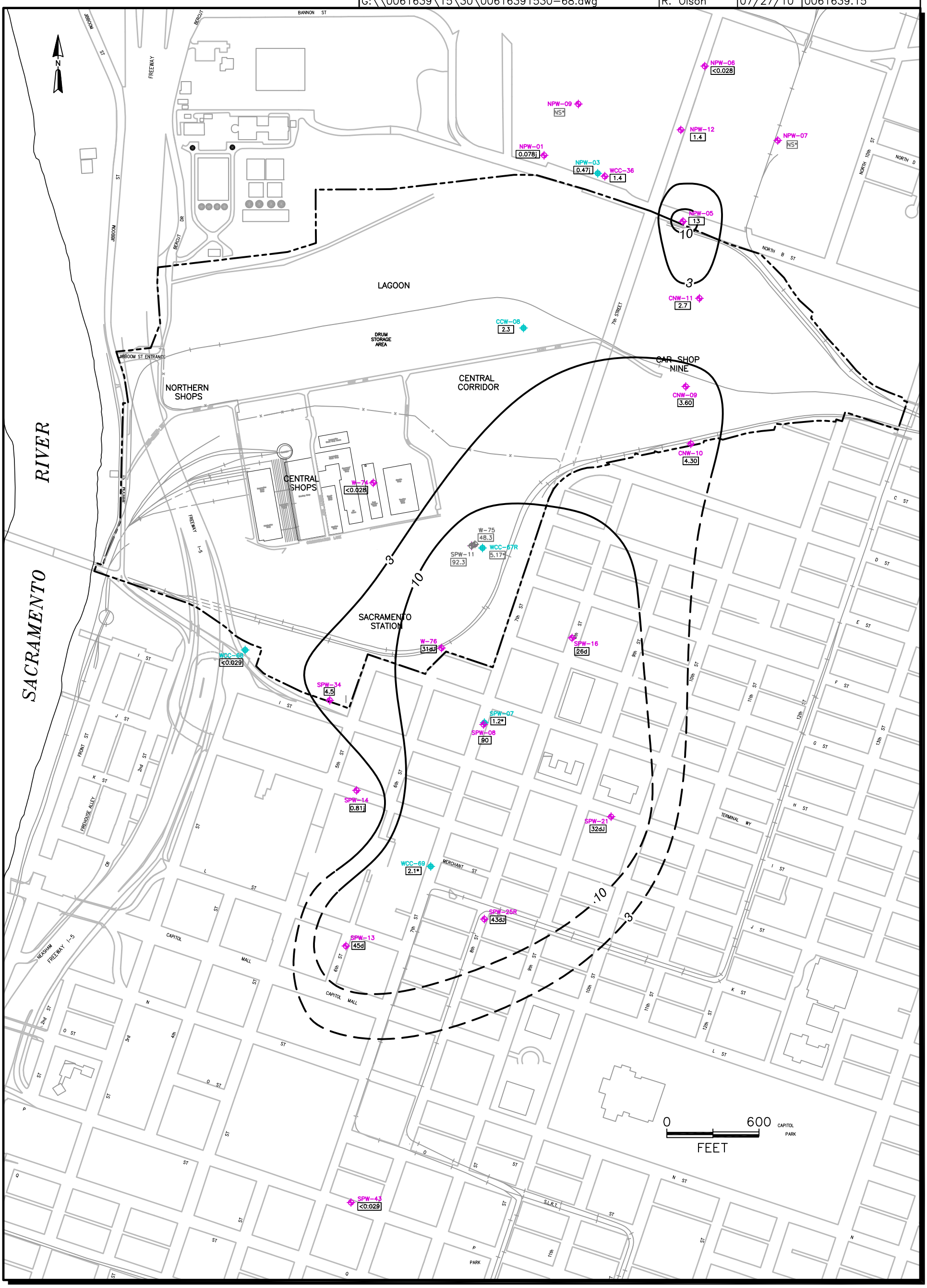
- CCW-03 — Abandoned Gravel Zone Monitoring Well
- SPW-27 — Gravel Zone Monitoring Well
- SPEXW-05 — Gravel Zone Extraction Well
- 1.47 — Second Quarter 2010 Concentration of 1,4-Dioxane (Micrograms/Liter)
- NS — Not Sampled
- 55.5* — Historical Concentration of 1,4-Dioxane (Micrograms/Liter); * Prior to 2009
- 10 — Line of Equal 1,4-Dioxane Concentrations for Gravel Zone; Dashed Where Inferred; Queried Where Uncertain
- The Railyards Boundary

Figure 13

1,4-Dioxane Concentrations
Gravel Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 07/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\00616391530-68.dwg	R. Olson	07/27/10	0061639.15



LEGEND

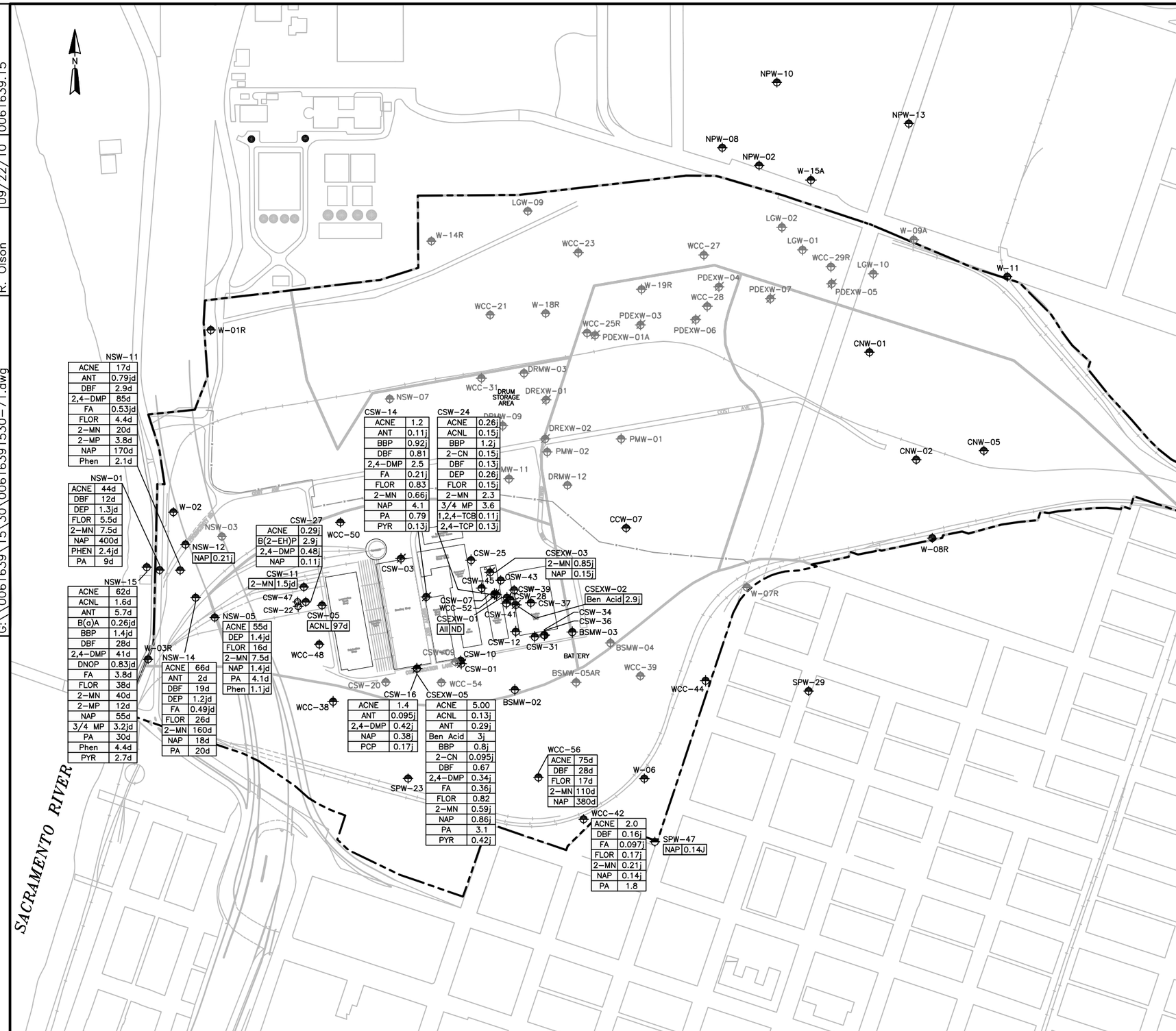
WCC-36	Interbedded B Zone Monitoring Well
WCC-67R	Interbedded D Zone Monitoring Well
W-75	Abandoned Monitoring Well
19.5	Second Quarter 2010 Concentration of 1,4-Dioxane (Micrograms/Liter)
10.9*	Not Used in Contouring
NS	Not Sampled
ND	Not Detected
55.5*	Historical Concentration of 1,4-Dioxane (Micrograms/Liter); * Prior to 2009
10	Line of Equal 1,4-Dioxane Concentrations for Interbedded Sequence B Only; Dashed Where Inferred; Queried Where Uncertain
	The Railyards Boundary

Figure 14

1,4-Dioxane Concentrations
Interbedded Sequence
Second Quarter 2010
The Railyards
Sacramento, California

ERM 07/10

Project No. 0061639.15
Date: 09/22/10
Drawn By: R. Olson
CAD File: G:\0061639\15\30\0061639153O-71.dwg



LEGEND

CNW-02	Upper Sand Zone Monitoring Well
CSW-05	Upper Sand Zone Monitoring Well with LNAPL
NSW-07	Abandoned Upper Sand Zone Monitoring Well
CSEXW-05	Upper Sand Zone Extraction Well
PDEXW-07	Abandoned Upper Sand Zone Extraction Well
26.3	Concentration of Semivolatile Organic Compounds (Micrograms/Liter)
ND	Not Detected at detection limits for individual constituents

ACNE	Acenaphthene
ACNL	Acenaphthylene
ANT	Anthracene
B(2-EH)P	Bis(2-Ethylhexyl)Phthalate
B(a)P	Benzo(a)Pyrene
BBP	Butylbenzylphthalate
Ben Acid	Benzoic Acid
2-CN	2-Chloronaphthalene
DBF	Dibenzofuran
DEP	Diethyl Phthalate
2,4-DMP	2,4-Dimethylphenol
DNOP	Di-N-Octylphthalate
FA	Fluoranthene
FLOR	Fluorene
2-MN	2-Methylnaphthalene
2-MP	2-Methylphenol
3/4 MP	3&4 Methylphenol
NAP	Naphthalene
PA	Phenanthracene
PCP	Pentachlorophenol
PHEN	Phenanthracene
PYR	Pyrene
1,2,4-TCB	1,2,4-Trichlorobenzene
2,4-TCP	2,4-Trichlorophenol

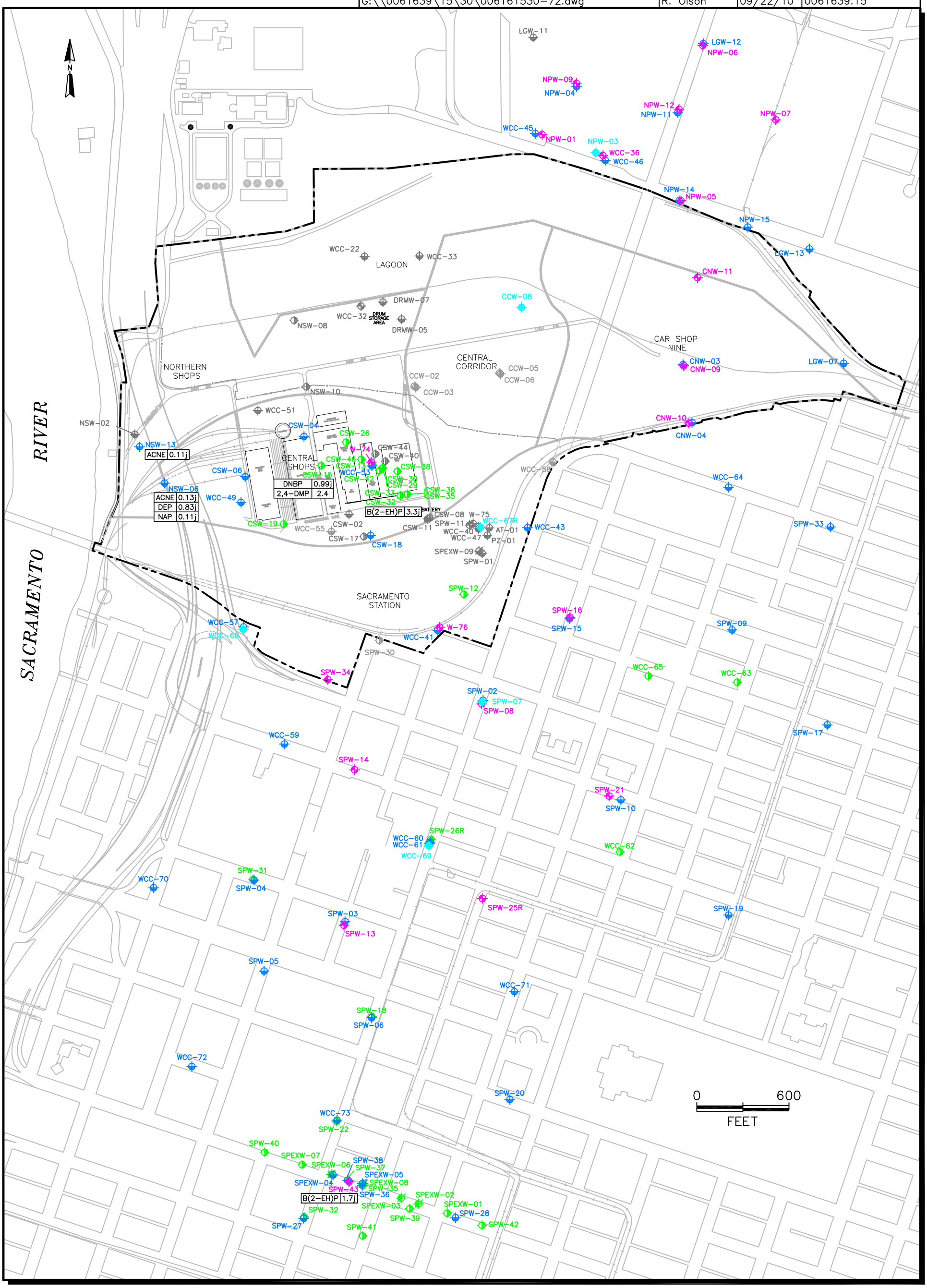
The Railyards Boundary

0 500
FEET

Figure 15
Semivolatile Organic Compounds
Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 09/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\006161530-72.dwg	R. Olson	09/22/10	0061639.15



LEGEND

SPW-40	Lower Sand Zone Monitoring Well
SPEXW-06	Lower Sand Zone Extraction Well
SPW-27	Gravel Zone Monitoring Well
SPEXW-05	Gravel Zone Extraction Well
SPW-43	Interbedded B Sequence Monitoring Well
SPW-07	Interbedded D Sequence Monitoring Well
Note:	Grayed wells are inactive or abandoned.

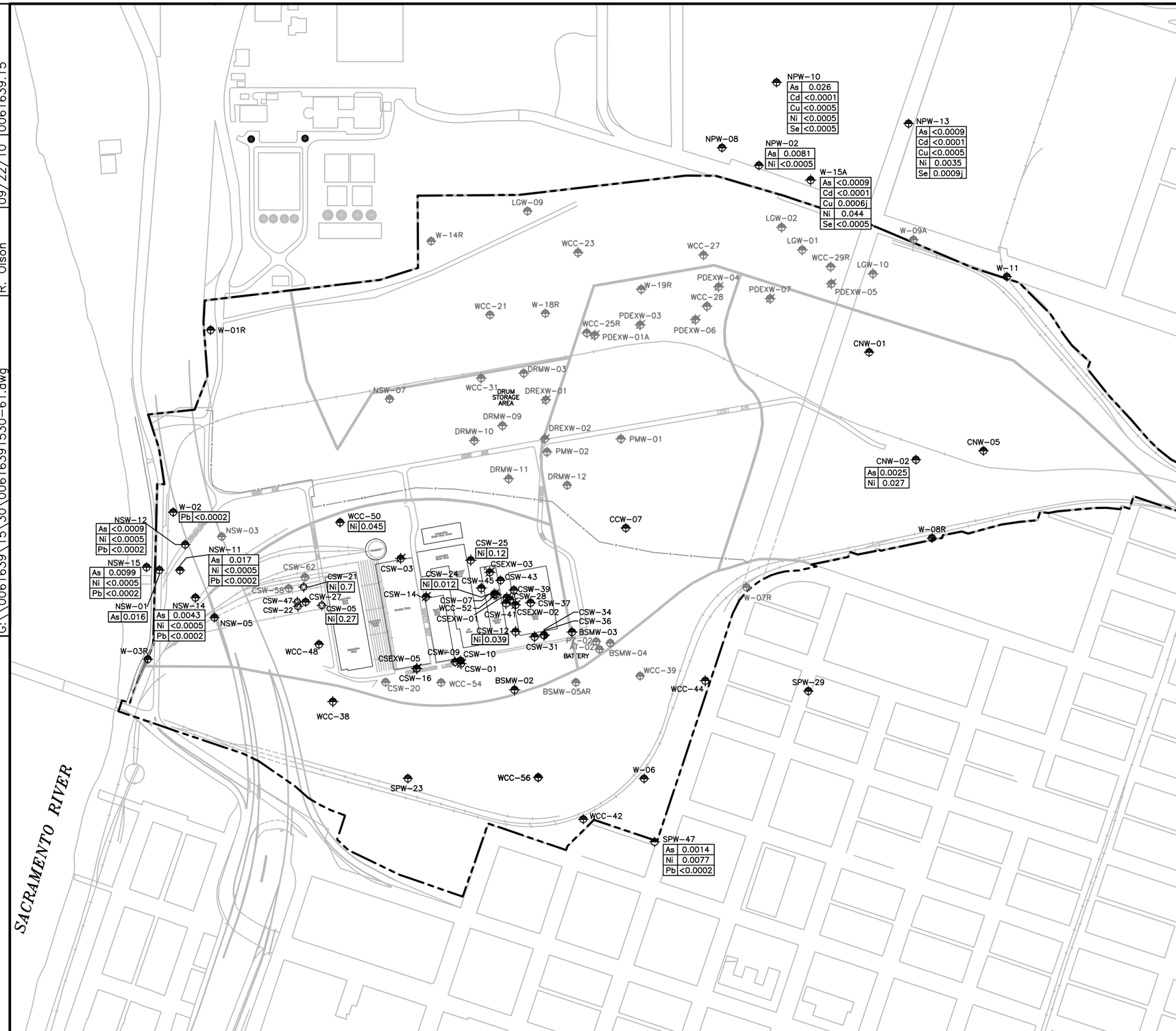
26.3	Concentration of Semivolatile Organic Compounds (Micrograms/Liter)
ND	Not Detected at detection limits for individual constituents
ACNE	Acenaphthene
B(2-EH)P	Bis(2-Ethylhexyl)Phthalate
DEP	Diethylphthalate
2,4-DMP	2,4-Dimethylphenol
DNBP	Di-N-Butylphthalate
NAP	Naphthalene
— — —	The Railyards Boundary

Figure 16

Semivolatile Organic Compounds
All Zones, Excluding Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 09/10

Project No. 0061639.15
Date: 09/22/10
Drawn By: R. Olson
CAD File: G:\0061639\15\30\0061639153O-61.dwg



LEGEND

CNW-02	Upper Sand Zone Monitoring Well
CSW-05	Upper Sand Zone Monitoring Well with LNAPL
NSW-07	Abandoned Upper Sand Zone Monitoring Well
CSEXW-05	Upper Sand Zone Extraction Well
PDEXW-07	Abandoned Upper Sand Zone Extraction Well
0.039	Concentration of Dissolved Metals (Milligrams/Liter)
ND	Not Detected at detection limits for individual constituents
As	Arsenic
Cd	Cadmium
Cu	Copper
Ni	Nickel
Pb	Lead
Se	Selenium
— — —	The Railyards Boundary

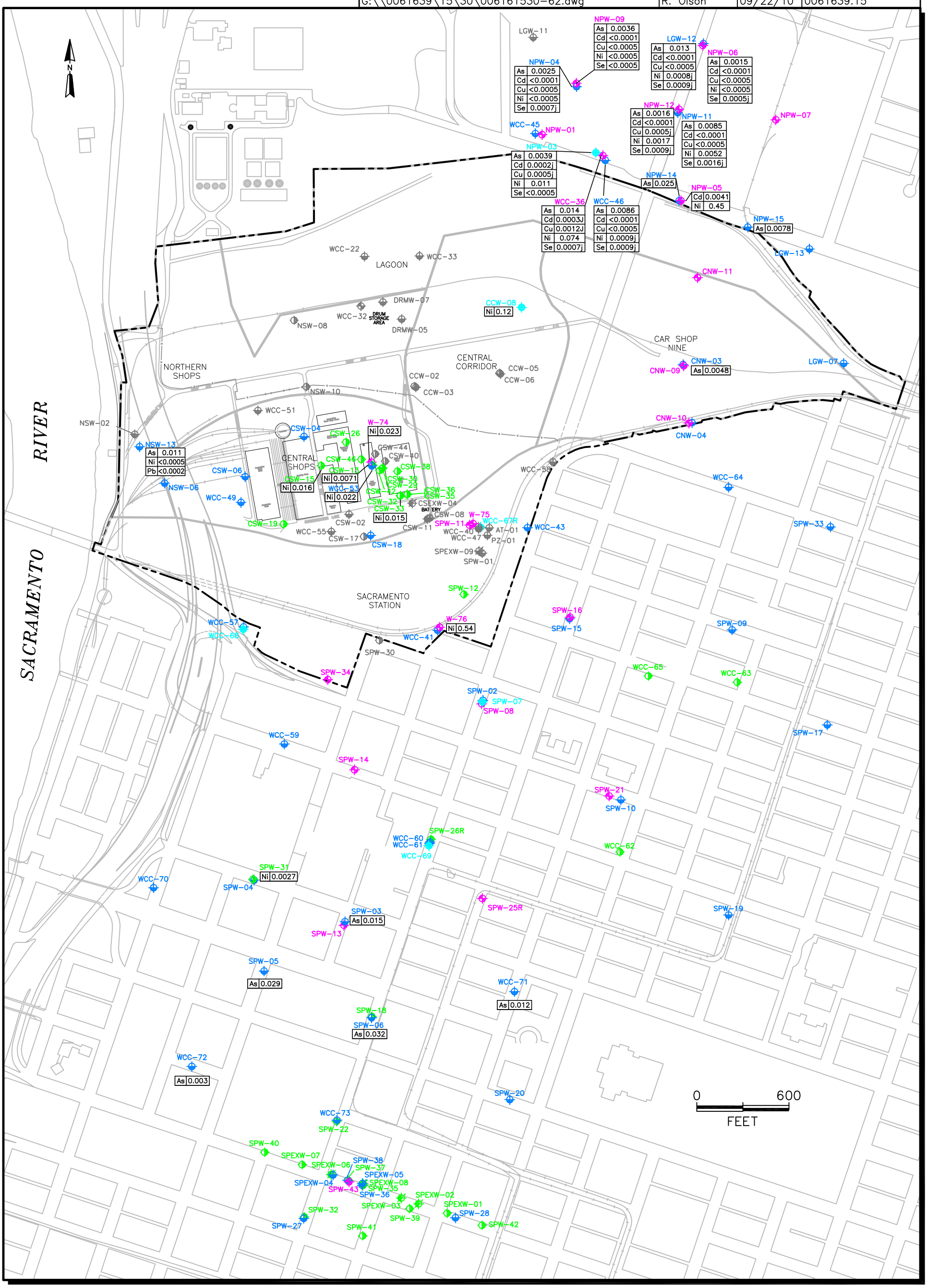
N

0 500
FEET

Figure 17
Dissolved Metals
Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 09/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\006161530-62.dwg	R. Olson	09/22/10	0061639.15



LEGEND

SPW-40	Lower Sand Zone Monitoring Well
SPEXW-06	Lower Sand Zone Extraction Well
SPW-27	Gravel Zone Monitoring Well
SPEXW-05	Gravel Zone Extraction Well
SPW-43	Interbedded B Sequence Monitoring Well
SPW-07	Interbedded D Sequence Monitoring Well

Note: Grayed wells are inactive or abandoned.

0.108	Concentration of Dissolved Metals (Milligrams/Liter)
As	Arsenic
Cd	Cadmium
Cu	Copper
Ni	Nickel
Pb	Lead
Se	Selenium
— — —	The Railyards Boundary

Figure 18

Dissolved Metals

All Zones, Excluding Upper Sand Zone

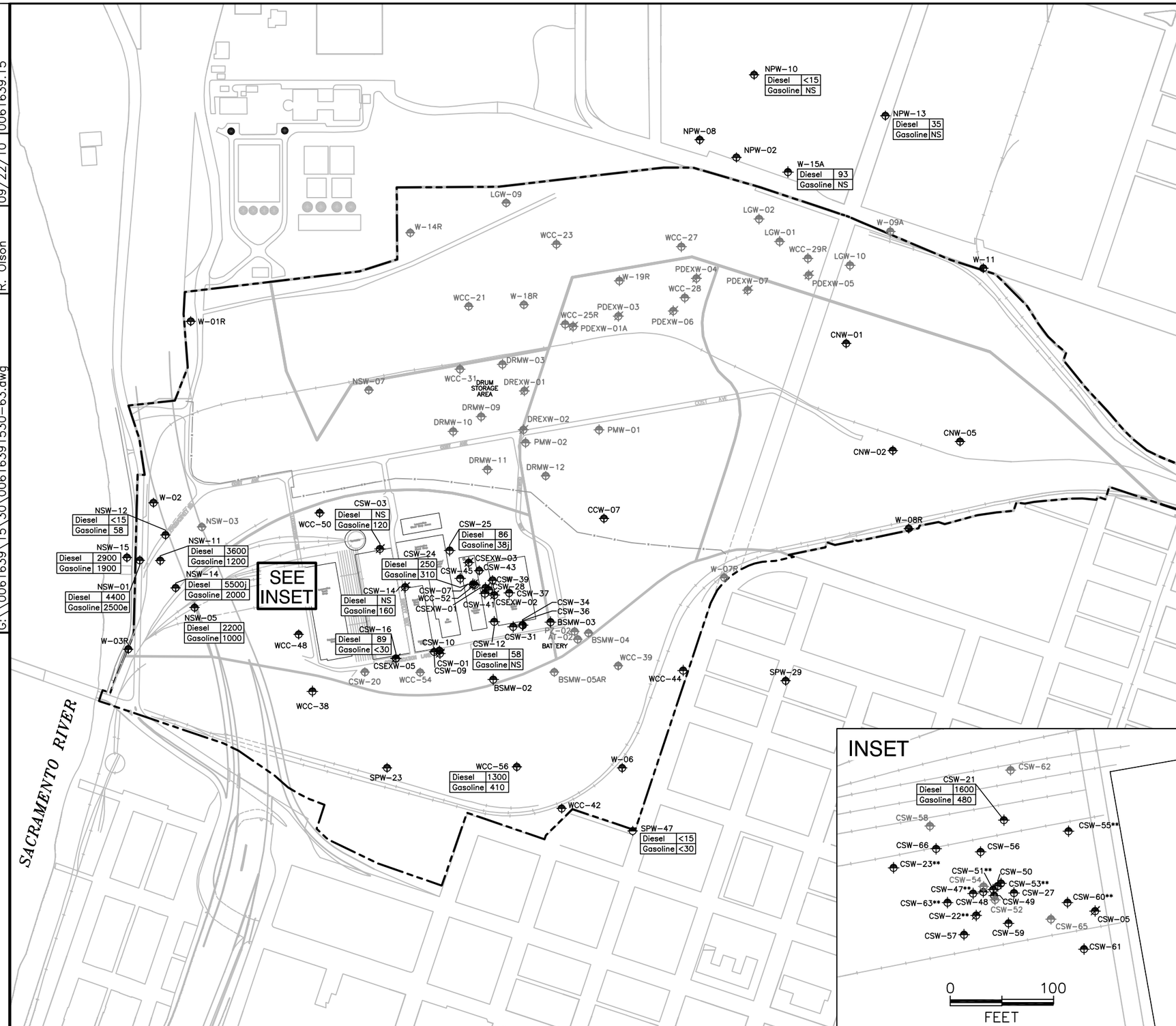
Second Quarter 2010

The Railyards

Sacramento, California

ERM 09/10

Project No. 0061639.15
Date: 09/22/10
Drawn By: R. Olson
CAD File: G:\0061639\15\30\0061639153063.dwg



LEGEND

CNW-02	Upper Sand Zone Monitoring Well
CNW-47**	Upper Sand Zone Monitoring Well Impacted By Floating Non-Aqueous Phase Liquid
NSW-07	Abandoned Upper Sand Zone Monitoring Well
CSEXW-05	Upper Sand Zone Extraction Well
PDEXW-07	Abandoned Upper Sand Zone Extraction Well
500	Concentration of Total Petroleum Hydrocarbons (Micrograms/Liter)
NS	Not Sampled
— — —	The Railyards Boundary

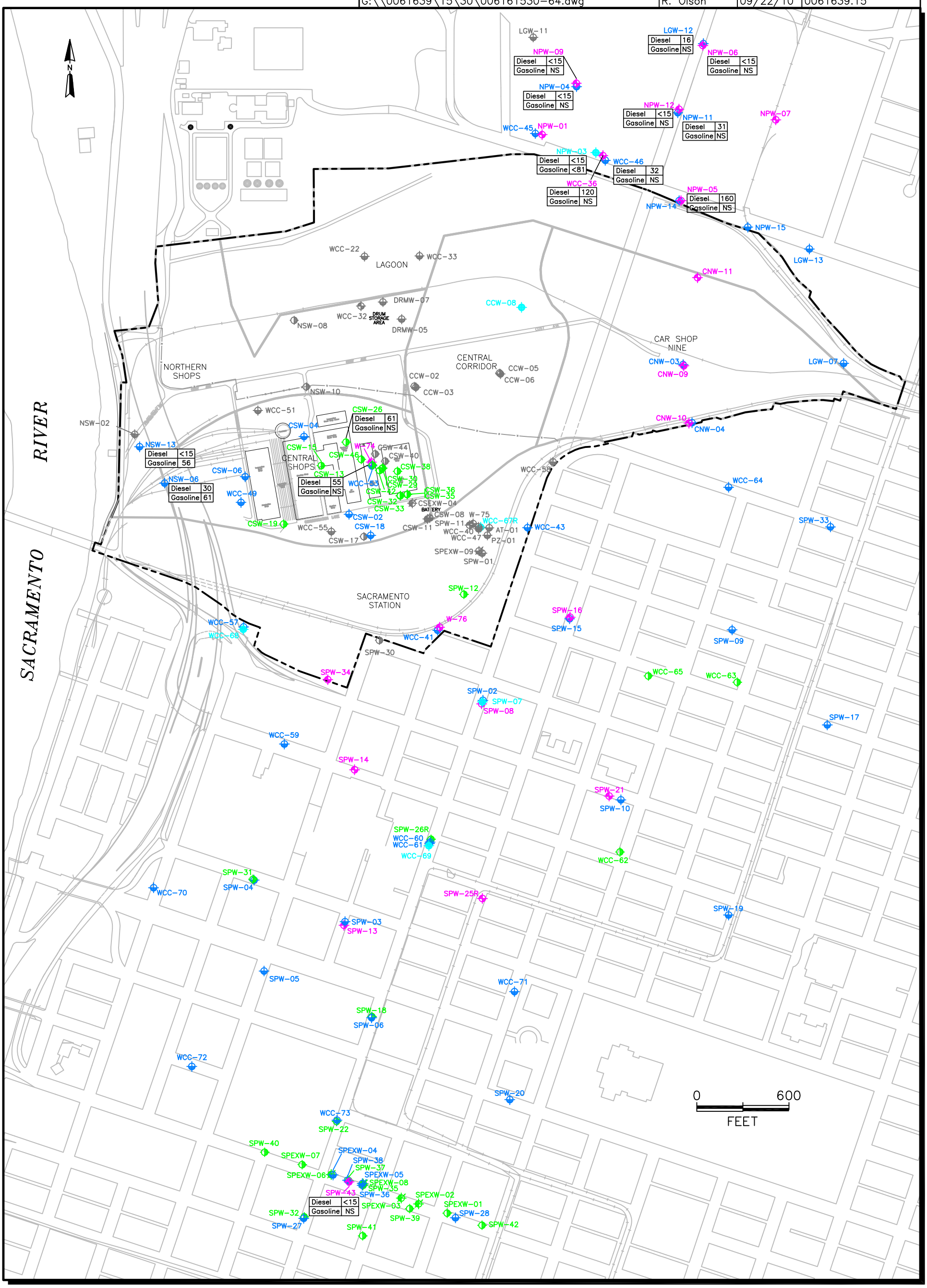
N

0 500
FEET

Figure 19
Total Petroleum Hydrocarbons
Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 09/10

CAD File:	Drawn By:	Date:	Project No.
G:\\0061639\15\30\006161530-64.dwg	R. Olson	09/22/10	0061639.15



LEGEND

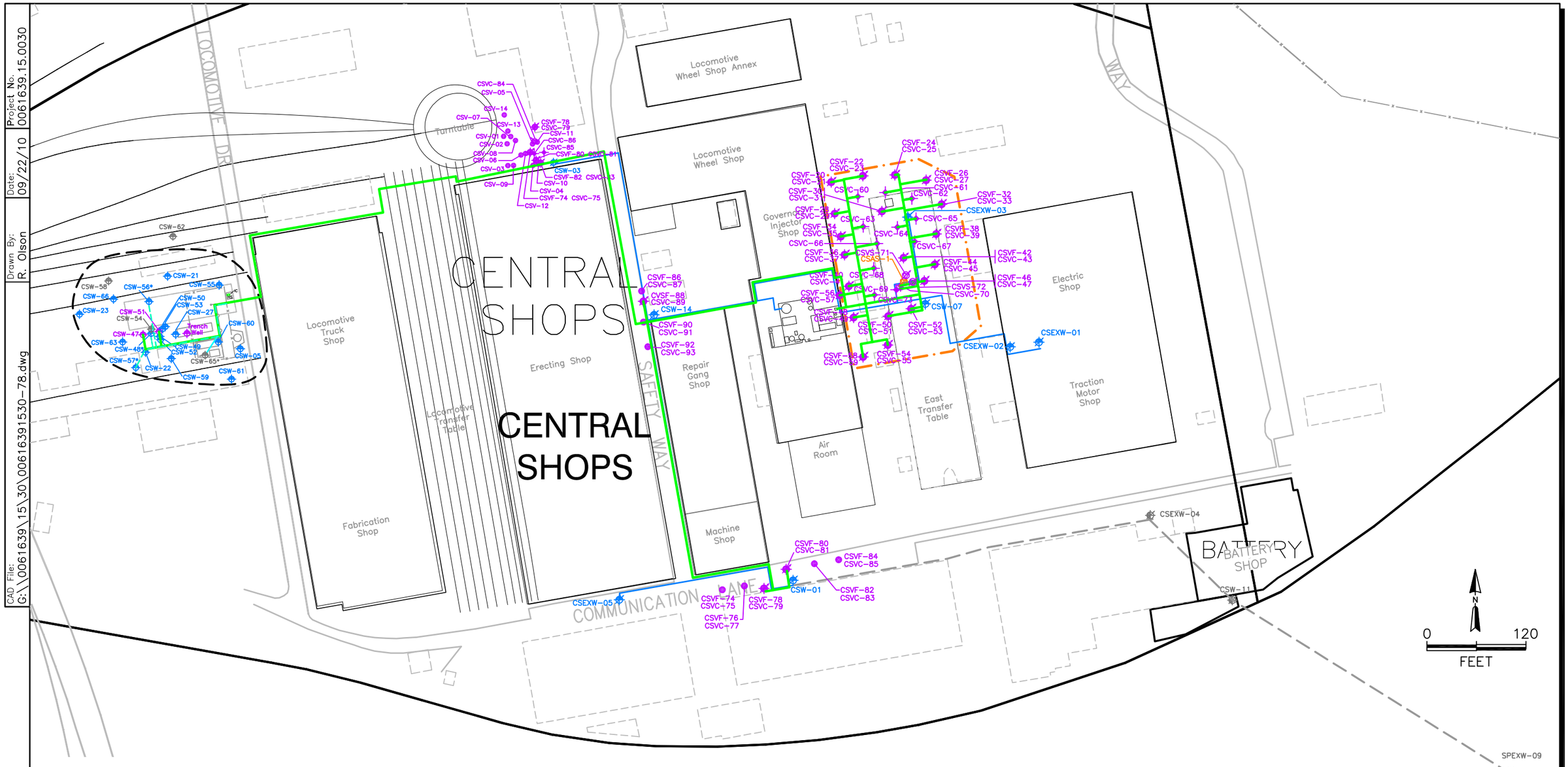
SPW-40	Lower Sand Zone Monitoring Well
SPEXW-06	Lower Sand Zone Extraction Well
SPW-27	Gravel Zone Monitoring Well
SPEXW-05	Gravel Zone Extraction Well
SPW-43	Interbedded B Sequence Monitoring Well
SPW-07	Interbedded D Sequence Monitoring Well
240	Concentration of Total Petroleum Hydrocarbons (Micrograms/Liter)
NS	Not Sampled
— — —	The Railyards Boundary

Note: Grayed wells are inactive or abandoned.

Figure 20

Total Petroleum Hydrocarbons
All Zones, Excluding Upper Sand Zone
Second Quarter 2010
The Railyards
Sacramento, California

ERM 09/10

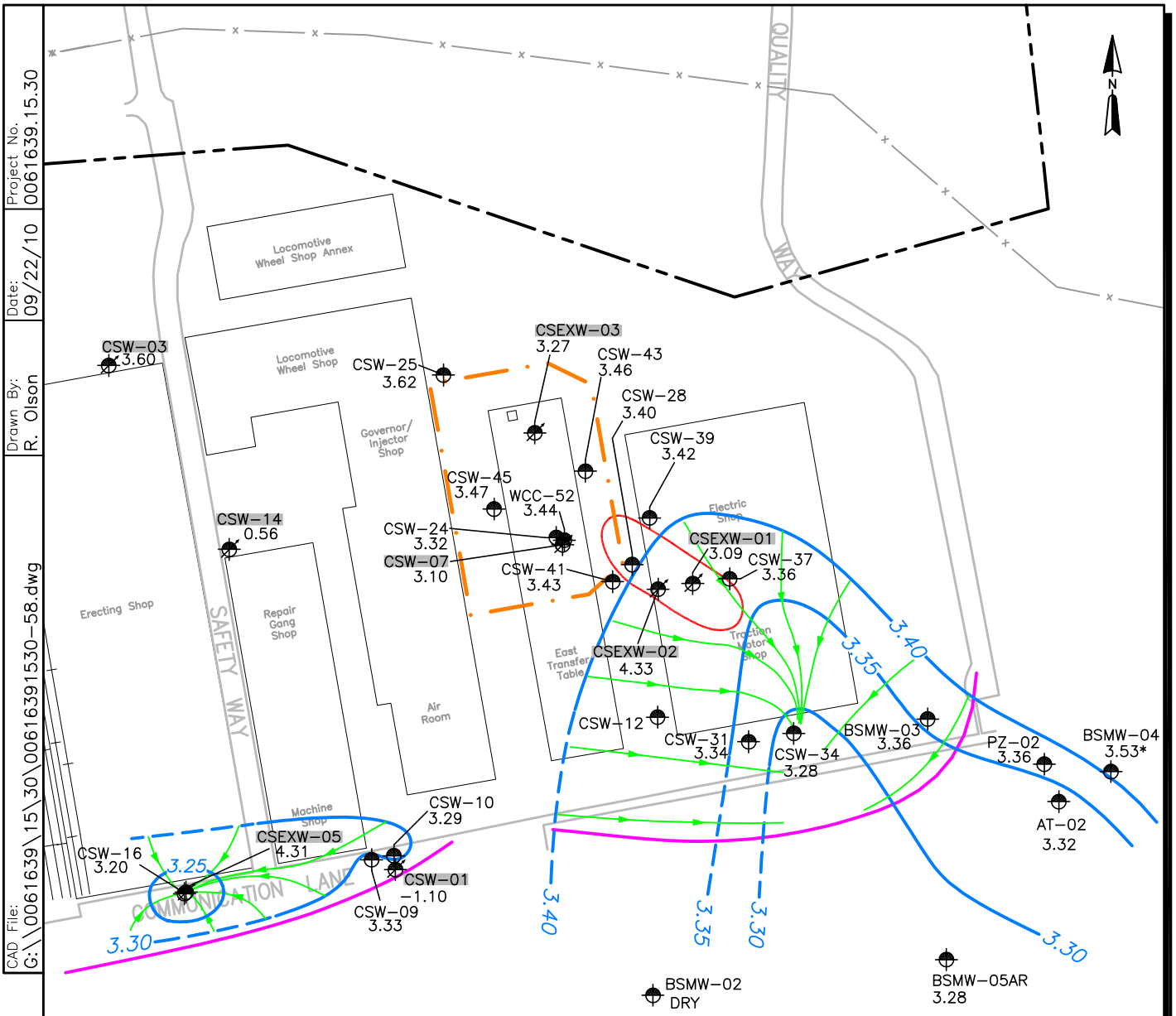


LEGEND

SPEXW-09	ABANDONED WELL
CSW-22	UPPER SAND ZONE MONITORING WELL
CSW-51	VAPOR EXTRACTION WELL
CSW-11	GROUNDWATER EXTRACTION WELL (LOWER SAND ZONE)
CSEXW-01	GROUNDWATER EXTRACTION WELL (UPPER SAND ZONE)
SPEXW-09	GROUNDWATER EXTRACTION WELL (GRAVEL ZONE)
CSAS-1	AIR SPARGING WELL
CSW-56*	AIR INJECTION WELL
CSVF-88 CSVC-89	DUAL VAPOR EXTRACTION WELL (FILL AND CLAY ZONE)
CSVF-86 CSVC-87	DUAL VAPOR MONITORING POINT (FILL AND CLAY ZONE)
CSVF-70	SOIL VAPOR EXTRACTION WELL (FILL ZONE)
CSVC-63	SOIL VAPOR EXTRACTION WELL (CLAY ZONE)
CSVS-71	SOIL VAPOR EXTRACTION WELL (SAND ZONE)
HS	HEALTH AND SAFETY SHED
IC	INJECTION COMPRESSOR
	GROUNDWATER EXTRACTION PIPING
	INJECTION PIPING
	VAPOR EXTRACTION PIPING
	HYDRAULIC CONTAINMENT WALL
	GROUNDWATER EXTRACTION PIPING (REMOVED)
	INJECTION PIPING REMOVED
	APPROXIMATE BOUNDARY OF LNAPL AREA

Figure 21
South Plume Source and New Painting Facility System Map
The Railyards
Sacramento, California

ERM 09/10



LEGEND

CSW-12 — Upper Sand Zone Monitoring Well

CSEXW-01 — Upper Sand Zone Extraction Well

Active Extraction Well; Not Used for Contouring

5.32 — Ground Water Elevation (Feet MSL)

* — Datum Anomalous; Not Used for Contouring

Source 30 mg/L (30,000 µg/L) Total VOC Contour Used for System Design

Line of Equal Ground Water Elevation; Dashed Where Inferred; Contour Interval 0.10 ft

Flowline, October 2009

Approximate Limit of Capture Zone as Defined by Flow Streamline, October 2009

Hydraulic Containment Wall

The Railyards Boundary

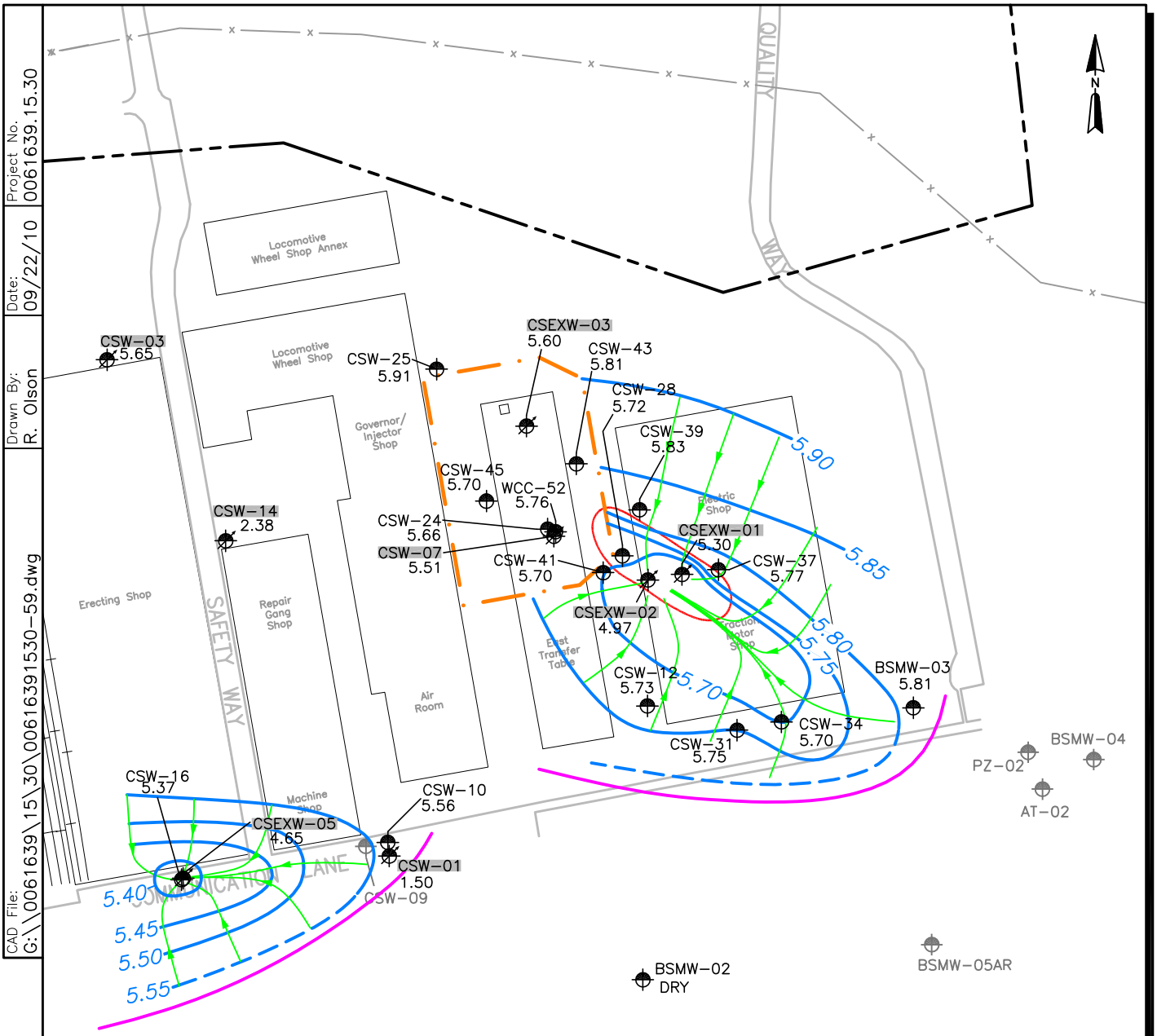
Note: Water levels measured October 2009

0 160
FEET

Figure 22a

Upper Sand Zone Groundwater Capture
South Plume Source IRM
October 2009
The Railyards
Sacramento, California

ERM 09/10



LEGEND

CSW-12 — Upper Sand Zone Monitoring Well

CSEXW-01 — Upper Sand Zone Extraction Well

Active Extraction Well; Not Used for Contouring

CSW-09 — Monitoring Well, Abandoned December 2009

5.32 — Ground Water Elevation (Feet MSL)

* — Datum Anomalous; Not Used for Contouring

Source 30 mg/L (30,000 µg/L) Total VOC Contour Used for System Design

Line of Equal Ground Water Elevation; Dashed Where Inferred; Contour Interval 0.10 ft

Flowline, May 2010

Approximate Limit of Capture Zone as Defined by Flow Streamline, May 2010

Hydraulic Containment Wall

The Railyards Boundary

Note: Water levels measured May 2010

Figure 22b

Upper Sand Zone Groundwater Capture
South Plume Source IRM
May 2010
The Railyards
Sacramento, California

ERM 09/10

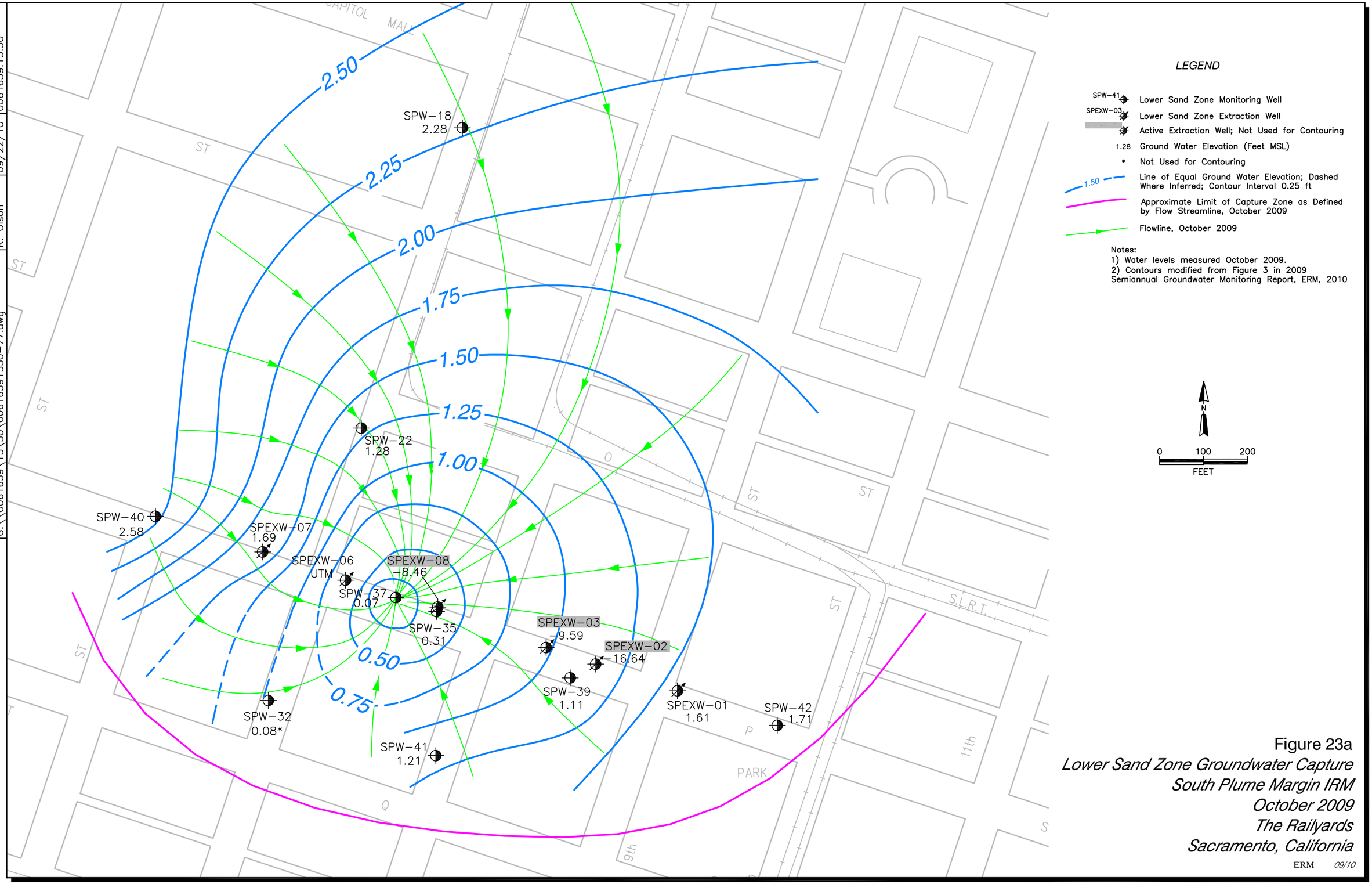


Figure 23a
Lower Sand Zone Groundwater Capture
South Plume Margin IRM
October 2009
The Railyards
Sacramento, California

ERM 09/10

Project No. 0061639.15.30
Date: 09/22/10
Drawn By: R. Olson
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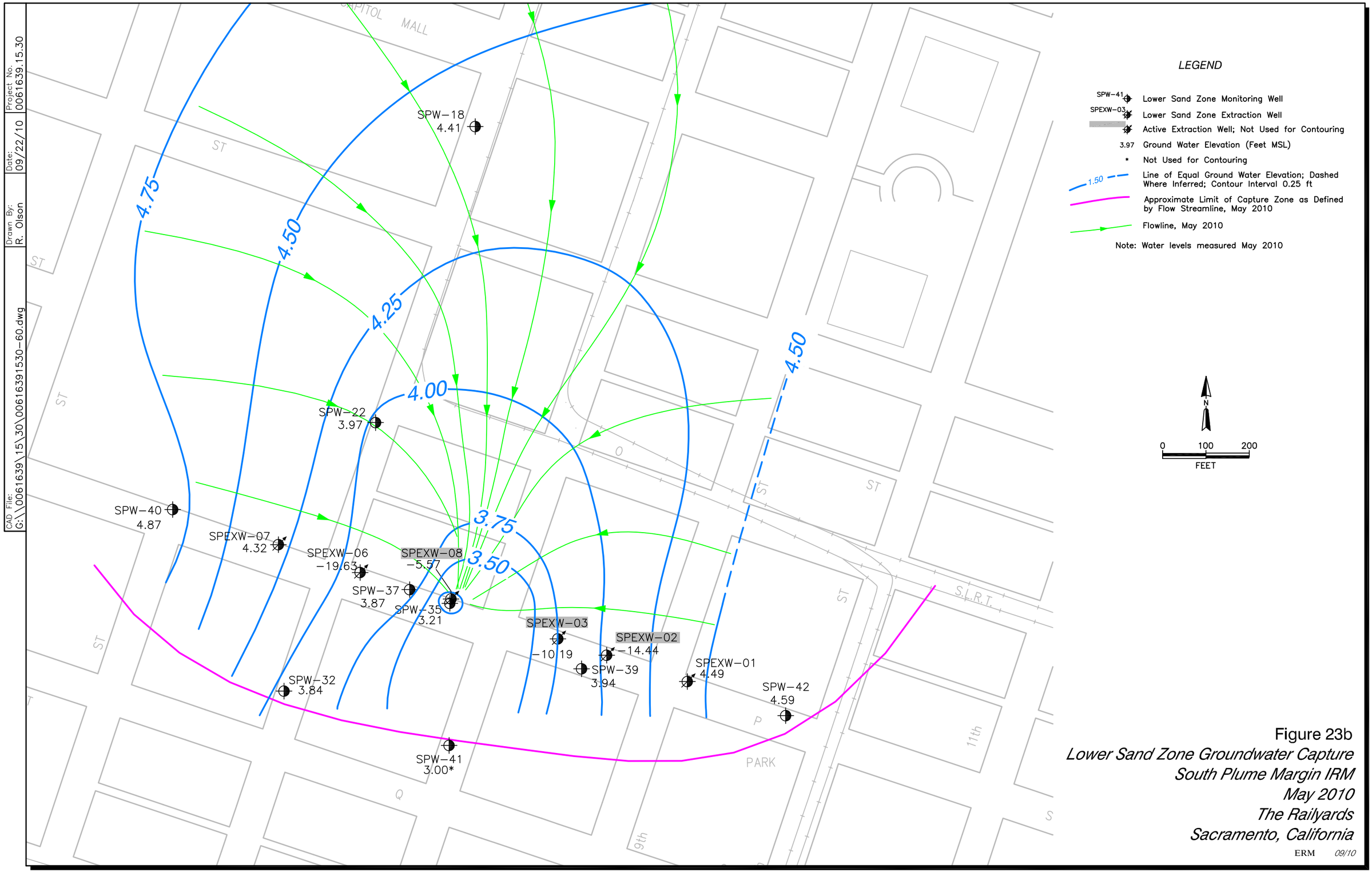


Figure 23b
Lower Sand Zone Groundwater Capture
South Plume Margin IRM
May 2010
The Railyards
Sacramento, California

ERM 09/10

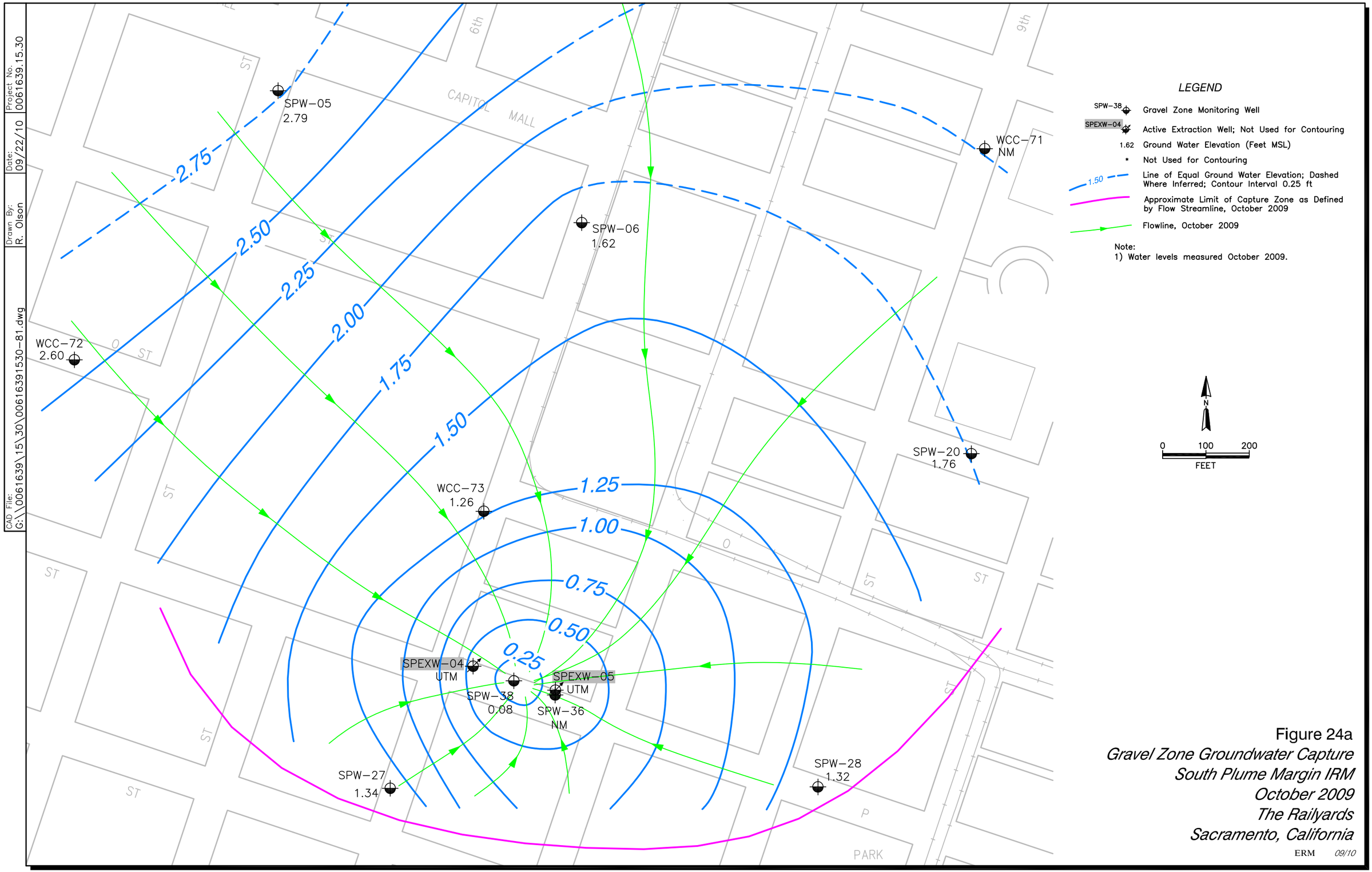


Figure 24a
Gravel Zone Groundwater Capture
South Plume Margin IRM
October 2009
The Railyards
Sacramento, California

ERM 09/10

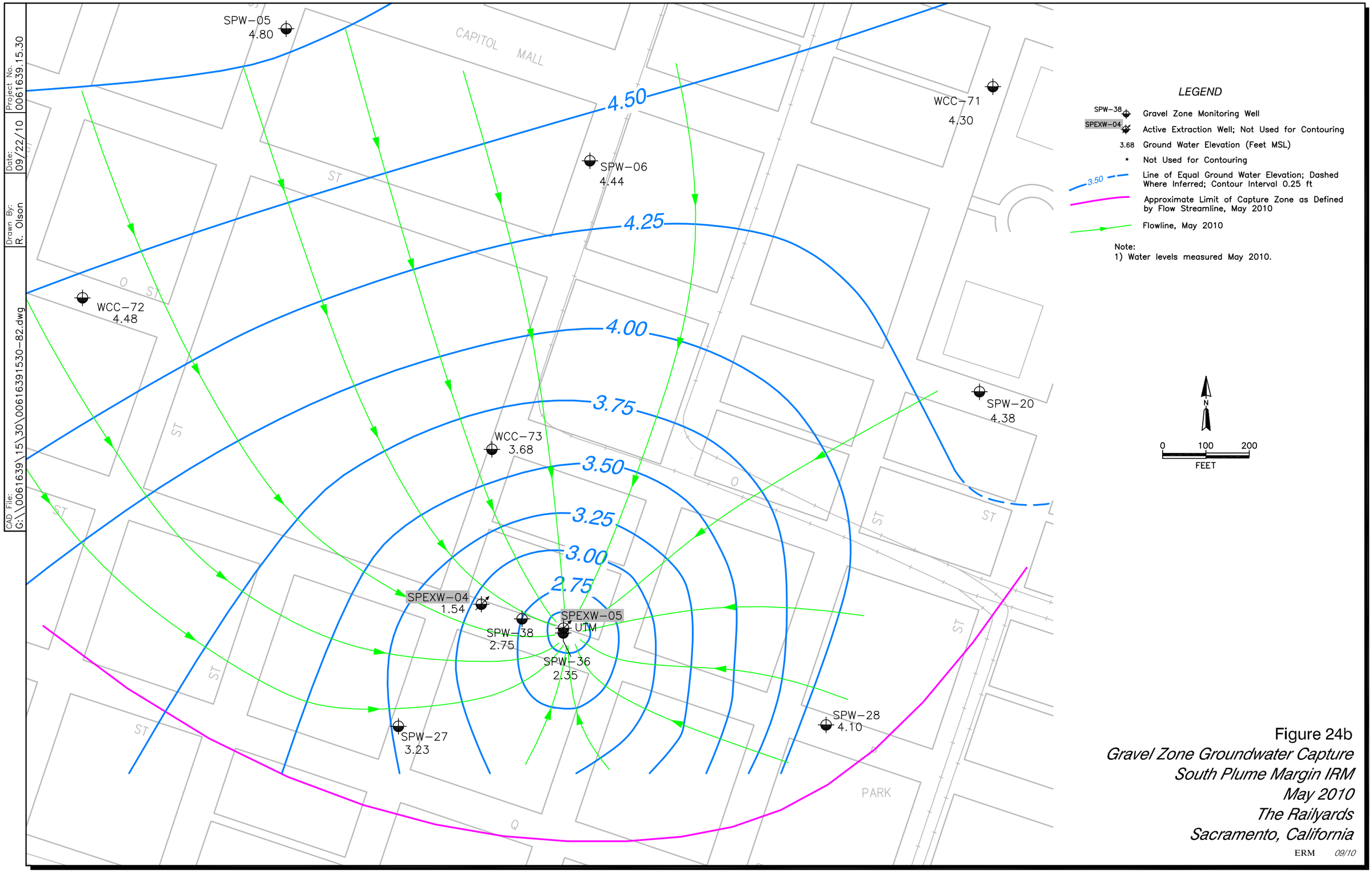


Figure 24b
Gravel Zone Groundwater Capture
South Plume Margin IRM
May 2010
The Railyards
Sacramento, California

ERM 09/10

Table 1
Monitoring and Reporting Program Requirements
The Railyards
Sacramento, California

Semiannual M&RP Requirement	Report Element
a. A description and discussion of the groundwater sampling event and results, including significant trends in the concentrations of pollutants and groundwater elevations in the wells, how and when the samples were collected, whether the pollutant plume(s) is delineated, and a schedule for submittal of a workplan for new wells if they are needed to define the lateral or vertical extent of the contaminant plumes in each aquifer zone.	Page 3 of text – *Flow Direction and Lateral Hydraulic Gradients; Vertical Hydraulic Gradients* (summary of trends in groundwater elevations, supplemented by tables). Page 4 of text – *Groundwater Sampling Quality Summary* Page 4 of text – *Summary of Field Activities and Analytical Program* (summary of field activities). Page 4 of text – *Chemical Occurrence* (summary of trends in chemical concentrations, supplemented by tables, evaluation of plume delineation and monitoring network adequacy).
b. Field logs that contain, at a minimum, water quality parameters measured before, during, and after purging; method of purging; depth to water; volume of water purged, etc.	Appendix A - Groundwater Sampling Field Logs.
c. Groundwater potentiometric isocontour maps for each of the groundwater zones – Upper Sand, Lower Sand, Gravel, Interbedded.	Figures 2 through 6.
d. Isocontour pollutant concentration maps for each monitored zone - Upper Sand, Lower Sand, Gravel, Interbedded.	Figures 7 through 24 (for total halogenated volatile organic compounds [THVOCs], 1,4-dioxane, semivolatile organic compounds [SVOCs], metals, and total petroleum hydrocarbons [TPH]).
e. A table showing well construction details such as well number, groundwater zone being monitored, coordinates (longitude and latitude), ground surface elevation, reference elevation, elevation of screen, elevation of bentonite, elevation of filter pack, and elevation of well bottom.	Table 4 – Summary of Well Construction Details.
f. A table showing historical lateral and vertical flow directions and gradients for each water-bearing zone.	Table 6 – Historical Lateral Groundwater Flow Directions and Gradients. Table 7 - Vertical Hydraulic Gradients
g. Cumulative data tables containing the water quality analytical results and depth to ground water for the past five years.	Appendix D – Cumulative Tables (electronic format).
h. A copy of the laboratory analytical data report	Appendix C – Laboratory Data Reports (electronic format).
i. The volume of extracted groundwater from each of the groundwater extraction wells shall be provided in the Semiannual Groundwater Monitoring Report. (Totalizer readings will be included.)	Table 15 - Extraction Well Flow Summary Appendix F - Field Log Sheets for System Operations

Table 1
Monitoring and Reporting Program Requirements
The Railyards
Sacramento, California

Annual M&RP Requirement	Report Element
a. Both tabular and graphical summaries of all data obtained during the year.	Tables 5, 6, 7, 9, 10, 11, and 12, and Figures 2 through 24 - (tabular and graphical summaries of groundwater elevations, groundwater flow directions and gradients, volatile organic compounds, semivolatile organic compounds, dissolved metals, and total petroleum hydrocarbons).
b. A discussion of the long-term trends in the concentrations of the pollutants in the groundwater monitoring wells.	Page 5 of text – *Halogenated Volatile Organic Compounds* Page 7 of text – *Benzene, Toluene, Ethylbenzene, and Total Xylenes* Page 8 of text – *1,4-Dioxane* Page 10 of text – *Semivolatile Organic Compounds* Page 11 of text – *Dissolved Metals* Page 12 of text – *Total Petroleum Hydrocarbons*
c. An identification of any gaps and potential deficiencies/redundancies in the monitor system or reporting program.	Page 20 of text – *Groundwater Monitoring Activities*
d. If desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.	Page 20 of text – *Groundwater Monitoring Activities*

Remediation System Operation and Maintenance M&RP Requirement	Report Element
a. Status of ongoing groundwater remediation, including information on the mass of VOCs removed and volume of water extracted by groundwater extraction/treatment systems, operating time, effectiveness of remediation systems and any field notes pertaining to the operation and maintenance of the systems during the annual period.	Page 15 of text – *System Monitoring* (description for SPS system) Page 17 of text – *System Monitoring* (description for SPM system) Page 19 of text – *Soil Vapor Extraction; Air Injection; Light Nonaqueous-Phase LiquidRemoval* (description for New Painting Facility) Table 13 – Groundwater and Soil Vapor Remediation System Operation, South Plume Source, July 2009 through June 2010. Table 15 – Extraction Well Flow Summary, July 2009 through June 2010. Table 17 – Groundwater Remediation System Operation, South Plume Margin, July 2009 through June 2010. Table 18 – New Painting Facility LNAPL Levels, July 2009 through June 2010. Appendix F - Field Log Sheets for System Operations
b. Status of ongoing soil remediation, including information on the mass of VOCs removed by soil vapor extraction/treatment systems, operating time, effectiveness of remediation systems and any field notes pertaining to the operation and maintenance of the systems during the annual period.	Table 14 - Volatile Organic Compounds Detected in Vapor Samples, July 2009 through June 2010. Page 15 of text – *Operation Summary* (description of operational activities for SPS) Table 13 – Groundwater and Soil Vapor Remediation System Operation, South Plume Source, July 2009 through June 2010. Page 17 of text – *Operation Summary* (description of operational activities for SPM) Appendix F - Field Log Sheets for System Operations

Table 1
Monitoring and Reporting Program Requirements
The Railyards
Sacramento, California

Remediation System Operation and Maintenance M&RP Requirement	Report Element
c. Status of ongoing free product removal activities at the New Painting Facility including information on the volume removed.	Page 18 of text – *New Painting Facility Light Nonaqueous-Phase Liquid Area* Table 18 – New Painting Facility LNAPL Levels, July 2009 through June 2010.
d. If applicable, the reasons for and duration of all interruptions in the operations of any remediation system and actions planned or taken to correct and/or prevent interruptions.	Page 15 of text – *Operation Summary* (description of operational activities for SPS) Table 13 – Groundwater and Soil Vapor Remediation System Operation, South Plume Source, July 2009 through June 2010. Page 17 of text – *Operation Summary* (description of operational activities for SPM) Table 17 – Groundwater Remediation System Operation, South Plume Margin, July 2009 through June 2010. Page 18 of text – *New Painting Facility Light Nonaqueous-Phase Liquid Area* (description of operational activities for New Painting Facility)
e. An analysis of whether the groundwater pollutant plume is being hydraulically captured by the extraction systems is migrating or is shrinking in areal extent.	Page 16 of text – *Capture Zone Evaluation and Conclusions* (summary of system effectiveness and any plans to improve system effectiveness). Figures 22a and 22b – Upper Sand Zone Groundwater Capture for October 2009 and May 2010, respectively Table 16 - Vertical Hydraulic Gradients Within the SPS Cutoff Wall, July 2009 through June 2010 Page 18 of text – *Capture Zone Evaluation and Conclusions (* summary of system effectiveness and any plans to improve system effectiveness). Figures 23a and 23b – Lower Sand Zone Groundwater Capture for November 2008 and April 2009
f. A description of all remedial activities during the year, an analysis of their effectiveness in removing the pollutants, and plans to improve remediation system effectiveness and recommendation(s) for system optimization.	Page 15 of text – *Operation Summary* (description of operational activities for SPS) Page 16 of text – *Capture Zone Evaluation and Conclusions* (summary of system effectiveness and any plans to improve system effectiveness). Table 13 – Groundwater and Soil Vapor Remediation System Operation, South Plume Source, July 2009 through June 2010. Page 17 of text – *Operation Summary* (description of operational activities for SPM) Page 18 of text – *Capture Zone Evaluation and Conclusions (* summary of system effectiveness and any plans to improve system effectiveness). Page 18 of text – *New Painting Facility Light Nonaqueous-Phase Liquid Area.* Table 17 – Groundwater Remediation System Operation, South Plume Margin, July 2009 through June 2010. Table 18 – New Painting Facility LNAPL Levels, July 2009 through June 2010. Table 2 – Remediation System Monitoring Program Summary, South Plume Source and South Plume Margin

References:

2009 Semiannual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report (March 2010)

Table 2
Remediation System Monitoring Program Summary
South Plume Source and South Plume Margin
July 2009 - June 2010
The Railyards
Sacramento, California

Location	Screen Int / Depth / Ext Rate (Unit) / (ft bgs) / (gpm)	Water Elevation	Water Quality Monitoring (1)	Purpose of Monitoring
South Plume Source				
Extraction Wells				
CSEXW-01	USZ / 26-41 / 10	Semiannual	Semiannual	Extraction Well
CSEXW-02	USZ / 26-41 / 10	Semiannual	Semiannual	Extraction Well
CSEXW-03	USZ / 26-41 / 10	Semiannual	Semiannual	Extraction Well
CSEXW-04*	LSZ / 45-55 / 15	Semiannual	Semiannual	Extraction Well
CSW-07	USZ / 22.5-37.5 / 10	Semiannual	Semiannual	Extraction Well
CSW-11*	LSZ / 45-55 / 15	Semiannual	Semiannual	Extraction Well
Monitoring Wells				
BSMW-02	USZ / 19-34	Semiannual		Downgradient
BSMW-03	USZ/ 23-33	Semiannual		Downgradient
CSW-12	USZ / 26-39	Semiannual		Downgradient
CSW-24	USZ / 22.5-37.5	Semiannual	Semiannual	Well within Containment Wall
CSW-25	USZ / 23-33	Semiannual		Upgradient
CSW-28	USZ / 31-38	Semiannual		Downgradient
CSW-31	USZ / 31-38	Semiannual	Semiannual	Downgradient
CSW-34	USZ / 31-38	Semiannual		Downgradient
CSW-37	USZ / 39-41	Semiannual	Semiannual	Downgradient
CSW-39	USZ / 39-41	Semiannual		Cross gradient
CSW-41	USZ / 39-41	Semiannual	Semiannual	Downgradient Capture
CSW-43	USZ / 39-41	Semiannual		Well within Containment Wall
CSW-45	USZ / 39-41	Semiannual	Annual	Well within Containment Wall
WCC-52	USZ / 13-33	Semiannual		Well within Containment Wall
CSW-13	LSZ / 43.8-51.8	Semiannual	Annual	Well within Containment Wall
CSW-17	LSZ / 48-58	Semiannual		Downgradient
CSW-26	LSZ / 45-55	Semiannual		Upgradient
CSW-29	LSZ / 45-52	Semiannual		Downgradient
CSW-30	LSZ / 58-65	Semiannual		Downgradient
CSW-32	LSZ / 44.5-51.5	Semiannual	Annual	Downgradient
CSW-33	LSZ / 58-65	Semiannual	Annual	Downgradient
CSW-35	LSZ / 44.5-51.5	Semiannual		Downgradient
CSW-36	LSZ / 58-65	Semiannual		Downgradient
CSW-38	LSZ / 59-61	Semiannual	Annual	Downgradient
CSW-40	LSZ / 59-61	Semiannual		Cross gradient
CSW-42	LSZ / 59-61	Semiannual	Semiannual	Downgradient
CSW-44[#]	LSZ / 59-61	Semiannual		Well within Containment Wall
CSW-46	LSZ / 59-61	Semiannual	Annual	Well within Containment Wall
CSW-08	GZ / 68-78	Semiannual		Downgradient
CSW-18	GZ / 71.8-81.8	Semiannual		Downgradient
WCC-53	GZ / 69-79	Semiannual	Annual	Well within Containment Wall

Table 2
Remediation System Monitoring Program Summary
South Plume Source and South Plume Margin
July 2009 - June 2010
The Railyards
Sacramento, California

Location	Screen Int / Depth / Ext Rate (Unit) / (ft bgs) / (gpm)	Water Elevation	Water Quality Monitoring (1)	Purpose of Monitoring
South Plume Margin				
Extraction Wells				
SPEXW-02	LSZE /42-47/15	Semiannual	Semiannual	Extraction Well
SPEXW-03	LSZE /39-49/15	Semiannual	Semiannual	Extraction Well
SPEXW-04**	GZ /64.5-81/40	Semiannual	Semiannual	Extraction Well
SPEXW-05**	GZ /62-77/40	Semiannual	Semiannual	Extraction Well
SPEXW-06	LSZE /28.4-48.4/40	Semiannual	Semiannual	Extraction Well
SPEXW-08	LSZE /35.67-49.67/40	Semiannual	Semiannual	Extraction Well
Monitoring Wells				
SPEXW-01	LSZ /42-52	Semiannual	Semiannual	Eastern Capture
SPEXW-07	LSZ /41-51	Semiannual	Semiannual	Western Capture
SPW-18	LSZ /39-49	Semiannual		Upgradient Conditions
SPW-22	LSZ /34-44	Semiannual	Annual	Upgradient Influence
SPW-32	LSZ /45-55	Semiannual	Semiannual	Southern Influence
SPW-35	LSZ /30-50	Semiannual		Near well Influence
SPW-37	LSZ /30-50	Semiannual		Intra-well Influence
SPW-39	LSZ /39-49	Semiannual	Semiannual	Intra-well Influence
SPW-40	LSZ /42-52	Semiannual	Annual	Western Capture
SPW-41	LSZ /45-55	Semiannual	Semiannual	Southern Influence
SPW-42	LSZ /42-52	Semiannual	Annual	Eastern Capture
SPW-05	GZ /76-86	Semiannual		Upgradient Conditions
SPW-06	GZ /70-80	Semiannual		Upgradient Capture
SPW-20	GZ /64-74	Semiannual		Eastern Capture
SPW-27	GZ /67-82	Semiannual	Semiannual	Southern Capture
SPW-28	GZ /58-68	Semiannual	Annual	Eastern Capture
SPW-36	GZ /64-79	Semiannual		Vertical Influence
SPW-38	GZ /65-80	Semiannual		Intra-well Influence
WCC-72	GZ /60-70	Semiannual		Western Influence
WCC-73	GZ /62-72.5	Semiannual	Annual	Upgradient Capture

Notes and Key:

Monitoring program approved by DTSC in letter dated 9 August 2007.

(1) = Samples will be analyzed for volatile organic compounds using Method 8260.

* = CSEXW-04 abandoned 6 April 2010 and CSW-11 abandoned 16 February 2010 to support development activities on-site. Will be reinstalled upon installation of Final Remedy.

** = Converted to extraction wells upon approval by DTSC in letter dated 20 November 2008. Extraction started 5/22/09.

= Well abandoned 12/15/2009

ft bgs = Feet below ground surface

gpm = Gallons per minute

Int = Interval

Ext = Extraction

GZ = Gravel Zone

LSZ = Lower Sand Zone

LSZE = Lower Sand Zone Extraction

USZ = Upper Sand Zone

Table 3
Groundwater Monitoring and Remediation Activities
July 2009 through June 2010
The Railyards
Sacramento, California

Activity	Date	# Wells	Comments
Groundwater treatment system sample collection	Monthly		See Table 9 through Table 12
Third Quarter 2009 Quarterly Monitoring	17 July 2009	12	Depth to water measurements, see Table 5
Third Quarter 2009 Quarterly Sampling	17 and 18 July 2009	6	Groundwater sample collection, see Table 9 through Table 12
2009 Semiannual Monitoring Event	5 October 2009	138	Depth to water measurements, see Table 5
2009 Semiannual Sampling Event	6 through 16 October 2009	50	Groundwater sample collection, see Table 9 through Table 12
Phase I well abandonments	7 through 16 December 2009	21	See Appendix E
BC-1 Sampling	4 February 2010		Groundwater sample collection, see Table 9 through Table 12
Phase II well abandonments and abandonment of BC-1	15 through 17 February 2010	3	See Appendix E
Additional Phase II well abandonments	5 through 8 April 2010	7	See Appendix E
First Quarter 2010 Quarterly Monitoring	18 March 2010	12	Depth to water measurements, see Table 5
2010 Annual Sampling Event	5 through 23 April 2010, 25 May 2010, and 28 June 2010	146	Groundwater sample collection, see Table 9 through Table 12
2010 Annual Monitoring Event	19 May 2010	195	Depth to water measurements, see Table 5
Monitoring well sampling of wells near the State Printing Plant	16 through 18 April 2010	12	In conjunction with the 2010 Annual monitoring event, see Table 11 and Table 12
Installation of 1 well and 6 piezometers	3 through 11 May 2010, 17 May 2010, and 24 through 25 May 2010	7	Part of MGP Phase III Remedial Investigation
Monitoring well W-09A abandonment	29 June 2010	1	See Appendix E
Regular O&M and system operation and optimization activities	As needed		See Tables 13 and 17
SPS IRM shut down	16 October through 2 December 2009; 29 March through 11 May 2010		To accommodate abatement activities in the treatment system building, see Table 13

Table 4
Summary of Well Construction Details
The Railyards
Sacramento, California

Well Name	Zone	Latitude	Longitude	Date Installed/ Modified	Date Abandoned	Casing Diameter (in.)	Ground Surface Elevation (feet msl)	Casing Elevation (Top) (feet msl)	Total Casing Depth (feet bgs)	Casing Depth Elevation (feet msl)	Screen Depth (feet bgs)	Screen Elevation (feet msl)	Filter Pack Depth (feet bgs)	Filter Pack Elevation (feet msl)	Dedicated Pump Depth (feet bgs)	Portable Pump Sample Depth 4th Q 2009 (feet bgs)
AT-01*	GZ	38.586	-121.496	2/6/89-2/25/92	12/9/09	6	27.1	29.3	97.0	-69.9	74 to 94	-46.9 to -66.9	71 to 97	-43.9 to -69.9	NA	NA
AT-02*	USZ	38.587	-121.497	2/5/90-2/26/92	12/7/09	6	30.0	31.9	55.5	-25.5	30 to 55	0.0 to -25.0	27 to 56	3.0 to -26.0	NA	NA
BSMW-02	USZ	38.586	-121.499	11/27/87-7/8/92		4	30.6	32.4	34.5	-3.9	19 to 34	11.6 to -3.4	17 to 35	13.6 to -4.4	NA	NA
BSMW-03	USZ	38.587	-121.498	12/2/87		4	30.3	29.8	33.5	-3.2	23 to 33	7.3 to -2.7	21 to 33	9.3 to -2.7	NA	NA
BSMW-04*	USZ	38.587	-121.497	11/23/87-7/23/92	12/10/09	4	29.7	31.4	35.0	-5.3	20 to 34	9.7 to -4.3	19 to 34	10.7 to -4.3	NA	NA
BSMW-05A*	USZ	38.586	-121.498	9/20/88	2/1996	4	29.2	31.5	40.0	-10.8	20 to 40	9.2 to -10.8	18 to 40	11.2 to -10.8	NA	NA
BSMW-05AR*	USZ	38.586	-121.498	2/14/96	12/11/09	4	29.2	31.5	37.0	-7.8	22 to 37	7.2 to -7.8	20 to 39	9.2 to -9.8	NA	NA
CCW-02*	LSZ	38.589	-121.498	10/18/96	6/16/04	4	29.5	31.4	54.5	-25.0	44 to 54	-14.5 to -24.5	42 to 55	-12.5 to -25.5	NA	NA
CCW-03*	GZ	38.589	-121.498	10/15/96	6/16/04	4	29.9	31.8	77.5	-47.6	67 to 77	-37.1 to -47.1	65 to 78	-35.1 to -48.1	NA	NA
CCW-04*	GZ	NA	NA	10/10/96	4/2000	4	26.8	29.0	75.5	-48.7	65 to 75	-38.2 to -48.2	57 to 76	-30.2 to -49.2	NA	NA
CCW-05*	LSZ	38.589	-121.496	10/21/96	6/16/04	4	27.1	29.3	49.5	-22.5	39 to 49	-12.0 to -22.0	37 to 50	-10.0 to -23.0	NA	NA
CCW-06*	GZ	38.589	-121.496	10/28/96	6/16/04	4	27.1	29.2	73.5	-46.4	63 to 73	-35.9 to -45.9	61 to 74	-33.9 to -46.9	NA	NA
CCW-07*	USZ	38.588	-121.497	4/10/97	6/16/04	4	29.3	31.0	35.0	-5.7	20 to 35	9.3 to -5.7	18 to 35	11.3 to -5.7	NA	NA
CCW-08	IDZ	38.590	-121.496	11/2/98-11/9/98		4	26.6	29.0	185.0	-158.4	175 to 185	-148.4 to -158.4	170 to 185	-143.4 to -158.4	182.5	NA
CNW-01*	USZ	38.591	-121.493	3/30/95	6/16/04	4	26.2	28.1	31.5	-5.3	14 to 29	12.2 to -2.8	13.5 to 31.5	12.7 to -5.3	NA	NA
CNW-02	USZ	38.589	-121.492	3/30/95		4	25.1	26.7	30.5	-5.4	15 to 30	10.1 to -4.9	9.5 to 30.5	15.6 to -5.4	NA	25.5
CNW-03	GZ	38.589	-121.492	3/29/95		4	25.1	26.5	76.5	-51.4	66.5 to 76.5	-41.4 to -51.4	62.5 to 76.5	-37.4 to -51.4	69.5	NA
CNW-04	GZ	38.588	-121.492	3/29/95		4	30.1	33.7	75.0	-44.9	65 to 75	-34.9 to -44.9	62 to 75	-31.9 to -44.9	68.0	NA
CNW-05*	USZ	38.589	-121.491	10/28/96	6/16/04	4	24.9	26.6	34.3	-9.4	24 to 34	0.9 to -9.1	20 to 34.3	4.9 to -9.4	NA	NA
CNW-06*	LSZ	NA	NA	10/29/96	4/2000	4	26.9	26.4	52.5	-25.6	42 to 52	-15.1 to -25.1	40 to 53	-13.1 to -26.1	NA	NA
CNW-07*	GZ	NA	NA	10/25/96	4/2000	4	26.8	26.3	68.5	-41.7	58 to 68	-31.2 to -41.2	56 to 69	-29.2 to -42.2	NA	NA
CNW-08*	GZ	NA	NA	10/22/96	4/2000	4	27.0	29.1	75.5	-48.6	65 to 75	-38.1 to -48.1	63 to 76	-36.1 to -49.1	NA	NA
CNW-09 (CNB-60)	IBZ	38.589	-121.492	11/8/96		4	25.0	26.2	125.5	-100.5	120 to 125	-95.0 to -100.0	119 to 126	-94.0 to -100.5	122.0	NA
CNW-10 (CNB-61)	IBZ	38.588	-121.492	11/18/96		4	29.8	33.0	121.5	-91.7	116 to 121	-86.2 to -91.2	115 to 121	-85.2 to -91.2	120.0	NA
CNW-11	IBZ	38.591	-121.492	4/14/97		4	25.1	27.8	130.0	-104.9	125 to 130	-99.9 to -104.9	123 to 130	-97.9 to -104.9	est. 127.5	NA
CSEXW-01	USZE	38.587	-121.499	4/29/95		4	30.6	30.6	38.0	-7.4	24 to 36	6.6 to -5.4	21.8 to 38	8.9 to -7.4	30.0	NA
CSEXW-02	USZE	38.587	-121.499	4/29/95		4	30.5	30.6	38.0	-7.5	24 to 36	6.5 to -5.5	22 to 39	8.5 to -8.5	32.0	NA
CSEXW-03	USZE	38.588	-121.499	4/24/95		6	28.1	27.6	37.5	-9.4	20.5 to 35.5	7.6 to -7.4	18.3 to 38.5	9.9 to -10.4	33.0	NA
CSEXW-04*	LSZE	38.587	-121.498	11/16/94	4/6/10	6	30.6	30.1	56.9	-26.4	44.9 to 54.9	-14.4 to -24.4	43 to 58	-12.5 to -27.5	50.0	NA
CSEXW-05	USZE	38.586	-121.500	4/25/95		6	31.2	30.7	39.8	-8.6	22.75 to 37.8	8.5 to -6.6	21 to 42	10.2 to -10.8	35.0	NA
CSW-01	USZE	38.587	-121.500	1/30/92-8/4/92		6	30.8	31.9	44.5	-13.7	25.5 to 40.5	5.3 to -9.7	23.6 to 44.5	7.2 to -13.7	41.0	NA
CSW-02*	GZ	38.587	-121.500	2/3/92	12/15/09	4	30.9	30.5	75.0	-44.1	65 to 75	-34.1 to -44.1	62.5 to 75	-31.6 to -44.1	NA	NA
CSW-03	USZE	38.588	-121.501	2/6/92-8/4/92		6	31.0	32.4	45.5	-14.5	26.5 to 41.5	4.5 to -10.5	24 to 45.5	7.0 to -14.5	32.0	NA
CSW-04	GZ	38.588	-121.501	2/7/92		4	31.0	30.6	80.5	-49.5	70 to 80	-39.0 to -49.0	68 to 80.5	-37.0 to -49.5	NA	NA
CSW-05	USZ	38.587	-121.502	2/5/92		6	30.6	32.1	42.0	-11.4	23 to 38	7.6 to -7.4	21 to 42	9.6 to -11.4	NA	NA
CSW-06	GZ	38.587	-121.502	2/11/92		4	30.9	30.5	80.0	-49.1	69.5 to 79.5	-38.6 to -48.6	67.5 to 80	-36.6 to -49.1	72.0	NA
CSW-07	USZE	38.587	-121.499	7/15/93-7/16/93		6	27.6	28.2	38.0	-10.4	22.5 to 37.5	5.1 to -9.9	20.3 to 38	7.3 to -10.4	37.0	NA
CSW-08*	GZ	38.586	-121.498	1/29/92-8/4/92	12/14/09	6	30.1	32.7	82.0	-51.9	68 to 78	-37.9 to -47.9	66 to 82	-35.9 to -51.9	NA	NA
CSW-09*	USZ	38.587	-121.500	2/9/92	4/7/10	4	30.4	29.9	35.3	-4.9	24.75 to 34.8	5.7 to -4.4	23.3 to 35.3	7.2 to -4.9	NA	NA
CSW-10	USZ	38.587	-121.500	2/8/92		4	30.5	30.0	35.8	-5.3	25.3 to 35.3	5.2 to -4.8	22 to 35.8	8.5 to -5.3	NA	NA
CSW-11*	LSZE	38.586	-121.498	11/24/92	2/16/10	6	30.4	31.5	59.0	-28.6	45 to 55	-14.6 to -24.6	43 to 60	-12.6 to -29.6	50.0	NA
CSW-12	USZ	38.587	-121.499	12/11/92		6	30.6	33.0	40.0	-9.4	26 to 39	4.6 to -8.4	24 to 39.5	6.6 to -8.9	39.5	NA
CSW-13	LSZ	38.587	-121.499	7/14/93 to 7/15/93		6	27.6	28.4	53.8	-26.2	43.75 to 51.8	-16.2 to -24.2	40.5 to 53.8	-12.9 to -26.2	NA	NA
CSW-14	USZE	38.587	-121.500	12/14/92		6	30.7	29.3	43.0	-12.3	26 to 41	4.7 to -10.3	23.5 to 43	7.2 to -12.3	40.0	NA
CSW-15	LSZ	38.587	-121.500	12/15/92		6	30.5	29.6	55.5	-25.0	44.5 to 54.5	-14.0 to -24.0	42.5 to 55.5	-12.0 to -25.0	NA	NA
CSW-16	USZ	38.586	-121.500	12/10/92		4	31.0	30.3	35.5	-4.6	26 to 35	5.0 to -4.1	23 to 35.5	8.0 to -4.6	NA	NA
CSW-17*	LSZ	38.586	-121.499	12/8/92	12/16/09	6	31.5	34.3	60.0	-28.5	48 to 58	-16.5 to -26.5	46 to 60	-14.5 to -28.5	NA	NA
CSW-18	GZ	38.586	-121.499	12/7/92		4	31.5	34.3	82.0	-50.5	71.8 to 81.8	-40.3 to -50.3	69.8 to 82.3	-38.3 to -50.8	NA	NA
CSW-19	LSZ	38.586	-121.501	12/17/92		6	30.6	29.5	59.0	-28.5	47 to 57	-16.5 to -26.5	45 to 59	-14.5 to -28.5	NA	NA
CSW-20*	USZ	38.586	-121.501	12/18/92	12/16/09	6	31.3	33.7	43.0	-11.7	27 to 42	4.3 to -10.7	24 to 44	7.3 to -12.7	NA	NA
CSW-21	USZ	38.588	-121.502	12/20/92		6	30.6	30.1	42.0	-11.5	23 to 38	7.6 to -7.5	21 to 42	9.6 to -11.5	NA	NA
CSW-22	USZ	38.587	-121.502	12/21/92		6	30.5	32.3	42.0	-11.5	23 to 38	7.5 to -7.5	21 to 42	9.5 to -11.5	NA	NA
CSW-23	USZ	38.587	-121.503	12/23/92		6	30.4	29.7	42.0	-11.6	22.8 to 37.8	7.6 to -7.4	21 to 42	9.4 to -11.6	NA	NA
CSW-24	USZ	38.587	-121.499	7/19/93		4	27.6	28.0	38.0	-10.4	22.5 to 37.5	5.1 to -9.9	20 to 38	7.6 to -10.4	NA	31.0
CSW-25	USZ	38.588	-121.500	11/15/94		4	30.9	30.2	35.0	-4.2	23 to 33	7.9 to -2.2	21 to 35.5	9.9 to -4.7	est. 28	NA
CSW-26	LSZ	38.588	-121.500	12/14/94		4	30.7	29.9	55.5	-24.8	45 to 55	-14.3 to -24.3	42.3 to 56	-11.6 to -25.3	est. 50	NA
CSW-27	USZ	38.587	-121.502	11/18/94		4	30.5	29.8	44.0	-13.5	32 to 42	-1.5 to -11.5	30 to 44.5	0.5 to -14.0	NA	NA
CSW-28	USZ	38.587	-121.499	11/15/94		2	30.5	29.8	38.5	-8.0	31 to 38	-0.5 to -7.5	29 to 38.5	1.5 to -8.0	36.0	NA
CSW-29	LSZ	38.587	-121.499	11/22/94		2	30.5	29.9	52.5	-22.0	45 to 52	-14.5 to -21.5	41.5 to 52.5	-11.0 to -22.0	48.5	NA
CSW-30	LSZ	38.587	-121.499	11/21/94		2	30.5	29.7	65.5	-35.1	58 to 65	-27.6 to -34.6	55.5 to 65.5	-25.1 to -35.1	61.5	NA
CSW-31	USZ	38.587	-121.498	11/23/94		2	30.9	30.3	38.5	-7.6	31 to 38	-0.1 to -7.1	29 to 39	1.9 to -8.1	35.0	NA
CSW-32	LSZ	38.587	-121.498	11/23/94		2	30.9	30.3	52.0	-21.1	44.5 to 51.5	-13.6 to -20.6	42 to 53	-11.1 to -22.1	48.0	NA
CSW-33	LSZ	38.587	-121.498	11/22/94		2	30.9	30.3	65.5	-34.6	58 to 65	-27.1 to -34.1	56 to 65.5	-25.1 to -34.6	61.5	NA
CSW-34	USZ	38.587	-121.498	11/17/94		2	30.8	30.2	38.5	-7.7	31 to 38	-0.2 to -7.2	28.5 to 38.5	2.3 to -7.7	34.5	NA
CSW-35	LSZ	38.587	-121.498	11/28/94		2	30.8	30.1	51.5	-20.7	44.5 to 51.5	-13.7 to -20.7	41.5 to 52	-10.7 to -21.2	48.0	NA
CSW-36	LSZ	38.587	-121.498	11/23/94		2	30.8	30.2	65.5	-34.7	58 to 65	-27.2 to -34.2	55 to 67	-24.2 to -36.2	61.5	NA
CSW-37	USZ	38.587	-121.499	4/14/95		2	30.6	30.1	41.8	-11.2	39.25 to 41.3	-8.7 to -10.7	37 to 42	-6.4 to -11.4	NA	40.0
CSW-38	LSZ	38.587	-121.499	4/30/95		2	30.7	30.2	61.5	-30.8	59 to 61	-28.3 to -30.3	57.5 to 63	-26.8 to -32.3	NA	NA
CSW-39	USZ	38.588	-121.499	2/20/95		2	30.5	30.0	41.5	-11.0	39 to 41	-8.5 to -10.5	36.8 to 42.5	-6.3 to -12.0	NA	NA
CSW-40*	LSZ	38.588	-121.499	2/20/95	4/6/10	2	30.6	30.1	61.8	-31.2	59.25 to 61.3	-28.7 to -30.7	56.5 to 62.5	-25.9 to -31.9	NA	NA
CSW-41	USZ	38.587	-121.499	2/22/95		2	30.3	29.8	41.5	-11.2	39 to 41	-8.7 to -10.7	37 to 42.5	-6.7 to -12.2	NA	40.0
CSW-42	LSZ	38.587	-121.499	2/21/95		2	30.3	29.8	61.5	-31.2	59 to 61	-28.7 to -30.7	56 to 62.5	-25.7 to -32.2	NA	60.0
CSW-43	USZ	38.588	-121.499	2/7/95		2	30.6	30.2	41.5	-10.9	39 to 41	-8.4 to -10.4	36 to 42.5	-5.4 to -11.9	NA	NA
CSW-44*	LSZ	38.588	-121.499	2/8/95	12/15/09	2	30.7	30.2	61.5	-30.8	59 to 61	-28.3 to -30.3	56.5 to 62.3	-25.8 to -31.6	NA	NA
CSW-45	USZ	38.588	-121.499	2/8/95		2	30.9	30.1	41.5	-10.6	39 to 41	-8.1 to -10.1	36.8 to 43	-5.9 to -12.1	NA	NA
CSW-46	LSZ	38.588	-121.499	2/17/95		2	30.4	29.9	61.5	-31.1	59 to 61	-28.6 to -30.6	56.5 to 62.5	-26.1 to -32.1	NA	NA
CSW-47	USZ	38.587	-121.502	11/22/98		4	30.7	30.6	35.0	-4.3	15 to 35	15.7 to -4.3	13.5 to 35	17.2 to -4.3	NA	NA

Table 4
Summary of Well Construction Details
The Railyards
Sacramento, California

Well Name	Zone	Latitude	Longitude	Date Installed/ Modified	Date Abandoned	Casing Diameter (in.)	Ground Surface Elevation (feet msl)	Casing Elevation (Top) (feet msl)	Total Casing Depth (feet bgs)	Casing Depth Elevation (feet msl)	Screen Depth (feet bgs)	Screen Elevation (feet msl)	Filter Pack Depth (feet bgs)	Filter Pack Elevation (feet msl)	Dedicated Pump Depth (feet bgs)	Portable Pump Sample Depth 4th Q 2009 (feet bgs)
CSW-48	USZ	38.587	-121.502	11/19/98		2	30.7	30.2	37.0	-6.3	34.5 to 36.5	-3.8 to -5.8	32 to 37	-1.3 to -6.3	NA	NA
CSW-49	USZ	38.587	-121.502	11/22/98		6	30.5	30.1	30.5	-0.1	27.5 to 30.5	3.0 to -0.1	27 to 30.5	3.5 to -0.1	NA	NA
CSW-50	USZ	38.587	-121.502	11/23/98		6	30.8	30.6	30.5	0.3	27.5 to 30.5	3.3 to 0.3	27 to 30.5	3.8 to 0.3	NA	NA
CSW-51	USZ	38.587	-121.502	11/24/98		6	30.7	30.3	30.5	0.2	14.5 to 29.5	16.2 to 1.2	11 to 30.5	19.7 to 0.2	NA	NA
CSW-52*	USZ	38.587	-121.502	11/24/98	4/5/10	4	30.2	29.7	29.5	0.7	24.75 to 29	5.5 to 1.2	10 to 29.5	20.2 to 0.7	NA	NA
CSW-53	USZ	38.587	-121.502	11/21/98		4	30.8	30.4	30.5	0.3	25.75 to 30	5.1 to 0.8	5 to 30.5	25.8 to 0.3	NA	NA
CSW-54*	USZ	38.587	-121.502	11/24/98	4/5/10	4	30.8	30.3	30.5	0.3	25.75 to 30	5.1 to 0.8	5 to 30.5	25.8 to 0.3	NA	NA
CSW-55	USZ	38.588	-121.502	9/13/99		2	30.7	NA	35.0	-4.3	24 to 34	6.7 to -3.3	15 to 34	15.7 to -3.3	NA	NA
CSW-56	USZ	38.587	-121.502	9/13/99		2	30.5	NA	37.0	-6.5	27 to 37	3.5 to -6.5	24 to 37	6.5 to -6.5	NA	NA
CSW-57	USZ	38.587	-121.502	9/13/99		2	30.8	NA	37.0	-6.2	27 to 37	3.8 to -6.2	2.5 to 37	28.3 to -6.2	NA	NA
CSW-58*	USZ	38.588	-121.503	9/13/99	12/8/09	2	29.9	NA	36.0	-6.1	26 to 36	3.9 to -6.1	4.5 to 36	25.4 to -6.1	NA	NA
CSW-59	USZ	38.587	-121.502	9/14/99		2	30.8	NA	37.0	-6.2	27 to 37	3.8 to -6.2	6 to 37	24.8 to -6.2	NA	NA
CSW-60	USZ	38.587	-121.502	9/14/99		2	30.8	NA	36.0	-5.2	26 to 36	4.8 to -5.2	6.5 to 36	24.3 to -5.2	NA	NA
CSW-61	USZ	38.587	-121.502	9/14/99		2	30.8	NA	36.0	-5.2	26 to 36	4.8 to -5.2	6 to 36	24.8 to -5.2	NA	NA
CSW-62*	USZ	38.588	-121.502	9/14/99	12/8/09	2	30.4	NA	36.0	-5.6	26 to 36	4.4 to -5.6	2 to 36	28.4 to -5.6	NA	NA
CSW-63	USZ	38.587	-121.503	9/16/99		2	30.5	NA	37.5	-7.0	27.5 to 37.5	3.0 to -7.0	11 to 37.5	19.5 to -7.0	NA	NA
CSW-64*	USZ	NA	NA	9/17/99	12/8/09	1	30.4	NA	35.0	-4.6	33 to 35	-2.6 to -4.6	28 to 35	2.4 to -4.6	NA	NA
CSW-65*	USZ	38.587	-121.502	9/17/99	4/6/10	1	30.8	NA	35.5	-4.7	33.5 to 35.5	-2.7 to -4.7	29 to 35.5	1.8 to -4.7	NA	NA
CSW-66	USZ	NA	NA	9/17/99		1	30.6	NA	36.0	-5.4	34 to 36	-3.4 to -5.4	30.5 to 36	0.1 to -5.4	NA	NA
DREXW-01*	USZE	38.590	-121.498	9/30/89	8/2/2001	6	27.3	27.1	40.0	-12.7	25 to 40	2.3 to -12.7	19 to 40	8.3 to -12.7	NA	NA
DREXW-02*	USZE	NA	NA	4/29/94	4/2000	6	28.2	29.1	40.0	-11.8	23 to 38	5.2 to -9.8	20 to 40	8.2 to -11.8	NA	NA
DRMW-02*	USZ	38.590	-121.499	8/26/88	8/1/2001	4	26.8	26.1	38.5	-11.7	22 to 37	4.8 to -10.2	20 to 38.5	6.8 to -11.7	NA	NA
DRMW-03*	USZ	38.590	-121.499	8/26/88	8/2/2001	4	27.0	26.0	38.5	-11.5	23 to 38	4.0 to -11.0	21 to 38.5	6.0 to -11.5	NA	NA
DRMW-04*	USZ	38.590	-121.498	8/29/88-8/5/92	8/2/2001	4	26.7	27.8	38.5	-11.8	22 to 37	4.7 to -10.3	20 to 38.5	6.7 to -11.8	NA	NA
DRMW-05*	GZ	38.590	-121.498	9/20/88	8/2/2001	4	26.8	26.3	77.0	-50.2	67 to 77	-40.2 to -50.2	64 to 77	-37.2 to -50.2	NA	NA
DRMW-06*	USZ	38.590	-121.498	8/28/88	8/2/2001	4	26.8	28.3	39.5	-12.7	23 to 38	3.8 to -11.2	20.9 to 38.5	5.9 to -11.7	NA	NA
DRMW-07*	GZ	38.590	-121.499	3/26/91	8/2/2001	4	27.0	27.0	78.5	-51.5	68 to 78	-41.0 to -51.0	63 to 78.5	-36.0 to -51.5	NA	NA
DRMW-08*	GZ	NA	NA	3/27/91	4/2000	4	26.2	25.6	77.8	-51.6	67.5 to 77.5	-41.3 to -51.3	62.3 to 77.8	-36.1 to -51.6	NA	NA
DRMW-09*	USZ	NA	NA	3/18/91	4/2000	4	26.5	25.6	41.5	-15.0	22 to 37	4.5 to -10.5	19.9 to 37	6.6 to -10.5	NA	NA
DRMW-10*	USZ	38.589	-121.499	2/22/96	7/31/01	4	27.6	30.1	38.9	-11.3	23.4 to 38.4	4.2 to -10.8	27.4 to 39.5	0.2 to -11.9	NA	NA
DRMW-11*	USZ	38.589	-121.499	2/20/96	8/1/2001	4	29.0	31.3	38.3	-9.3	23.1 to 38.1	5.9 to -9.1	25.7 to 39.5	3.3 to -10.5	NA	NA
DRMW-12*	USZ	38.589	-121.498	2/21/96	6/16/04	4	29.0	31.3	37.9	-8.9	22.4 to 37.4	6.6 to -8.4	26.7 to 39.5	2.3 to -10.5	NA	NA
DRZ-01*	USZ	NA	NA	2/22/96	4/2000	2	26.5	26.2	39.2	-12.7	23.7 to 38.7	2.8 to -12.2	27 to 39.5	-0.5 to -13.0	NA	NA
LGW-01*	USZ	NA	NA	3/19/92	4/2000	4	14.8	16.1	29.5	-14.7	19 to 29	-4.2 to -14.2	17 to 29.5	-2.2 to -14.7	NA	NA
LGW-02*	USZ	NA	NA	3/20/92	4/2000	4	18.8	20.2	30.0	-11.2	19.5 to 29.5	-0.7 to -10.7	17.5 to 30	1.3 to -11.2	NA	NA
LGW-03*	USZ	NA	NA	3/25/92	10/12/1994	4	19.2	21.0	25.0	-5.8	15 to 25	4.2 to -5.8	12 to 25	7.2 to -5.8	NA	NA
LGW-04*	GZ	NA	NA	4/2/92	4/2000	4	14.4	16.2	79.0	-64.6	47 to 77	-32.6 to -62.6	40 to 79	-25.6 to -64.6	NA	NA
LGW-05*	GZ	NA	NA	4/3/92	4/2000	4	18.8	20.7	82.0	-63.2	50 to 80	-31.2 to -61.2	43 to 82	-24.2 to -63.2	NA	NA
LGW-06*	GZ	NA	NA	4/6/92	10/12/1994	4	18.5	20.5	86.0	-67.5	54 to 84	-35.5 to -65.5	50 to 86	-31.5 to -67.5	NA	NA
LGW-07	GZ	38.589	-121.488	1/13/93		4	32.1	33.7	70.5	-38.4	60.5 to 70.5	-28.4 to -38.4	58 to 70.5	-25.9 to -38.4	NA	61.5
LGW-08*	GZ	38.593	-121.499	1/15/93	3/5/07	4	34.4	35.8	90.6	-56.2	80.6 to 90.6	-46.2 to -56.2	78 to 90.6	-43.6 to -56.2	NA	NA
LGW-09*	USZ	38.593	-121.499	5/16/94	3/5/07	4	34.5	35.8	42.0	-7.5	31 to 41	3.5 to -6.5	29 to 43	5.5 to -8.5	NA	NA
LGW-10*	USZ	NA	NA	5/17/94	4/2000	4	24.0	25.5	34.0	-10.0	17 to 32	7.0 to -8.0	15 to 34	9.0 to -10.0	NA	NA
LGW-11*	GZ	38.595	-121.495	3/30/95	12/15/09	4	20.5	22.4	75.0	-54.5	55 to 75	-34.5 to -54.5	53 to 82	-32.5 to -61.5	NA	NA
LGW-12	GZ	38.595	-121.491	3/31/95		4	22.5	22.0	72.0	-49.5	52 to 72	-29.5 to -49.5	48 to 77	-25.5 to -54.5	NA	52.5
LGW-13	GZ	38.591	-121.489	4/3/95		4	23.4	22.8	70.0	-46.6	60 to 70	-36.6 to -46.6	56 to 73	-32.6 to -49.6	NA	60.5
LGW-14*	IDZ	NA	NA	3/24/95	4/2000	4	25.8	27.8	172.0	-146.2	162 to 172	-136.2 to -146.2	155 to 182	-129.2 to -156.2	NA	NA
LGW-15*	GZ	NA	NA	3/27/95	4/2000	8 (steel)	20.0	21.9	80.0	-60.0	60 to 80	-40.0 to -60.0	55 to 82	-35.0 to -62.0	NA	NA
LGZ-01*	GZ	NA	NA	3/15/95	4/2000	4	20.3	22.3	80.0	-59.7	60 to 80	-39.7 to -59.7	55 to 85	-34.7 to -64.7	NA	NA
NPW-01	IBZ	38.593	-121.495	6/22-24/92		4	22.7	24.7	130.5	-107.8	125.5 to 131	-102.8 to -107.8	121 to 131	-98.3 to -107.8	NA	NA
NPW-02	USZ	38.593	-121.495	6/25/92		4	20.9	22.9	31.0	-10.1	25.5 to 30.5	-4.6 to -9.6	18.6 to 31	2.3 to -10.1	NA	NA
NPW-03	IDZ	38.593	-121.494	6/29-7/14/92		4	21.4	24.1	218.5	-197.1	208 to 218	-186.6 to -196.6	206 to 218	-184.6 to -196.6	NA	211.0
NPW-04	GZ	38.594	-121.494	2/22/93		4	20.1	21.4	76.0	-55.9	66 to 76	-45.9 to -55.9	62 to 79	-41.9 to -58.9	NA	NA
NPW-05	IBZ	38.592	-121.492	3/5/93		4	21.9	21.1	126.0	-104.1	121 to 126	-99.1 to -104.1	117 to 126	-94.6 to -104.1	NA	NA
NPW-06	IBZ	38.595	-121.491	3/17/93		4	21.7	20.9	124.0	-102.3	119 to 124	-97.3 to -102.3	117 to 124	-95.3 to -102.3	NA	NA
NPW-07	IBZ	38.594	-121.490	3/26/93		4	21.9	21.1	119.0	-97.1	114 to 119	-92.1 to -97.1	112 to 119	-90.1 to -97.1	NA	NA
NPW-08	USZ	38.593	-121.495	1/20/94		4	22.7	24.2	30.0	-7.3	20 to 30	2.7 to -7.3	18 to 30.5	4.7 to -7.8	27.0	NA
NPW-09	IBZ	38.594	-121.494	1/24/94		4	20.4	22.3	131.0	-110.6	126 to 131	-105.6 to -110.6	123 to 133	-102.2 to -112.1	129.0	NA
NPW-10	USZ	38.594	-121.494	1/20/94		4	21.7	20.7	28.5	-6.8	18.5 to 28.5	3.2 to -6.8	16 to 29	5.7 to -7.3	NA	NA
NPW-11	GZ	38.594	-121.492	1/19/94		4	21.0	20.2	76.0	-55.0	71 to 76	-50.0 to -55.0	67.5 to 76.5	-46.5 to -55.5	NA	NA
NPW-12	IBZ	38.594	-121.492	1/18/94		4	21.1	20.4	128.5	-107.4	123.5 to 129	-102.4 to -107.4	120 to 131	-99.2 to -109.4	NA	NA
NPW-13	USZ	38.594	-121.492	1/21/94		4	20.8	19.9	28.5	-7.7	18.5 to 28.5	2.3 to -7.7	16 to 29	4.8 to -8.2	NA	NA
NPW-14	GZ	38.592	-121.492	1/29/94		4	21.9	21.1	77.0	-55.1	67 to 77	-45.1 to -55.1	64.2 to 78.5	-42.3 to -56.6	NA	NA
NPW-15	GZ	38.592	-121.490	1/26/94		4	21.6	21.1	80.0	-58.4	70 to 80	-48.4 to -58.4	66.5 to 80.5	-44.9 to -58.9	NA	NA
NSW-01	USZ	38.588	-121.505	11/15/96		4	34.1	35.6	40.5	-6.4	25 to 40	9.1 to -5.9	23 to 42	11.1 to -7.9	NA	35.5
NSW-02*	GZ	38.588	-121.504	10/31/96	8/3/01	4	29.4	31.7	80.5	-51.1	70 to 80	-40.6 to -50.6	68 to 80.5	-38.6 to -51.1	NA	NA
NSW-03*	USZ	38.588	-121.504	10/25/96	3/5/07	4	27.8	29.4	39.5	-11.7	24 to 39	3.8 to -11.2	21.5 to 40	6.3 to -12.2	NA	NA
NSW-04*	GZ	38.588	-121.504	10/30/96	3/5/07	4	27.8	29.9	82.5	-54.7	72 to 82	-44.2 to -54.2	70 to 83	-42.2 to -55.2	NA	NA
NSW-05	USZ	38.587	-121.504	10/28/96		4	30.4	32.1	37.5	-7.1	22 to 37	8.4 to -6.6	19.5 to 38	10.9 to -7.6	32.0	NA
NSW-06	GZ	38.587	-121.504	11/5/96		4	30.2	32.2	83.5	-53.4	73 to 83	-42.9 to -52.9	71 to 84	-40.9 to -53.9	76.0	NA
NSW-07*	USZ	38.590	-121.501	10/25/96	7/31/01	4	28.7	30.3	37.5	-8.8	22 to 37	6.7 to -8.3	20 to 38	8.7 to -9.3	NA	NA
NSW-08*	LSZ	38.590	-121.501	10/23/96	7/31/01	4	28.6	30.5	57.5	-28.9	47 to 57	-18.4 to -28.4	45 to 58	-16.4 to -29.4	NA	NA
NSW-09*	USZ	38.589	-121.501	10/28/96	8/1/01	4	30.8	32.3	37.5	-6.8	22 to 37	8.8 to -6.3	20 to 38	10.8 to -7.3	NA	NA
NSW-10*	LSZ	38.589	-121.501	11/7/96	7/31/01	4	30.7	32.3	54.5	-23.8	44 to 54	-13.3 to -23.3	42 to 54.5	-11.3 to -23.8	NA	NA
NSW-11	USZ	38.588	-121.504	2/10/06		4	28.3	31.6	39.0	-10.7	19 to 39	9.3 to -10.7	16 to 39	12.3 to -10.7	NA	34.0
NSW-12	USZ	38.588	-121.504	2/10/06		4	28.2	30.4	39.0	-10.8	19 to 39	9.2 to -10.8	17 to 39	11.2 to -10.8	NA	29.0
NSW-13	GZ	38.588	-121.504	1/23/06		4	28.1	30.5	79.5	-51.4	69 to 79	-40.9 to -50.9	64 to 79	-35.9 to -50.9	NA	74.0

Table 4
Summary of Well Construction Details
The Railyards
Sacramento, California

Well Name	Zone	Latitude	Longitude	Date Installed/ Modified	Date Abandoned	Casing Diameter (in.)	Ground Surface Elevation (feet msl)	Casing Elevation (Top) (feet msl)	Total Casing Depth (feet bgs)	Casing Depth Elevation (feet msl)	Screen Depth (feet bgs)	Screen Elevation (feet msl)	Filter Pack Depth (feet bgs)	Filter Pack Elevation (feet msl)	Dedicated Pump Depth (feet bgs)	Portable Pump Sample Depth 4th Q 2009 (feet bgs)
NSW-14	USZ	38.587	-121.504	2/14/06		4	28.2	30.8	40.0	-11.8	20 to 40	8.2 to -11.8	17 to 40	11.2 to -11.8	NA	33.26
NSW-15	USZ	38.588	-121.505	7/10/06		4	35.1	37.4	40.0	-4.9	19.5 to 39.5	15.6 to -4.4	17 to 39.5	18.1 to -4.4	NA	36.2
NSW-16	USZ	38.587	-121.505	5/4/10-5/5/10		4	31.8	35.2	30.0	1.8	15 to 30	16.8 to 1.8	13 to 30	18.8 to 1.8	NA	NA
NSZ-01*	USZ	38.588	-121.504	10/29/96	8/3/01	4	28.6	30.4	37.0	-8.4	21.5 to 36.5	7.1 to -7.9	18 to 38	10.6 to -9.4	NA	NA
NSZ-02*	USZ	38.588	-121.504	10/29/96	8/3/01	4	28.2	29.8	37.5	-9.3	22 to 37	6.2 to -8.8	20 to 38	8.2 to -9.8	NA	NA
NSZ-03	USZ	38.588	-121.505	5/7/10		1	36.1	39.7	35.0	1.1	20 to 35	16.1 to 1.1	18 to 35	18.1 to 1.1	NA	NA
NSZ-04	USZ	38.588	-121.505	5/6/10		1	35.6	39.4	35.0	0.6	20 to 35	15.6 to 0.6	18 to 35	17.6 to 0.6	NA	NA
NSZ-05	USZ	38.588	-121.505	5/4/10-5/5/10		1	28.3	32.1	30.0	-1.7	15 to 30	13.3 to -1.7	13 to 30	15.3 to -1.7	NA	NA
NSZ-06	USZ	38.588	-121.504	5/4/10-5/5/10		1	NA	NA	30.0	NA	15 to 30	NA to NA	13 to 30	NA to NA	NA	NA
NSZ-07	USZ	38.588	-121.504	5/5/10		1	28.4	32.0	30.0	-1.6	15 to 30	13.4 to -1.6	13 to 30	15.4 to -1.6	NA	NA
NSZ-08	USZ	38.587	-121.503	5/5/10		1	28.5	32.0	35.0	-6.5	20 to 35	8.5 to -6.5	18 to 35	10.5 to -6.5	NA	NA
PDEXW-01A*	USZE	NA	NA	3/25/91	4/2000	8	26.5	27.6	46.2	-19.8	22 to 44	4.5 to -17.6	12 to 44.5	14.5 to -18.1	NA	NA
PDEXW-02*	USZE	38.591	-121.499	3/19/91	8/1/01	8	28.5	29.7	49.0	-20.5	24.7 to 44.7	3.8 to -16.2	15 to 46.5	13.5 to -18.0	NA	NA
PDEXW-03*	USZE	NA	NA	3/21/91	4/2000	8	26.9	28.1	44.5	-17.6	20.3 to 40.3	6.6 to -13.4	12 to 42	14.9 to -15.1	NA	NA
PDEXW-04*	USZE	NA	NA	3/22/91	4/2000	8	25.8	26.1	45.2	-19.4	21 to 41	4.8 to -15.2	12 to 43	13.8 to -17.2	NA	NA
PDEXW-05*	USZE	NA	NA	3/23/91	4/2000	8	23.6	24.8	42.2	-18.6	18 to 38	5.6 to -14.4	12 to 39.8	11.6 to -16.2	NA	NA
PDEXW-06*	USZE	NA	NA	5/26/94	4/2000	6	26.6	28.0	50.0	-23.4	32.5 to 47.5	-5.9 to -20.9	30.5 to 50	-3.9 to -23.4	NA	NA
PDEXW-07*	USZE	NA	NA	4/28/94	4/2000	6	-	26.1	36.0	-	17 to 32	- to -	15 to 40	- to -	NA	NA
PDZ-01*	USZ	NA	NA	9/14/95	4/2000	2	26.6	26.4	33.5	-6.9	8 to 33	18.6 to -6.4	6 to 34	20.6 to -7.4	NA	NA
PDZ-02*	USZ	NA	NA	9/13/95	4/2000	2	26.8	28.5	33.5	-6.7	8 to 33	18.8 to -6.2	6 to 34	20.8 to -7.2	NA	NA
PDZ-03*	USZ	38.591	-121.495	9/13/95	4/2000	2	26.8	28.9	33.0	-6.2	8 to 33	18.8 to -6.2	6 to 33	20.8 to -6.2	NA	NA
PMW-01*	USZ	38.590	-121.497	9/26/89	6/16/04	4	26.8	26.6	34.0	-7.2	19 to 34	7.8 to -7.2	17 to 34	9.8 to -7.2	NA	NA
PMW-02*	USZ	38.589	-121.498	9/27/89	6/16/04	4	27.1	26.9	38.5	-11.4	22 to 37	5.1 to -9.9	20 to 40	7.1 to -12.9	NA	NA
PZ-01*	GZ	38.586	-121.496	1/31/90-2/25/92	12/10/09	4	27.3	29.2	87.5	-60.2	72 to 87	-44.7 to -59.7	61.5 to 69	-34.2 to -41.7	NA	NA
PZ-02*	USZ	38.587	-121.497	1/25/90	12/9/09	4	30.3	29.7	55.5	-25.2	30 to 55	0.3 to -24.7	27 to 56	3.3 to -25.7	NA	NA
SPEXW-01	LSZ	38.574	-121.497	11/9/94		6	17.5	16.9	54.0	-36.6	42 to 52	-24.6 to -34.6	39 to 54	-21.6 to -36.6	47.0	NA
SPEXW-02	LSZE	38.574	-121.498	11/3/94		6	17.9	16.6	49.0	-31.1	42 to 47	-24.1 to -29.1	35 to 49	-17.1 to -31.1	35.0	NA
SPEXW-03	LSZE	38.574	-121.499	11/1/94		6	17.9	16.8	51.0	-33.1	39 to 49	-21.1 to -31.1	37 to 57	-19.1 to -39.1	37.5	NA
SPEXW-04	GZE	38.575	-121.500	6/24/94		6	18.1	17.1	83.0	-64.9	64.5 to 81	-46.4 to -62.9	61 to 83	-42.9 to -64.9	71.0	NA
SPEXW-05	GZE	38.575	-121.499	7/12/94		6	17.9	17.2	79.0	-61.1	62 to 77	-44.1 to -59.1	60 to 80.6	-42.1 to -62.7	NA	69.5
SPEXW-06	LSZE	38.575	-121.500	6/23/94		4	26.6	17.3	48.4	-21.8	28.4 to 48.4	-1.8 to -21.8	25.5 to 48.4	1.1 to -21.8	36.0	NA
SPEXW-07	LSZ	38.575	-121.501	11/7/94		6	17.7	17.0	53.0	-35.3	41 to 51	-23.3 to -33.3	39 to 55	-21.3 to -37.3	46.0	NA
SPEXW-08	LSZE	38.575	-121.499	7/11/94		6	17.9	17.0	79.0	-61.1	35.67 to 49.7	-17.8 to -31.8	33 to 52	-15.1 to -34.1	40.0	NA
SPEXW-09*	GZE	38.586	-121.497	4/26/95	4/6/10	6	27.4	28.6	87.0	-59.6	75 to 85	-47.6 to -57.6	72 to 92	-44.6 to -64.6	80.0	NA
SPW-01*	GZ	38.586	-121.497	12/20/91-8/6/92	12/10/09	6	27.4	27.2	86.5	-59.1	76 to 86	-48.6 to -58.6	70 to 87.5	-42.6 to -60.1	NA	NA
SPW-02	GZ	38.583	-121.497	4/13/92-8/6/92		6	22.3	21.7	80.5	-58.2	70 to 80	-47.7 to -57.7	68 to 81	-45.7 to -58.7	NA	NA
SPW-03	GZ	38.579	-121.500	4/8/92-8/6/92		6	18.3	17.8	85.5	-67.2	75 to 85	-56.7 to -66.7	73 to 86	-54.7 to -67.7	NA	NA
SPW-04	GZ	38.580	-121.502	4/16/92		4	20.0	19.4	85.5	-65.5	75 to 85	-55.0 to -65.0	72.5 to 86	-52.5 to -66.0	78.0	NA
SPW-05	GZ	38.578	-121.502	3/25/92		4	16.5	16.1	85.0	-68.5	76 to 86	-59.5 to -69.5	73.5 to 86	-57.0 to -69.5	NA	78.0
SPW-06	GZ	38.578	-121.499	4/6/92		4	18.3	17.6	80.5	-62.2	70 to 80	-51.7 to -61.7	67.5 to 81	-49.2 to -62.7	73.0	NA
SPW-07	IDZ	38.583	-121.497	6/12/92		4	22.3	21.7	183.5	-161.2	173 to 183	-150.7 to -160.7	171 to 184	-148.7 to -161.7	176.0	NA
SPW-08	IBZ	38.583	-121.497	8/11/92		4	22.4	21.8	129.5	-107.1	124 to 129	-101.6 to -106.6	124 to 130	-101.1 to -107.1	127.0	NA
SPW-09	GZ	38.584	-121.491	7/22/92		4	21.2	20.7	77.5	-56.3	67 to 77	-45.8 to -55.8	65 to 77.5	-43.8 to -56.3	70.0	NA
SPW-10	GZ	38.581	-121.493	7/29/92		4	25.1	24.6	69.0	-43.9	63.5 to 68.5	-38.4 to -43.4	62 to 69	-36.9 to -43.9	66.0	NA
SPW-11*	IBZ	38.586	-121.497	11/19/92	2/16/10	4	29.6	31.4	134.5	-104.9	129 to 134	-99.4 to -104.4	128 to 135	-98.4 to -105.4	NA	131.5
SPW-12	LSZ	38.585	-121.497	11/30/92		6	27.9	29.7	64.0	-36.1	50 to 60	-22.1 to -32.1	48 to 64	-20.1 to -36.1	52, 55, 58	NA
SPW-13	IBZ	38.579	-121.500	1/14/93		4	18.0	17.4	127.5	-109.5	122 to 127	-104.0 to -109.0	121 to 128	-103.0 to -110.0	NA	NA
SPW-14	IBZ	38.582	-121.500	1/27/93		4	27.8	27.1	139.0	-111.2	133.5 to 139	-105.7 to -110.7	133 to 139	-104.7 to -111.5	135.0	NA
SPW-15	GZ	38.585	-121.495	2/1/93		4	20.1	19.5	75.5	-55.4	65 to 75	-44.9 to -54.9	63 to 77	-42.9 to -56.9	66.5	NA
SPW-16	IBZ	38.585	-121.495	2/10/93		4	20.1	19.9	124.5	-104.4	119 to 124	-98.9 to -103.9	118 to 125	-97.9 to -104.9	NA	121.5
SPW-17	GZ	38.583	-121.489	3/16/93		4	20.1	19.7	74.5	-54.4	64 to 74	-43.9 to -53.9	62 to 75.5	-41.9 to -55.4	65.5	NA
SPW-18	LSZ	38.578	-121.499	3/16/93		4	18.3	17.8	49.5	-31.2	39 to 49	-20.7 to -30.7	36 to 50	-17.7 to -31.7	NA	44.0
SPW-19	GZ	38.579	-121.491	3/22/93		4	23.7	23.2	86.5	-62.8	76 to 86	-52.3 to -62.3	74 to 87	-50.3 to -63.3	NA	77.5
SPW-20	GZ	38.576	-121.496	3/30/93		4	18.8	17.8	74.5	-55.7	64 to 74	-45.2 to -55.2	62 to 75.5	-43.2 to -56.7	65.5	NA
SPW-21	IBZ	38.582	-121.494	4/12/93		4	25.0	24.3	130.5	-105.5	125 to 130	-100.0 to -105.0	122 to 131	-97.0 to -106.0	126.5	NA
SPW-22	LSZ	38.576	-121.500	4/14/93		4	18.3	18.2	44.5	-26.2	34 to 44	-15.7 to -25.7	33 to 45	-14.7 to -26.7	35.5	NA
SPW-23	USZ	38.585	-121.501	5/11/93		4	31.1	32.8	36.0	-4.9	16 to 36	15.1 to -4.9	14 to 37	17.1 to -5.9	NA	30.0
SPW-24	USZ	38.585	-121.501	5/10/93	1993	4	27.8	30.6	33.0	-5.2	13 to 33	14.8 to -5.2	11 to 36	16.8 to -8.2	NA	NA
SPW-25*	IBZ	38.580	-121.497	11/15/93	6/2006	4	27.8	27.3	135.5	-107.7	130 to 135	-102.2 to -107.2	129 to 137	-101.2 to -109.2	NA	NA
SPW-25R	IBZ	38.580	-121.497	6/8/06		4	25.8	26.6	135.5	-109.7	130 to 135	-104.2 to -109.2	129 to 137	-103.2 to -111.2	131.0	NA
SPW-26*	LSZ	NA	NA	11/23/1993	6/28/1994	4	26.8	26.3	62.0	-35.2	56.5 to 61.5	-29.7 to -34.7	55 to 62	-28.2 to -35.2	NA	NA
SPW-26R	LSZ	38.581	-121.498	6/27/94		4	26.9	26.2	55.5	-28.6	45 to 55	-18.1 to -28.1	42 to 56	-15.1 to -29.1	46.0	NA
SPW-27	GZ	38.574	-121.501	11/18/93		4	17.6	17.1	82.5	-64.9	67 to 82	-49.4 to -64.4	65 to 83	-47.4 to -65.4	68.0	NA
SPW-28	GZ	38.574	-121.497	11/22/93		4	17.3	16.8	68.5	-51.2	58 to 68	-40.7 to -50.7	57 to 70	-39.7 to -52.7	59.0	NA
SPW-29	USZ	38.586	-121.494	6/20/94		4	20.9	20.2	33.5	-12.6	18 to 33	2.9 to -12.1	15 to 37	5.9 to -16.1	32.0	NA
SPW-30	LSZ	38.584	-121.499	6/20/94		4	30.8	30.2	54.5	-23.7	44 to 54	-13.2 to -23.2	41.5 to 54.5	-10.7 to -23.7	44.0	NA
SPW-31	LSZ	38.580	-121.502	6/29/94		4	20.3	19.8	55.5	-35.2	45 to 55	-24.7 to -34.7	41 to 56	-20.7 to -35.7	NA	50.0
SPW-32	LSZ	38.574	-121.501	11/7/94		4	17.7	17.1	55.5	-37.8	45 to 55	-27.3 to -37.3	41.5 to 58	-23.8 to -40.3	NA	50.0
SPW-33	GZ	38.586	-121.489	6/22/94		4	22.4	21.7	75.5	-53.1	65 to 75	-42.6 to -52.6	63 to 77.5	-40.6 to -55.1	NA	NA
SPW-34	IBZ	38.584	-121.500	6/9/94		4	30.0	29.3	135.5	-105.5	125 to 135	-95.0 to -105.0	123 to 137	-93.0 to -107.0	126.0	NA
SPW-35	LSZ	38.575	-121.499	7/6/94		4	17.3	16.9	50.5	-33.2	30 to 50	-12.7 to -32.7	27.5 to 51	-10.2 to -33.7	NA	NA
SPW-36	GZ	38.575	-121.499	7/5/94-7/6/94		4	17.4	16.7	79.5	-62.1	64 to 79	-46.6 to -61.6	61.5 to 80	-44.1 to -62.6	NA	NA
SPW-37	LSZ	38.575	-121.500	6/30/94		4	17.7	16.9	50.5	-32.8	30 to 50	-12.3 to -32.3	28 to 51	-10.3 to -33.3	45.0	NA
SPW-38	GZ	38.575	-121.500	6/28/94		4	17.8	16.9	80.5	-62.7	65 to 80	-47.2 to -62.2	62.3 to 81	-44.5 to -63.2	NA	NA
SPW-39	LSZ	38.574	-121.498	11/14/94		4	17.6	17.0	49.5	-31.9	39 to 49	-21.4 to -31.4	37 to 56	-19.4 to -38.4	NA	44.0
SPW-40	LSZ	38.575	-121.502	4/28/95		6	15.3	14.8	54.0	-38.7	42 to 52	-26.7 to -36.7	39 to 55	-23.7 to -39.7	47.0	NA

Table 4
Summary of Well Construction Details
The Railyards
Sacramento, California

Well Name	Zone	Latitude	Longitude	Date Installed/ Modified	Date Abandoned	Casing Diameter (in.)	Ground Surface Elevation (feet msl)	Casing Elevation (Top) (feet msl)	Total Casing Depth (feet bgs)	Casing Depth Elevation (feet msl)	Screen Depth (feet bgs)	Screen Elevation (feet msl)	Filter Pack Depth (feet bgs)	Filter Pack Elevation (feet msl)	Dedicated Pump Depth (feet bgs)	Portable Pump Sample Depth 4th Q 2009 (feet bgs)
SPW-41	LSZ	38.574	-121.499	11/10/94		4	17.5	16.7	55.5	-38.0	45 to 55	-27.5 to -37.5	40.5 to 58	-23.0 to -40.5	50.0	NA
SPW-42	LSZ	38.574	-121.497	5/3/95		6	17.9	17.4	54.0	-36.1	42 to 52	-24.1 to -34.1	39 to 56	-21.1 to -38.1	47.0	NA
SPW-43	IBZ	38.575	-121.500	3/9/04 - 3/10/04		4	16.8	16.5	130.0	-113.2	125 to 130	-108.2 to -113.2	123 to 132	-106.2 to -115.2	NA	NA
SPW-47	USZ	38.584228	-121.4965	4/3/09		2	NA	21.7	30.0	NA	25 to 30	NA to NA	23 to 30	NA to NA	NA	27.5
W-01*	USZ	NA	NA	9/8/82	8/8/1994	2	33.9	33.8	34.0	-0.1	29 to 34	4.9 to -0.1	21 to 34	12.9 to -0.1	NA	NA
W-01R	USZ	38.591	-121.504	8/9/94		4	34.0	35.9	40.5	-6.5	25 to 40	9.0 to -6.0	22 to 44	12.0 to -10.0	est. 32.5	NA
W-02	USZ	38.589	-121.505	9/13/82		2	28.3	30.5	30.0	-1.7	25 to 30	3.3 to -1.7	22 to 30	6.3 to -1.7	NA	NA
W-03*	USZ	NA	NA	9/7/82-2/24/92	8/8/1994	2	33.9	35.7	34.0	-0.1	29 to 34	4.9 to -0.1	22 to 34	11.9 to -0.1	NA	NA
W-03R	USZ	38.587	-121.505	8/10/94		4	33.8	35.7	41.5	-7.7	26 to 41	7.8 to -7.2	23 to 42	10.8 to -8.2	NA	NA
W-04*	USZ	38.585	-121.502	9/10/1982-1/22/92	12/4/2006	2	29.3	29.0	31.0	-1.7	26 to 31	3.3 to -1.7	20 to 31	9.3 to -1.7	NA	NA
W-05*	USZ	121.499	38.584	9/9/1982-1/22/93	1994	2	30.6	30.2	30.0	0.6	23.5 to 28.5	7.1 to 2.1	17 to 30	13.6 to 0.6	NA	NA
W-06	USZ	38.585	-121.497	9/14/82-3/2/92		2	22.9	22.6	27.0	-4.1	22.16 to 27.2	0.7 to -4.3	17 to 27	5.9 to -4.1	NA	NA
W-07*	USZ	NA	NA	9/8/1982	7/1993	2	29.7	30.4	34.0	-4.3	29 to 34	0.7 to -4.3	23 to 34	6.7 to -4.3	NA	NA
W-07R*	USZ	38.588	-121.495	3/20/92	9/2002	4	27.2	28.4	39.0	-11.8	29 to 39	-1.8 to -11.8	25 to 40	2.2 to -12.8	NA	NA
W-08*	USZ	NA	NA	9/14/82	2/1996	2	31.3	31.2	31.0	0.3	26 to 31	5.3 to 0.3	25 to 31	6.3 to 0.3	NA	NA
W-08R	USZ	38.588	-121.492	2/14/96		4	30.4	30.6	33.0	-2.6	18 to 33	12.4 to -2.6	16 to 34	14.4 to -3.6	30.0	NA
W-09A*	USZ	38.592	-121.492	11/17/82-2/27/90	6/29/10	2	21.7	21.9	21.5	0.2	16.5 to 21.5	5.2 to 0.2	13 to 23	8.7 to -1.3	20.0	NA
W-09B*	USZ	NA	NA	11/17/1982	7/1993	2	21.9	21.9	20.0	1.9	15 to 20	6.9 to 1.9	12 to 20	9.9 to 1.9	NA	NA
W-10*	USZ	NA	NA	9/11/1982	2/1996	2	36.5	36.7	34.0	2.5	29 to 34	7.5 to 2.7	26 to 34	10.5 to 2.7	NA	NA
W-11	USZ	38.592	-121.490	9/9/82		2	21.4	21.5	23.0	-1.6	18 to 23	3.4 to -1.6	18 to 30	3.4 to -8.6	22.0	NA
W-13*	USZ	NA	NA	9/11/82	7/1993	2	29.6	29.5	31.0	-1.4	26 to 31	3.6 to -1.4	19 to 31	10.6 to -1.4	NA	NA
W-13R*	USZ	NA	NA	3/18/92-7/23/92	2/1/1996	4	27.6	29.3	32.0	-4.4	22 to 32	5.6 to -4.4	18 to 32	9.6 to -4.4	NA	NA
W-14*	USZ	38.592	-121.500	9/13/82-7/30/92	7/1993	2	18.6	19.9	21.0	-2.4	16 to 21	2.6 to -2.4	- to -	- to -	NA	NA
W-14R*	USZ	38.592	-121.500	10/29/93	3/7/2007	4	19.2	20.5	22.0	-2.8	12 to 22	7.2 to -2.8	10 to 22	9.2 to -2.8	NA	NA
W-15A	USZ	38.593	-121.494	11/16/82-2/27/92-7/27/92		2	21.1	23.3	26.0	-4.9	21 to 26	0.1 to -4.9	14 to 29	7.1 to -7.9	24.5	NA
W-15B*	USZ	NA	NA	11/16/82	7/1993	2	21.1	21.1	19.0	2.1	14 to 19	7.1 to 2.1	13 to 19	8.1 to 2.1	NA	NA
W-16*	USZ	NA	NA	7/18/84	2/1996	2	26.6	25.8	29.0	-2.4	9 to 29	17.6 to -2.4	5 to 29	21.6 to -2.4	NA	NA
W-17*	USZ	38.592	-121.498	7/16/84-2/24/92	8/2/2001	2	37.1	38.5	39.5	-2.4	18 to 38	19.1 to -0.9	15 to 38	22.1 to -0.9	NA	NA
W-18*	USZ	NA	NA	7/16/84 - 7/19/84	7/1993	2	25.5	25.3	28.0	-2.5	8 to 28	17.5 to -2.5	6 to 29	19.5 to -3.5	NA	NA
W-18R*	USZ	38.591	-121.498	3/18/92	8/1/2001	4	25.9	27.8	33.0	-7.1	23 to 33	2.9 to -7.1	16 to 33	9.9 to -7.1	NA	NA
W-19*	USZ	NA	NA	7/17/84	7/1993	2	26.9	26.5	29.0	-2.1	9 to 29	17.9 to -2.1	5 to 29	21.9 to -2.1	NA	NA
W-19R*	USZ	NA	NA	1/17/84-2/24/92	4/2000	4	26.9	28.9	30.0	-3.1	10 to 30	16.9 to -3.1	- to -	- to -	NA	NA
W-20*	USZ	NA	NA	7/17/84	7/1993	2	25.7	25.4	28.0	-2.3	8 to 28	17.7 to -2.3	5 to 28	20.7 to -2.3	NA	NA
W-20R*	USZ	NA	NA	3/19/92	4/2000	4	25.5	27.3	28.0	-2.5	18 to 28	7.5 to -2.5	15 to 28	10.5 to -2.5	NA	NA
W-74	IBZ	38.587	-121.499	11/22/91-2/25/93		4	27.5	28.1	113.5	-86.0	108 to 113	-80.5 to -85.5	109 to 115	-81.5 to -87.5	110.0	NA
W-75*	IBZ	38.586	-121.497	10/2/91-2/25/92	12/16/09	4	28.9	31.3	121.5	-92.6	116 to 121	-87.1 to -92.1	114 to 122	-85.1 to -93.1	117.0	NA
W-76	IBZ	38.585	-121.498	11/6/91-6/29/92		4	29.8	31.5	111.5	-81.7	106 to 111	-76.2 to -81.2	103 to 112	-73.2 to -82.2	NA	NA
W-77*	IBZ	NA	NA	12/15/91-2/25/92	4/2000	4	26.6	28.7	122.5	-95.9	117 to 122	-90.4 to -95.4	115 to 123	-88.4 to -96.4	NA	NA
WCC-21*	USZ	38.591	-121.499	12/19/84-2/20/92	8/1/2001	4	29.0	31.2	34.0	-5.0	11 to 31	18.0 to -2.0	7 to 34	22.0 to -5.0	NA	NA
WCC-22*	GZ	38.591	-121.499	12/19/84-2/20/92	8/1/2001	4	29.0	31.1	79.0	-50.0	56 to 76	-27.0 to -47.0	48 to 79	-19.0 to -50.0	NA	NA
WCC-23*	USZ	38.592	-121.498	12/31/84	3/6/2007	4	37.0	38.8	43.0	-6.0	22 to 42	15.0 to -5.0	14 to 43	23.0 to -6.0	NA	NA
WCC-24*	GZ	38.592	-121.498	12/31/84	3/6/2007	4	37.0	38.3	82.0	-45.0	62 to 82	-25.0 to -45.0	- to -	- to -	NA	NA
WCC-25*	USZ	NA	NA	12/21/84	7/1993	4	26.2	26.0	39.0	-12.8	16 to 36	10.2 to -9.8	10 to 40	16.2 to -13.8	NA	NA
WCC-25R*	USZ	NA	NA	3/17/92	4/2000	4	26.2	28.0	41.0	-14.8	31 to 41	-4.8 to -14.8	- to -	- to -	NA	NA
WCC-26*	GZ	NA	NA	1/31/85-2/24/92	4/2000	4	26.0	28.1	75.0	-49.0	52 to 72	-26.0 to -46.0	44 to 80	-18.0 to -54.0	NA	NA
WCC-27*	USZ	NA	NA	12/27/84-2/24/92	4/2000	4	27.0	28.7	35.5	-8.5	12.5 to 32.5	14.5 to -5.5	7 to 35.5	20.0 to -8.5	NA	NA
WCC-28*	USZ	NA	NA	12/31/84-2/24/92	4/2000	4	26.1	28.2	28.0	-1.9	8 to 28	18.1 to -1.9	5 to 28	21.1 to -1.9	NA	NA
WCC-29*	USZ	NA	NA	12/28/84	7/1993	4	22.9	22.3	33.0	-10.1	10 to 30	12.9 to -7.1	6.5 to 24.5	16.4 to -1.6	NA	NA
WCC-29R*	USZ	NA	NA	3/16/92	4/2000	4	22.9	24.8	33.0	-10.1	23 to 33	-0.1 to -10.1	19 to 33	3.9 to -10.1	NA	NA
WCC-30*	GZ	NA	NA	1/31/85-2/24/92	4/2000	4	22.9	25.3	73.0	-50.1	51 to 71	-28.1 to -48.1	43 to 73	-20.1 to -50.1	NA	NA
WCC-31*	USZ	38.590	-121.499	1/17/86	8/2/2001	4	27.0	29.7	28.0	-1.0	23 to 28	4.0 to -1.0	19.5 to 30.4	7.5 to -3.4	NA	NA
WCC-32*	IBZ	38.590	-121.499	12/17/85	8/2/2001	4	27.0	29.1	120.4	-93.4	115 to 120	-88.0 to -93.4	112 to 123	-85.0 to -96.0	NA	NA
WCC-33*	GZ	38.591	-121.498	1/16/86-2/20/92	8/1/2001	4	25.5	27.4	88.5	-63.0	83.5 to 88.5	-58.0 to -63.0	74 to 93	-48.5 to -67.5	NA	NA
WCC-34*	GZ	38.592	-121.498	1/8/86	3/6/2007	4	37.0	38.7	93.5	-56.5	88.5 to 93.5	-51.5 to -56.5	79.5 to 95.5	-42.5 to -58.5	NA	NA
WCC-35*	IBZ	NA	NA	1/10/86-2/24/92	4/2000	4	26.9	28.9	105.0	-78.1	100 to 105	-73.1 to -78.1	90 to 108	-63.1 to -81.1	NA	NA
WCC-36	IBZ	38.593	-121.494	1/21/86-2/27/92		4	21.1	22.9	120.0	-98.9	115 to 120	-93.9 to -98.9	110 to 124	-88.9 to -102.9	119.0	NA
WCC-37*	IBZ	NA	NA	1/14/86-2/24/92-7/22/92	4/2000	4	22.9	25.0	127.0	-104.1	122 to 127	-99.1 to -104.1	115 to 129	-91.6 to -106.1	NA	NA
WCC-38	USZ	38.586	-121.502	1/19/89		4	31.1	30.2	36.5	-5.4	16 to 36	15.1 to -4.9	14.5 to 36.4	16.6 to -5.3	35.0	NA
WCC-39*	USZ	38.586	-121.497	1/16/89,2/25/93,5/5/94	12/9/09	4	28.3	30.3	35.5	-7.2	15 to 35	13.3 to -6.7	14 to 33.7	14.3 to -5.4	31.5	NA
WCC-40*	GZ	38.586	-121.497	1/13/89-3/25/92	12/14/09	4	28.0	29.9	91.0	-63.0	80.5 to 90.5	-52.5 to -62.5	76 to 98	-48.0 to -70.0	83.0	NA
WCC-41	GZ	38.584	-121.498	2/4/1989-6/29/92		4	29.5	31.4	94.0	-64.5	83.5 to 93.5	-54.0 to -64.0	78 to 96.5	-48.5 to -67.0	86.0	NA
WCC-42	USZ	38.584	-121.498	2/7/1989-6/29/92		4	29.5	31.8	38.5	-9.0	18 to 38	11.5 to -8.5	16 to 38.5	13.5 to -9.0	35.0	NA
WCC-43	GZ	38.586	-121.496	2/3/1989-4/10/90		4	21.3	20.6	83.0	-61.7	72.5 to 82.5	-51.2 to -61.2	70 to 85.5	-48.7 to -64.2	75.0	NA
WCC-44	USZ	38.586	-121.496	2/8/1989-4/10/90		4	21.5	21.0	38.0	-16.5	12.5 to 37.5	9.0 to -16.0	10 to 38	11.5 to -16.5	NA	NA
WCC-45	GZ	38.593	-121.495	11/9/89		4	23.1	24.6	78.0	-54.9	66 to 76	-42.9 to -52.9	64 to 76.5	-40.9 to -53.4	69.0	NA
WCC-46	GZ	38.593	-121.494	11/7/89-2/27/92		4	21.1	23.1	76.5	-55.4	66 to 76	-44.9 to -54.9	62 to 78.5	-40.9 to -57.4	68.0	NA
WCC-47*	GZ	38.586	-121.497	1/12/90-2/25/92	12/14/09	4	27.8	30.1	74.3	-46.5	69 to 73	-41.2 to -45.2	68 to 76	-40.2 to -48.2	NA	NA
WCC-48	USZ	38.587	-121.502	1/23/1990-1/22/93		4	31.3	30.7	34.5	-3.2	14 to 34	17.3 to -2.7	12 to 34.5	19.3 to -3.2	NA	NA
WCC-49	GZ	38.587	-121.502	1/19/90		4	31.3	30.7	78.5	-47.2	68 to 78	-36.7 to -46.7	66 to 78.5	-34.7 to -47.2	NA	NA
WCC-50	USZ	38.588	-121.502	1/17/90-2/28/92		4	30.1	31.9	39.7	-9.6	19.2 to 39.2	10.9 to -9.1	18 to 39.7	12.1 to -9.6	38.0	NA
WCC-51*	GZ	38.588	-121.502	1/20/90-2/28/92	12/15/09	4	30.2	32.0	81.0	-50.8	70.5 to 80.5	-40.3 to -50.3	68 to 81	-37.8 to -50.8	73.0	NA
WCC-52	USZ	38.587	-121.499	1/20/90		4	27.7	27.2	33.5	-5.8	13 to 33	14.7 to -5.3	11 to 34	16.7 to -6.3	32.0	NA
WCC-53	GZ	38.587	-121.499	1/23/90-2/25/93		4	28.0	28.3	79.5	-51.5	69 to 79	-41.0 to -51.0	64 to 82	-36.0 to -54.0	74.0	NA
WCC-54*	USZ	38.586	-121.500	1/22/90	6/17/2004	4	31.3	30.7	35.5	-4.2	15 to 35	16.3 to -3.7	13 to 35.5	18.3 to -4.2	NA	NA
WCC-55*	GZ	38.586	-121.500	1/25/90	6/17/2004	4	31.3	30.7	77.5	-46.2	67 to 77	-35.7 to -45.7	65 to 82	-33.7 to -50.7	NA	NA
WCC-56	USZ	38.585	-121.498	1/18/1990-1/22/93		4	30.2	29.7	44.0	-13.8	33.5 to 43.5	-3.3 to -13.3	32 to 44	-1.8 to -13.8	43.0	NA
WCC-57	GZ	38.585	-121.502	1/15/90		4	28.9	28.3	78.5	-49.6	68 to 78	-39.1 to -49.1	67.4 to 81	-38.5 to -52.1	70.0	NA

Table 4
Summary of Well Construction Details
The Railyards
Sacramento, California

Well Name	Zone	Latitude	Longitude	Date Installed/ Modified	Date Abandoned	Casing Diameter (in.)	Ground Surface Elevation (feet msl)	Casing Elevation (Top) (feet msl)	Total Casing Depth (feet bgs)	Casing Depth Elevation (feet msl)	Screen Depth (feet bgs)	Screen Elevation (feet msl)	Filter Pack Depth (feet bgs)	Filter Pack Elevation (feet msl)	Dedicated Pump Depth (feet bgs)	Portable Pump Sample Depth 4th Q 2009 (feet bgs)
WCC-58*	GZ	38.587	-121.495	1/17/90	9/2002	4	26.3	26.1	73.5	-47.2	63 to 73	-36.7 to -46.7	60.3 to 73.5	-34.0 to -47.2	NA	NA
WCC-59	GZ	38.582	-121.501	2/21/90		4	27.9	27.2	80.5	-52.6	70 to 80	-42.1 to -52.1	68 to 82	-40.1 to -54.1	73.0	NA
WCC-60	GZ	38.581	-121.498	2/13/90		4	26.7	26.1	75.5	-48.8	70 to 75	-43.3 to -48.3	67.3 to 76	-40.6 to -49.3	73.0	NA
WCC-61	GZ	38.581	-121.498	2/8/90		4	26.7	26.2	80.5	-53.8	80 to 85	-53.3 to -58.3	76.8 to 86.3	-50.1 to -59.6	80.5	NA
WCC-62	LSZ	38.581	-121.493	2/17/90		4	27.6	27.0	55.0	-27.4	49.5 to 54.4	-21.9 to -26.8	47.5 to 55	-19.9 to -27.4	NA	NA
WCC-63	LSZ	38.584	-121.491	2/15/90		4	20.3	19.8	47.5	-27.2	37 to 47	-16.7 to -26.7	35 to 48	-14.7 to -27.7	39.0	NA
WCC-64	GZ	38.587	-121.491	2/10/90		4	22.1	21.5	66.1	-44.0	60.5 to 65.5	-38.4 to -43.4	60 to 66.4	-37.9 to -44.3	NA	NA
WCC-65	LSZ	38.584	-121.493	2/6/1990-2/25/94		4	21.0	20.5	44.5	-23.5	39 to 44	-18.0 to -23.0	36.5 to 45.5	-15.5 to -24.5	41.0	NA
WCC-66*	IBZ	NA	NA	1/29/90	7/1993	4	30.2	29.5	96.5	-66.3	91 to 96	-60.8 to -65.8	87 to 96.5	-56.8 to -66.3	NA	NA
WCC-67*	IDZ	38.586	121.497	3/26/90-2/25/92	12/10/2002	4	27.5	29.6	180.5	-153.0	170 to 180	-142.5 to -152.5	167 to 182	-139.0 to -154.8	NA	NA
WCC-67R	IDZ	38.586	121.497	12/12/02		4	27.5	29.95	185.5	-158.0	175 to 185	-147.5 to -157.5	172 to 187	-144.0 to -159.5	NA	NA
WCC-68	IDZ	38.585	121.502	3/31/90		4	28.2	27.5	174.5	-146.3	164 to 174	-135.8 to -145.8	161 to 177	-132.8 to -148.3	166.0	NA
WCC-69	IDZ	38.581	121.498	6/5/90		4	26.7	26.1	185.5	-158.8	175 to 185	-148.3 to -158.3	173 to 186	-145.8 to -158.8	NA	NA
WCC-70	GZ	38.580	121.504	6/16/90-8/6/92		4	23.0	22.1	68.5	-45.5	58 to 68	-35.0 to -45.0	54.5 to 70	-31.5 to -47.0	60.0	NA
WCC-71	GZ	38.578	121.496	6/9/90		4	19.5	18.9	68.5	-49.0	58 to 68	-38.5 to -48.5	55.7 to 69	-36.2 to -49.5	60.0	NA
WCC-72	GZ	38.577	121.503	6/7/90		4	16.0	15.2	70.5	-54.5	60 to 70	-44.0 to -54.0	58 to 70.5	-42.0 to -54.5	62.0	NA
WCC-73	GZ	38.576	121.500	6/12/90		4	19.0	18.2	72.5	-53.5	62 to 72.5	-43.0 to -53.5	60 to 73.5	-41.0 to -54.5	64.0	NA

Key:
msl = Above mean sea level
bgs = Below ground surface
(-) = Data not available
(*) = Well abandoned
in. = Inches
NA = Not available or not applicable

Key for Zone
GZ = Gravel Zone
USZ = Upper Sand Zone
LSZ = Lower Sand Zone
IBZ = Interbedded B Zone
IDZ = Interbedded D Zone
GZE = Gravel Zone Extraction Well
LSZE = Lower Sand Zone Extraction Well
USZE = Upper Sand Zone Extraction Well

Table 5
Summary of Groundwater Elevations
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Zone	Date	Time	Meas. Pt. Elevation (feet msl)	Depth to Water (feet bmp)	Groundwater Elevation (feet msl)		Comments
Sacramento River		5/19/10	17:45	—		4.39		
Sacramento River		10/5/09	10:00	—		3.50		
AT-01	GZ	10/5/09	14:16	29.34	26.03	3.31		
AT-02	USZ	10/5/09	12:04	31.86	28.54	3.32		
BSMW-02	USZ	10/5/09	10:20	32.37	UTM	—		Well was dry.
BSMW-02	USZ	5/19/10	15:02	32.37	26.66	5.71		
BSMW-03	USZ	10/5/09	11:56	29.83	26.47	3.36		
BSMW-03	USZ	5/19/10	13:42	29.83	24.02	5.81		
BSMW-04	USZ	10/5/09	12:09	31.36	27.83	3.53		
BSMW-05AR	USZ	10/5/09	13:54	31.50	28.22	3.28		
CCW-08	IDZ	5/19/10	NA	28.94	---	---		Not measured
CNW-02	USZ	5/19/10	12:22	26.41	16.25	10.16		
CNW-03	GZ	10/5/09	15:22	26.51	22.98	3.53		
CNW-03	GZ	5/19/10	12:29	26.51	20.28	6.23		
CNW-04	GZ	5/19/10	16:43	33.70	27.61	6.09		
CNW-09	IBZ	5/19/10	12:26	26.21	20.67	5.54		
CNW-10	IBZ	5/19/10	16:41	32.98	27.16	5.82		
CNW-11	IBZ	5/19/10	12:45	27.80	22.44	5.36		
CSEXW-01	USZE	10/5/09	10:49	30.70	27.61	3.09	3	Active Extraction Well
CSEXW-01	USZE	5/19/10	10:39	30.70	25.40	5.30	3	Active Extraction Well
CSEXW-02	USZE	10/5/09	10:46	30.71	26.38	4.33	3	Active Extraction Well
CSEXW-02	USZE	5/19/10	10:36	30.71	25.74	4.97	3	Active Extraction Well
CSEXW-03	USZE	10/5/09	9:46	27.60	24.33	3.27	3	Active Extraction Well
CSEXW-03	USZE	5/19/10	10:04	27.60	22.00	5.60	3	Active Extraction Well
CSEXW-04	LSZE	10/5/09	8:35	30.13	29.62	0.51	3	Active Extraction Well
CSEXW-05	USZE	10/5/09	8:46	30.65	26.34	4.31	3	Active Extraction Well
CSEXW-05	USZE	5/19/10	12:07	30.65	26.00	4.65	3	Active Extraction Well
CSW-01	USZE	10/5/09	8:40	31.80	32.90	-1.10	3	Active Extraction Well
CSW-01	USZE	5/19/10	15:47	31.80	30.30	1.50	3	Active Extraction Well
CSW-02	GZ	10/5/09	11:25	30.02	27.07	2.95	1	
CSW-03	USZE	10/5/09	12:27	32.42	28.82	3.60	3	Active Extraction Well
CSW-03	USZE	5/19/10	16:16	32.42	26.77	5.65	3	Active Extraction Well
CSW-04	GZ	10/5/09	12:33	30.57	27.02	3.55		
CSW-04	GZ	5/19/10	16:25	30.57	24.84	5.73		
CSW-05	USZE	10/5/09	14:10	32.11	28.73	3.38		
CSW-05	USZE	5/19/10	13:10	32.11	26.73	5.38		
CSW-06	GZ	10/5/09	13:56	30.45	26.81	3.64		
CSW-06	GZ	5/19/10	12:52	30.45	24.81	5.64		
CSW-07	USZE	10/5/09	9:10	28.24	25.14	3.10	3	Active Extraction Well
CSW-07	USZE	5/19/10	10:07	28.24	22.73	5.51	3	Active Extraction Well
CSW-08	GZ	10/5/09	13:09	32.71	29.38	3.33		
CSW-08	GZ	5/19/10	—	—	—	—		Abandoned
CSW-09	USZ	10/5/09	11:15	29.94	26.61	3.33		
CSW-10	USZ	10/5/09	11:12	30.00	26.71	3.29		
CSW-10	USZ	5/19/10	15:44	30.00	24.44	5.56		
CSW-11	LSZE	10/5/09	8:22	31.52	29.21	2.31	3	
CSW-12	USZ	10/5/09	11:07	32.98	29.62	3.36		
CSW-12	USZ	5/19/10	11:37	32.98	27.25	5.73		
CSW-13	LSZ	10/5/09	9:30	28.42	25.01	3.41		
CSW-13	LSZ	5/19/10	10:21	28.42	22.69	5.73		
CSW-14	USZE	10/5/09	8:57	29.96	29.40	0.56		
CSW-14	USZE	5/19/10	15:52	29.96	27.58	2.38		
CSW-15	LSZ	10/5/09	11:54	29.61	26.23	3.38		
CSW-15	LSZ	5/19/10	16:04	29.61	24.02	5.59		
CSW-16	USZ	10/5/09	11:38	30.30	27.10	3.20		
CSW-16	USZ	5/19/10	15:34	30.30	24.93	5.37		
CSW-17	LSZ	10/5/09	9:58	34.34	31.02	3.32		
CSW-18	GZ	10/5/09	10:06	34.28	30.98	3.30		
CSW-18	GZ	5/19/10	15:14	34.28	28.62	5.66		
CSW-19	LSZ	10/5/09	15:00	29.52	25.97	3.55		
CSW-19	LSZ	5/19/10	15:22	29.52	23.85	5.67		
CSW-20	USZ	10/5/09	9:20	33.71	30.06	3.65		

Table 5
Summary of Groundwater Elevations
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Zone	Date	Time	Meas. Pt. Elevation (feet msl)	Depth to Water (feet bmp)	Groundwater Elevation (feet msl)		Comments
CSW-21	USZ	10/5/09	14:17	30.11	26.37	3.74		
CSW-21	USZ	5/19/10	14:20	30.11	24.37	5.74		
CSW-22	USZE	5/19/10	13:39	32.32	26.30	6.02	2	Depth to LNAPL 25.99
CSW-23	USZ	5/19/10	14:10	29.71	24.47	5.24	2	Depth to LNAPL 23.96
CSW-24	USZ	10/5/09	9:23	28.00	24.68	3.32		
CSW-24	USZ	5/19/10	14:58	28.00	22.34	5.66		
CSW-25	USZ	10/5/09	12:10	30.21	26.59	3.62		
CSW-25	USZ	5/19/10	14:43	30.21	24.30	5.91		
CSW-26	LSZ	10/5/09	12:20	29.91	26.31	3.60		
CSW-26	LSZ	5/19/10	14:40	29.91	24.03	5.88		
CSW-27	USZ	10/5/09	13:48	29.80	26.03	3.77		
CSW-27	USZ	5/19/10	13:34	29.80	24.09	5.71		
CSW-28	USZ	10/5/09	10:28	29.75	26.35	3.40		
CSW-28	USZ	5/19/10	9:16	29.75	24.03	5.72		
CSW-29	LSZ	10/5/09	10:30	29.85	26.44	3.41		
CSW-29	LSZ	5/19/10	9:14	29.85	24.07	5.78		
CSW-30	LSZ	10/5/09	10:35	29.74	26.32	3.42		
CSW-30	LSZ	5/19/10	9:05	29.74	24.05	5.69		
CSW-31	USZ	10/5/09	10:51	30.34	27.00	3.34		
CSW-31	USZ	5/19/10	11:22	30.34	24.59	5.75		
CSW-32	LSZ	10/5/09	10:39	30.31	26.98	3.33		
CSW-32	LSZ	5/19/10	11:24	30.31	24.55	5.76		
CSW-33	LSZ	10/5/09	10:44	30.32	26.97	3.35		
CSW-33	LSZ	5/19/10	11:26	30.32	24.63	5.69		
CSW-34	USZ	10/5/09	11:17	30.15	26.87	3.28		
CSW-34	USZ	5/19/10	11:06	30.15	24.45	5.70		
CSW-35	LSZ	10/5/09	11:09	30.06	26.77	3.29		
CSW-35	LSZ	5/19/10	11:02	30.06	24.33	5.73		
CSW-36	LSZ	10/5/09	11:12	30.18	26.87	3.31		
CSW-36	LSZ	5/19/10	11:09	30.18	24.48	5.70		
CSW-37	USZ	10/5/09	11:36	30.08	26.72	3.36		
CSW-37	USZ	5/19/10	10:43	30.08	24.31	5.77		
CSW-38	LSZ	10/5/09	11:40	30.17	26.77	3.40		
CSW-38	LSZ	5/19/10	10:48	30.17	24.44	5.73		
CSW-39	USZ	10/5/09	10:41	29.96	26.54	3.42		
CSW-39	USZ	5/19/10	10:33	29.96	24.13	5.83		
CSW-40	LSZ	10/5/09	10:39	30.07	26.63	3.44		
CSW-41	USZ	10/5/09	10:03	29.75	26.32	3.43		
CSW-41	USZ	5/19/10	9:33	29.75	24.05	5.70		
CSW-42	LSZ	10/5/09	10:05	29.77	26.35	3.42		
CSW-42	LSZ	5/19/10	9:36	29.77	24.00	5.77		
CSW-43	USZ	10/5/09	9:37	30.17	26.71	3.46		
CSW-43	USZ	5/19/10	9:49	30.17	24.36	5.81		
CSW-44	LSZ	10/5/09	9:42	30.18	26.72	3.46		
CSW-44	LSZ	5/19/10	—	—	—	—		Abandoned
CSW-45	USZ	10/5/09	9:52	30.12	26.65	3.47		
CSW-45	USZ	5/19/10	11:50	30.12	24.42	5.70		
CSW-46	LSZ	10/5/09	9:56	29.94	26.45	3.49		
CSW-46	LSZ	5/19/10	11:52	29.94	24.22	5.72		
CSW-47	USZ	5/19/10	13:28	30.62	22.57	8.05	2	Depth to LNAPL 22.51
CSW-48	USZ	5/19/10	13:19	30.16	24.54	5.62		
CSW-49	USZ	10/5/09	13:25	30.08	23.82	6.26	1	
CSW-49	USZ	5/19/10	13:32	30.08	22.45	7.63		
CSW-50	USZ	5/19/10	13:26	30.56	22.91	7.65		
CSW-51	USZ	5/19/10	13:28	30.34	22.34	8.00	2	Depth to LNAPL 22.28
CSW-52	USZ	10/5/09	13:30	29.73	23.35	6.38	1	
CSW-53	USZ	10/5/09	13:40	30.35	23.76	6.59	1	
CSW-53	USZ	5/19/10	---	30.35	22.76	7.59		
CSW-55	USZ	5/19/10	13:14	30.46	24.87	5.59	2	Depth to LNAPL 24.61
CSW-56	USZ	5/19/10	14:23	30.27	24.43	5.84		
CSW-57	USZ	5/19/10	14:26	30.63	24.75	5.88	2	Depth to LNAPL 24.70
CSW-59	USZ	5/19/10	13:36	30.59	23.42	7.17		

Table 5
Summary of Groundwater Elevations
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Zone	Date	Time	Meas. Pt. Elevation (feet msl)	Depth to Water (feet bmp)	Groundwater Elevation (feet msl)		Comments
CSW-60	USZ	5/19/10	13:51	30.53	25.55	4.98	2	Depth to LNAPL 24.50
CSW-61	USZ	5/19/10	12:58	36.00	24.63	11.37		
CSW-63	USZ	5/19/10	14:02	30.22	24.65	5.57	2	Depth to LNAPL 24.55
CSW-66	USZ	5/19/10	14:17	36.00	24.79	11.21		
LGW-07	GZ	5/19/10	12:36	33.66	27.48	6.18		
LGW-12	GZ	5/19/10	14:09	21.95	14.57	7.38		
LGW-13	GZ	5/19/10	13:12	22.81	16.49	6.32		
MW-03	USZ	10/5/09	13:03	25.32	19.59	5.73		
MW-03	USZ	5/19/10	11:57	25.32	17.67	7.65		
MW-05	USZ	10/5/09	12:59	24.84	20.68	4.16		
MW-05	USZ	5/19/10	12:02	24.84	18.22	6.62		
MW-06	USZ	10/5/09	13:17	36.89	UTM	---		Dry
MW-06	USZ	5/19/10	11:48	36.89	UTM	---		Bottom at 30.20
MW-07	USZ	10/5/09	13:24	37.99	19.53	18.46		
MW-07	USZ	5/19/10	11:41	37.99	19.61	18.38		
MW-08	USZ	10/5/09	13:15	37.09	22.69	14.40		
MW-08	USZ	5/19/10	11:26	37.09	22.35	14.74		
MW-09	USZ	10/5/09	13:32	36.43	12.37	24.06		
MW-09	USZ	5/19/10	11:31	36.43	14.79	21.64		
NPW-01	IBZ	5/19/10	11:13	24.73	18.57	6.16		
NPW-02	USZ	5/19/10	11:04	22.91	16.59	6.32		
NPW-03	IDZ	5/19/10	10:55	24.06	20.09	3.97		
NPW-04	GZ	5/19/10	11:53	21.38	15.01	6.37		
NPW-05	IBZ	5/19/10	13:27	21.08	15.21	5.87		
NPW-06	IBZ	5/19/10	13:57	20.85	15.35	5.50		
NPW-07	IBZ	5/19/10	---	21.12	UTM	---		Cannot acces, fenced
NPW-08	USZ	5/19/10	11:10	24.20	17.58	6.62		
NPW-09	IBZ	5/19/10	11:42	22.30	16.80	5.50		
NPW-10	USZ	5/19/10	11:47	20.70	16.45	4.25		
NPW-11	GZ	5/19/10	14:20	20.19	13.79	6.40		
NPW-12	IBZ	5/19/10	14:15	20.39	13.51	6.88		
NPW-13	USZ	5/19/10	14:26	19.94	14.62	5.32		
NPW-14	GZ	5/19/10	13:37	21.12	14.67	6.45		
NPW-15	GZ	5/19/10	12:42	21.11	14.89	6.22		
NSW-01	USZ	7/17/09	9:12	35.60	30.04	5.56		
NSW-01	USZ	10/5/09	8:47	35.60	31.93	3.53		
NSW-01	USZ	3/18/10	NA	35.60	29.50	3.53		
NSW-01	USZ	5/19/10	9:43	35.60	30.33	5.27		
NSW-05	USZ	7/17/09	9:30	32.05	26.90	5.15		
NSW-05	USZ	10/5/09	8:31	32.05	28.52	3.55		
NSW-05	USZ	3/18/10	NA	32.05	25.82	6.23		
NSW-05	USZ	5/19/10	10:33	32.05	26.86	5.19		
NSW-06	GZ	7/17/09	9:32	32.18	27.12	5.06		
NSW-06	GZ	10/5/09	8:35	32.18	28.63	3.58		
NSW-06	GZ	3/18/10	NA	32.18	25.92	6.26		
NSW-06	GZ	5/19/10	10:35	32.18	26.78	5.40		
NSW-11	USZ	7/17/09	9:04	31.62	26.10	5.52		
NSW-11	USZ	10/5/09	8:18	31.62	27.89	3.61		
NSW-11	USZ	3/18/10	NA	31.62	28.34	3.28		
NSW-11	USZ	5/19/10	9:26	31.62	26.17	5.45		
NSW-12	USZ	7/17/09	8:58	30.44	25.01	5.43		
NSW-12	USZ	10/5/09	8:10	30.44	26.79	3.57		
NSW-12	USZ	3/18/10	NA	30.44	24.21	6.23		
NSW-12	USZ	5/19/10	9:18	30.44	25.08	5.36		
NSW-13	GZ	7/17/09	9:08	30.45	25.06	5.39		
NSW-13	GZ	10/5/09	8:15	30.45	26.69	3.61		
NSW-13	GZ	3/18/10	NA	30.45	23.98	6.47		
NSW-13	GZ	5/19/10	9:23	30.45	24.85	5.60		
NSW-14	USZ	7/17/09	9:46	30.79	25.45	5.34		
NSW-14	USZ	10/5/09	8:26	30.79	27.14	3.57		
NSW-14	USZ	3/18/10	NA	30.79	24.52	6.27		
NSW-14	USZ	5/19/10	10:37	30.79	25.35	5.44		

Table 5
Summary of Groundwater Elevations
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Zone	Date	Time	Meas. Pt. Elevation (feet msl)	Depth to Water (feet bmp)	Groundwater Elevation (feet msl)		Comments
NSW-15	USZ	7/17/09	9:17	37.38	31.80	5.58		
NSW-15	USZ	10/5/09	12:38	37.38	33.83	3.44		
NSW-15	USZ	3/18/10	NA	37.38	31.42	5.96		
NSW-15	USZ	5/19/10	10:07	37.38	32.14	5.24		
NSW-16	USZ	5/19/10	9:48	35.2	29.44	5.76		
NSZ-03	USZ	5/19/10	10:20	39.7	33.84	5.91		
NSZ-04	USZ	5/19/10	10:04	39.4	34.11	5.25		
NSZ-05	USZ	5/19/10	---	32.1	UTM	---		Unable to open due to protective cap
NSZ-06	USZ	5/19/10	9:36	NA	28.19	NA		
NSZ-07	USZ	5/19/10	9:21	32.0	26.63	5.41		
NSZ-08	USZ	5/19/10	10:53	32.0	26.60	5.39		
PZ-01	GZ	10/5/09	14:11	29.20	25.88	3.32		
PZ-02	USZ	10/5/09	12:15	29.69	26.33	3.36		
SPEXW-01	LSZ	10/5/09	11:44	16.86	15.25	1.61		
SPEXW-01	LSZ	5/19/10	14:24	16.86	12.37	4.49		
SPEXW-02	LSZE	10/5/09	10:49	16.58	32.62	-16.04	3	Active Extraction Well
SPEXW-02	LSZE	5/19/10	11:10	16.58	31.02	-14.44	3	Active Extraction Well
SPEXW-03	LSZE	10/5/09	10:53	16.77	26.36	-9.59	3	Active Extraction Well
SPEXW-03	LSZE	5/19/10	11:15	16.77	26.96	-10.19	3	Active Extraction Well
SPEXW-04	GZE	10/5/09	11:13	17.09	UTM	---	3	Active Extraction Well
SPEXW-04	GZE	5/19/10	11:56	17.09	15.55	1.54	3	Active Extraction Well
SPEXW-05	GZE	10/5/09	11:10	17.19	UTM	---	3	Active Extraction Well
SPEXW-05	GZE	5/19/10	11:37	17.19	15.62	---	3	Active Extraction Well
SPEXW-06	LSZE	10/5/09	11:17	17.41	32.09	---	3	* DTW between 29 - 34 ft, water level changing
SPEXW-06	LSZE	5/19/10	12:02	17.41	37.04	---	3	Active Extraction Well
SPEXW-07	LSZ	10/5/09	11:25	16.95	15.26	1.69		
SPEXW-07	LSZ	5/19/10	13:32	16.95	12.63	4.32		
SPEXW-08	LSZE	10/5/09	11:20	16.95	25.41	-8.46	3	Active Extraction Well
SPEXW-08	LSZE	5/19/10	11:40	16.95	22.52	-5.57	3	Active Extraction Well
SPEXW-09	GZE	10/5/09	8:08	28.59	26.20	2.39	3	Active Extraction Well
SPW-01	GZ	10/5/09	8:16	27.18	23.90	3.28		
SPW-02	GZ	5/19/10	16:25	21.65	16.18	5.47		
SPW-03	GZ	5/19/10	12:48	17.79	13.01	4.78		
SPW-04	GZ	5/19/10	13:00	19.42	14.40			
SPW-05	GZ	10/5/09	12:33	16.07	13.28	2.79		
SPW-05	GZ	5/19/10	13:11	16.07	11.27	4.80		
SPW-06	GZ	10/5/09	9:50	17.57	15.95	1.62		
SPW-06	GZ	5/19/10	13:21	17.57	13.13	4.44		
SPW-07	IDZ	5/19/10	16:30	21.73	18.77	2.96		
SPW-08	IBZ	5/19/10	16:33	21.82	16.83	4.99		
SPW-09	GZ	5/19/10	16:50	20.66	15.21	5.45		
SPW-10	GZ	5/19/10	9:16	24.60	19.68	4.92		
SPW-12	LSZ	10/5/09	14:29	29.67	26.42	3.25		
SPW-12	LSZ	5/19/10	12:57	29.67	24.02	5.65		
SPW-13	IBZ	5/19/10	12:51	17.35	12.83	4.52		
SPW-14	IBZ	5/19/10	9:50	27.12	22.40	4.72		
SPW-15	GZ	5/19/10	15:15	19.52	13.53	5.99		
SPW-16	IBZ	5/19/10	15:17	19.93	13.83	6.10		
SPW-17	GZ	5/19/10	14:58	19.66	15.48	4.18		
SPW-18	LSZ	10/5/09	9:45	17.78	15.50	2.28		
SPW-18	LSZ	5/19/10	13:18	17.78	13.37	4.41		
SPW-19	GZ	5/19/10	---	23.15	UTM	---		Unable to access due to Construction
SPW-20	GZ	10/5/09	13:04	17.81	16.05	1.76		
SPW-20	GZ	5/19/10	13:58	17.81	13.43	4.38		
SPW-21	IBZ	5/19/10	9:10	24.27	19.40	4.87		
SPW-22	LSZ	10/5/09	10:05	18.20	16.92	1.28		
SPW-22	LSZ	5/19/10	10:51	18.20	14.23	3.97		
SPW-23	USZ	10/5/09	14:48	32.80	23.59	9.21	1	
SPW-23	USZ	5/19/10	16:32	32.80	23.55	9.25		
SPW-25R	IBZ	10/5/09	13:24	27.29	23.25	4.04		
SPW-25R	IBZ	5/19/10	14:33	27.29	20.72	6.57		
SPW-26R	LSZ	10/5/09	13:50	26.21	23.32	2.89		

Table 5
Summary of Groundwater Elevations
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Zone	Date	Time	Meas. Pt. Elevation (feet msl)	Depth to Water (feet bmp)	Groundwater Elevation (feet msl)	Comments
SPW-26R	LSZ	5/19/10	10:20	26.21	20.68	5.53	
SPW-27	GZ	10/5/09	8:54	17.06	15.72	1.34	
SPW-27	GZ	5/19/10	15:44	17.06	13.83	3.23	
SPW-28	GZ	10/5/09	11:48	16.78	15.46	1.32	
SPW-28	GZ	5/19/10	14:18	16.78	12.68	4.10	
SPW-29	USZ	5/19/10	17:00	20.19	14.17	6.02	
SPW-31	LSZ	10/5/09	12:48	19.81	16.75	3.06	
SPW-31	LSZ	5/19/10	13:03	19.81	14.78	5.03	
SPW-32	LSZ	10/5/09	8:50	17.06	16.98	0.08	
SPW-32	LSZ	5/19/10	15:46	17.06	13.22	3.84	
SPW-33	GZ	5/19/10	16:35	21.72	16.07	5.65	
SPW-34	IBZ	5/19/10	---	29.28	UTM	---	Well inaccessible, carparked over well
SPW-35	LSZ	10/5/09	9:19	16.90	16.59	0.31	
SPW-35	LSZ	5/19/10	11:47	16.90	13.69	3.21	
SPW-36	GZ	5/19/10	11:45	16.74	14.39	2.35	
SPW-37	LSZ	10/5/09	9:12	16.87	16.80	0.07	
SPW-37	LSZ	5/19/10	11:30	16.87	13.00	3.87	
SPW-38	GZ	10/5/09	9:16	16.89	16.81	0.08	
SPW-38	GZ	5/19/10	11:26	16.89	14.14	2.75	
SPW-39	LSZ	10/5/09	10:42	16.97	15.86	1.11	
SPW-39	LSZ	5/19/10	10:58	16.97	13.03	3.94	
SPW-40	LSZ	10/5/09	11:31	14.75	12.17	2.58	
SPW-40	LSZ	5/19/10	13:35	14.75	9.88	4.87	
SPW-41	LSZ	10/5/09	14:58	16.68	15.47	1.21	
SPW-41	LSZ	5/19/10	15:55	16.68	13.68	3.00	
SPW-42	LSZ	10/5/09	11:40	17.38	15.67	1.71	
SPW-42	LSZ	5/19/10	14:12	17.38	12.79	4.59	
SPW-43	IBZ	5/19/10	11:24	16.50	13.16	3.34	
SPW-47	USZ	7/17/09	13:10	21.73	18.08	3.65	
SPW-47	USZ	10/5/09	14:25	21.73	19.28	2.45	
SPW-47	USZ	3/18/10	17:35	21.73	14.87	6.86	
SPW-47	USZ	5/19/10	NA	21.73	--	--	Not Measured
W-01R	USZ	5/19/10	11:03	35.87	29.98	5.89	
W-02	USZ	7/17/09	8:54	30.49	25.02	5.47	
W-02	USZ	10/5/09	7:57	30.49	26.89	3.49	
W-02	USZ	10/5/09	12:27	30.49	26.87	3.62	
W-02	USZ	3/18/10	NA	30.49	24.43		
W-02	USZ	5/19/10	9:02	30.49	25.22	5.27	
W-02	USZ	5/19/10	13:06	30.49	25.10	3.49	
W-02	USZ	5/19/10	16:39	30.49	25.14	5.35	
W-03R	USZ	7/17/09	9:25	35.68	30.15	5.53	
W-03R	USZ	10/5/09	8:54	35.68	32.03	3.36	
W-03R	USZ	3/18/10	NA	35.68	29.61	6.07	
W-03R	USZ	5/19/10	9:56	35.68	30.38	5.30	
W-06	USZ	10/5/09	14:17	22.63	19.19	3.44	
W-06	USZ	5/19/10	15:20	22.63	16.83	5.80	
W-08R	USZ	5/19/10	16:47	30.61	24.18	6.43	
W-09A	USZ	7/17/09	8:42	21.90	UTM	---	Obstruction at 14.98 feet
W-09A	USZ	10/5/09	---	21.90	UTM	---	Obstruction
W-09A	USZ	3/18/10	---	21.90	UTM	---	Inaccessible
W-09A	USZ	5/19/10	---	21.90	UTM	---	Obstruction at 14.85 feet
W-11	USZ	5/19/10	12:33	21.45	15.04	6.41	
W-15A	USZ	5/19/10	10:45	23.26	16.77	6.49	
W-74R	IBZ	5/19/10	13:30	28.09	22.51	5.58	
W-76	IBZ	5/19/10	15:22	31.53	24.09	7.44	
WCC-36	IBZ	5/19/10	9:20	22.90	17.10	5.80	
WCC-38	USZ	10/5/09	9:09	30.22	26.68	3.54	
WCC-38	USZ	5/19/10	12:26	30.22	24.62	5.60	
WCC-39	USZ	10/5/09	14:01	30.25	27.02	3.23	
WCC-40	GZ	10/5/09	14:05	29.91	26.62	3.29	
WCC-41	GZ	10/5/09	14:04	31.42	28.10	3.32	
WCC-41	GZ	5/19/10	15:26	31.42	25.75	5.67	

Table 5
Summary of Groundwater Elevations
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Zone	Date	Time	Meas. Pt. Elevation (feet msl)	Depth to Water (feet bmp)	Groundwater Elevation (feet msl)	Comments
WCC-42	USZ	10/5/09	14:01	31.79	28.43	3.36	
WCC-42	USZ	5/19/10	15:29	31.79	25.89	5.90	
WCC-43	GZ	10/5/09	14:37	20.62	17.30	3.32	
WCC-43	GZ	5/19/10	15:47	20.62	14.74	5.88	
WCC-44	USZ	10/5/09	14:35	21.00	17.63	3.37	
WCC-44	USZ	5/19/10	15:42	21.00	15.02	5.98	
WCC-45	GZ	5/19/10	11:17	24.64	18.05	6.59	
WCC-46	GZ	5/19/10	10:39	23.09	16.65	6.44	
WCC-47	GZ	10/5/09	15:09	30.06	26.73	3.33	
WCC-48	USZ	5/19/10	12:37	30.69	21.82		
WCC-49	GZ	10/5/09	9:45	30.71	27.08	3.63	
WCC-49	GZ	5/19/10	12:39	30.71	25.07	5.64	
WCC-50	USZ	10/5/09	14:26	31.89	28.09	3.80	
WCC-50	USZ	5/19/10	14:32	31.89	26.04	5.85	
WCC-51	GZ	10/5/09	14:28	31.98	28.20	3.78	
WCC-52	USZ	10/5/09	9:20	27.19	23.75	3.44	
WCC-52	USZ	5/19/10	10:27	27.19	21.43	5.76	
WCC-53	GZ	10/5/09	9:28	28.29	25.05	3.24	1
WCC-53	GZ	5/19/10	10:24	28.29	22.69	5.60	
WCC-56	USZ	10/5/09	14:38	29.72	26.62	3.10	
WCC-56	USZ	5/19/10	13:10	29.72	23.96	5.76	
WCC-57	GZ	5/19/10	16:45	28.27	22.88	5.39	
WCC-59	GZ	5/19/10	9:45	27.18	21.90	5.28	
WCC-60	GZ	5/19/10	10:22	26.05	20.76	5.29	
WCC-61	GZ	5/19/10	10:24	26.15	20.86	5.29	
WCC-62	LSZ	5/19/10	9:22	26.95	22.50	4.45	
WCC-63	LSZ	5/19/10	15:05	19.77	15.18	4.59	
WCC-64	GZ	5/19/10	16:10	21.54	15.47	6.07	
WCC-65	LSZ	5/19/10	15:10	20.48	13.92	6.56	
WCC-67R	IDZ	5/19/10	10:16	29.58	22.43	7.15	
WCC-68	IDZ	5/19/10	16:58	27.54	23.85	3.69	
WCC-69	IDZ	5/19/10	10:26	26.12	23.34	2.78	
WCC-70	GZ	5/19/10	13:08	22.10	16.14	5.96	
WCC-71	GZ	5/19/10	13:47	18.86	14.56	4.30	
WCC-72	GZ	10/5/09	9:28	15.15	12.55	2.60	
WCC-72	GZ	5/19/10	13:40	15.15	10.67	4.48	
WCC-73	GZ	10/5/09	10:00	18.17	16.91	1.26	
WCC-73	GZ	5/19/10	10:48	18.17	14.49	3.68	

Key:

msl = mean sea level
bmp = below measuring point
— = Not applicable
NA = Time not stated
UTM = Unable to measure
1 = Anomalous measurement
2 = Groundwater elevation impacted by presence of LNAPL
3 = Groundwater elevation impacted by groundwater extraction system

GZ = Gravel Zone
GZE = Gravel Zone Extraction
IBZ = Interbedded B Zone
LSZ = Lower Sand Zone
LSZE = Lower Sand Zone Extraction
USZ = Upper Sand Zone
USZE = Upper Sand Zone Extraction

Notes:

Water level data collected during the third and fourth quarters 2009 were previously presented in the report entitled *2009 Semiannual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report,* dated 9 March 2010.

Table 6
Historical Lateral Groundwater Flow Directions and Gradients
The Railyards
Sacramento, California

		Upper Sand Zone		Lower Sand Zone		Gravel Zone		Interbedded B Zone		Interbedded D Zone	
	Date	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells
Flow Direction	1/97	SE	SE	SE	SE	SE	SE	NE	SE	---	SE
Hydraulic Gradient	1/97	0.002	0.0026	0.0023	0.0036	0.0017	0.0033	0.0027	0.0042	---	0.0025
Flow Direction	4/97	SW	SW	SW	SW	SW	SW	NE	SW	---	SE
Hydraulic Gradient	4/97	0.00096	0.0018	0.001	0.00093	0.001	0.00097	0.00043	0.0013	---	0.00072
Flow Direction	7/97	SE	SW	S-SW	S-SW	S-SW	S-SW	E-SE	S-SW	---	SE
Hydraulic Gradient	7/97	0.00037	0.00082	0.0003	0.001	0.00031	0.00075	0.0012	0.00075	---	0.002
Flow Direction	10/97	S-SE	S	S-SE	S-SE	S	S	NE	S-SW	---	SE
Hydraulic Gradient	10/97	0.00036	0.00022	0.0003	0.0011	0.0002	0.00071	0.0015	0.00071	---	0.002
Flow Direction	1/98	SE	NE	SE	E-SE	SE	SE	NE	---	---	NE
Hydraulic Gradient	1/98	0.00034	0.00056	0.00025	0.00231	0.00016	0.00137	0.00521	---	---	0.00192
Flow Direction	4/98	SE	SE	SE	SE	SE	SE	SE	---	---	SE
Hydraulic Gradient	4/98	0.00089	0.00156	0.00156	0.00347	0.00104	0.00352	0.00108	---	---	0.00196
Flow Direction	8/98	S-SW	SW	S-SW	S-SE	SW	S-SE	NE	---	---	NE
Hydraulic Gradient	8/98	0.00047	0.00046	0.00059	0.0014	0.00048	0.00123	0.00641	---	---	0.00231
Flow Direction	11/98	S-SW	SW	S-SW	SE	SW	SE	NE	---	---	NE
Hydraulic Gradient	11/98	0.00045	0.00059	0.00042	0.00168	0.00044	0.00107	0.00781	---	---	0.00189
Flow Direction	1/99	S-SE	SW	S	SE	S-SW	SE	NE	S	---	NE
Hydraulic Gradient	1/99	0.00088	0.00055	0.00055	0.00192	0.00061	0.00137	0.00746	0.00196	---	0.00253
Flow Direction	4/99	S-SE	SW	S-SW	SE	S-SW	SE	E-SE	S-SW	---	NE
Hydraulic Gradient	4/99	0.00114	0.00102	0.00102	0.00167	0.00093	0.00352	0.00238	0.00316	---	0.002

Table 6
Historical Lateral Groundwater Flow Directions and Gradients
The Railyards
Sacramento, California

		Upper Sand Zone		Lower Sand Zone		Gravel Zone		Interbedded B Zone		Interbedded D Zone	
	Date	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells
Flow Direction	7/99	SW	SE	NW	S-SE	S-SW	SE	N-NE	S-SW	---	E
Hydraulic Gradient	7/99	0.00077	0.00093	0.00018	0.0011	0.00031	0.001	0.00446	0.00141	---	0.00158
Flow Direction	10/99	S-SE	NW	SE	S-SE	S-SW	S-SE	NE	S-SW	---	E-SE
Hydraulic Gradient	10/99	0.00104	0.00009	0.00026	0.00101	0.0003	0.00093	0.0026	0.00129	---	0.00098
Flow Direction	1/00	SE	SE	SE	S-SE	SE	S	N	SW	---	NE
Hydraulic Gradient	1/00	0.0008	0.00006	0.0003	0.0005	0.00066	0.0005	0.01	0.0006	---	0.003
Flow Direction	4/00	SE	SW	SW	SE	SW	S-SE	NW	SW	---	SE
Hydraulic Gradient	4/00	0.002	0.0003	0.001	0.001	0.0015	0.001	0.001	0.003	---	0.001
Flow Direction	7/00	SE	SW	SE	SE	SE	SE	NE	SW	---	SE
Hydraulic Gradient	7/00	0.0019	0.0002	0.0003	0.001	0.00045	0.003	0.0023	0.002	---	0.001
Flow Direction	10/00	SE	*	S-SE	SE	S-SE	SE	NE	S-SW	---	N-NE
Hydraulic Gradient	10/00	0.0014	*	0.0002	0.002	0.00058	0.002	0.0027	0.001	---	0.002
Flow Direction	4/01	SE	SW	SW	SE	SW	SE	SE	S	---	SE
Hydraulic Gradient	4/01	0.0013	0.00069	0.0003	0.001	0.0007	0.0011	0.0006	0.0015	---	0.0009
Flow Direction	10/01	S-SW	NE	S-SE	SE	SE	SE	W	S-SW	---	NW
Hydraulic Gradient	10/01	0.00007	0.00012	0.00026	0.002	0.0005	0.0002	0.002	0.003	---	0.0009
Flow Direction	4/02	SW	SE	S-SW	SE	SW	SE	NE	S-SW	---	SE
Hydraulic Gradient	4/02	0.0002	0.0002	0.0002	0.0016	0.0003	0.002	0.001	0.0019	---	0.001
Flow Direction	10/02	SW	S	SE	SE	S-SE	SE	S-SE	S	---	E
Hydraulic Gradient	10/02	0.00006	0.0003	0.0003	0.001	0.0004	0.001	0.0005	0.002	---	0.001
Flow Direction	4/03	SW	SW	S-SE	SE	S	SE	NW	S-SE	---	NE
Hydraulic Gradient	4/03	0.00036	0.0004	0.0006	0.00089	0.0005	0.0013	0.0002	0.0013	---	0.003

Table 6
Historical Lateral Groundwater Flow Directions and Gradients
The Railyards
Sacramento, California

		Upper Sand Zone		Lower Sand Zone		Gravel Zone		Interbedded B Zone		Interbedded D Zone	
	Date	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells
Flow Direction	10/03	SW	S	S	S	S	SW	SE	SW	---	SE
Hydraulic Gradient	10/03	0.0003	0.00045	0.0006	0.0013	0.0009	0.0015	0.0007	0.002	---	0.002
Flow Direction	4/04	S-SE	SW	SW	SE	S	SE	S-SE	S-SW	---	S-SE
Hydraulic Gradient	4/04	0.0004	0.0007	0.0007	0.001	0.0007	0.001	0.0009	0.002	---	0.0008
Flow Direction	10/04	S-SE	SW	SW	SE	S	SW	S-SE	S-SW	---	S-SW
Hydraulic Gradient	10/04	0.0001	0.0005	0.002	0.0009	0.004	0.0004	0.0007	0.001	---	0.001
Flow Direction	4/05	E	SW	S-SE	SE	SE	SE	SE	S-SW	---	---
Hydraulic Gradient	4/05	0.0004	0.0006	0.004	0.001	0.004	0.001	0.0008	0.002	---	---
Flow Direction	10/05	S-SW	S	S-SW	SE	E-SE	S	SE	S-SW	---	---
Hydraulic Gradient	10/05	0.00007	0.0004	0.0003	0.001	0.0002	0.003	0.0005	0.001	---	---
Flow Direction	4/06	E	E	SE	SE	SE	SE	SE	S	---	---
Hydraulic Gradient	4/06	0.0009	0.003	0.002	0.007	0.0008	0.003	0.001	0.003	---	---
Flow Direction	10/06	S	S	S	S	SW	SW	SW	SW	---	---
Hydraulic Gradient	10/06	0.0002	0.0006	0.0004	0.002	0.0006	0.002	0.003	0.002	---	---
Flow Direction	5/07	SE	SE	S	S	SW	SW	N	SW	---	---
Hydraulic Gradient	5/07	0.0002	0.002	0.0003	0.001	0.0004	0.002	0.0008	0.001	---	---
Flow Direction	11/07	E	SE	S	S	SW	SE	S	SW	---	---
Hydraulic Gradient	11/07	0.00009	0.0002	0.0003	0.001	0.003	0.002	0.0007	0.001	---	---

Table 6
Historical Lateral Groundwater Flow Directions and Gradients
The Railyards
Sacramento, California

		Upper Sand Zone		Lower Sand Zone		Gravel Zone		Interbedded B Zone		Interbedded D Zone	
	Date	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells	Northern Wells	Southern Wells
Flow Direction	4/08	N-NE	S	SW	S	SW	SE	S	SW	---	---
Hydraulic Gradient	4/08	0.005	0.0002	0.0003	0.0002	0.003	0.0008	0.0002	0.001	---	---
Flow Direction	11/08	---	E	SW	S-SW	S	S-SE	---	---	---	---
Hydraulic Gradient	11/08	---	0.0024	0.00047	0.00081	0.00041	0.0015	---	---	---	---
Flow Direction	4/09	SE	S-SE	E-SE	E-SE	SE	SE	N	S-SW	S-SW	S-SE
Hydraulic Gradient	4/09	0.00042	0.00013	0.00016	0.00045	0.00042	0.00047	0.00046	0.00044	0.0011	0.0013
Flow Direction	10/09	---	S-SE	S-SE	S	S-SE	S-SE	---	---	---	---
Hydraulic Gradient	10/09	---	0.00023	0.00028	0.00200	0.00025	0.00185	---	---	---	---
Flow Direction	5/10	NE	SW	S-SE	S-SW	S-SW	SE	N-NE	S-SW	---	SE
Hydraulic Gradient	5/10	0.0062	0.00086	0.00029	0.00042	0.00093	0.00039	0.00035	0.00046	---	0.0005

Key:
Gradients reported in foot per foot.
* = Vector not available.
--- = Insufficient data.
E = East
N = North
NE = Northeast
NW = Northwest
S = South
SE = Southeast
SW = Southwest
W = West

Notes:
Flow direction and general hydraulic gradients in the Study Area are locally variable and are normally controlled by
- Seasonal variation of Water levels in the nearby American and Sacramento Rivers
- Seasonal variation in infiltration from precipitation
- Groundwater withdrawal by the SPS (CSEXW wells and selected CSW wells) and the SPM (selected SPEXW wells) remediation extraction systems
- Groundwater withdrawal by the State Printing Plant extraction wells north of The Railyards
- Groundwater mounding associated with the City of Sacramento Water Treatment Plant north of The Railyards

Table 7
Vertical Hydraulic Gradients
July 2009 through June 2010
The Railyards
Sacramento, California

	Upper Sand Zone to Lower Sand Zone		Lower Sand Zone to Gravel Zone		Gravel Zone to Interbedded B Zone		Interbedded B Zone to Interbedded D Zone	
Date	**Northern Wells**	**Southern Wells**	**Northern Wells**	**Southern Wells**	**Northern Wells**	**Southern Wells**	**Northern Wells**	**Southern Wells**
May 2010	Not Measured	5.93×10^{-3}	-1.29×10^{-1}	-6.27×10^{-4}	1.38×10^{-2}	1.51×10^{-2}	1.92×10^{-2}	3.93×10^{-2}

Notes:
Northern wells refers to wells in the Lagoon Groundwater Study Area and north.
Southern wells refer to wells in the South Plume Study Area.
A negative value constitutes an upward gradient, and downward gradients are represented with a positive value .

Table 8
Groundwater Sample Matrix
Second Quarter 2010 Monitoring Event
The Railyards
Sacramento, California

Well ID	Date	Zone	VOCs	SVOCs	Inorganics	Cyanide	TPH-G	TPH-D	1,4 Dioxane
BSMW-02 (4)	-	USZ	X						X
BSMW-03	4/10	USZ	X						X
CCW-08	4/10	IDZ			Ni (filtered)				X
CNW-02	4/10	USZ	X		As, Ni (filtered)				X
CNW-03	6/10	GZ	X		As (filtered)				X
CNW-04	4/10	GZ	X						X
CNW-09	6/10	IBZ							X
CNW-10	4/10	IBZ							X
CNW-11	4/10	IBZ							X
CSEXW-01	5/10	USZE	X	X					X
CSEXW-02	5/10	USZE	X	X					X
CSEXW-03	5/10	USZE	X	X					X
CSEXW-05	5/10	USZE	X	X					X
CSW-01	5/10	USZE	X						X
CSW-03	5/10	USZE	X				X	X	X
CSW-04	4/10	GZ	X		Ni (filtered)				X
CSW-05	4/10	USZ		X	Ni (filtered)				
CSW-07	5/10	USZE	X						X
CSW-10 (4)	-	USZ	X						X
CSW-12	4/10	USZ	X		Ni (filtered)			X	X
CSW-13	4/10	LSZ	X		Ni (filtered)			X	X
CSW-14	5/10	USZE	X	X			X	X	X
CSW-15	4/10	LSZ	X	X	Ni (filtered)				X
CSW-16	4/10	USZ	X	X			X	X	X
CSW-18	4/10	GZ	X						X
CSW-19	4/10	LSZ	X						X
CSW-21	4/10	USZ	X	X	Ni (filtered)		X	X	X
CSW-22 (1)	-	USZ	X	X			X	X	X
CSW-23 (1)	-	USZ	X	X					X
CSW-24	4/10	USZ	X	X	Ni (filtered)		X	X	X
CSW-25	4/10	USZ	X		Ni (filtered)		X	X	X
CSW-26	4/10	LSZ	X					X	X
CSW-27	4/10	USZ		X					
CSW-28	5/10	USZ	X						X
CSW-29	5/10	LSZ	X						X
CSW-31	4/10	USZ	X						X
CSW-32	4/10	LSZ	X	X					X
CSW-33	4/10	LSZ	X						X
CSW-36	5/10	LSZ	X						X
CSW-37	4/10	USZ	X						X
CSW-38	4/10	LSZ	X						
CSW-41	4/10	USZ	X						
CSW-42	4/10	LSZ	X						X
CSW-45	4/10	USZ	X						X
CSW-46	4/10	LSZ	X						X
CSW-47 (1)	-	USZ	X				X	X	X
LGW-07	4/10	GZ	X						X
LGW-12	4/10	GZ	X						X
LGW-13	5/10	GZ	X						X
NPW-01	4/10	IBZ	X						X
NPW-02	4/10	USZ			As, Ni (filtered)				X
NPW-03	4/10	IDZ	X		As (filtered)			and Motor Oil	X
NPW-04	4/10	GZ	X						X
NPW-05	4/10	IBZ	X		Cd, Ni (filtered)			X	X
NPW-06	4/10	IBZ							X
NPW-07 (3)	-	IBZ							X
NPW-10	4/10	USZ			As, Ni (filtered)				
NPW-11	4/10	GZ	X		As (filtered)				X
NPW-12	4/10	IBZ	X						X

Well ID	Date	Zone	VOCs	SVOCs	Inorganics	Cyanide	TPH-G	TPH-D	1,4 Dioxane
NPW-13	4/10	USZ	X		As, Ni (filtered)				X
NPW-14	4/10	GZ	X		As (filtered)				X
NPW-15	4/10	GZ	X		As (filtered)				X
NSW-01	4/10	USZ	X	X	As (filtered)		X	X	
NSW-05	4/10	USZ	X	X			X	X	
NSW-06	4/10	GZ	X	X			X	X	
NSW-11	4/10	USZ	X	X	As, Ni, Pb (filtered)		X	X	X
NSW-12	4/10	USZ	X	X	As, Ni, Pb (filtered)		X	X	X
NSW-13	4/10	GZ	X	X	As, Ni, Pb (filtered)		X	X	X
NSW-14	4/10	USZ	X	X	As, Ni, Pb (filtered)		X	X	X
NSW-15	4/10	USZ	X	X	As, Ni, Pb (filtered)		X	X	X
SPEXW-01	4/10	LSZ	X						X
SPEXW-02	4/10	LSZE	X						X
SPEXW-03	4/10	LSZE	X						X
SPEXW-04	4/10	GZ	X						X
SPEXW-05	4/10	GZ	X						X
SPEXW-06	4/10	LSZE	X						X
SPEXW-07	4/10	LSZ	X						X
SPEXW-08	4/10	LSZE	X						X
SPW-02	4/10	GZ	X						X
SPW-03	4/10	GZ	X		As (filtered)				X
SPW-04	4/10	GZ	X						X
SPW-05	4/10	GZ	X		As (filtered)				X
SPW-06	4/10	GZ	X		As (filtered)				X
SPW-07	4/10	IDZ	X						X
SPW-08	4/10	IBZ	X						X
SPW-09	4/10	GZ	X						X
SPW-10	4/10	GZ	X						X
SPW-12	4/10	LSZ	X						X
SPW-13	4/10	IBZ	X						X
SPW-14	4/10	IBZ	X						X
SPW-15	4/10	GZ	X						X
SPW-16	4/10	IBZ	X						X
SPW-17	4/10	GZ	X						X
SPW-18	4/10	LSZ	X						X
SPW-19	4/10	GZ	X						X
SPW-20	4/10	GZ	X						X
SPW-21	4/10	IBZ	X						X
SPW-22	4/10	LSZ	X						X
SPW-23	4/10	USZ	X						X
SPW-25R	4/10	IBZ	X						X
SPW-26R	4/10	LSZ	X						X
SPW-27	4/10	GZ	X						X
SPW-28	4/10	GZ	X						X
SPW-29	4/10	USZ	X						X
SPW-31	4/10	LSZ	X		Ni (filtered)				X
SPW-32	4/10	LSZ	X						X
SPW-33	4/10	GZ	X						X
SPW-34	4/10	IBZ	X						X
SPW-35	4/10	LSZ	X						X
SPW-36	4/10	GZ	X						X
SPW-37	4/10	LSZ	X						X
SPW-38	4/10	GZ	X						X
SPW-39	4/10	LSZ	X						X
SPW-40	4/10	LSZ	X						X
SPW-41	4/10	LSZ	X						X
SPW-42	4/10	LSZ	X						X
SPW-43	4/10	IBZ	X	X				X	X
SPW-47	4/10	USZ	X	X	As, Ni, Pb (filtered)		X	X	X
W-01R	4/10	USZ	X						
W-02	4/10	USZ	X		Pb (filtered)				

Table 8
Groundwater Sample Matrix
Second Quarter 2010 Monitoring Event
The Railyards
Sacramento, California

Well ID	Date	Zone	VOCs	SVOCs	Inorganics	Cyanide	TPH-G	TPH-D	1,4 Dioxane
W-03R	4/10	USZ	X						X
W-06	4/10	USZ	X						X
W-08R	4/10	USZ	X						X
W-09A (2)	-	USZ	X						X
W-11	4/10	USZ	X						X
W-15A	4/10	USZ	X		As, Ni (filtered)				X
W-74	4/10	IBZ	X		Ni (filtered)				X
W-76	4/10	IBZ	X		Ni (filtered)				X
WCC-36	4/10	IBZ	X		Ni (filtered)				X
WCC-38 (4)	-	USZ	X						X
WCC-41(5)	4/10	GZ	X	X					X
WCC-42	4/10	USZ	X	X					X
WCC-43	4/10	GZ	X						X
WCC-44	4/10	USZ	X						X
WCC-45	4/10	GZ	X						X
WCC-46	4/10	GZ	X		As (filtered)				X
WCC-49	4/10	GZ	X						X
WCC-50	4/10	USZ	X		Ni (filtered)				X
WCC-53	4/10	GZ	X		Ni (filtered)				X
WCC-56	4/10	USZ		X			X	X	
WCC-57	4/10	GZ	X						X
WCC-59	4/10	GZ	X						X
WCC-60	4/10	GZ	X						X
WCC-61	4/10	GZ	X						X
WCC-62	4/10	LSZ	X						X
WCC-63	4/10	LSZ	X						X
WCC-64	4/10	GZ	X						X
WCC-65	4/10	LSZ	X						X
WCC-67R (4)	-	IDZ	X						X
WCC-68	4/10	IDZ	X						X
WCC-69	4/10	IDZ	X						X
WCC-70	4/10	GZ	X						X
WCC-71	4/10	GZ	X		As (filtered)				X
WCC-72	4/10	GZ	X		As (filtered)				X
WCC-73	4/10	GZ	X						X

Notes and Key:

Shaded entries indicate no samples collected at this location during the associated sampling event.
(1) = Well not sampled due to presence of LNAPL.
(2) = Well obstructed. Well properly abandoned on 29 June 2010.
(3) = Well not accessible due to fencing.
(4) = Well not sampled, previously approved for abandonment in a letter from the DTSC dated 6 July 2009.
(5) = Not sampled for SVOCs due to oversight. Will be analyzed during the next event.
LNAPL = Light nonaqueous-phase liquid
SVOCs = Semivolatile organic compounds
TPH-D = Total petroleum hydrocarbons as diesel
TPH-G = Total petroleum hydrocarbons as gasoline
VOCs = Volatile organic compounds

As agreed upon with the DTSC and RWQCB, all groundwater wells monitored to satisfy M&RP requirements were sampled using low flow groundwater sampling (LFGWS) methodology.

Inorganics Abbreviations

As = Arsenic
Cd = Cadmium
Ni = Nickel
Pb = Lead

Key for Zone

GZ = Gravel Zone
USZ = Upper Sand Zone
LSZ = Lower Sand Zone
IBZ = Interbedded B Zone
IDZ = Interbedded D Zone
GZE = Gravel Zone Extraction Well
USZE = Upper Sand Zone Extraction Well
LSZE = Lower Sand Zone Extraction Well

Well ID	Code	Zone	Date	BDCM	BF	BM	CCL	CB	CE	CF	CM	DBCM	1,1-DCA	1,2-DCA	1,2-DCB	1,3-DCB	1,4-DCB	1,1-DCE	C-1,2-DCE	T-1,2-DCE	DCM
BC-1			2/4/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.98** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**4.6**	**1.7**	< 0.95
BSMW-03		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.5**	< 0.28	< 0.32	< 0.35	< 0.37	**1.3**	**56**	**6.5**	5.0 jU
CCW-08		IDZ	4/18/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CNW-02		USZ	10/15/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**0.055** j	< 0.076	< 0.061	< 0.091	< 0.075	**0.1** j	**96**	**6.4**	< 0.1
CNW-02-22.5		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**200**	**6.8**	5.0 jU
CNW-02-26.5		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**220**	**7.7**	5.0 jU
CNW-02-29		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	**0.47** j	**260**	**10**	5.0 jU
CNW-03		GZ	10/15/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**1.1**	**0.42** j	< 0.061	< 0.091	< 0.075	**0.089** j	**16**	< 0.051	< 0.1
CNW-03		GZ	6/28/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**3.6**	< 0.3	5.0 jU
CNW-04		GZ	10/9/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**1.1**	**0.3** j	< 0.061	< 0.091	< 0.075	< 0.066	**17**	< 0.051	< 0.1
CNW-04		GZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.3**	**0.59**	< 0.32	< 0.35	< 0.37	< 0.42	**18**	< 0.3	< 0.95
CNW-09		IBZ	6/28/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CNW-10		IBZ	4/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CNW-10	FD	IBZ	4/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CNW-11		IBZ	4/21/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CSAEFFLUENT			7/14/09	< 0.053	< 0.11	< 0.091	< 0.1	**0.18** j	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.78** j b	< 0.051	< 0.1
CSAEFFLUENT			8/11/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**1.7**	< 0.051	< 0.1
CSAEFFLUENT			9/23/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
CSAEFFLUENT			10/16/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**0.23** jJ	< 0.051 UJ	< 0.1 UJ
CSAEFFLUENT			12/17/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	1.0 j bU	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	1.0 j bU	< 0.051	< 0.1
CSAEFFLUENT			1/6/10	< 0.053	< 0.11	< 0.091	< 0.1	**0.16** j	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.14** j	< 0.051	< 0.1
CSAEFFLUENT			2/4/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**1**	< 0.3	< 0.95
CSAEFFLUENT			3/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
CSAEFFLUENT			3/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.53** j	< 0.3	< 0.95
CSAEFFLUENT			5/27/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
CSAEFFLUENT			6/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.35** j	< 0.3	< 0.95
CSEXW-01		USZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**6.8**	< 0.076	< 0.061	< 0.091	< 0.075	**1.6**	**22**	**2.2**	< 0.1
CSEXW-01		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**8**	< 0.28	< 0.32	< 0.35	< 0.37	**1.9**	**22**	**2.3**	< 0.95
CSEXW-02		USZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	**1.9** j	< 0.057	< 0.18	< 0.32	**12**	< 0.076	< 0.061	< 0.091	< 0.075	**2.5**	**44**	**2.3**	< 0.1
CSEXW-02		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**1.2**	< 0.33	< 0.4	< 0.4	**9.8**	< 0.28	< 0.32	< 0.35	< 0.37	**2.7**	**45**	**2.6**	< 0.95
CSEXW-03		USZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**17**	< 0.076	< 0.061	< 0.091	< 0.075	**2.4**	**6.7**	**0.42** j	< 0.1
CSEXW-03		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**16**	< 0.28	< 0.32	< 0.35	< 0.37	**1.7**	**7.6**	**0.78** j	< 0.95
CSEXW-04		LSZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**4.4**	< 0.076	< 0.061	< 0.091	< 0.075	**6.7**	**51**	**9.1**	< 0.1
CSEXW-05		USZE	10/7/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**4.6** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**140** J	**3.4** J	< 0.1 UJ
CSEXW-05		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**1.1**	< 0.33	< 0.4	< 0.4	**3.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**72**	**2**	< 0.95
CSW-01		USZE	10/7/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	**3.1** jJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**14** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	**2.4** J	**240** dJ	**85** J	< 0.1 UJ
CSW-01		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**2**	< 0.33	< 0.4	< 0.4	**16**	**0.36** j	< 0.32	< 0.35	< 0.37	**2.5**	**220**	**96**	< 0.95
CSW-01		USZE	6/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**1.5**	< 0.33	< 0.4	< 0.4	**18**	**0.33** j	< 0.32	< 0.35	< 0.37	**2.6**	**210**	**100**	< 0.95
CSW-03		USZE	10/7/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**84** J	**7.6** J	< 0.1 UJ
CSW-03		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**120**	**13**	< 0.95
CSW-03		USZE	6/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**100**	**8.8**	< 0.95
CSW-04		GZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	5.0 jU
CSW-07		USZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**36**	< 0.076	< 0.061	< 0.091	< 0.075	**18**	**14**	**0.72** j	< 0.1
CSW-07		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**0.75** j	< 0.33	< 0.4	< 0.4	**47**	**0.56**	< 0.32	< 0.35	< 0.37	**23**	**17**	**1.1**	< 0.95
CSW-11		LSZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**4**	< 0.076	< 0.061	< 0.091	< 0.075	**5.8**	**31**	**14**	< 0.1
CSW-12		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.6**	< 0.28	< 0.32	< 0.35	< 0.37	**3.2**	**73**	**9**	5.0 jU
CSW-13		LSZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**5.1**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	**0.34** j	< 0.95
CSW-14		USZE	10/7/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**8.1** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	**0.6** jJ	**320** dJ	**11** J	< 0.1 UJ
CSW-14		USZE	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**6.7**	< 0.28	< 0.32	< 0.35	< 0.37	**0.7** j	**200**	**9.7**	< 0.95
CSW-14		USZE	6/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**7.2**	< 0.28	< 0.32	< 0.35	< 0.37	**0.82** j	**220**	**7.8**	< 0.95
CSW-15		LSZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
CSW-16		USZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.8**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**2.3**	**0.75** j	< 0.95
CSW-18		GZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.48** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	5.0 jU
CSW-19		LSZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**6.5**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**3.7**	< 0.3	< 0.95
CSW-21		USZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	**1.2**	**4.2**	< 0.33	< 0.4	< 0.4	**1.8**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
CSW-24		USZ	10/14/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	**5.1**	< 0.057	< 0.18	< 0.32	**32**	**0.26** j	< 0.061	< 0.091	< 0.075	**1.2**	**1.2**	**0.38** j	< 0.1
CSW-24	FD	USZ	10/14/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	**5.3**	< 0.057	< 0.18	< 0.32	**35**	**0.3** j	< 0.061	< 0.091	< 0.075	**1.4**	**1.3**	**0.51** j	< 0.1
CSW-24		USZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**6.5**	< 0.33	< 0.4	< 0.4	**110**	**1**	< 0.32	< 0.35	< 0.37	**11**	**6.6**	**0.72** j	< 0.95
CSW-24	FD	USZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**6.1**	< 0.33	< 0.4	< 0.4	**110**	**0.99**	< 0.32	< 0.35	< 0.37	**9.6**	**6.5**	**0.72** j	< 0.95
CSW-25		USZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**1**	< 0.33	< 0.4	< 0.4	**12**	< 0.28	< 0.32	< 0.35	< 0.37	**0.74** j	**22**	**0.8** j	< 0.95
CSW-26		LSZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.71** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**1.6**	**0.35** j	< 0.95

Well ID	Code	Zone	Date	BDCM	BF	BM	CCL	CB	CE	CF	CM	DBCM	1,1-DCA	1,2-DCA	1,2-DCB	1,3-DCB	1,4-DCB	1,1-DCE	C-1,2-DCE	T-1,2-DCE	DCM
CSW-28		USZ	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**5.9**	< 0.28	< 0.32	< 0.35	< 0.37	**3.3**	**47**	**1.8**	< 0.95
CSW-29		LSZ	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**12**	**0.3** j	< 0.32	< 0.35	< 0.37	< 0.42	**0.69** j	**1.7**	< 0.95
CSW-31		USZ	10/9/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**2.1**	< 0.076	< 0.061	< 0.091	< 0.075	**8.9**	**100**	**8**	< 0.1
CSW-31		USZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.2**	< 0.28	< 0.32	< 0.35	< 0.37	**9.3**	**120**	**10**	**1** j
CSW-32		LSZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**4.4**	**0.52**	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	**0.9** j	< 0.95
CSW-33		LSZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.1**	**0.29** j	< 0.32	< 0.35	< 0.37	< 0.42	**0.5** j	**2.1**	< 0.95
CSW-36		LSZ	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.68** j	**2.9**	< 0.95
CSW-37		USZ	10/13/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**3.6**	< 0.076	< 0.061	< 0.091	< 0.075	**0.23** j	**0.28** j	**1.7**	< 0.1
CSW-37		USZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**4.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.83** j	**1.2**	< 0.95
CSW-37	FB	USZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
CSW-38		LSZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**9.3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.52** j	**1.2**	< 0.95
CSW-41		USZ	10/12/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**9.8**	**0.094** j	< 0.061	< 0.091	< 0.075	**0.32** j	**0.65** j	**1**	< 0.1
CSW-41		USZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.1**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.89** j	**1.5**	5.0 jU
CSW-42		LSZ	10/12/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**5.7**	< 0.076	< 0.061	< 0.091	< 0.075	**0.16** j	**0.076** j	**0.37** j	< 0.1
CSW-42	FD	LSZ	10/12/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**5.6**	< 0.076	< 0.061	< 0.091	< 0.075	**0.34** j	**0.15** j	**0.31** j	< 0.1
CSW-42		LSZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**6.8**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.51** j	**0.48** j	< 0.95
CSW-42	FD	LSZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**7.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.52** j	**0.47** j	< 0.95
CSW-45		USZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**7.8**	**0.58**	< 0.32	< 0.35	< 0.37	< 0.42	**0.76** j	**0.62** j	< 0.95
CSW-46		LSZ	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.2**	**0.3** j	< 0.32	< 0.35	< 0.37	< 0.42	**1**	**0.36** j	< 0.95
LGW-07		GZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.58** j	< 0.3	5.0 jU
LGW-12		GZ	4/16/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
LGW-13		GZ	5/25/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.72** j	**0.5**	< 0.32	< 0.35	< 0.37	< 0.42	**8.2**	**0.65** j	< 0.95
NPW-01		IBZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NPW-02		USZ	4/17/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NPW-03		IDZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NPW-04		GZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NPW-05		IBZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NPW-06		IBZ	4/16/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NPW-11		GZ	4/16/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	**0.41** j	< 0.32	< 0.35	< 0.37	< 0.42	**1.2**	< 0.3	< 0.95
NPW-12		IBZ	4/16/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.9**	**0.37** j	< 0.32	< 0.35	< 0.37	< 0.42	**0.52** j	< 0.3	< 0.95
NPW-13		USZ	4/16/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.5** j	**0.51**	< 0.32	< 0.35	< 0.37	< 0.42	**1.6**	< 0.3	< 0.95
NPW-14		GZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.1**	**0.54**	< 0.32	< 0.35	< 0.37	**0.49** j	**3.7**	**0.94** j	< 0.95
NPW-15		GZ	4/16/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.4**	**0.48** j	< 0.32	< 0.35	< 0.37	**0.45** j	**8.8**	**1.2**	< 0.95
NSW-01		USZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NSW-05		USZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NSW-06		GZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	**1.5** j
NSW-11		USZ	10/13/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
NSW-11		USZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	**1** j
NSW-12		USZ	10/13/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
NSW-12		USZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NSW-13		GZ	10/14/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
NSW-13		GZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	**1** j
NSW-14		USZ	10/15/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
NSW-14	FD	USZ	10/15/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
NSW-14		USZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NSW-14	FD	USZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
NSW-15		USZ	10/14/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
NSW-15		USZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-01		LSZ	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPEXW-01		LSZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.51** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-02		LSZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPEXW-02		LSZE	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.49** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-03		LSZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	**0.15** jJF	< 0.18 UJ	< 0.32 UJ	**1.4** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPEXW-03		LSZE	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.7**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-04		GZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**2.2** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**0.59** jJ	< 0.051 UJ	< 0.1 UJ
SPEXW-04	FD	GZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**2.3** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**0.57** jJ	< 0.051 UJ	< 0.1 UJ
SPEXW-04		GZE	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.43** j	< 0.3	< 0.95
SPEXW-04	FD	GZE	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.4** j	< 0.3	< 0.95
SPEXW-05		GZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**4.9** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**1** J	< 0.051 UJ	< 0.1 UJ
SPEXW-05		GZE	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**1.4**	< 0.3	< 0.95
SPEXW-06		LSZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**0.8** jJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ

Well ID	Code	Zone	Date	BDCM	BF	BM	CCL	CB	CE	CF	CM	DBCM	1,1-DCA	1,2-DCA	1,2-DCB	1,3-DCB	1,4-DCB	1,1-DCE	C-1,2-DCE	T-1,2-DCE	DCM
SPEXW-06		LSZE	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.42** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-07		LSZ	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPEXW-07		LSZ	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-08		LSZE	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**2.4** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPEXW-08		LSZE	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPEXW-09		GZE	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**1.9**	< 0.076	< 0.061	< 0.091	< 0.075	**0.64** j	**16**	**12**	< 0.1
SPMEFFLUENT			7/14/09	< 0.053	< 0.11	< 0.091	< 0.1	**0.13** j	< 0.25	< 0.057	< 0.18	< 0.32	**3**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**1.2** b	< 0.051	< 0.1
SPMEFFLUENT			8/11/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**1.9**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.62** j	< 0.051	< 0.1
SPMEFFLUENT			9/23/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**1.4**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.46** j	< 0.051	< 0.1
SPMEFFLUENT			10/16/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**2.6** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	**0.76** jJ	< 0.051 UJ	< 0.1 UJ
SPMEFFLUENT			11/30/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**2.8**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.79** j	< 0.051	< 0.1
SPMEFFLUENT			12/17/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**2.8**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.53** j	< 0.051	< 0.1
SPMEFFLUENT			1/6/10	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**2.3**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.35** j	< 0.051	< 0.1
SPMEFFLUENT			2/4/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.57** j	< 0.3	< 0.95
SPMEFFLUENT			3/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.56** j	< 0.3	< 0.95
SPMEFFLUENT			3/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.59** j	< 0.3	< 0.95
SPMEFFLUENT			4/29/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.7**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.46** j	< 0.3	< 0.95
SPMEFFLUENT			5/27/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.7**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPMEFFLUENT			6/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.52** j	< 0.3	**1** j
SPW-02		GZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.9**	**0.37** j	< 0.32	< 0.35	< 0.37	**1.8**	**34**	**17**	< 0.95
SPW-03		GZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.42** j	**0.92** j	< 0.95
SPW-04		GZ	7/18/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**0.4** j	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
SPW-04		GZ	10/9/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	**0.33** j	< 0.32	**0.33** j	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.074** j	< 0.051	< 0.1
SPW-04	FD	GZ	10/9/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**0.39** j	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.068** j	< 0.051	< 0.1
SPW-04		GZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-04	FD	GZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-05		GZ	7/18/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
SPW-05		GZ	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPW-05		GZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-06		GZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**7.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.9** j	< 0.3	5.0 jU
SPW-07		IDZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.1**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-08		IBZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**100**	**0.34** j	< 0.32	< 0.35	< 0.37	**2.8**	**110**	**30**	< 0.95
SPW-09		GZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	5.0 jU
SPW-10		GZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3**	< 0.28	< 0.32	< 0.35	< 0.37	**0.52** j	**21**	**2.9**	< 0.95
SPW-10	FD	GZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	**0.47** j	**18**	**2.6**	< 0.95
SPW-11		IBZ	10/8/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SPW-12		LSZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**6.1**	**1.2**	< 0.32	< 0.35	< 0.37	**24**	**150**	**85**	< 0.95
SPW-13		IBZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**10**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**3.2**	**0.31** j	< 0.95
SPW-14		IBZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-15		GZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.6**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**14**	**5.7**	< 0.95
SPW-15	FD	GZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.3**	< 0.28	< 0.32	< 0.35	< 0.37	**0.45** j	**14**	**5.8**	< 0.95
SPW-16		IBZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**25**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**7.1**	**1.2**	< 0.95
SPW-17		GZ	4/13/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-18		LSZ	4/14/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.1**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**1.3**	**0.56** j	5.0 jU
SPW-19		GZ	4/23/10	< 0.3	< 0.4	< 0.42	**1.1** F	< 0.36	< 0.4	**0.41** jF	< 0.4	< 0.4	< 0.4	**0.89**	< 0.32	< 0.35	< 0.37	< 0.42	**8.9**	< 0.3	< 0.95
SPW-20		GZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-21		IBZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**25**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**19**	**1.7**	< 0.95
SPW-22		LSZ	4/13/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.65** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-23		USZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-25R		IBZ	10/9/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**20**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**10**	**1.1**	< 0.1
SPW-25R		IBZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**22**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**13**	**1.4**	< 0.95
SPW-26R		LSZ	10/7/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**2.7**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**5.4**	**1.8**	< 0.1
SPW-26R		LSZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**8.5**	**2.5**	< 0.95
SPW-27		GZ	10/14/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**0.46** j	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.07** j	< 0.051	< 0.1
SPW-27		GZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-28		GZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-29-20		USZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-29-23.5		USZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-29-27.5		USZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-29-31.25		USZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-31		LSZ	7/18/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**0.33** j	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.15** j	< 0.051	< 0.1

Well ID	Code	Zone	Date	BDCM	BF	BM	CCL	CB	CE	CF	CM	DBCM	1,1-DCA	1,2-DCA	1,2-DCB	1,3-DCB	1,4-DCB	1,1-DCE	C-1,2-DCE	T-1,2-DCE	DCM
SPW-31		LSZ	10/9/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**0.3** j	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.14** j	< 0.051	< 0.1
SPW-31		LSZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-32		LSZ	10/14/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**3.3**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.52** j	< 0.051	< 0.1
SPW-32		LSZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-33		GZ	4/13/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	**0.31** j	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-34		IBZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-35		LSZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-36		GZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**4.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**1**	< 0.3	< 0.95
SPW-37		LSZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.4**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-38		GZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.2**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-39		LSZ	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPW-39		LSZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-40		LSZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-41		LSZ	10/16/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
SPW-41		LSZ	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-42		LSZ	4/5/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	**0.64** jF	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-43		IBZ	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-43	FD	IBZ	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
SPW-47		USZ	7/17/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
SPW-47		USZ	10/8/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	**0.47** j	< 0.057	< 0.18	< 0.32	**1.2**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
SPW-47		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
TSINFLUENT			7/14/09	< 0.053	< 0.11	< 0.091	< 0.1	**0.16** j	**0.29** j	< 0.057	< 0.18	< 0.32	**12**	< 0.076	< 0.061	< 0.091	< 0.075	**4.8**	**76** b	**22**	< 0.1
TSINFLUENT			8/11/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**3.8**	< 0.076	< 0.061	< 0.091	< 0.075	**1.6**	**120**	**22**	< 0.1
TSINFLUENT			9/23/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**5.5**	< 0.076	< 0.061	< 0.091	< 0.075	**4.2**	**92**	**17**	< 0.1
TSINFLUENT			10/16/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	**0.61** jJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	**8.3** J	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	**3.3** J	**91** J	**20** J	< 0.1 UJ
TSINFLUENT			12/17/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	**0.76** j	< 0.057	< 0.18	< 0.32	**37** b	**0.37** j	< 0.061	< 0.091	< 0.075	**17**	**16** b	**1.5** b	< 0.1
TSINFLUENT			1/6/10	< 0.053	< 0.11	< 0.091	< 0.1	**0.14** j	< 0.25	< 0.057	< 0.18	< 0.32	**11**	< 0.076	< 0.061	< 0.091	< 0.075	**6.1**	**78**	**7.7**	< 0.1
TSINFLUENT			2/4/10	< 0.6 d	< 0.8 d	< 0.84 d	< 0.56 d	< 0.72 d	< 0.8 d	< 0.66 d	< 0.8 d	< 0.8 d	**11** d	< 0.56 d	< 0.64 d	< 0.7 d	< 0.74 d	**1.8** jd	**190** d	**42** d	< 1.9 d
TSINFLUENT			3/3/10	< 0.6 d	< 0.8 d	< 0.84 d	< 0.56 d	< 0.72 d	< 0.8 d	< 0.66 d	< 0.8 d	< 0.8 d	**19** d	< 0.56 d	< 0.64 d	< 0.7 d	< 0.74 d	**5.3** d	**180** d	**48** d	< 1.9 d
TSINFLUENT			5/27/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**0.78** j	< 0.33	< 0.4	< 0.4	**12**	< 0.28	< 0.32	< 0.35	< 0.37	**3.2**	**120**	**22**	< 0.95
TSINFLUENT			6/3/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	**0.59** j	< 0.33	< 0.4	< 0.4	**13**	< 0.28	< 0.32	< 0.35	< 0.37	**4.9**	**130**	**25**	< 0.95
W-01R		USZ	4/21/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	5.0 jU
W-02		USZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
W-03R		USZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
W-06		USZ	4/22/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**2.6**	< 0.28	< 0.32	< 0.35	< 0.37	**2.7**	**25**	**10**	< 0.95
W-08R		USZ	4/19/10	< 0.3 UJ	< 0.4 UJ	< 0.42 UJ	< 0.28 UJ	< 0.36 UJ	< 0.4 UJ	< 0.33 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.28 UJ	< 0.32 UJ	< 0.35 UJ	< 0.37 UJ	< 0.42 UJ	< 0.32 UJ	< 0.3 UJ	< 0.95 UJ
W-11		USZ	4/16/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
W-11		USZ	4/21/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-15A		USZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
W-74		IBZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
W-76		IBZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**26**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**11**	**9.3**	< 0.95
WCC-36		IBZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-41		GZ	10/8/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	**1.4**	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	**0.28** j	**2**	< 0.1
WCC-41		GZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.5**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.38** j	**1.5**	< 0.95
WCC-42		USZ	4/19/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-43		GZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.8**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**1.7**	**0.66** j	< 0.95
WCC-44		USZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-45		GZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-46		GZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	**0.43** j	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-46	FD	GZ	4/17/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	**0.55**	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-49		GZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-50		USZ	4/20/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	5.0 U
WCC-53		GZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**5.3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-57		GZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-59		GZ	4/9/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-60		GZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**3.8**	**3.3**	< 0.95
WCC-61		GZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.5**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**5**	**4**	< 0.95
WCC-61	FD	GZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**3.3**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**5**	**3.8**	< 0.95
WCC-62		LSZ	4/15/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**1.5**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.67** j	< 0.3	< 0.95
WCC-63		LSZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-64		GZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**18**	< 0.3	< 0.95
WCC-65		LSZ	4/12/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95

Well ID	Code	Zone	Date	BDCM	BF	BM	CCL	CB	CE	CF	CM	DBCM	1,1-DCA	1,2-DCA	1,2-DCB	1,3-DCB	1,4-DCB	1,1-DCE	C-1,2-DCE	T-1,2-DCE	DCM
WCC-68		IDZ	4/18/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-69		IDZ	4/7/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.64** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.63** j	< 0.3	< 0.95
WCC-70		GZ	7/18/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
WCC-70		GZ	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
WCC-70		GZ	4/13/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-71		GZ	4/8/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**15**	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**4.9**	< 0.3	< 0.95
WCC-72		GZ	7/17/09	< 0.053	< 0.11	< 0.091	< 0.1	< 0.086	< 0.25	< 0.057	< 0.18	< 0.32	< 0.049	< 0.076	< 0.061	< 0.091	< 0.075	< 0.066	< 0.067	< 0.051	< 0.1
WCC-72		GZ	10/6/09	< 0.053 UJ	< 0.11 UJ	< 0.091 UJ	< 0.1 UJ	< 0.086 UJ	< 0.25 UJ	< 0.057 UJ	< 0.18 UJ	< 0.32 UJ	< 0.049 UJ	< 0.076 UJ	< 0.061 UJ	< 0.091 UJ	< 0.075 UJ	< 0.066 UJ	< 0.067 UJ	< 0.051 UJ	< 0.1 UJ
WCC-72		GZ	4/6/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	< 0.4	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	< 0.32	< 0.3	< 0.95
WCC-73		GZ	4/13/10	< 0.3	< 0.4	< 0.42	< 0.28	< 0.36	< 0.4	< 0.33	< 0.4	< 0.4	**0.91** j	< 0.28	< 0.32	< 0.35	< 0.37	< 0.42	**0.36** j	< 0.3	< 0.95

Well ID	Code	Zone	Date	1,2-DCP	C-1,3-DCP	T-1,3-DCP	1,4-DXE	1,1,2,2-PCA	PCE	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	VC	BZ	TOL	EB	O-XYL	M,P-XYL	THVOC
BC-1			2/4/10	< 0.35	< 0.22	< 0.32	**110** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**5.9**	NS	NS	NS	NS	NS	13.2
BSMW-03		USZ	4/21/10	< 0.35	< 0.22	< 0.32	**0.48** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**2.2**	NS	NS	NS	NS	NS	67.5
CCW-08		IDZ	4/18/10	NS	NS	NS	**2.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CNW-02		USZ	10/15/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.46** j	< 0.041	< 0.062	**1.5**	< 0.069	**760** d	1 jU	**0.93** j	**0.15** j	**0.92** j	**0.49** j	865
CNW-02-22.5		USZ	4/21/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	**520** d	< 0.3	< 0.3	**94**	< 0.34	**38**	NS	NS	NS	NS	NS	859
CNW-02-26.5		USZ	4/21/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	**480** d	< 0.3	< 0.3	**97**	< 0.34	**45**	NS	NS	NS	NS	NS	850
CNW-02-29		USZ	4/21/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	**410** d	< 0.3	< 0.3	**82**	< 0.34	**67**	NS	NS	NS	NS	NS	829
CNW-03		GZ	10/15/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**80**	NS	NS	NS	NS	NS	97.6
CNW-03		GZ	6/28/10	< 0.35	< 0.22	< 0.32	**6.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**15**	NS	NS	NS	NS	NS	18.6
CNW-04		GZ	10/9/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**83**	NS	NS	NS	NS	NS	101
CNW-04		GZ	4/19/10	< 0.35	< 0.22	< 0.32	**2.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**87**	NS	NS	NS	NS	NS	107
CNW-09		IBZ	6/28/10	NS	NS	NS	**3.6**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
CNW-10		IBZ	4/19/10	NS	NS	NS	**4.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
CNW-10	FD	IBZ	4/19/10	NS	NS	NS	**4.2**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
CNW-11		IBZ	4/21/10	NS	NS	NS	**2.7**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
CSAEFFLUENT			7/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	0.96
CSAEFFLUENT			8/11/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**1.4**	< 0.041	< 0.062	**0.39** j	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	3.49
CSAEFFLUENT			9/23/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	ND
CSAEFFLUENT			10/16/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	**0.18** jJ	< 0.069 UJ	< 0.091 UJ	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	0.41
CSAEFFLUENT			12/17/09	< 0.14	< 0.051	< 0.043	**14** eJ	< 0.062	< 0.063	1.0 j bU	< 0.062	1.0 j bU	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	2.0 j bU	ND
CSAEFFLUENT			1/6/10	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	**0.095** j	**0.13** j	**0.084** j	**0.64** j	0.3
CSAEFFLUENT			2/4/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	**0.28** j	< 0.3	**1.2** j	1.0
CSAEFFLUENT			3/3/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	**0.32** j	< 0.3	**1.4** j	ND
CSAEFFLUENT			3/9/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	1.0 jU	1.0 jU	2.0 U	0.53
CSAEFFLUENT			5/27/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	ND
CSAEFFLUENT			6/3/10	< 0.35	< 0.22	< 0.32	**2.5**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	0.35
CSEXW-01		USZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**2.4**	< 0.069	**12**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	47.0
CSEXW-01		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**0.69** j	< 0.3	< 0.32	**0.32** j	< 0.3	**4.2**	< 0.34	**13**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	51.7
CSEXW-02		USZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**4.4**	< 0.069	**15**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	82.1
CSEXW-02		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**2.2**	< 0.3	< 0.32	**0.3** j	< 0.3	**3.2**	< 0.34	**19**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	83.8
CSEXW-03		USZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	**15**	< 0.062	**0.97** j	< 0.069	**3.9**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	46.4
CSEXW-03		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**0.76** j	< 0.3	< 0.32	**6.9**	< 0.3	**0.93** j	< 0.34	**4.2**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	38.1
CSEXW-04		LSZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**21**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	92.2
CSEXW-05		USZE	10/7/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	**33** J	**1.3** J	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	181
CSEXW-05		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**4.5**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**19**	**1.5**	< 0.36	< 0.25	< 0.3	< 0.6	97.7
CSW-01		USZE	10/7/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	**160** J	**0.14** jJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	505
CSW-01		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**1.3**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**160**	**0.41** j	< 0.36	< 0.25	< 0.3	< 0.6	497
CSW-01		USZE	6/3/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**160**	**0.42** j	< 0.36	< 0.25	< 0.3	< 0.6	492
CSW-03		USZE	10/7/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**6.9** J	< 0.041 UJ	< 0.062 UJ	**330** dJ	< 0.069 UJ	**3.7** J	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	432
CSW-03		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**0.29** j	< 0.3	**11**	< 0.3	< 0.3	**270** d	< 0.34	**5.3**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	419
CSW-03		USZE	6/3/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**6.8**	< 0.3	< 0.3	**180**	< 0.34	**4.7**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	300
CSW-04		GZ	4/20/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
CSW-07		USZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**2.4**	**160**	< 0.062	**7.6**	< 0.069	**19**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	258
CSW-07		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**15**	< 0.3	2.2 U	**180**	< 0.3	**7.7**	< 0.34	**19**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	296
CSW-11		LSZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**28**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	82.8
CSW-12		USZ	4/21/10	< 0.35	< 0.22	< 0.32	**1.6**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**68**	NS	NS	NS	NS	NS	155
CSW-13		LSZ	4/15/10	< 0.35	< 0.22	< 0.32	**24** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**4.9**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	10.3
CSW-14		USZE	10/7/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**2.6** J	**7.5** J	< 0.062 UJ	**180** J	< 0.069 UJ	**28** J	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	558
CSW-14		USZE	5/25/10	< 0.35	< 0.22	< 0.32	**0.39** j	< 0.3	3.7 U	**5.9**	< 0.3	**140**	< 0.34	**26**	< 0.28	< 0.36	< 0.25	< 0.3	2 jU	389
CSW-14		USZE	6/3/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**4.6**	**11**	< 0.3	**170**	< 0.34	**26**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	447
CSW-15		LSZ	4/20/10	< 0.35	< 0.22	< 0.32	**0.16** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
CSW-16		USZ	4/20/10	< 0.35	< 0.22	< 0.32	**7.2**	< 0.3	< 0.32	< 0.3	< 0.3	**1.2**	< 0.34	**5.2**	NS	NS	NS	NS	NS	11.3
CSW-18		GZ	4/21/10	< 0.35	< 0.22	< 0.32	**0.77** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**4.1**	NS	NS	NS	NS	NS	4.6
CSW-19		LSZ	4/20/10	< 0.35	< 0.22	< 0.32	**10** d	< 0.3	< 0.32	**0.83** j	< 0.3	< 0.26	< 0.34	**4**	NS	NS	NS	NS	NS	15.0
CSW-21		USZ	4/15/10	< 0.35	< 0.22	< 0.32	**26** dJ	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**2.8**	NS	NS	NS	NS	NS	10.0
CSW-24		USZ	10/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	**4.3**	< 0.062	**0.57** j	< 0.069	**20**	NS	NS	NS	NS	NS	65.0
CSW-24	FD	USZ	10/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.21** j	**4.8**	< 0.062	**0.45** j	< 0.069	**21**	NS	NS	NS	NS	NS	70.3
CSW-24		USZ	4/15/10	< 0.35	< 0.22	< 0.32	**4.8**	< 0.3	**3.2**	**86**	< 0.3	**3.6**	< 0.34	**38**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	267
CSW-24	FD	USZ	4/15/10	< 0.35	< 0.22	< 0.32	**4.8**	< 0.3	**2.8**	**82**	< 0.3	**3.6**	< 0.34	**34**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	256
CSW-25		USZ	4/19/10	< 0.35	< 0.22	< 0.32	**1.9**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**9.8**	NS	NS	NS	NS	NS	46.3
CSW-26		LSZ	4/19/10	< 0.35	< 0.22	< 0.32	**0.098** j	< 0.3	< 0.32	< 0.3	< 0.3	**0.7** j	< 0.34	**0.85**	NS	NS	NS	NS	NS	4.2

Well ID	Code	Zone	Date	1,2-DCP	C-1,3-DCP	T-1,3-DCP	1,4-DXE	1,1,2,2-PCA	PCE	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	VC	BZ	TOL	EB	O-XYL	M,P-XYL	THVOC
CSW-28		USZ	5/25/10	< 0.35	< 0.22	< 0.32	**0.26** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**9.8**	NS	NS	NS	NS	NS	67.8
CSW-29		LSZ	5/25/10	< 0.35	< 0.22	< 0.32	**4.8**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**14**	NS	NS	NS	NS	NS	28.7
CSW-31		USZ	10/9/09	**0.48** j	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**0.25** j	< 0.069	**27**	**0.13** j	< 0.076	< 0.061	< 0.08	< 0.11	147
CSW-31		USZ	4/8/10	< 0.35	< 0.22	< 0.32	**0.8** j	< 0.3	< 0.32	< 0.3	< 0.3	**0.3** j	< 0.34	**34**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	177
CSW-32		LSZ	4/7/10	< 0.35	< 0.22	< 0.32	**3**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**17**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	22.8
CSW-33		LSZ	4/8/10	< 0.35	< 0.22	< 0.32	**1.2**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**22**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	26.0
CSW-36		LSZ	5/25/10	< 0.35	< 0.22	< 0.32	**2.1**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**15**	NS	NS	NS	NS	NS	20.0
CSW-37		USZ	10/13/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**0.18** j	< 0.069	**21**	**0.12** j	< 0.076	< 0.061	< 0.08	< 0.11	27.0
CSW-37		USZ	4/18/10	< 0.35	< 0.22	< 0.32	**2**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**26**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	32.4
CSW-37	FB	USZ	4/18/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	**0.7** j	< 0.25	< 0.3	**0.84** j	ND
CSW-38		LSZ	4/18/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**8.7**	< 0.28	< 0.36	**0.33** j	**0.42** j	**1.1** j	19.7
CSW-41		USZ	10/12/09	**0.52** j	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**0.17** j	< 0.069	**23**	**0.22** j	< 0.076	< 0.061	< 0.08	< 0.11	35.6
CSW-41		USZ	4/14/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**24**	< 0.28	< 0.36	**0.29** j	**0.31** j	**0.92** j	30.9
CSW-42		LSZ	10/12/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**0.094** j	< 0.069	**6.9**	**0.082** j	< 0.076	< 0.061	< 0.08	< 0.11	13.3
CSW-42	FD	LSZ	10/12/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**0.15** j	< 0.069	**7.1**	**0.1** j	< 0.076	< 0.061	< 0.08	< 0.11	13.7
CSW-42		LSZ	4/15/10	< 0.35	< 0.22	< 0.32	**1.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**6.3**	< 0.28	< 0.36	< 0.25	< 0.3	**0.72** j	14.1
CSW-42	FD	LSZ	4/15/10	< 0.35	< 0.22	< 0.32	**1.1**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**7**	< 0.28	< 0.36	< 0.25	< 0.3	**0.84** j	15.4
CSW-45		USZ	4/22/10	< 0.35	< 0.22	< 0.32	**5.1**	< 0.3	< 0.32	< 0.3	< 0.3	**0.3** j	< 0.34	**17**	< 0.28	< 0.36	**0.55** j	**0.55** j	**1.9** j	27.1
CSW-46		LSZ	5/25/10	< 0.35	< 0.22	< 0.32	**32** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**4**	< 0.28	< 0.36	**1.1**	**1.4**	**4.9**	8.9
LGW-07		GZ	4/21/10	< 0.35	< 0.22	< 0.32	**0.31** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	0.6
LGW-12		GZ	4/16/10	< 0.35	< 0.22	< 0.32	**0.57** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
LGW-13		GZ	5/25/10	< 0.35	< 0.22	< 0.32	**1.2**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**1.4**	NS	NS	NS	NS	NS	11.5
NPW-01		IBZ	4/17/10	< 0.35	< 0.22	< 0.32	**0.078** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
NPW-02		USZ	4/17/10	NS	NS	NS	< 0.028	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
NPW-03		IDZ	4/17/10	< 0.35	< 0.22	< 0.32	**0.47** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
NPW-04		GZ	4/17/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
NPW-05		IBZ	4/18/10	< 0.35	< 0.22	< 0.32	**13**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
NPW-06		IBZ	4/16/10	NS	NS	NS	< 0.028	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
NPW-11		GZ	4/16/10	< 0.35	< 0.22	< 0.32	**1.2**	< 0.3	< 0.32	< 0.3	< 0.3	**0.53** j	< 0.34	**0.58**	NS	NS	NS	NS	NS	2.7
NPW-12		IBZ	4/16/10	< 0.35	< 0.22	< 0.32	**1.4**	< 0.3	< 0.32	< 0.3	< 0.3	**0.47** j	< 0.34	< 0.4	NS	NS	NS	NS	NS	3.3
NPW-13		USZ	4/16/10	< 0.35	< 0.22	< 0.32	**0.8** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.73**	NS	NS	NS	NS	NS	3.3
NPW-14		GZ	4/18/10	< 0.35	< 0.22	< 0.32	**11** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**3.4**	NS	NS	NS	NS	NS	11.2
NPW-15		GZ	4/16/10	< 0.35	< 0.22	< 0.32	**2.9**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**3.6**	NS	NS	NS	NS	NS	15.9
NSW-01		USZ	4/12/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**270** d	**3.7**	**170**	**46**	**43**	ND
NSW-05		USZ	4/12/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**44**	**1**	**3.1**	**3.4**	**11**	ND
NSW-06		GZ	4/12/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**0.6** j	< 0.36	**1.1**	**1.1**	**4**	1.5
NSW-11		USZ	10/13/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	**1200** d	**1200** d	**350** d	**400** d	**790** d	ND
NSW-11		USZ	4/12/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**350** d	**45**	**74**	**60**	**140**	1.0
NSW-12		USZ	10/13/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	ND
NSW-12		USZ	4/12/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	**0.39** j	**0.72** j	**0.64** j	**2.6**	ND
NSW-13		GZ	10/14/09	**0.89** j	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	1 jU	**0.18** j	**0.083** j	**0.1** j	**0.25** j	0.89
NSW-13		GZ	4/12/10	< 0.35	< 0.22	< 0.32	< 0.028 UJ	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	**0.47** j	**0.63** j	**0.56** j	**2.5**	1.0
NSW-14		USZ	10/15/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.27** j	**120**	**0.91** j	**270** d	**1.7**	**20**	0.3
NSW-14	FD	USZ	10/15/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.17** j	**110**	**0.78** j	**280** d	**1.6**	**20**	0.2
NSW-14		USZ	4/14/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**120**	**2.8**	**180**	**5.7**	**39**	ND
NSW-14	FD	USZ	4/14/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**110**	**2.9**	**170**	**6**	**37**	ND
NSW-15		USZ	10/14/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	**88**	**130**	**95**	**120**	**210**	ND
NSW-15		USZ	4/14/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	**140**	**130**	**78**	**83**	**110**	ND
SPEXW-01		LSZ	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**2.4** JF	< 0.041 UJ	< 0.062 UJ	**0.45** jJF	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	ND
SPEXW-01		LSZ	4/7/10	< 0.35	< 0.22	< 0.32	**2.1**	< 0.3	**3.2** F	< 0.3	< 0.3	**0.56** jF	< 0.34	< 0.4	NS	NS	NS	NS	NS	0.5
SPEXW-02		LSZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**1.9** JF	< 0.041 UJ	< 0.062 UJ	**0.34** jJF	< 0.069 UJ	< 0.091 UJ	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	ND
SPEXW-02		LSZE	4/7/10	< 0.35	< 0.22	< 0.32	**2.2**	< 0.3	**2.8** F	< 0.3	< 0.3	**0.59** jF	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	0.5
SPEXW-03		LSZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**1.2** JF	< 0.041 UJ	< 0.062 UJ	**0.12** jJF	< 0.069 UJ	< 0.091 UJ	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	1.4
SPEXW-03		LSZE	4/7/10	< 0.35	< 0.22	< 0.32	**12**	< 0.3	**1.5** F	< 0.3	< 0.3	**0.3** jF	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	1.7
SPEXW-04		GZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	2.8
SPEXW-04	FD	GZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	2.9
SPEXW-04		GZE	4/6/10	< 0.35	< 0.22	< 0.32	**5.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	1.7
SPEXW-04	FD	GZE	4/6/10	< 0.35	< 0.22	< 0.32	**6.5**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	1.8
SPEXW-05		GZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	5.9
SPEXW-05		GZE	4/6/10	< 0.35	< 0.22	< 0.32	**13** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	7.4
SPEXW-06		LSZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	0.8

Well ID	Code	Zone	Date	1,2-DCP	C-1,3-DCP	T-1,3-DCP	1,4-DXE	1,1,2,2-PCA	PCE	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	VC	BZ	TOL	EB	O-XYL	M,P-XYL	THVOC
SPEXW-06		LSZE	4/6/10	< 0.35	< 0.22	< 0.32	**2**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	0.4
SPEXW-07		LSZ	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	ND
SPEXW-07		LSZ	4/6/10	< 0.35	< 0.22	< 0.32	**0.39** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPEXW-08		LSZE	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**0.54** jJF	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	2.40
SPEXW-08		LSZE	4/6/10	< 0.35	< 0.22	< 0.32	**8.6**	< 0.3	**0.65** jF	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	2.60
SPEXW-09		GZE	10/7/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**17**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	47.5
SPMEFFLUENT			7/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	**0.056** j	< 0.069	**0.19** j	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	4.58
SPMEFFLUENT			8/11/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.24** j	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	2.76
SPMEFFLUENT			9/23/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.25** j	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	2.11
SPMEFFLUENT			10/16/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	1 j bJU	< 0.041 UJ	< 0.062 UJ	**0.19** jJ	< 0.069 UJ	**0.23** jJ	< 0.057 UJ	< 0.076 UJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	3.78
SPMEFFLUENT			11/30/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.3** j	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	3.89
SPMEFFLUENT			12/17/09	< 0.14	< 0.051	< 0.043	**14** eJ	< 0.062	**0.29** j	< 0.041	< 0.062	**0.11** j	< 0.069	**0.095** j	< 0.057	< 0.076	**0.1** j	< 0.08	**0.36** j	3.83
SPMEFFLUENT			1/6/10	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.27** j	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	< 0.057	< 0.076	**0.11** j	< 0.08	**0.5** j	2.92
SPMEFFLUENT			2/4/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**0.51** j	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	**0.33** j	< 0.3	**1.4** j	3.68
SPMEFFLUENT			3/3/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**0.35** j	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	**0.52** j	**0.54** j	**1.9** j	3.51
SPMEFFLUENT			3/9/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**0.43** j	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	1.0 jU	< 0.3	2.0 jU	3.42
SPMEFFLUENT			4/29/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**0.5** j	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	3.66
SPMEFFLUENT			5/27/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**0.56** j	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	2.26
SPMEFFLUENT			6/3/10	< 0.35	< 0.22	< 0.32	**7.7**	< 0.3	**0.44** j	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	4.56
SPW-02		GZ	4/22/10	< 0.35	< 0.22	< 0.32	**4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**91**	NS	NS	NS	NS	NS	148
SPW-03		GZ	4/9/10	< 0.35	< 0.22	< 0.32	**3.5**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**11**	NS	NS	NS	NS	NS	14.9
SPW-04		GZ	7/18/09	< 0.14	< 0.051	< 0.043	**2.1**	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.66** j	NS	NS	NS	NS	NS	1.06
SPW-04		GZ	10/9/09	< 0.14	< 0.051	< 0.043	**1.5**	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.65** j	NS	NS	NS	NS	NS	1.38
SPW-04	FD	GZ	10/9/09	< 0.14	< 0.051	< 0.043	**1.5**	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.78** j	NS	NS	NS	NS	NS	1.24
SPW-04		GZ	4/9/10	< 0.35	< 0.22	< 0.32	**0.73** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.44** j	NS	NS	NS	NS	NS	0.44
SPW-04	FD	GZ	4/9/10	< 0.35	< 0.22	< 0.32	**0.79** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.53**	NS	NS	NS	NS	NS	0.53
SPW-05		GZ	7/18/09	< 0.14	< 0.051	< 0.043	**0.68** j	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	NS	NS	NS	NS	NS	ND
SPW-05		GZ	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	**2.1**	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	**0.31** jJ	NS	NS	NS	NS	NS	0.3
SPW-05		GZ	4/12/10	< 0.35	< 0.22	< 0.32	**0.18** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-06		GZ	4/14/10	< 0.35	< 0.22	< 0.32	**14** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	8.30
SPW-07		IDZ	4/22/10	< 0.35	< 0.22	< 0.32	**1.2**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**1.5**	NS	NS	NS	NS	NS	2.60
SPW-08		IBZ	4/22/10	< 0.35	< 0.22	< 0.32	**90**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**9.2**	NS	NS	NS	NS	NS	252
SPW-09		GZ	4/14/10	< 0.35	< 0.22	< 0.32	**2.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-10		GZ	4/15/10	< 0.35	< 0.22	< 0.32	**6.8**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**32**	NS	NS	NS	NS	NS	59.4
SPW-10	FD	GZ	4/15/10	< 0.35	< 0.22	< 0.32	**5.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**29**	NS	NS	NS	NS	NS	52.7
SPW-11		IBZ	10/8/09	NS	NS	NS	**110** J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
SPW-12		LSZ	4/19/10	< 0.35	< 0.22	< 0.32	**6**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**450** d	NS	NS	NS	NS	NS	716
SPW-13		IBZ	4/9/10	< 0.35	< 0.22	< 0.32	**45** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**3.5**	NS	NS	NS	NS	NS	17.0
SPW-14		IBZ	4/9/10	< 0.35	< 0.22	< 0.32	**0.81** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-15		GZ	4/8/10	< 0.35	< 0.22	< 0.32	**2.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**14**	NS	NS	NS	NS	NS	37.3
SPW-15	FD	GZ	4/8/10	< 0.35	< 0.22	< 0.32	**2.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**15**	NS	NS	NS	NS	NS	38.6
SPW-16		IBZ	4/8/10	< 0.35	< 0.22	< 0.32	**26** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.56**	NS	NS	NS	NS	NS	33.9
SPW-17		GZ	4/13/10	< 0.35	< 0.22	< 0.32	**0.67** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-18		LSZ	4/14/10	< 0.35	< 0.22	< 0.32	**4.3**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.78**	NS	NS	NS	NS	NS	5.7
SPW-19		GZ	4/23/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	**12** F	< 0.3	< 0.3	**21** F	< 0.34	< 0.4	NS	NS	NS	NS	NS	9.8
SPW-20		GZ	4/12/10	< 0.35	< 0.22	< 0.32	**0.35** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-21		IBZ	4/15/10	< 0.35	< 0.22	< 0.32	**32** dJ	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.58**	NS	NS	NS	NS	NS	46.3
SPW-22		LSZ	4/13/10	< 0.35	< 0.22	< 0.32	**2.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	0.7
SPW-23		USZ	4/18/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-25R		IBZ	10/9/09	< 0.14	< 0.051	< 0.043	**93** J	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**1.3**	NS	NS	NS	NS	NS	32.4
SPW-25R		IBZ	4/15/10	< 0.35	< 0.22	< 0.32	**43** dJ	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**1**	NS	NS	NS	NS	NS	37.4
SPW-26R		LSZ	10/7/09	< 0.14	< 0.051	< 0.043	**8.9**	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**39**	NS	NS	NS	NS	NS	48.9
SPW-26R		LSZ	4/7/10	< 0.35	< 0.22	< 0.32	**5.5**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**50**	NS	NS	NS	NS	NS	64.0
SPW-27		GZ	10/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**1.1** F	< 0.041	< 0.062	**2.1** F	< 0.069	< 0.091	NS	NS	NS	NS	NS	0.5
SPW-27		GZ	4/21/10	< 0.35	< 0.22	< 0.32	**0.68** j	< 0.3	**1.1** F	< 0.3	< 0.3	**1.2** F	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-28		GZ	4/5/10	< 0.35	< 0.22	< 0.32	**0.4** j	< 0.3	**5.8** F	< 0.3	< 0.3	**1.4** F	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-29-20		USZ	4/22/10	< 0.35	< 0.22	< 0.32	**1.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-29-23.5		USZ	4/22/10	< 0.35	< 0.22	< 0.32	**1.2**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-29-27.5		USZ	4/22/10	< 0.35	< 0.22	< 0.32	**1.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-29-31.25		USZ	4/22/10	< 0.35	< 0.22	< 0.32	**1.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.63**	NS	NS	NS	NS	NS	0.6
SPW-31		LSZ	7/18/09	< 0.14	< 0.051	< 0.043	**1.1**	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.48** j	NS	NS	NS	NS	NS	1.0

Well ID	Code	Zone	Date	1,2-DCP	C-1,3-DCP	T-1,3-DCP	1,4-DXE	1,1,2,2-PCA	PCE	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	VC	BZ	TOL	EB	O-XYL	M,P-XYL	THVOC
SPW-31		LSZ	10/9/09	< 0.14	< 0.051	< 0.043	**0.86** j	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.46** j	NS	NS	NS	NS	NS	0.9
SPW-31		LSZ	4/9/10	< 0.35	< 0.22	< 0.32	**0.36** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-32		LSZ	10/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.54** jF	< 0.041	< 0.062	**1.1** F	< 0.069	< 0.091	NS	NS	NS	NS	NS	3.8
SPW-32		LSZ	4/21/10	< 0.35	< 0.22	< 0.32	**3**	< 0.3	**1.6** F	< 0.3	< 0.3	**1.7** F	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-33		GZ	4/13/10	< 0.35	< 0.22	< 0.32	**0.54** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	0.3
SPW-34		IBZ	4/20/10	< 0.35	< 0.22	< 0.32	**4.5**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.62**	NS	NS	NS	NS	NS	3.6
SPW-35		LSZ	4/5/10	< 0.35	< 0.22	< 0.32	**1.2**	< 0.3	**2** F	< 0.3	< 0.3	**0.51** jF	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-36		GZ	4/5/10	< 0.35	< 0.22	< 0.32	**19** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	5.4
SPW-37		LSZ	4/5/10	< 0.35	< 0.22	< 0.32	**8.6**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	2.4
SPW-38		GZ	4/5/10	< 0.35	< 0.22	< 0.32	**8.6**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	2.2
SPW-39		LSZ	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**3** JF	< 0.041 UJ	< 0.062 UJ	**0.34** jJF	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	ND
SPW-39		LSZ	4/5/10	< 0.35	< 0.22	< 0.32	**0.38** j	< 0.3	**3.5** F	< 0.3	< 0.3	**0.57** jF	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-40		LSZ	4/12/10	< 0.35	< 0.22	< 0.32	**0.078** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-41		LSZ	10/16/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**1.2** JF	< 0.041 UJ	< 0.062 UJ	**0.48** jJF	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	ND
SPW-41		LSZ	4/6/10	< 0.35	< 0.22	< 0.32	**0.82** j	< 0.3	**1.6** F	< 0.3	< 0.3	**0.48** jF	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-42		LSZ	4/5/10	< 0.35	< 0.22	< 0.32	**1.3**	< 0.3	**4.3** F	< 0.3	< 0.3	**0.55** jF	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-43		IBZ	4/6/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-43	FD	IBZ	4/6/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
SPW-47		USZ	7/17/09	< 0.14	< 0.051	< 0.043	**0.53** j	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**0.68** j	**0.066** j b	< 0.076	< 0.061	< 0.08	**0.45** j	0.68
SPW-47		USZ	10/8/09	< 0.14	< 0.051	< 0.043	**8.2**	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**13**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	14.7
SPW-47		USZ	4/21/10	< 0.35	< 0.22	< 0.32	**0.43** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	**1.1**	**1.2**	**4.1**	ND
TSINFLUENT			7/14/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.69** j	**22**	< 0.062	**58**	< 0.069	**43**	**0.091** j	< 0.076	< 0.061	< 0.08	< 0.11	239
TSINFLUENT			8/11/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**1.2**	**1.2**	< 0.062	**89**	< 0.069	**44**	**0.17** j	< 0.076	< 0.061	< 0.08	< 0.11	283
TSINFLUENT			9/23/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**1.3**	**15**	< 0.062	**61**	< 0.069	**38**	< 0.057	< 0.076	< 0.061	< 0.08	< 0.11	234
TSINFLUENT			10/16/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	NS	< 0.062 UJ	**1.3** bJ	**18** J	< 0.062 UJ	**65** J	< 0.069 UJ	**33** J	**0.21** jJ	**0.12** jJ	< 0.061 UJ	< 0.08 UJ	< 0.11 UJ	241
TSINFLUENT			12/17/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	**1.5** b	**190** b	< 0.062	**9.6** b	< 0.069	**16**	< 0.057	1.0 j bU	1.0 j bU	**0.34** j	**1.4** j b	290
TSINFLUENT			1/6/10	< 0.14	< 0.051	< 0.043	NS	< 0.062	**0.94** j	**46**	< 0.062	**59**	< 0.069	**19**	< 0.057	**0.077** j	**0.19** j	**0.093** j	**0.87** j	228
TSINFLUENT			2/4/10	< 0.7 d	< 0.44 d	< 0.64 d	NS	< 0.6 d	**2.1** d	**3.6** d	< 0.6 d	**80** d	< 0.68 d	**77** d	< 0.56 d	< 0.72 d	**0.52** jd	< 0.6 d	**1.9** jd	408
TSINFLUENT			3/3/10	< 0.7 d	< 0.44 d	< 0.64 d	NS	< 0.6 d	**2.6** d	**32** d	< 0.6 d	**81** d	< 0.68 d	**79** d	< 0.56 d	< 0.72 d	**0.7** jd	**0.7** jd	**2.7** jd	447
TSINFLUENT			5/27/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**2.7**	**20**	< 0.3	**93**	< 0.34	**51**	< 0.28	< 0.36	< 0.25	**0.31** j	2.0 jU	325
TSINFLUENT			6/3/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	**3.3**	**40**	< 0.3	**100**	< 0.34	**44**	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	361
W-01R		USZ	4/21/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
W-02		USZ	4/12/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
W-03R		USZ	4/12/10	< 0.35	< 0.22	< 0.32	< 1	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
W-06		USZ	4/22/10	< 0.35	< 0.22	< 0.32	**1**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**47**	NS	NS	NS	NS	NS	87.3
W-08R		USZ	4/19/10	< 0.35 UJ	< 0.22 UJ	< 0.32 UJ	< 0.029 UJ	< 0.3 UJ	< 0.32 UJ	< 0.3 UJ	< 0.3 UJ	< 0.26 UJ	< 0.34 UJ	< 0.4 UJ	NS	NS	NS	NS	NS	ND
W-11		USZ	4/16/10	< 0.35	< 0.22	< 0.32	NS	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
W-11		USZ	4/21/10	NS	NS	NS	< 0.028	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
W-15A		USZ	4/17/10	< 0.35	< 0.22	< 0.32	**0.15** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	ND
W-74		IBZ	4/17/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
W-76		IBZ	4/19/10	< 0.35	< 0.22	< 0.32	**31** dJ	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**1.5**	NS	NS	NS	NS	NS	47.8
WCC-36		IBZ	4/17/10	< 0.35	< 0.22	< 0.32	**1.4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-41		GZ	10/8/09	< 0.14	< 0.051	< 0.043	NS	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	**8.5**	NS	NS	NS	NS	NS	12.2
WCC-41		GZ	4/19/10	< 0.35	< 0.22	< 0.32	**3.8**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**7.2**	NS	NS	NS	NS	NS	10.6
WCC-42		USZ	4/19/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-43		GZ	4/20/10	< 0.35	< 0.22	< 0.32	**0.93** j	< 0.3	< 0.32	< 0.3	< 0.3	**0.31** j	< 0.34	**8**	NS	NS	NS	NS	NS	14.5
WCC-44		USZ	4/20/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-45		GZ	4/17/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-46		GZ	4/17/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	0.4
WCC-46	FD	GZ	4/17/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	0.6
WCC-49		GZ	4/20/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-50		USZ	4/20/10	< 0.35	< 0.22	< 0.32	**0.41** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-53		GZ	4/12/10	< 0.35	< 0.22	< 0.32	**48** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	< 0.28	< 0.36	< 0.25	< 0.3	< 0.6	5.3
WCC-57		GZ	4/18/10	< 0.35	< 0.22	< 0.32	**0.33** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-59		GZ	4/9/10	< 0.35	< 0.22	< 0.32	**0.29** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-60		GZ	4/7/10	< 0.35	< 0.22	< 0.32	**4.8**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**38**	NS	NS	NS	NS	NS	48.1
WCC-61		GZ	4/7/10	< 0.35	< 0.22	< 0.32	**3.8**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**43**	NS	NS	NS	NS	NS	55.5
WCC-61	FD	GZ	4/7/10	< 0.35	< 0.22	< 0.32	**4**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**51**	NS	NS	NS	NS	NS	63.1
WCC-62		LSZ	4/15/10	< 0.35	< 0.22	< 0.32	**5.7**	< 0.3	< 0.32	< 0.3	< 0.3	**0.87** jF	< 0.34	< 0.4	NS	NS	NS	NS	NS	2.2
WCC-63		LSZ	4/8/10	< 0.35	< 0.22	< 0.32	**0.23** j	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.43** j	NS	NS	NS	NS	NS	0.4
WCC-64		GZ	4/8/10	< 0.35	< 0.22	< 0.32	**0.99**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**180** d	NS	NS	NS	NS	NS	198
WCC-65		LSZ	4/12/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND

Well ID	Code	Zone	Date	1,2-DCP	C-1,3-DCP	T-1,3-DCP	1,4-DXE	1,1,2,2-PCA	PCE	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	VC	BZ	TOL	EB	O-XYL	M,P-XYL	THVOC
WCC-68		IDZ	4/18/10	< 0.35	< 0.22	< 0.32	< 0.029	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-69		IDZ	4/7/10	< 0.35	< 0.22	< 0.32	**2.1**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**4.4**	NS	NS	NS	NS	NS	5.7
WCC-70		GZ	7/18/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	NS	NS	NS	NS	NS	ND
WCC-70		GZ	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	< 0.38	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	ND
WCC-70		GZ	4/13/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-71		GZ	4/8/10	< 0.35	< 0.22	< 0.32	**22** d	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	**0.73**	NS	NS	NS	NS	NS	20.6
WCC-72		GZ	7/17/09	< 0.14	< 0.051	< 0.043	< 0.38	< 0.062	< 0.063	< 0.041	< 0.062	< 0.056	< 0.069	< 0.091	NS	NS	NS	NS	NS	ND
WCC-72		GZ	10/6/09	< 0.14 UJ	< 0.051 UJ	< 0.043 UJ	< 0.38	< 0.062 UJ	< 0.063 UJ	< 0.041 UJ	< 0.062 UJ	< 0.056 UJ	< 0.069 UJ	< 0.091 UJ	NS	NS	NS	NS	NS	ND
WCC-72		GZ	4/6/10	< 0.35	< 0.22	< 0.32	< 0.028	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	ND
WCC-73		GZ	4/13/10	< 0.35	< 0.22	< 0.32	**2.3**	< 0.3	< 0.32	< 0.3	< 0.3	< 0.26	< 0.34	< 0.4	NS	NS	NS	NS	NS	1.3

NOTES:
Concentrations are reported in micrograms per liter (µg/L)
Primary and duplicate samples were analyzed using USEPA Method 8260,
except 1,4-Dioxane, which was analyzed using USEPA Method 8270C Modified
Bolded values indicate concentrations above the Method Detection Limit

KEY:
< = Less than; compound not detected at the Detection Limit
FB = Field Blank sample
FD = Field Duplicate sample
NA = Well was sampled for listed compound, however results were not available due to laboratory error
ND = Not detected
NS = Not sampled
QA = Quality assurance
THVOC = Total halogenated volatile organic compound concentrations; the sum of the individual compounds excluding 1,4-Dioxane, Benzene, Ethylbenzene, Toluene, Xylenes, data assessed as not related to The Railyards (F qualifiers) and data assessed as nondetect values (U qualifiers)

GZ = Gravel Zone
GZE = Gravel Zone Extraction Well
LSZ = Lower Sand Zone
LSZE = Lower Sand Zone Extraction Well
USZ = Upper Sand Zone
USZE = Upper Sand Zone Extraction Well
IBZ = Interbedded B Zone
IDZ = Interbedded D Zone

Laboratory Qualifiers
b = Compound detected in associated laboratory blank
d = Constituent identified via secondary dilution of sample
e = Value estimated by laboratory
j = Value estimated by laboratory; detected concentration below the laboratory practical quantitation limit

Data Assessment Qualifiers
F = Detected compound appears unrelated to Railyard sources; value not used for data assessment
J = Detected value considered estimated based on quality assurance review
U = Compound not detected based on quality assurance review
UJ = Estimated reporting limit

VOLATILE ORGANIC COMPOUND ABBREVIATIONS

Abbreviation	Compound	Abbreviation	Compound
BDCM	BROMODICHLOROMETHANE	DCM	METHYLENE CHLORIDE
BF	BROMOFORM	1,2-DCP	1,2-DICHLOROPROPANE
BM	BROMOMETHANE	C-1,3-DCP	CIS-1,3-DICHLOROPROPENE
CCL	CARBON TETRACHLORIDE	T-1,3-DCP	TRANS-1,3-DICHLOROPROPENE
CB	CHLOROBENZENE	1,4-DXE	P-DIOXANE
CE	CHLOROETHANE	1,1,2,2-PCA	1,1,2,2-TETRACHLOROETHANE
CF	CHLOROFORM	PCE	TETRACHLOROETHYLENE
CM	CHLOROMETHANE	1,1,1-TCA	1,1,1-TRICHLOROETHANE
DBCM	DIBROMOCHLOROMETHANE	1,1,2-TCA	1,1,2-TRICHLOROETHANE
1,1-DCA	1,1-DICHLOROETHANE	TCE	TRICHLOROETHYLENE
1,2-DCA	1,2-DICHLOROETHANE	TCFM	TRICHLOROFLUOROMETHANE
1,2-DCB	1,2-DICHLOROBENZENE	VC	VINYL CHLORIDE
1,3-DCB	1,3-DICHLOROBENZENE	BZ	BENZENE
1,4-DCB	1,4-DICHLOROBENZENE	TOL	TOLUENE
1,1-DCE	1,1-DICHLOROETHYLENE	EB	ETHYLBENZENE
C-1,2-DCE	CIS-1,2-DICHLOROETHYLENE	O-XYL	O-XYLENE
T-1,2-DCE	TRANS-1,2-DICHLOROETHYLENE	M,P-XYL	M,P-XYLENE

Table 10
Semivolatile Organic Compounds
July 2009 through June 2010 Groundwater Samples
The Railyards
Sacramento, California

Well ID	QA Code	Zone	Date	ACNE	ACNL	ANT	Ben Acid	B(a)A	B(ghi)P	B(a)P	Ben Alc	B(2-EH)P	BBP	2-CN	CHRY	DBF	DNBP
BC-1			2/4/10	< 3.2	< 3.2	< 2.6	< 3.2	< 2.6	< 4.2	< 3.2	< 3.7	< 4.2	< 4.2	< 3.2	< 2.6	< 4.2	< 3.2
CSAEFFLUENT			8/11/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CSAEFFLUENT			6/3/10	**0.26** j	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	**1.2** j	< 1.6	< 0.66	< 0.094	< 0.094	**0.094** j	**1.1** j
CSEXW-01		USZE	5/25/10	< 0.095	< 0.095	< 0.095	< 2.9	< 0.095	< 0.095	< 0.095	< 0.095	< 1.6	< 0.67	< 0.095	< 0.095	< 0.095	< 0.19
CSEXW-02		USZE	5/25/10	< 0.094	< 0.094	< 0.094	**2.9** j	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
CSEXW-03		USZE	5/25/10	< 0.094	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
CSEXW-05		USZE	5/25/10	**5.0**	**0.13** j	**0.29** j	**3.0** j	< 0.095	< 0.095	< 0.095	< 0.095	< 1.6	**0.80** j	**0.095** j	< 0.095	**0.67**	< 0.19
CSW-05		USZ	4/15/10	< 1.9 d	**97** d	< 1.9 d	< 57 d	< 1.9 d	< 1.9 d	< 1.9 d	< 1.9 d	< 32 d	< 13 d	< 1.9 d	< 1.9 d	< 1.9 d	< 3.8 d
CSW-14		USZE	5/25/10	**1.2**	< 0.094	**0.11** j	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	**0.92** j	< 0.094	< 0.094	**0.81**	< 0.19
CSW-15		LSZ	4/20/10	< 0.097	< 0.097	< 0.097	< 2.9	< 0.097	< 0.097	< 0.097	< 0.097	< 1.7	< 0.68	< 0.097	< 0.097	< 0.097	**0.99** j
CSW-16		USZ	4/20/10	**1.4**	< 0.095	**0.095** j	< 2.9	< 0.095	< 0.095	< 0.095	< 0.095	< 1.6	< 0.67	< 0.095	< 0.095	< 0.095	< 0.19
CSW-21		USZ	4/15/10	< 0.94 d	< 0.94 d	< 0.94 d	< 28 d	< 0.94 d	< 0.94 d	< 0.94 d	< 0.94 d	< 16 d	< 6.6 d	< 0.94 d	< 0.94 d	< 0.94 d	< 1.9 d
CSW-24		USZ	4/15/10	**0.26** j	**0.15** j	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	**1.2** j	**0.15** j	< 0.094	**0.13** j	< 0.19
CSW-24	FD	USZ	4/15/10	**0.19** j	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	**1.2** j	< 0.094	< 0.094	< 0.094	< 0.19
CSW-27		USZ	4/22/10	**0.29** j	< 0.095	< 0.095	< 2.9	< 0.095	< 0.095	< 0.095	< 0.095	**2.9** j	< 0.67	< 0.095	< 0.095	< 0.095	< 0.19
CSW-32		LSZ	4/7/10	< 0.094	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	**3.3** j	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
NSW-01		USZ	10/7/09	**60** dJ	**2.1**	< 0.039	< 2	< 0.064	**0.14** j	**0.21**	< 0.14	< 5.6	< 0.91	< 0.028	< 0.062	**1.6** j	< 0.5
NSW-01		USZ	4/12/10	**44** d	< 0.47 d	< 0.47 d	< 14 d	< 0.47 d	< 0.47 d	< 0.47 d	< 0.47 d	< 8 d	< 3.3 d	< 0.47 d	< 0.47 d	**12** d	< 0.94 d
NSW-05		USZ	4/12/10	**55** d	< 0.19 d	< 0.19 d	< 5.8 d	< 0.19 d	< 0.19 d	< 0.19 d	< 0.19 d	< 3.3 d	< 1.4 d	< 0.19 d	< 0.19 d	< 0.19 d	< 0.39 d
NSW-06		GZ	4/12/10	**0.13** j	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
NSW-11		USZ	10/13/09	**39** J	**8.2** J	**2.6** J	< 2 UJ	< 0.064 UJ	< 0.055 UJ	< 0.069 UJ	< 0.14 UJ	< 5.6 UJ	< 0.91 UJ	< 0.028 UJ	< 0.062 UJ	**11** J	< 0.5 UJ
NSW-11		USZ	4/12/10	**17** d	< 0.19 d	**0.79** jd	< 5.7 d	< 0.19 d	< 0.19 d	< 0.19 d	< 0.19 d	< 3.2 d	< 1.3 d	< 0.19 d	< 0.19 d	**2.9** d	< 0.38 d
NSW-12		USZ	10/13/09	< 0.036	< 0.035	< 0.039	< 2	< 0.064	< 0.055	< 0.069	< 0.14	< 5.6	< 0.91	< 0.028	< 0.062	< 0.09	< 0.5
NSW-12		USZ	4/12/10	< 0.094	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
NSW-13		GZ	10/14/09	**0.045** j	< 0.036	< 0.04	< 2.1	< 0.066	< 0.057	< 0.071	< 0.15	< 5.8	< 0.94	< 0.028	< 0.064	< 0.093	< 0.52
NSW-13		GZ	4/12/10	**0.11** j	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
NSW-14		USZ	10/15/09	**90** d	< 0.035	**2.8**	< 2	< 0.064	< 0.055	< 0.069	< 0.14	< 5.6	< 0.91	< 0.028	< 0.062	**27**	< 0.5
NSW-14	FD	USZ	10/15/09	**93** d	< 0.035	**2.8**	< 2	< 0.063	< 0.055	< 0.068	< 0.14	< 5.6	< 0.91	< 0.027	< 0.061	**29**	< 0.5
NSW-14		USZ	4/14/10	**66** d	< 0.19 d	**2.0** d	< 5.7 d	< 0.19 d	< 0.19 d	< 0.19 d	< 0.19 d	< 3.2 d	< 1.3 d	< 0.19 d	< 0.19 d	**19** d	< 0.38 d
NSW-14	FD	USZ	4/14/10	**71** d	< 0.47 d	< 0.47 d	< 14 d	< 0.47 d	< 0.47 d	< 0.47 d	< 0.47 d	< 8 d	< 3.3 d	< 0.47 d	< 0.47 d	**19** d	< 0.94 d
NSW-15		USZ	10/14/09	**81** d	< 0.035	**7.3**	< 2	**0.31**	< 0.055	**0.076** j	**0.81** j	< 5.6	< 0.91	< 0.027	**0.23**	**31**	< 0.5
NSW-15		USZ	4/14/10	**57** d	**1.6** d	**5.7** d	< 5.7 d	**0.26** jd	< 0.19 d	< 0.19 d	< 0.19 d	< 3.2 d	9.4 jdU	< 0.19 d	< 0.19 d	**28** d	< 0.38 d
SPMEFFLUENT			8/11/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SPMEFFLUENT			6/3/10	< 0.094	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	< 1.6	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
SPW-43		IBZ	4/6/10	< 0.094	< 0.094	< 0.094	< 2.8	< 0.094	< 0.094	< 0.094	< 0.094	**1.7** j	< 0.66	< 0.094	< 0.094	< 0.094	< 0.19
SPW-43	FD	IBZ	4/6/10	< 0.095	< 0.095	< 0.095	< 2.8	< 0.095	< 0.095	< 0.095	< 0.095	< 1.6	< 0.66	< 0.095	< 0.095	< 0.095	< 0.19
SPW-47		USZ	4/21/10	< 0.097	< 0.097	< 0.097	< 2.9	< 0.097	< 0.097	< 0.097	< 0.097	< 1.7	< 0.68	< 0.097	< 0.097	< 0.097	< 0.19
TSINFLUENT			8/11/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
WCC-42		USZ	4/19/10	**2.0**	< 0.097	< 0.097	< 2.9	< 0.097	< 0.097	< 0.097	< 0.097	< 1.7	< 0.68	< 0.097	< 0.097	**0.16** j	< 0.19
WCC-56		USZ	4/21/10	**75** d	< 0.48 d	< 0.48 d	< 14 d	< 0.48 d	< 0.48 d	< 0.48 d	< 0.48 d	< 8.1 d	< 3.3 d	< 0.48 d	< 0.48 d	**28** d	< 0.95 d

Well ID	QA Code	Zone	Date	DEP	2,4-DMP	DNOP	FA	FLOR	2-MN	2-MP	3/4 MP	NAP	PA	Phen	PYR	1,2,4-TCB	2,4,6-TCP	4-MP
BC-1			2/4/10	< 3.7	< 3.7	< 3.7	< 3.2	< 3.2	< 2.1	< 3.2	< 6.3	< 3.2	< 3.7	< 2.1	< 4.2	< 2.6	< 4.7	NS
CSAEFFLUENT			8/11/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	< 0.053	NS	NS
CSAEFFLUENT			6/3/10	< 0.094	**0.85** j	**0.15** j	< 0.094	**0.13** j	< 0.094	< 0.094	NS	**0.15** j	**0.21** j	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
CSEXW-01		USZE	5/25/10	< 0.095	< 0.29	< 0.095	< 0.095	< 0.095	< 0.095	< 0.095	NS	< 0.095	< 0.095	< 0.29	< 0.095	< 0.095	< 0.095	< 0.19
CSEXW-02		USZE	5/25/10	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	< 0.094	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
CSEXW-03		USZE	5/25/10	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	**0.85** j	< 0.094	NS	**0.15** j	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
CSEXW-05		USZE	5/25/10	< 0.095	**0.34** j	< 0.095	**0.36** j	**0.82**	**0.59** j	< 0.095	NS	**0.86** j	**3.1**	< 0.29	**0.42** j	< 0.095	< 0.095	< 0.19
CSW-05		USZ	4/15/10	< 1.9 d	< 5.7 d	< 1.9 d	< 1.9 d	< 1.9 d	< 1.9 d	< 1.9 d	NS	< 1.9 d	< 1.9 d	< 5.7 d	< 1.9 d	< 1.9 d	< 1.9 d	< 3.8 d
CSW-14		USZE	5/25/10	< 0.094	**2.5**	< 0.094	**0.21** j	**0.83**	**0.66** j	< 0.094	NS	**4.1**	**0.79**	< 0.28	**0.13** j	< 0.094	< 0.094	< 0.19
CSW-15		LSZ	4/20/10	< 0.097	**2.4**	< 0.097	< 0.097	< 0.097	< 0.097	< 0.097	NS	< 0.097	< 0.097	< 0.29	< 0.097	< 0.097	< 0.097	< 0.19
CSW-16		USZ	4/20/10	< 0.095	**0.42** j	< 0.095	< 0.095	< 0.095	< 0.095	< 0.095	NS	**0.38** j	**0.17** j	< 0.29	< 0.095	< 0.095	< 0.095	< 0.19
CSW-21		USZ	4/15/10	9.4 jdU	< 2.8 d	< 0.94 d	< 0.94 d	< 0.94 d	**1.5** jd	< 0.94 d	NS	< 0.94 d	< 0.94 d	< 2.8 d	< 0.94 d	< 0.94 d	< 0.94 d	< 1.9 d
CSW-24		USZ	4/15/10	**0.26** j	< 0.28	< 0.094	< 0.094	**0.15** j	**2.3**	< 0.094	NS	**3.6**	< 0.094	< 0.28	< 0.094	**0.11** j	**0.13** j	< 0.19
CSW-24	FD	USZ	4/15/10	**0.28** j	< 0.28	< 0.094	< 0.094	**0.11** j	**2.2**	< 0.094	NS	**3.0**	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
CSW-27		USZ	4/22/10	< 0.095	**0.48** j	< 0.095	< 0.095	< 0.095	< 0.095	< 0.095	NS	**0.11** j	< 0.095	< 0.29	< 0.095	< 0.095	< 0.095	< 0.19
CSW-32		LSZ	4/7/10	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	< 0.094	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
NSW-01		USZ	10/7/09	< 0.068	**4.2** j	< 0.89	**0.37**	**6.2**	**13**	< 0.13	< 0.095	**780** dJ	**8.6**	**16** J	< 0.05	< 0.065	< 0.13	NS
NSW-01		USZ	4/12/10	**1.3** jd	< 1.4 d	< 0.47 d	< 0.47 d	**5.5** d	**7.5** d	< 0.47 d	NS	**400** d	**9.0** d	**2.4** jd	< 0.47 d	< 0.47 d	< 0.47 d	< 0.94 d
NSW-05		USZ	4/12/10	**1.4** jd	< 0.58 d	< 0.19 d	< 0.19 d	**16** d	**7.5** d	< 0.19 d	NS	**1.4** jd	**4.1** d	**1.1** jd	< 0.19 d	< 0.19 d	< 0.19 d	< 0.39 d
NSW-06		GZ	4/12/10	**0.83** j	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	**0.11** j	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
NSW-11		USZ	10/13/09	< 0.068 UJ	**730** dJ	< 0.89 UJ	**1.1** J	**14** J	**110** dJ	**62** j dJ	**27** J	**660** dJ	**14** J	**16** J	**0.76** J	< 0.065	< 0.13 UJ	NS
NSW-11		USZ	4/12/10	< 0.19 d	**85** d	< 0.19 d	**0.53** jd	**4.4** d	**20** d	**3.8** d	NS	**170** d	**5.2** d	**2.1** d	< 0.19 d	< 0.19 d	< 0.19 d	< 0.38 d
NSW-12		USZ	10/13/09	1.9 jU	< 1.1	< 0.89	< 0.061	< 0.035	< 0.093	< 0.13	< 0.095	< 0.07	< 0.044	< 0.19	< 0.05	< 0.065	< 0.13	NS
NSW-12		USZ	4/12/10	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	**0.21** j	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
NSW-13		GZ	10/14/09	2.0 jU	< 1.2	< 0.91	< 0.063	< 0.036	< 0.096	< 0.14	< 0.098	**0.10** j	< 0.045	< 0.2	< 0.052	< 0.067	< 0.14	NS
NSW-13		GZ	4/12/10	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	< 0.094	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
NSW-14		USZ	10/15/09	< 0.068	< 1.1	< 0.89	**0.79**	**36**	**220** d	< 0.13	< 0.095	**200** d	**23**	**2.7** j	< 0.05	< 0.065	< 0.13	NS
NSW-14	FD	USZ	10/15/09	< 0.067	**46** j d	< 0.88	**0.82**	**39**	**250** d	< 0.13	< 0.094	**240** d	**25**	**1.5** j	< 0.05	< 0.064	< 0.13	NS
NSW-14		USZ	4/14/10	1.9 jdU	< 0.57 d	< 0.19 d	**0.49** jd	**26** d	**160** d	< 0.19 d	NS	**18** d	**20** d	< 0.57 d	< 0.19 d	< 0.19 d	< 0.19 d	< 0.38 d
NSW-14	FD	USZ	4/14/10	**1.8** jd	< 1.4 d	< 0.47 d	**0.57** jd	**28** d	**170** d	**0.66** jd	NS	**19** d	**22** d	< 1.4 d	< 0.47 d	< 0.47 d	< 0.47 d	< 0.94 d
NSW-15		USZ	10/14/09	< 0.067	< 1.1	< 0.88	**5.5**	**44**	**66** d	**1.4** j	**2.8** j	**220** d	**31**	**4.3**	**3.8**	< 0.064	< 0.13	NS
NSW-15		USZ	4/14/10	< 0.19 d	**41** d	**0.83** jd	**3.8** d	**38** d	**40** d	**12** d	NS	**55** d	**30** d	**4.4** d	**2.7** d	< 0.19 d	< 0.19 d	**3.2** jd
SPMEFFLUENT			8/11/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	< 0.053	NS	NS
SPMEFFLUENT			6/3/10	**0.094** j	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	< 0.094	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
SPW-43		IBZ	4/6/10	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.094	< 0.094	NS	< 0.094	< 0.094	< 0.28	< 0.094	< 0.094	< 0.094	< 0.19
SPW-43	FD	IBZ	4/6/10	< 0.095	< 0.28	< 0.095	< 0.095	< 0.095	< 0.095	< 0.095	NS	< 0.095	< 0.095	< 0.28	< 0.095	< 0.095	< 0.095	< 0.19
SPW-47		USZ	4/21/10	< 0.097	< 0.29	< 0.097	< 0.097	< 0.097	< 0.097	< 0.097	< 0.19	**0.14** j	< 0.097	< 0.29	< 0.097	< 0.097	< 0.097	NS
TSINFLUENT			8/11/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	< 0.053	NS	NS
WCC-42		USZ	4/19/10	< 0.097	< 0.29	< 0.097	**0.097** j	**0.17** j	**0.21** j	< 0.097	NS	**0.14** j	**1.8**	< 0.29	< 0.097	< 0.097	< 0.097	< 0.19
WCC-56		USZ	4/21/10	< 0.48 d	< 1.4 d	< 0.48 d	< 0.48 d	**17** d	**110** d	< 0.48 d	NS	**380** d	< 0.48 d	< 1.4 d	< 0.48 d	< 0.48 d	< 0.48 d	< 0.95 d

Well ID	QA Code	Zone	Date	ACNE	ACNL	ANT	Ben Acid	B(a)A	B(ghi)P	B(a)P	Ben Alc	B(2-EH)P	BBP	2-CN	CHRY	DBF	DNBP

NOTES:
Concentrations in micrograms per liter (µg/L)
Samples analyzed by USEPA Method 8270
Bolded values indicate concentrations above the Method Detection Limit

KEY:
< = Less than; compound not detected at the detection limit
FD = Field Duplicate sample
Grab = Grab-groundwater sample collected from soil borings
NS = Not sampled
QA = Quality assurance
GZ = Gravel Zone
IBZ = Interbedded B Zone
LSZ = Lower Sand Zone
LSZE = Lower Sand Zone Extraction Well
USZ = Upper Sand Zone
USZE = Upper Sand Zone Extraction

Laboratory Qualifiers
d = Constituent identified via secondary dilution of sample
j = Value estimated by laboratory; detected concentration below the laboratory practical quantitation limit

Data Assessment Qualifiers
J = Detected value considered suspect based on quality assurance review
U = Compound not detected based on quality assurance review
UJ = Estimated reporting limit

SEMIVOLATILE ORGANIC COMPOUND ABBREVIATIONS

Abbreviation	Compound
ACNE	ACENAPHTHENE
ACNL	ACENAPHTHYLENE
ANT	ANTHRACENE
B(a)A	BENZO(A)ANTHRACENE
Ben Acid	BENZOIC ACID
Ben Alc	BENZYL ALCOHOL (PHENYLMETHANOL)
B(ghi)P	BENZO(G,H,I)PERYLENE
B(a)P	BENZO(A)PYRENE
B(2-EH)P	BIS(2-ETHYLHEXYL)PHTHALATE
BBP	BUTYLBENZYL PHTHALATE
2-CN	2-CHLORONAPHTHALENE
CHRY	CHRYSENE (1,2-BENZPHENANTHRENE)
DBF	DIBENZOFURAN (DIPHENYLENE OXIDE)
DEP	DIETHYL PHTHALATE
DNBP	DI-N-BUTYLPHTHALATE
2,4-DMP	2,4-DIMETHYLPHENOL
DNOP	DI-N-OCTYL PHTHALATE
FA	FLUORANTHENE (IDRYL)
FLOR	FLUORENE (ALPHA-DIPHENYLENEMETHANE)
2-MN	2-METHYLNAPHTHALENE
2-MP	2-METHYLPHENOL
3/4-MP	3 & 4-METHYLPHENOL
4-MP	4-METHYLPHENOL
NAP	NAPHTHALENE
PA	PHENANTHRACENE
Phen	PHENOL
PYR	PYRENE
1,2,4-TCB	1,2,4-TRICHLOROBENZENE
2,4,6-TCP	2,4,6-TRICHLOROPHENOL

For clarity, the following compounds that were not detected do not appear in the table

Benzo(b)fluoranthene	Hexachlorobenzene
Benzo(k)fluoranthene	Hexachlorobutadiene
Bis(2-chloroethyl)ether	Hexachlorocyclopentadiene
Bis(2-chloroethoxy)methane	Hexachloroethane
Bis(2-chloroisopropyl)ether	Indeno(1,2,3-cd)pyrene
4-Bromophenyl phenyl ether	Isophorone
4-Chloro-3-methylphenol	2-Nitroaniline
4-Chloroaniline	3-Nitroaniline
2-Chlorophenol	4-Nitroaniline
4-Chlorophenyl phenyl ether	Nitrobenzene
Dibenzo(a,h)anthracene	2-Nitrophenol
3,3-Dichlorobenzidine	4-Nitrophenol
2,4-Dichlorophenol	N-Nitrosodiphenylamine
Dimethyl phthalate	N-Nitrosodi-N-propylamine
4,6-Dinitro-2-methylphenol	2,2'-Oxybis(1-chloropropane)
2,4-Dinitrophenol	Pentachlorophenol
2,4-Dinitrotoluene	2,4,5-Trichlorophenol
2,6-Dinitrotoluene	

Table 11
Total and Dissolved Metals
July 2009 through June 2010 Groundwater Samples
The Railyards
Sacramento, California

Well ID	QA Code	Zone	Date	Total Ag	Dissolved As	Total As	Dissolved Cd	Total Cd	Total Cr	Dissolved Cu	Total Cu	Total Hg	Total Mo	Dissolved Ni	Total Ni	Dissolved Pb	Total Pb	Dissolved Se	Total Zn	Total Cy
BC-1			2/4/10	NS	**0.0023**	NS	**0.00034** j	NS	NS	NS	NS	NS	NS	**0.0052**	NS	**0.00022** j	NS	NS	NS	< 0.0022
CCW-08		IDZ	4/18/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.12**	NS	NS	NS	NS	NS	NS
CNW-02-22.5		USZ	4/21/10	NS	**0.002**	NS	NS	NS	NS	NS	NS	NS	NS	**0.027**	NS	NS	NS	NS	NS	NS
CNW-02-26.5		USZ	4/21/10	NS	**0.0025**	NS	NS	NS	NS	NS	NS	NS	NS	**0.027**	NS	NS	NS	NS	NS	NS
CNW-02-29		USZ	4/21/10	NS	**0.0048**	NS	NS	NS	NS	NS	NS	NS	NS	**0.028**	NS	NS	NS	NS	NS	NS
CNW-03		GZ	6/28/10	NS	**0.0048**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CSAEFFLUENT			12/17/09	< 0.00015	NS	**0.006** b	NS	< 0.00014	**0.0023**	NS	**0.02**	**0.0001** jJ	**0.0033** j	NS	**0.073**	NS	**0.0098**	NS	**0.04**	NS
CSAEFFLUENT			6/3/10	< 0.0001	NS	**0.0041**	NS	< 0.0001	< 0.0009	NS	**0.0012** j	< 0.0001	**0.0028**	NS	**0.036**	NS	0.0010 jU	NS	**0.0057** j	NS
CSW-05		USZ	4/15/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.27**	NS	NS	NS	NS	NS	NS
CSW-12		USZ	4/21/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.039**	NS	NS	NS	NS	NS	NS
CSW-13		LSZ	4/15/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.0071**	NS	NS	NS	NS	NS	NS
CSW-15		LSZ	4/20/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.016**	NS	NS	NS	NS	NS	NS
CSW-21		USZ	4/15/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.7**	NS	NS	NS	NS	NS	NS
CSW-24		USZ	4/15/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.012**	NS	NS	NS	NS	NS	NS
CSW-24	FD	USZ	4/15/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.012**	NS	NS	NS	NS	NS	NS
CSW-25		USZ	4/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.12**	NS	NS	NS	NS	NS	NS
CSW-33		LSZ	4/8/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.015**	NS	NS	NS	NS	NS	NS
LGW-12		GZ	4/16/10	NS	**0.013**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	**0.0008** j	NS	NS	NS	**0.0009** j	NS	NS
NPW-02		USZ	4/17/10	NS	**0.0081**	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	NS	NS	NS	NS	NS
NPW-03		IDZ	4/17/10	NS	**0.0039**	NS	**0.0002** j	NS	NS	**0.0005** j	NS	NS	NS	**0.011**	NS	NS	NS	< 0.0005	NS	NS
NPW-04		GZ	4/17/10	NS	**0.0025**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	< 0.0005	NS	NS	NS	**0.0007** j	NS	NS
NPW-05		IBZ	4/18/10	NS	NS	NS	**0.0041**	NS	NS	NS	NS	NS	NS	**0.45**	NS	NS	NS	NS	NS	NS
NPW-06		IBZ	4/16/10	NS	**0.0015**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	< 0.0005	NS	NS	NS	**0.0005** j	NS	NS
NPW-09		IBZ	4/18/10	NS	**0.0036**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	< 0.0005	NS	NS	NS	< 0.0005	NS	NS
NPW-10		USZ	4/17/10	NS	**0.026**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	< 0.0005	NS	NS	NS	< 0.0005	NS	NS
NPW-11		GZ	4/16/10	NS	**0.0085**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	**0.0052**	NS	NS	NS	**0.0016** j	NS	NS
NPW-12		IBZ	4/16/10	NS	**0.0016**	NS	< 0.0001	NS	NS	**0.0005** j	NS	NS	NS	**0.0017**	NS	NS	NS	**0.0009** j	NS	NS
NPW-13		USZ	4/16/10	NS	< 0.0009	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	**0.0035**	NS	NS	NS	**0.0009** j	NS	NS
NPW-14		GZ	4/18/10	NS	**0.025**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NPW-15		GZ	4/16/10	NS	**0.0078**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NSW-01		USZ	4/12/10	NS	**0.016**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NSW-11		USZ	4/12/10	NS	**0.017**	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	< 0.0002	NS	NS	NS	NS
NSW-12		USZ	4/12/10	NS	< 0.0009	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	< 0.0002	NS	NS	NS	NS
NSW-13		GZ	4/12/10	NS	**0.011**	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	< 0.0002	NS	NS	NS	NS
NSW-14		USZ	4/14/10	NS	**0.0041**	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	**0.0012**	NS	NS	NS	NS
NSW-14	FD	USZ	4/14/10	NS	**0.0043**	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	< 0.0002	NS	NS	NS	NS
NSW-15		USZ	4/14/10	NS	**0.0099**	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0005	NS	< 0.0002	NS	NS	NS	NS
SPMEFFLUENT			12/17/09	< 0.00015	NS	**0.017** b	NS	< 0.00014	**0.0021**	NS	**0.032**	< 0.000041	**0.0019** j	NS	**0.025**	NS	**0.0011** j	NS	**0.0074**	NS
SPMEFFLUENT			6/3/10	< 0.0001	NS	**0.017**	NS	< 0.0001	< 0.0009	NS	**0.0043**	< 0.0001	**0.0024**	NS	**0.022**	NS	**0.0002** j	NS	**0.0097** j	NS
SPW-03		GZ	4/9/10	NS	**0.015**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SPW-05		GZ	4/12/10	NS	**0.029**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SPW-06		GZ	4/14/10	NS	**0.032**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SPW-31		LSZ	4/9/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.0027**	NS	NS	NS	NS	NS	NS
SPW-47		USZ	7/17/09	NS	**0.0036**	NS	NS	NS	NS	NS	NS	NS	NS	**0.0055**	NS	< 0.00017	NS	NS	NS	NS
SPW-47		USZ	10/8/09	NS	**0.0075**	NS	NS	NS	NS	NS	NS	NS	NS	**0.0032**	NS	< 0.00017	NS	NS	NS	NS
SPW-47		USZ	4/21/10	NS	**0.0014**	NS	NS	NS	NS	NS	NS	NS	NS	**0.0077**	NS	< 0.0002	NS	NS	NS	NS
W-02		USZ	4/12/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	< 0.0002	NS	NS	NS	NS
W-15A		USZ	4/17/10	NS	< 0.0009	NS	< 0.0001	NS	NS	**0.0006** j	NS	NS	NS	**0.044**	NS	NS	NS	< 0.0005	NS	NS
W-74		IBZ	4/17/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.023**	NS	NS	NS	NS	NS	NS
W-76		IBZ	4/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.54**	NS	NS	NS	NS	NS	NS
WCC-36		IBZ	4/17/10	NS	**0.014**	NS	**0.0003** j	NS	NS	**0.0012** j	NS	NS	NS	**0.074**	NS	NS	NS	**0.0007** j	NS	NS
WCC-46		GZ	4/17/10	NS	**0.0086**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	**0.0009** j	NS	NS	NS	**0.0009** j	NS	NS
WCC-46	FD	GZ	4/17/10	NS	**0.0083**	NS	< 0.0001	NS	NS	< 0.0005	NS	NS	NS	**0.001** j	NS	NS	NS	**0.0007** j	NS	NS
WCC-50		USZ	4/20/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.045**	NS	NS	NS	NS	NS	NS
WCC-53		GZ	4/12/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.022**	NS	NS	NS	NS	NS	NS

Table 11
Total and Dissolved Metals
July 2009 through June 2010 Groundwater Samples
The Railyards
Sacramento, California

Well ID	QA Code	Zone	Date	Total Ag	Dissolved As	Total As	Dissolved Cd	Total Cd	Total Cr	Dissolved Cu	Total Cu	Total Hg	Total Mo	Dissolved Ni	Total Ni	Dissolved Pb	Total Pb	Dissolved Se	Total Zn	Total Cy
WCC-71		GZ	4/8/10	NS	**0.012**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
WCC-72		GZ	4/6/10	NS	**0.003**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
Concentrations are reported in milligrams per liter (mg/L)
Samples analyzed by various USEPA ICP methods
Bolded values indicate concentrations above the Method Detection Limit

KEY:
< = Less than; compound not detected at the Detection Limit
FD = Field Duplicate sample
NS = Not sampled
QA = Quality assurance
GZ = Gravel Zone
LSZ = Lower Sand Zone
USZ = Upper Sand Zone
IBZ = Interbedded B Zone
IDZ = Interbedded D Zone

Laboratory Qualifiers
j = Value estimated by laboratory; detected concentration below laboratory practical quantitation limit
b = Compound detected in associated laboratory blank

Data Assessment Qualifiers
J = Detected value considered estimated based on quality assurance review

METALS ABBREVIATIONS

Abbreviation	Compound
Ag	SILVER
As	ARSENIC
Cd	CADMIUM
Cr	CHROMIUM
Cu	COPPER
Hg	MERCURY
Mo	MOLYBDENUM
Ni	NICKEL
Pb	LEAD
Se	SELENIUM
Zn	ZINC
Cy	CYANIDE

Table 12
Total Petroleum Hydrocarbons
July 2009 through June 2010 Groundwater Samples
The Railyards
Sacramento, California

Well ID	QA Code	Zone	Date	DIESEL FUEL	DRO	MOTOR OIL	GAS RH
BC-1			2/4/10	**950**	NS	NS	**190**
CSW-03		USZE	5/25/10	NS	NS	NS	**120**
CSW-12		USZ	4/21/10	**58**	NS	NS	NS
CSW-13		LSZ	4/15/10	**55**	NS	NS	NS
CSW-14		USZE	5/25/10	NS	NS	NS	**160**
CSW-16		USZ	4/20/10	**89**	NS	NS	< 30
CSW-21		USZ	4/15/10	**1600**	NS	NS	**480**
CSW-24		USZ	4/15/10	**250**	NS	NS	**310**
CSW-24	FD	USZ	4/15/10	**260**	NS	NS	**310**
CSW-25		USZ	4/19/10	**86**	NS	NS	**38** j
CSW-26		LSZ	4/19/10	**61**	NS	NS	NS
LGW-12		GZ	4/16/10	**16**	NS	NS	NS
NPW-03		IDZ	10/12/09	NS	< 15	NS	NS
NPW-03		IDZ	4/17/10	< 15	NS	< 81	NS
NPW-04		GZ	4/17/10	< 15	NS	NS	NS
NPW-05		IBZ	4/18/10	**160**	NS	NS	NS
NPW-06		IBZ	4/16/10	< 15	NS	NS	NS
NPW-09		IBZ	4/18/10	< 15	NS	NS	NS
NPW-10		USZ	4/17/10	< 15	NS	NS	NS
NPW-11		GZ	4/16/10	**31**	NS	NS	NS
NPW-12		IBZ	4/16/10	< 15	NS	NS	NS
NPW-13		USZ	4/16/10	**35**	NS	NS	NS
NSW-01		USZ	10/7/09	NS	**7000** J	NS	**2500** J
NSW-01		USZ	4/12/10	**4400**	NS	NS	**3500** d
NSW-05		USZ	10/8/09	NS	**2000**	NS	< 15
NSW-05		USZ	4/12/10	**2200**	NS	NS	**1000**
NSW-06		GZ	10/8/09	NS	< 15	NS	< 15
NSW-06		GZ	4/12/10	**30**	NS	NS	**61**
NSW-11		USZ	10/13/09	NS	**18000**	NS	**9200** J
NSW-11		USZ	4/12/10	**3600**	NS	NS	**1200**
NSW-12		USZ	10/13/09	NS	< 15	NS	< 15
NSW-12		USZ	4/12/10	< 15	NS	NS	**58**
NSW-13		GZ	10/14/09	NS	< 15	NS	< 15
NSW-13		GZ	4/12/10	< 15	NS	NS	**56**
NSW-14		USZ	10/15/09	NS	**6600** J	NS	**1000** J
NSW-14	FD	USZ	10/15/09	NS	**6800** J	NS	**1000** J
NSW-14		USZ	4/14/10	**5200** J	NS	NS	**2000**
NSW-14	FD	USZ	4/14/10	**5500** J	NS	NS	**1700**

Table 12
Total Petroleum Hydrocarbons
July 2009 through June 2010 Groundwater Samples
The Railyards
Sacramento, California

Well ID	QA Code	Zone	Date	DIESEL FUEL	DRO	MOTOR OIL	GAS RH
NSW-15		USZ	10/14/09	NS	**3700**	NS	**1700** J
NSW-15		USZ	4/14/10	**2900**	NS	NS	**1900**
SPW-43		IBZ	4/6/10	< 15	NS	NS	NS
SPW-43	FD	IBZ	4/6/10	< 15	NS	NS	NS
SPW-47		USZ	4/21/10	< 15	NS	NS	< 30
W-15A		USZ	4/17/10	**93**	NS	NS	NS
WCC-36		IBZ	4/17/10	**120**	NS	NS	NS
WCC-46		GZ	4/17/10	< 15	NS	NS	NS
WCC-46	FD	GZ	4/17/10	**32**	NS	NS	NS
WCC-56		USZ	4/21/10	**1300**	NS	NS	**410**

NOTES:
Concentrations in micrograms per liter (µg/L)
Samples analyzed using USEPA Method 8015 Modified
Bolded values indicate concentrations above the Method Detection Limit

KEY:
< = Less than; compound not detected at the Detection Limit
FD = Field duplicate sample
DRO = Diesel Range Organics
GAS RH = Gasoline Range Hydrocarbons
NS = Not sampled
QA = Quality assurance
GZ = Gravel Zone
IBZ = Interbedded B Zone
IDZ = Interbedded D Zone
LSZ = Lower Sand Zone
USZ = Upper Sand Zone
USZE= Upper Sand Zone Extraction

Laboratory Qualifier
j = Value estimated by laboratory; detected concentration below laboratory practical quantitation limit
d = Constituent identified via secondary dilution of sample

Data Assessment Qualifier
J = Detected value considered estimated based on quality assurance review

Table 13
Groundwater and Soil Vapor Remediation System Operation
South Plume Source
July - December 2009
The Railyards
Sacramento, California

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
7/1/09	20.50	20.50	Transfer Pump Maintenance	
7/2/09	24.00	24.00		
7/3/09	24.00	24.00		
7/4/09	24.00	24.00		
7/5/09	24.00	24.00		
7/6/09	24.00	24.00		
7/7/09	24.00	12.00		
7/8/09	24.00	OFF		SVE Offline for Soil Vapor Sampling
7/9/09	24.00	7.50		
7/10/09	20.00	20.00	Tray Air Stripper Maintenance	
7/11/09	24.00	24.00		
7/12/09	24.00	24.00		
7/13/09	24.00	24.00		
7/14/09	24.00	24.00		
7/15/09	24.00	24.00		
7/16/09	24.00	24.00		
7/17/09	24.00	24.00		
7/18/09	24.00	24.00		
7/19/09	24.00	24.00		
7/20/09	16.50	16.50	Shut Down - Reason Unknown	
7/21/09	24.00	24.00		
7/22/09	23.67	23.67	General System Maintenance	
7/23/09	24.00	24.00		
7/24/09	22.50	22.50	General System Maintenance	
7/25/09	24.00	24.00		
7/26/09	21.67	21.67	Groundwater Conveyance Pipe Maintenance	
7/27/09	24.00	24.00		
7/28/09	22.33	22.33	SVE Conveyance Pipe Maintenance	
7/29/09	24.00	24.00		
7/30/09	24.00	24.00		
7/31/09	24.00	24.00		

July 2009		
Total Run Time	723	671
Total Monthly Hours	744	744
Hourly Operational Percent	97	90
Total Days of Operation	31	30
Total Days	31	31
Daily Operation Percent	100	97

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
8/1/09	24.00	24.00		
8/2/09	24.00	24.00		
8/3/09	14.25	14.25	Shut Down - Tray Air Stripper Pump Malfunction	
8/4/09	12.84	12.84	Multiple Shutdowns - Reasons Unknown	
8/5/09	11.17	11.17		
8/6/09	18.75	18.75		
8/7/09	10.00	10.00		
8/8/09	10.50	10.50		
8/9/09	OFF	OFF		
8/10/09	15.50	15.50		
8/11/09	23.33	23.33	Shut Down - Tray Air Stripper Pump Malfunction	
8/12/09	23.00	23.00	General System Maintenance	
8/13/09	24.00	24.00		
8/14/09	24.00	24.00		
8/15/09	24.00	24.00		
8/16/09	24.00	24.00		
8/17/09	16.00	16.00	Shut Down - Reason Unknown	
8/18/09	24.00	24.00		
8/19/09	18.67	18.67	Tray Air Stripper Maintenance	
8/20/09	24.00	24.00		
8/21/09	24.00	24.00		
8/22/09	24.00	24.00		
8/23/09	24.00	24.00		
8/24/09	24.00	24.00		
8/25/09	24.00	24.00		
8/26/09	21.00	21.00	Groundwater Conveyance Pipe Maintenance	
8/27/09	24.00	24.00		
8/28/09	24.00	24.00		
8/29/09	24.00	24.00		
8/30/09	24.00	24.00		
8/31/09	24.00	24.00		

August 2009		
Total Run Time	627	627
Total Monthly Hours	744	744
Hourly Operational Percent	84	84
Total Days of Operation	30	30
Total Days	31	31
Daily Operation Percent	97	97

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
9/1/09	23.50	23.50		
9/2/09	24.00	24.00		
9/3/09	24.00	24.00		
9/4/09	24.00	24.00		
9/5/09	24.00	24.00		
9/6/09	24.00	24.00		
9/7/09	24.00	24.00		
9/8/09	24.00	24.00		
9/9/09	14.83	14.83	General System Maintenance	
9/10/09	24.00	24.00		
9/11/09	24.00	24.00		
9/12/09	24.00	24.00		
9/13/09	24.00	24.00		
9/14/09	24.00	24.00		
9/15/09	19.75	19.75	Tray Air Stripper Maintenance	
9/16/09	24.00	24.00		
9/17/09	24.00	24.00		
9/18/09	24.00	24.00		
9/19/09	24.00	24.00		
9/20/09	24.00	24.00		
9/21/09	24.00	24.00		
9/22/09	22.00	22.00	General System Maintenance	
9/23/09	24.00	24.00		
9/24/09	13.75	13.75	General System Maintenance	
9/25/09	24.00	24.00		
9/26/09	24.00	24.00		
9/27/09	24.00	24.00		
9/28/09	21.17	21.17	General System Maintenance	
9/29/09	24.00	24.00		
9/30/09	24.00	24.00		

September 2009		
Total Run Time	691	691
Total Monthly Hours	720	720
Hourly Operational Percent	96	96
Total Days of Operation	30	30
Total Days	30	30
Daily Operation Percent	100	100

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
10/1/09	24.00	24.00		
10/2/09	14.17	14.17	Tray Air Stripper Maintenance	
10/3/09	24.00	24.00		
10/4/09	24.00	24.00		
10/5/09	24.00	24.00		
10/6/09	24.00	24.00		
10/7/09	24.00	24.00		
10/8/09	24.00	24.00		
10/9/09	24.00	24.00		
10/10/09	24.00	24.00		
10/11/09	24.00	24.00		
10/12/09	24.00	24.00		
10/13/09	24.00	24.00		
10/14/09	24.00	24.00		
10/15/09	24.00	24.00		
10/16/09	15.30	15.30		
10/17/09	OFF	OFF		
10/18/09	OFF	OFF		
10/19/09	OFF	OFF		
10/20/09	OFF	OFF		
10/21/09	OFF	OFF		
10/22/09	OFF	OFF		
10/23/09	OFF	OFF	Shut Down to Facilitate Abatement Activities in Treatment System Building	
10/24/09	OFF	OFF		
10/25/09	OFF	OFF		
10/26/09	OFF	OFF		
10/27/09	OFF	OFF		
10/28/09	OFF	OFF		
10/29/09	OFF	OFF		
10/30/09	OFF	OFF		
10/31/09	OFF	OFF		

October 2009		
Total Run Time	365	365
Total Monthly Hours	744	744
Hourly Operational Percent	49	49
Total Days of Operation	16	16
Total Days	31	31
Daily Operation Percent	52	52

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
11/1/09	OFF	OFF	Shut Down to Facilitate Hazardous Materials Abatement Activities in Treatment System Building	
11/2/09	OFF	OFF		
11/3/09	OFF	OFF		
11/4/09	OFF	OFF		
11/5/09	OFF	OFF		
11/6/09	OFF	OFF		
11/7/09	OFF	OFF		
11/8/09	OFF	OFF		
11/9/09	OFF	OFF		
11/10/09	OFF	OFF		
11/11/09	OFF	OFF		
11/12/09	OFF	OFF		
11/13/09	OFF	OFF		
11/14/09	OFF	OFF		
11/15/09	OFF	OFF		
11/16/09	OFF	OFF		
11/17/09	OFF	OFF		
11/18/09	OFF	OFF		
11/19/09	OFF	10.00		
11/20/09	OFF	24.00	GW Shut Down to Facilitate Hazardous Materials Abatement Activities in Treatment System Building	
11/21/09	OFF	24.00		
11/22/09	OFF	OFF		Shut Down - Caustic Tank Maintenance
11/23/09	OFF	8.00		
11/24/09	OFF	24.00		
11/25/09	OFF	24.00		
11/26/09	OFF	24.00		
11/27/09	OFF	24.00		
11/28/09	OFF	24.00		
11/29/09	OFF	24.00		
11/30/09	OFF	24.00		

November 2009		
Total Run Time	0	234
Total Monthly Hours	720	720
Hourly Operational Percent	0	33
Total Days of Operation	0	11
Total Days	30	30
Daily Operation Percent	0	37

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
12/1/09	OFF	21.58	GW Shut Down to Facilitate Hazardous Materials Abatement Activities in Treatment System Building	General System Maintenance
12/2/09	14.00	24.00		
12/3/09	24.00	24.00		
12/4/09	24.00	24.00		
12/5/09	24.00	24.00		
12/6/09	24.00	24.00		
12/7/09	24.00	24.00		
12/8/09	24.00	24.00		
12/9/09	24.00	24.00		
12/10/09	24.00	24.00		
12/11/09	24.00	24.00		
12/12/09	24.00	24.00		
12/13/09	24.00	24.00		
12/14/09	24.00	24.00		
12/15/09	24.00	24.00		
12/16/09	24.00	24.00		
12/17/09	21.75	21.75	General System Maintenance	
12/18/09	24.00	24.00		
12/19/09	24.00	24.00		
12/20/09	24.00	24.00		
12/21/09	24.00	24.00		
12/22/09	24.00	24.00		
12/23/09	22.83	22.83	General System Maintenance	
12/24/09	24.00	24.00		
12/25/09	24.00	24.00		
12/26/09	24.00	24.00		
12/27/09	24.00	24.00		
12/28/09	24.00	24.00		
12/29/09	24.00	24.00		
12/30/09	21.75	21.75	General System Maintenance	
12/31/09	24.00	24.00		

December 2009		
Total Run Time	704	736
Total Monthly Hours	744	744
Hourly Operational Percent	95	99
Total Days of Operation	30	31
Total Days	31	31
Daily Operation Percent	97	100

Table 13
Groundwater and Soil Vapor Remediation System Operation
South Plume Source
January - June 2010
The Railyards
Sacramento, California

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
1/1/10	24.00	24.00		
1/2/10	24.00	24.00		
1/3/10	24.00	24.00		
1/4/10	20.00	20.00	Tray Air Stripper Maintenance	
1/5/10	24.00	24.00		
1/6/10	24.00	24.00		
1/7/10	24.00	24.00		
1/8/10	24.00	24.00		
1/9/10	24.00	24.00		
1/10/10	24.00	24.00		
1/11/10	24.00	24.00		
1/12/10	24.00	24.00		
1/13/10	24.00	24.00		
1/14/10	24.00	24.00		
1/15/10	24.00	24.00		
1/16/10	24.00	24.00		
1/17/10	24.00	24.00		
1/18/10	24.00	24.00		
1/19/10	24.00	24.00		
1/20/10	24.00	24.00		
1/21/10	24.00	24.00		
1/22/10	24.00	24.00		
1/23/10	24.00	24.00		
1/24/10	24.00	24.00		
1/25/10	24.00	24.00		
1/26/10	24.00	24.00		
1/27/10	24.00	24.00		
1/28/10	24.00	24.00		
1/29/10	24.00	24.00		
1/30/10	24.00	24.00		
1/31/10	24.00	24.00		
January 2010				
Total Run Time			740	740
Total Monthly Hours			744	744
Hourly Operational Percent			99	99
Total Days of Operation			31	31
Total Days			31	31
Daily Operation Percent			100	100

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
2/1/10	16.00	16.00	Shut Down - Reason Unknown	
2/2/10	24.00	24.00		
2/3/10	24.00	24.00		
2/4/10	9.00	9.00	Shut Down - Reason Unknown / Tray Air Stripper Maintenance	
2/5/10	24.00	24.00		
2/6/10	24.00	24.00		
2/7/10	24.00	24.00		
2/8/10	23.42	23.42	Disconnect and Cap Groundwater Conveyance Piping to CSW-11 and SPEXW-09 for well abandonment	
2/9/10	24.00	24.00		
2/10/10	24.00	24.00		
2/11/10	24.00	24.00		
2/12/10	24.00	24.00		
2/13/10	24.00	24.00		
2/14/10	24.00	24.00		
2/15/10	24.00	24.00		
2/16/10	22.00	22.00	Disconnect Electrical to CSW-11 and SPEXW-09 for well abandonment	
2/17/10	24.00	24.00		
2/18/10	23.25	23.25	SVE Conveyance Piping Maintenance	
2/19/10	24.00	24.00		
2/20/10	24.00	24.00		
2/21/10	24.00	24.00		
2/22/10	24.00	24.00		
2/23/10	24.00	24.00		
2/24/10	24.00	24.00		
2/25/10	24.00	24.00		
2/26/10	24.00	24.00		
2/27/10	24.00	24.00		
2/28/10	24.00	24.00		
February 2010				
Total Run Time			646	646
Total Monthly Hours			672	672
Hourly Operational Percent			96	96
Total Days of Operation			28	28
Total Days			28	28
Daily Operation Percent			100	100

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
3/1/10	16.50	16.50	Shut Down - Reason Unknown	
3/2/10	24.00	24.00		
3/3/10	20.50	20.50	New Gas Line Installation - Phase 1	
3/4/10	24.00	24.00		
3/5/10	9.00	9.00	Tray Air Stripper Maintenance / Development Activities	
3/6/10	OFF	OFF		
3/7/10	OFF	OFF		
3/8/10	7.50	7.50		
3/9/10	24.00	24.00		
3/10/10	24.00	24.00		
3/11/10	24.00	24.00		
3/12/10	24.00	24.00		
3/13/10	24.00	24.00		
3/14/10	24.00	24.00		
3/15/10	24.00	24.00		
3/16/10	24.00	24.00		
3/17/10	24.00	24.00		
3/18/10	24.00	24.00		
3/19/10	24.00	24.00		
3/20/10	24.00	24.00		
3/21/10	24.00	24.00		
3/22/10	24.00	24.00		
3/23/10	24.00	24.00		
3/24/10	24.00	24.00		
3/25/10	24.00	24.00		
3/26/10	24.00	24.00		
3/27/10	24.00	24.00		
3/28/10	24.00	24.00		
3/29/10	8.00	8.00	Shut Down to Facilitate Hazardous Materials Abatement Activities in Treatment System Building	
3/30/10	OFF	OFF		
3/31/10	OFF	OFF		
March 2010				
Total Run Time			590	590
Total Monthly Hours			744	744
Hourly Operational Percent			79	79
Total Days of Operation			27	27
Total Days			31	31
Daily Operation Percent			87	87

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
4/1/10	OFF	OFF	Shut Down to Facilitate Abatement Activities in Treatment System Building	
4/2/10	OFF	OFF		
4/3/10	OFF	OFF		
4/4/10	OFF	OFF		
4/5/10	OFF	OFF		
4/6/10	OFF	OFF		
4/7/10	OFF	OFF		
4/8/10	OFF	OFF		
4/9/10	OFF	OFF		
4/10/10	OFF	OFF		
4/11/10	OFF	OFF		
4/12/10	OFF	OFF		
4/13/10	OFF	OFF		
4/14/10	OFF	OFF		
4/15/10	OFF	OFF		
4/16/10	OFF	OFF		
4/17/10	OFF	OFF		
4/18/10	OFF	OFF		
4/19/10	OFF	OFF		
4/20/10	OFF	OFF		
4/21/10	OFF	OFF		
4/22/10	OFF	OFF		
4/23/10	OFF	OFF		
4/24/10	OFF	OFF		
4/25/10	OFF	OFF		
4/26/10	OFF	OFF		
4/27/10	OFF	OFF		
4/28/10	OFF	OFF		
4/29/10	OFF	OFF		
4/30/10	OFF	OFF		
April 2010				
Total Run Time			0	0
Total Monthly Hours			720	720
Hourly Operational Percent			0	0
Total Days of Operation			0	0
Total Days			30	30
Daily Operation Percent			0	0

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
5/1/10	OFF	OFF	Shut Down to Facilitate Hazardous Materials Abatement Activities in Treatment System Building	
5/2/10	OFF	OFF		
5/3/10	OFF	OFF		
5/4/10	OFF	OFF		
5/5/10	OFF	OFF		
5/6/10	OFF	OFF		
5/7/10	OFF	OFF		
5/8/10	OFF	OFF		
5/9/10	OFF	OFF		
5/10/10	OFF	OFF		
5/11/10	OFF	0.50	Shut Down to Repair Broken 8-inch Vapor Line	
5/12/10	1.00	14.00	Groundwater Shut Down - Tray Air Stripper Discharge Pipe Repair	
5/13/10	14.33	14.33	Shut Down - Reason Unknown / Tray Air Stripper Discharge Pipe Repair	
5/14/10	24.00	24.00		
5/15/10	24.00	24.00		
5/16/10	24.00	24.00		
5/17/10	24.00	24.00		
5/18/10	24.00	24.00		
5/19/10	24.00	24.00		
5/20/10	24.00	24.00		
5/21/10	24.00	24.00		
5/22/10	24.00	24.00		
5/23/10	24.00	24.00		
5/24/10	24.00	24.00		
5/25/10	24.00	24.00		
5/26/10	15.50	15.50	Shut Down - Reason Unknown / Tray Air Stripper Discharge Pipe Repair	
5/27/10	23.00	23.00	Shut Down - System Maintenance	
5/28/10	24.00	24.00		
5/29/10	24.00	24.00		
5/30/10	24.00	24.00		
5/31/10	24.00	24.00		
May 2010				
Total Run Time			438	451
Total Monthly Hours			744	744
Hourly Operational Percent			59	61
Total Days of Operation			20	21
Total Days			31	31
Daily Operation Percent			65	68

Date	Operation Hours GW	Operation Hours SVE	Shut Down Condition GW	Shut Down Condition SVE
6/1/10	24.00	24.00		
6/2/10	19.00	19.00	Shut Down - System Maintenance	
6/3/10	24.00	24.00		
6/4/10	24.00	24.00		
6/5/10	24.00	24.00		
6/6/10	24.00	24.00		
6/7/10	24.00	24.00		
6/8/10	15.00	15.00	New Gas Line Installation - Phase 2	
6/9/10	11.00	11.00		
6/10/10	24.00	24.00		
6/11/10	8.00	8.00	Shut Down - Repair HCl Scrubber Piping	
6/12/10	24.00	24.00		
6/13/10	24.00	24.00		
6/14/10	24.00	24.00		
6/15/10	24.00	24.00		
6/16/10	24.00	24.00		
6/17/10	24.00	24.00		
6/18/10	24.00	24.00		
6/19/10	24.00	24.00		
6/20/10	24.00	24.00		
6/21/10	24.00	24.00		
6/22/10	24.00	24.00		
6/23/10	24.00	24.00		
6/24/10	24.00	24.00		
6/25/10	24.00	24.00		
6/26/10	24.00	24.00		
6/27/10	24.00	24.00		
6/28/10	16.00	16.00	Shut Down - Unknown Reason	
6/29/10	24.00	24.00		
6/30/10	24.00	24.00		
June 2010				
Total Run Time			669	669
Total Monthly Hours			720	720
Hourly Operational Percent			93	93
Total Days of Operation			30	30
Total Days			30	30
Daily Operation Percent			100	100

Table 14
Volatile Organic Compounds Detected in Vapor Samples
South Plume Source
July 2009 through June 2010
The Railyards
Sacramento, California

Location	Date	CM	VC	1,3-BUT	BM	CE	ETH	1,1-DCE	ACE	CDS	DCM	t-1,2-DCE	HEX	1,1-DCA	MEK	c-1,2-DCE	THF	CF	1,1,1-TCA	CH	2,2,4-TMP	BZ	HEP	TCE	TOL	PCE	2-HEX	EB	m,p-XYL	o-XYL	ISB	PB	4-ET	1,3,5-TMB	1,2,4-TMB	TVOC
South Plume Source																																				
System Samples																																				
SPS CATOX-IN	7/14/09	< 13	120	< 3.4	< 3.4	3.6	< 13	30	14	< 3.4	< 3.4	43	< 3.4	43	< 3.4	180	< 3.4	< 3.4	790	< 3.4	< 3.4	< 3.4	< 3.4	180	< 3.4	14	< 13	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	4.1	1421.7
SPS CATOX-IN	8/11/09	< 28	490	< 7	< 7	20	< 28	37	< 28	< 7	< 7	68	< 7	79	< 7	490	< 7	< 7	1300	< 7	< 7	< 7	22	730	7.6	30	< 28	20	21	< 7	< 7	15	21	22	46	3418.6
SPS CATOX-IN	9/29/09	< 33	26	< 8.2	< 8.2	< 8.2	< 33	280	< 33	< 8.2	< 8.2	< 8.2	< 8.2	67	< 8.2	130	< 8.2	< 8.2	2200	< 8.2	< 8.2	< 8.2	30	480	12	40	< 33	45	67	8.8	21	79	120	180	290	4075.8
SPS CATOX-IN	10/16/09	< 31	160	< 7.8	< 7.8	< 7.8	< 31	190	< 31	< 7.8	< 7.8	76	< 7.8	110	< 7.8	400	< 7.8	< 7.8	2700	< 7.8	< 7.8	< 7.8	< 7.8	900	< 7.8	52	< 31	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	4588
SPS CATOX-IN	11/20/09	< 31	26	19	< 7.8	< 7.8	100	63	42	< 7.8	< 7.8	< 7.8	16	76	< 7.8	61	< 7.8	< 7.8	2300	< 7.8	10	39	8.9	480	85	35	< 31	15	51	17	< 7.8	< 7.8	13	< 7.8	12	3468.9
SPS CATOX-IN	12/17/09	< 16	< 3.9	< 3.9	< 3.9	< 3.9	< 16	24	< 16	< 3.9	< 3.9	4.2	< 3.9	34	< 3.9	57	< 3.9	< 3.9	1200	< 3.9	< 3.9	< 3.9	< 3.9	390	< 3.9	23	< 16	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	1732.2
SPS CATOX-IN	1/4/10	< 11	74	< 2.7	< 2.7	< 2.7	< 11	7.8	< 11	< 2.7	< 2.7	30	< 2.7	19	< 2.7	320	< 2.7	< 2.7	95	< 2.7	< 2.7	< 2.7	< 2.7	750	5.8	20	< 11	< 2.7	3.7	< 2.7	< 2.7	< 2.7	< 2.7	< 2.7	< 2.7	1325.3
SPS CATOX-IN	2/9/10	37	76	< 3.5	< 3.5	6.5	< 14	12	830	< 3.5	< 3.5	< 3.5	< 3.5	23	< 3.5	33	< 3.5	< 3.5	600	< 3.5	< 3.5	< 3.5	82	150	15	11	< 14	< 3.5	4.5	< 3.5	< 3.5	< 3.5	4.2	4.5	10	1898.7
SPS CATOX-IN	3/3/10	< 9	140	< 2.3	< 2.3	8	< 9	5.9	< 9	< 2.3	< 2.3	56	3.3	36	< 2.3	250	< 2.3	< 2.3	80	5.7	< 2.3	3.4	6.2	320	9.2	9.7	< 9	5.4	8	< 2.3	< 2.3	3.2	5.3	5	10	970.3
SPS CATOX-IN	5/20/10	< 11	320	< 2.7	< 2.7	9.5	< 11	18	< 11	< 2.7	< 2.7	48	< 2.7	71	< 2.7	350	< 2.7	< 2.7	820	< 2.7	< 2.7	< 2.7	9.2	410	6.5	20	< 11	9.5	12	2.7	3	7.7	14	22	35	2188.1
SPS CATOX-IN	6/2/10	< 32	280	< 8.1	< 8.1	12	42	26	< 32	< 8.1	< 8.1	56	< 8.1	67	74	450	17	< 8.1	680	< 8.1	< 8.1	< 8.1	9.9	420	< 8.1	20	< 32	8.8	11	< 8.1	< 8.1	9.9	14	22	37	2256.6
SPS CATOX-OUT	7/14/09	< 4.4	1.9	< 1.1	< 1.1	< 1.1	< 4.4	9.6	6.2	2.9	< 1.1	< 1.1	< 1.1	3.1	1.6	2	< 1.1	1.5	110	< 1.1	< 1.1	< 1.1	< 1.1	12	< 1.1	1.7	< 4.4	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	152.5
SPS CATOX-OUT	8/11/09	97	43	< 1.2	< 1.2	2.5	< 4.8	16	24	2.7	< 1.2	< 1.2	< 1.2	8.9	6.1	19	< 1.2	< 1.2	180	< 1.2	< 1.2	< 1.2	2.8	83	1.9	4.2	< 4.8	2.6	3.4	< 1.2	< 1.2	1.8	2.9	2.5	5.4	509.7
SPS CATOX-OUT	9/29/09	120	26	8	< 1.1	< 1.1	< 4.5	42	310	< 1.1	1.4	8	< 1.1	16	85	74	< 1.1	1.6	380	< 1.1	< 1.1	6.8	5.5	100	15	8.1	8.5	8.3	18	5	4	9.6	20	20	35	1335.8
SPS CATOX-OUT	10/16/09	8.6	< 1.2	< 1.2	< 1.2	< 1.2	< 4.7	70	18	< 1.2	< 1.2	1.5	< 1.2	12	3.6	22	1.7	< 1.2	370	< 1.2	< 1.2	1.4	< 1.2	120	< 1.2	8.9	< 4.7	< 1.2	3.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	640.8
SPS CATOX-OUT	11/20/09	18	5	1.2	1.2	< 1.1	< 4.3	63	33	< 1.1	1.1	< 1.1	2.5	12	1.4	10	< 1.1	< 1.1	300	< 1.1	1.1	3.6	< 1.1	74	7.8	5.4	< 4.3	1.3	4.2	1.4	< 1.1	< 1.1	1.2	< 1.1	< 1.1	548.4
SPS CATOX-OUT	12/17/09	6.6	< 1.1	< 1.1	< 1.1	< 1.1	< 4.4	14	4.8	1.3	< 1.1	< 1.1	< 1.1	5.9	< 1.1	10	< 1.1	< 1.1	170	< 1.1	< 1.1	< 1.1	< 1.1	67	< 1.1	4.4	< 4.4	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	284
SPS CATOX-OUT	1/4/10	< 4.3	< 1.1	< 1.1	< 1.1	< 1.1	< 4.3	1.4	< 4.3	< 1.1	< 1.1	< 1.1	< 1.1	1.5	< 1.1	16	< 1.1	< 1.1	8.8	< 1.1	< 1.1	< 1.1	< 1.1	94	< 1.1	3.5	< 4.3	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	125.2
SPS CATOX-OUT	2/9/10	8	23	< 1	< 1	< 1	< 4.1	12	94	1.8	< 1	< 1	< 1	7.5	3	11	< 1	< 1	130	< 1	< 1	< 1	14	51	3.6	3.4	< 4.1	< 1	1.4	< 1	< 1	< 1	1.3	1.1	2.1	368.2
SPS CATOX-OUT	3/3/10	9.6	40	< 1.1	< 1.1	1.2	< 4.3	2.9	8.2	1.1	< 1.1	16	< 1.1	11	1.8	73	< 1.1	< 1.1	23	1.6	< 1.1	1.2	1.8	97	3.2	3.1	< 4.3	1.5	2.8	< 1.1	< 1.1	< 1.1	1.8	1.4	2.9	306.1
SPS CATOX-OUT	5/20/10	30	51	< 1.1	< 1.1	2	< 4.3	9	76	< 1.1	< 1.1	< 1.1	< 1.1	13	18	24	< 1.1	< 1.1	200	< 1.1	1.1	1.9	2.8	63	8.8	3.9	< 4.3	3	13	4.2	< 1.1	1.7	5.7	4	9.7	545.8
SPS CATOX-OUT	6/2/10	24	80	< 1.2	< 1.2	3.2	18	10	120	75	< 1.2	13	< 1.2	16	28	95	< 1.2	< 1.2	170	< 1.2	< 1.2	1.6	< 1.2	94	3.2	3.4	< 4.7	1.2	2.8	< 1.2	< 1.2	< 1.2	< 1.2	1.9	3.3	763.6

Notes:
All concentrations reported in parts per billion by volume (ppbv)
Bolded values indicate concentrations above the Method Detection Limit
USEPA Method TO-15 was used to analyze all samples.
< = Not detected
NS = Not sampled
TVOC = Total volatile organic compounds.

The following compounds were analyzed for, but not detected, and do not appear on the table:		
1,1,2,2-PCA	a-CT	Freon 113
1,1,2-TCA	BDCM	Freon 114
1,2,4-TCB	BF	Freon 12
1,2-DCB	c-1,3-DCP	HCB
1,2-DCP	CB	STY
1,3-DCB	CCL	t-1,3-DCP
1,4-DCB	DBCM	2-PROP
1,4-DIOX	EDB	MTBE
3-CP	Freon 11	1,2-DCA
4-M-2-P		

Compound Abbreviations

1,1,1-TCA	1,1,1-Trichloroethane	CM	Choromethane	Freon 113	Trichlorotrifluoroethane
1,1,2,2-PCA	1,1,2,2-Tetrachloroethane	BM	Bromomethane	Freon 114	1,2-Dichlorotetrafluoroethane
1,1,2-TCA	1,1,2-Trichloroethane	CE	Choroethane	Freon 12	Dichlorodifluoromethane
1,1-DCA	1,1-Dichloroethane	ETH	Ethanol	HCB	Hexachlorobutadiene
1,1-DCE	1,1-Dichloroethene	ACE	Acetone	HEP	Heptane
1,2,4-TCB	1,2,4-Trichlorobenzene	CDS	Carbon disulfide	HEX	Hexane
1,2,4-TMB	1,2,4-Trimethylbenzene	DCM	Methylene chloride	ISB	Cumene
1,2-DCA	1,2-Dichloroethane	c-1,2-DCE	cis-1,2-Dichoroethene	m,p-XYL	m,p-Xylene
1,2-DCB	1,2-Dichlorobenzene	CF	Chloroform	MEK	2-Butanone
1,2-DCP	1,2-Dichloropropane	CH	Cyclohexane	MTBE	Methyl-tert-butyl-ether
1,3-BUT	1,3-Butadiene	BZ	Benzene	o-XYL	o-Xylene
1,3,5-TMB	1,3,5-Trimethylbenzene	EB	Ethylbenzene	PB	Propylbenzene
1,3-DCB	1,3-Dichlorobenzene	a-CT	alpha-Cholortoluene	PCE	Tetrachloroethene
1,4-DCB	1,4-Dichlorobenzene	BDCM	Bromodichlormethane	STY	Styrene
1,4-DIOX	1,4-Dioxane	BF	Bromoform	t-1,2-DCE	trans-1,2-Dichloroethene
2-HEX	2-Hexanone	c-1,3-DCP	cis-1,3-Dichloropropene	t-1,3-DCP	trans-1,3-Dichloropropene
2-Prop	2-Propanol	CB	Chlorobenzene	TCE	Trichloroethene
2,2,4-TMP	2,2,4-Trimethylpentane	CCL	Carbon tetrachloride	THF	Tetrahydrofuran
3-CP	3-Chlorophenol	DBCM	Dibromchloromethane	TOL	Toluene
4-ET	4-Ethyltoluene	EDB	1,2-Dibromoethane	VC	Vinyl chloride
4-M-2-P	4-Methyl-2-pentanone	Freon 11	Trichlorofluoromethane		

Table 15
Summary of Volume of Extracted Groundwater
South Plume Source and South Plume Margin
July 2009 through June 2010
The Railyards
Sacramento, California

Well	Total Volume Extracted (gal)	Causes for Reduced Flow[1]
South Plume Source		
CSW-01	4,387,260	System Cycling/Well Maintenance
CSW-03	5,343,670	System Cycling/Well Maintenance
CSW-07	3,246,090	System Cycling/Well Maintenance
CSW-11*	1,979,740	Well Removed From Service 5 February 2010, Abandoned 16 February 2010
CSW-14	3,634,690	System Cycling/Well Maintenance
CSEXW-01	1,697,000	System Cycling/Well Maintenance
CSEXW-02	1,460,590	System Cycling/Well Maintenance
CSEXW-03	1,476,740	System Cycling/Well Maintenance
CSEXW-04*	3,846,960	Well Removed From Service 26 March 2010, Well Abandoned 6 April 2010
CSEXW-05	1,554,470	System Cycling/Well Maintenance
SPEXW-09*	2,945,600	Well Removed From Service 5 February 2010, Well Abandoned 6 April 2010
Total Volume	31,572,810	
South Plume Margin		
SPEXW-02	4,495,848	System Cycling/Well Maintenance
SPEXW-03	3,785,415	System Cycling/Well Maintenance
SPEXW-04	21,498,015	Well Maintenance
SPEXW-05	19,228,644	Well Maintenance
SPEXW-06	13,488,126	Well Maintenance
SPEXW-08	14,405,019	Well Maintenance
Total Volume	76,901,067	

Notes:
1. Well maintenance includes activities such as pump maintenance, cleaning conveyance
Average pumping rates are based on operational days from 1 July 2009 through 30 June 2(
* = CSEXW-04 and SPEXW-09 abandoned 6 April 2010 and CSW-11 abandoned February 2010 to su
Will be reinstalled upon installation of Final Remedy.

Key:
gal = US gallons
gpm = Gallons per minute

Table 16
Vertical Hydraulic Gradients Within the SPS Cutoff Wall
July 2009 through June 2010
The Railyards
Sacramento, California

	Upper Sand Zone to Lower Sand Zone		Lower Sand Zone to Gravel Zone		Upper Sand Zone to Gravel Zone	
Well Groups	**October 2009**	**May 2010**	**October 2009**	**May 2010**	**October 2009**	**May 2010**
CSW-45(USZ) & CSW-46(LSZ)	-9.76×10^{-4}	-9.76×10^{-4}	NA	NA	NA	NA
CSW-43 (USZ) & CSW-44* (LSZ)	0	NA	NA	NA	NA	NA
CSW-24 (USZ) CSW-13 (LSZ) & WCC-53(GZ)	-5.06×10^{-3}	-3.93×10^{-3}	NA[1]	4.186×10^{-2}	NA	2.32×10^{-2}

KEY:
NA = Not applicable
* = CSW-44 abandoned 12/15/2009
1 = Anomalous reading
A negative value constitutes an upward gradient, and downward gradients are represented with a positive value .

Table 17
Groundwater Remediation System Operation
South Plume Margin
July through December 2009
The Railyards
Sacramento, California

Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition
7/1/09	24		8/1/09	24		9/1/09	24	
7/2/09	24		8/2/09	24		9/2/09	24	
7/3/09	24		8/3/09	24		9/3/09	24	
7/4/09	24		8/4/09	24		9/4/09	24	
7/5/09	24		8/5/09	24		9/5/09	24	
7/6/09	24		8/6/09	24		9/6/09	24	
7/7/09	24		8/7/09	24		9/7/09	24	
7/8/09	24		8/8/09	24		9/8/09	24	
7/9/09	24		8/9/09	24		9/9/09	24	
7/10/09	24		8/10/09	24		9/10/09	24	
7/11/09	24		8/11/09	24		9/11/09	24	
7/12/09	24		8/12/09	24		9/12/09	24	
7/13/09	24		8/13/09	24		9/13/09	24	
7/14/09	24		8/14/09	24		9/14/09	24	
7/15/09	24		8/15/09	24		9/15/09	24	
7/16/09	24		8/16/09	24		9/16/09	24	
7/17/09	24		8/17/09	24		9/17/09	24	
7/18/09	24		8/18/09	24		9/18/09	24	
7/19/09	24		8/19/09	24		9/19/09	24	
7/20/09	24		8/20/09	24		9/20/09	24	
7/21/09	24		8/21/09	24		9/21/09	24	
7/22/09	24		8/22/09	24		9/22/09	24	
7/23/09	24		8/23/09	24		9/23/09	24	
7/24/09	24		8/24/09	24		9/24/09	24	
7/25/09	24		8/25/09	24		9/25/09	24	
7/26/09	24		8/26/09	24		9/26/09	24	
7/27/09	24		8/27/09	24		9/27/09	24	
7/28/09	24		8/28/09	24		9/28/09	24	
7/29/09	24		8/29/09	24		9/29/09	24	
7/30/09	24		8/30/09	24		9/30/09	24	
7/31/09	24		8/31/09	24				
July 2009 Total Run Time 744 Total Monthly Hours 744 Hourly Operational Percent 100 Total Days of Operation 31 Total Days 31 Daily Operation Percent 100			**August 2009** Total Run Time 744 Total Monthly Hours 744 Hourly Operational Percent 100 Total Days of Operation 31 Total Days 31 Daily Operation Percent 100			**September 2009** Total Run Time 720 Total Monthly Hours 720 Hourly Operational Percent 100 Total Days of Operation 30 Total Days 30 Daily Operation Percent 100		

Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition
10/1/09	24		11/1/09	24		12/1/09	24	
10/2/09	24		11/2/09	24		12/2/09	24	
10/3/09	24		11/3/09	24		12/3/09	24	
10/4/09	24		11/4/09	24		12/4/09	24	
10/5/09	24		11/5/09	24		12/5/09	24	
10/6/09	24		11/6/09	24		12/6/09	24	
10/7/09	24		11/7/09	24		12/7/09	24	
10/8/09	24		11/8/09	24		12/8/09	24	
10/9/09	24		11/9/09	24		12/9/09	24	
10/10/09	24		11/10/09	24		12/10/09	24	
10/11/09	24		11/11/09	24		12/11/09	24	
10/12/09	24		11/12/09	24		12/12/09	24	
10/13/09	24		11/13/09	24		12/13/09	24	
10/14/09	24		11/14/09	24		12/14/09	24	
10/15/09	24		11/15/09	24		12/15/09	24	
10/16/09	24		11/16/09	24		12/16/09	24	
10/17/09	24		11/17/09	24		12/17/09	24	
10/18/09	24		11/18/09	24		12/18/09	24	
10/19/09	24		11/19/09	24		12/19/09	24	
10/20/09	24		11/20/09	24		12/20/09	24	
10/21/09	24		11/21/09	24		12/21/09	24	
10/22/09	24		11/22/09	24		12/22/09	24	
10/23/09	24		11/23/09	24		12/23/09	24	
10/24/09	24		11/24/09	24		12/24/09	24	
10/25/09	24		11/25/09	24		12/25/09	24	
10/26/09	24		11/26/09	24		12/26/09	24	
10/27/09	24		11/27/09	24		12/27/09	24	
10/28/09	24		11/28/09	24		12/28/09	18	Shut Down for Annual Totalizer Calibration
10/29/09	24		11/29/09	24		12/29/09	24	
10/30/09	24		11/30/09	24		12/30/09	24	
10/31/09	24					12/31/09	24	
October 2009 Total Run Time 744 Total Monthly Hours 744 Hourly Operational Percent 100 Total Days of Operation 31 Total Days 31 Daily Operation Percent 100			**November 2009** Total Run Time 720 Total Monthly Hours 720 Hourly Operational Percent 100 Total Days of Operation 30 Total Days 30 Daily Operation Percent 100			**December 2009** Total Run Time 738 Total Monthly Hours 744 Hourly Operational Percent 99 Total Days of Operation 31 Total Days 31 Daily Operation Percent 100		

Table 17
Groundwater Remediation System Operation
South Plume Margin
January through June 2010
The Railyards
Sacramento, California

Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition
1/1/10	24		2/1/10	24		3/1/10	24	
1/2/10	24		2/2/10	24		3/2/10	24	
1/3/10	24		2/3/10	24		3/3/10	24	
1/4/10	24		2/4/10	24		3/4/10	24	
1/5/10	24		2/5/10	24		3/5/10	24	
1/6/10	24		2/6/10	24		3/6/10	24	
1/7/10	OFF		2/7/10	24		3/7/10	24	
1/8/10	24		2/8/10	24		3/8/10	24	
1/9/10	24		2/9/10	24		3/9/10	24	
1/10/10	24		2/10/10	24		3/10/10	24	
1/11/10	24		2/11/10	24		3/11/10	24	
1/12/10	24		2/12/10	24		3/12/10	24	
1/13/10	24		2/13/10	24		3/13/10	24	
1/14/10	24		2/14/10	24		3/14/10	24	
1/15/10	24		2/15/10	24		3/15/10	24	
1/16/10	24		2/16/10	24		3/16/10	24	
1/17/10	24		2/17/10	24		3/17/10	24	
1/18/10	24		2/18/10	24		3/18/10	24	
1/19/10	24		2/19/10	24		3/19/10	24	
1/20/10	24		2/20/10	24		3/20/10	24	
1/21/10	24		2/21/10	24		3/21/10	24	
1/22/10	24		2/22/10	24		3/22/10	24	
1/23/10	24		2/23/10	24		3/23/10	24	
1/24/10	23		2/24/10	24		3/24/10	24	
1/25/10	24		2/25/10	24		3/25/10	24	
1/26/10	24		2/26/10	24		3/26/10	24	
1/27/10	24		2/27/10	24		3/27/10	24	
1/28/10	24		2/28/10	24		3/28/10	24	
1/29/10	24					3/29/10	24	
1/30/10	24					3/30/10	24	
1/31/10	24					3/31/10	24	
January 2010 Total Run Time 719 Total Monthly Hours 744 Hourly Operational Percent 97 Total Days of Operation 30 Total Days 31 Daily Operation Percent 97			**February 2010** Total Run Time 672 Total Monthly Hours 672 Hourly Operational Percent 100 Total Days of Operation 28 Total Days 28 Daily Operation Percent 100			**March 2010** Total Run Time 744 Total Monthly Hours 744 Hourly Operational Percent 100 Total Days of Operation 31 Total Days 31 Daily Operation Percent 100		

Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition	Date	Operation Hours	Shutdown Condition
4/1/10	24		5/1/10	24		6/1/10	24	
4/2/10	24		5/2/10	24		6/2/10	24	
4/3/10	24		5/3/10	24		6/3/10	24	
4/4/10	24		5/4/10	8		6/4/10	24	
4/5/10	24		5/5/10	OFF		6/5/10	24	
4/6/10	24		5/6/10	OFF		6/6/10	24	
4/7/10	24		5/7/10	OFF		6/7/10	24	
4/8/10	24		5/8/10	9.5		6/8/10	24	
4/9/10	24		5/9/10	24		6/9/10	24	
4/10/10	24		5/10/10	24		6/10/10	24	
4/11/10	24		5/11/10	15		6/11/10	24	
4/12/10	24		5/12/10	16		6/12/10	24	
4/13/10	24		5/13/10	24		6/13/10	21	
4/14/10	24		5/14/10	24		6/14/10	24	
4/15/10	24		5/15/10	24		6/15/10	24	
4/16/10	24		5/16/10	24		6/16/10	24	
4/17/10	24		5/17/10	24		6/17/10	24	
4/18/10	24		5/18/10	24		6/18/10	24	
4/19/10	24		5/19/10	24		6/19/10	24	
4/20/10	24		5/20/10	24		6/20/10	24	
4/21/10	24		5/21/10	24		6/21/10	24	
4/22/10	24		5/22/10	24		6/22/10	24	
4/23/10	24		5/23/10	24		6/23/10	24	
4/24/10	24		5/24/10	24		6/24/10	24	
4/25/10	24		5/25/10	24		6/25/10	24	
4/26/10	24		5/26/10	24		6/26/10	24	
4/27/10	24		5/27/10	24		6/27/10	24	
4/28/10	24		5/28/10	24		6/28/10	24	
4/29/10	24		5/29/10	24		6/29/10	24	
4/30/10	24		5/30/10	24		6/30/10	24	
			5/31/10	24				
April 2010 Total Run Time 720 Total Monthly Hours 720 Hourly Operational Percent 100 Total Days of Operation 30 Total Days 30 Daily Operation Percent 100			**May 2010** Total Run Time 625 Total Monthly Hours 744 Hourly Operational Percent 84 Total Days of Operation 28 Total Days 31 Daily Operation Percent 90			**June 2010** Total Run Time 717 Total Monthly Hours 720 Hourly Operational Percent 100 Total Days of Operation 30 Total Days 30 Daily Operation Percent 100		

Table 18
New Painting Facility LNAPL Levels
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-5	10-Jul-09	27.58	27.58	0		
CSW-5	6-Aug-09	27.4	27.4	0		
CSW-5	13-Aug-09	28.46	28.46	0		Baseline for air injection
CSW-5	17-Aug-09	27.63	27.63	0		First day of air injection
CSW-5	18-Aug-09	27.45	27.45	0		
CSW-5	19-Aug-09	27.75	27.75	0		
CSW-5	20-Aug-09	28.88	28.88	0		
CSW-5	21-Aug-09	27.9	27.9	0		
CSW-5	26-Aug-09	28.2	28.2	0		
CSW-5	4-Sep-09	28.41	28.41	0		
CSW-5	11-Sep-09	28.45	28.45	0		
CSW-5	28-Sep-09	28.55	28.55	0		
CSW-5	16-Oct-09	28.37	28.37	0		
CSW-5	11-Nov-09	28.79	28.79	0		
CSW-5	1-Dec-09	28.71	28.71	0		
CSW-5	4-Jan-10	28.27	28.27	0		
CSW-5	10-Feb-10	23.26	23.26	0		
CSW-5	4-Mar-10	24.23	24.23	0		
CSW-5	20-Apr-10	25.56	25.56	0		
CSW-5	3-May-10	25.53	25.53	0		
CSW-5	19-May-10	26.73	26.73	0		
CSW-21	10-Jul-09	25.21	25.21	0		
CSW-21	6-Aug-09	25.11	25.11	0		
CSW-21	13-Aug-09	25.42	25.42	0		Baseline for air injection
CSW-21	17-Aug-09	25.19	25.19	0		First day of air injection
CSW-21	18-Aug-09	25.31	25.31	0		
CSW-21	19-Aug-09	25.35	25.35	0		
CSW-21	20-Aug-09	25.39	25.39	0		
CSW-21	21-Aug-09	25.41	25.41	0		
CSW-21	26-Aug-09	25.65	25.65	0		
CSW-21	4-Sep-09	27.6	27.6	0		
CSW-21	11-Sep-09	25.72	25.72	0		
CSW-21	28-Sep-09	26.25	26.25	0		
CSW-21	16-Oct-09	26	26	0		
CSW-21	11-Nov-09	26.43	26.43	0		
CSW-21	1-Dec-09	26.38	26.38	0		
CSW-21	4-Jan-10	25.91	25.91	0		
CSW-21	10-Feb-10	20.6	20.6	0		
CSW-21	4-Mar-10	21.67	21.67	0		
CSW-21	20-Apr-10	23.05	23.05	0		
CSW-21	3-May-10	23.14	23.14	0		
CSW-21	19-May-10	24.37	24.37	0		
CSW-22	10-Jul-09	26.81	27.06	0.25		
CSW-22	6-Aug-09	26.73	26.92	0.19		
CSW-22	13-Aug-09	26.86	27.08	0.22		Baseline for air injection
CSW-22	17-Aug-09	26.75	26.91	0.16		First day of air injection
CSW-22	18-Aug-09	27.6	27.76	0.16		
CSW-22	19-Aug-09	26.57	26.65	0.08		
CSW-22	20-Aug-09	26.5	26.59	0.09		
CSW-22	21-Aug-09	26.52	26.6	0.08		
CSW-22	26-Aug-09	26.8	26.87	0.07		
CSW-22	27-Aug-09	26.78	26.81	0.03		
CSW-22	28-Aug-09	26.72	26.75	0.03		
CSW-22	31-Aug-09	26.64	26.7	0.06		
CSW-22	2-Sep-09	26.84	26.9	0.06		
CSW-22	4-Sep-09	26.58	26.64	0.06		
CSW-22	8-Sep-09	26.73	26.8	0.07		
CSW-22	9-Sep-09	26.74	26.84	0.1		
CSW-22	11-Sep-09	26.93	27.05	0.12		
CSW-22	21-Sep-09	27.18	27.3	0.12		
CSW-22	28-Sep-09	27.24	27.38	0.14		
CSW-22	16-Oct-09	27.35	27.45	0.1		
CSW-22	30-Oct-09	26.5	26.67	0.17		
CSW-22	11-Nov-09	27.55	27.66	0.11		
CSW-22	18-Nov-09	27.57	27.7	0.13		
CSW-22	1-Dec-09	27.55	27.81	0.26		
CSW-22	23-Dec-09	27.15	28.75	1.6		Initial reading before bailing
CSW-22	23-Dec-09	27.99	28.47	0.48	3.00	Reading after removing 3 gallons of product
CSW-22	30-Dec-09	27.2	28.86	1.66		Initial reading before bailing

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-22	30-Dec-09	27.96	28.4	0.44	2.50	Reading after removing 2.5 gallons of product
CSW-22	4-Jan-10	27.12	28.75	1.63		Initial reading before bailing
CSW-22	5-Jan-10	28.07	28.55	0.48	2.00	Reading after removing 2 gallons of product
CSW-22	14-Jan-10	27.11	29.55	2.44		Initial reading before bailing
CSW-22	14-Jan-10	28.55	29.02	0.47	3.00	Reading after removing 3 gallons of product
CSW-22	4-Feb-10	25.3	25.88	0.58		Initial reading before bailing
CSW-22	4-Feb-10	25.42	25.84	0.42	0.25	Reading after removing 0.25 gallons of product
CSW-22	10-Feb-10	25.15	25.63	0.48		
CSW-22	18-Feb-10	25.6	26.17	0.57		Initial reading before bailing
CSW-22	18-Feb-10	25.75	26.18	0.43	0.25	Reading after removing 0.25 gallons of product
CSW-22	24-Feb-10	25.96	26.42	0.46		
CSW-22	4-Mar-10	25.47	25.93	0.46		
CSW-22	18-Mar-10	25.85	26.35	0.5		Initial reading before bailing
CSW-22	18-Mar-10	26.08	26.49	0.41	0.25	Reading after removing 0.25 gallons of product
CSW-22	30-Mar-10	26.18	26.52	0.34		
CSW-22	20-Apr-10	24.67	24.98	0.31		
CSW-22	3-May-10	25.56	25.89	0.33		
CSW-22	19-May-10	25.99	26.3	0.31		
CSW-23	10-Jul-09	24.26	26.38	2.12		Initial reading before bailing
CSW-23	10-Jul-09	26.38	26.65	0.27	4.50	Reading after removing 4.5 gallons of product
CSW-23	17-Jul-09	24.21	26.15	1.94		Initial reading before bailing
CSW-23	17-Jul-09	26.42	26.79	0.37	5.00	Reading after removing 5 gallons of product
CSW-23	31-Jul-09	23.92	26.55	2.63		Initial reading before bailing
CSW-23	31-Jul-09	26.74	27.03	0.29	5.50	Reading after removing 5.5 gallons of product
CSW-23	6-Aug-09	24.18	26.11	1.93		Initial reading before bailing
CSW-23	6-Aug-09	25.69	26.05	0.36	4.00	Reading after removing 4 gallons of product
CSW-23	11-Aug-09	24.62	25.92	1.3		need to bail
CSW-23	13-Aug-09	24.85	25.55	0.7		need to bail
CSW-23	17-Aug-09	24.49	25.77	1.28		need to bail
CSW-23	18-Aug-09	24.53	25.91	1.38		need to bail
CSW-23	19-Aug-09	24.66	25.5	0.84		need to bail
CSW-23	20-Aug-09	24.65	25.62	0.97		need to bail
CSW-23	21-Aug-09	24.6	25.78	1.18		need to bail
CSW-23	26-Aug-09	25.04	25.81	0.77		Initial reading before bailing
CSW-23	27-Aug-09	25.39	25.86	0.47	2.50	Reading after removing 2.5 gallons of product
CSW-23	28-Aug-09	24.85	25.7	0.85		Initial reading before bailing
CSW-23	28-Aug-09	25.38	25.91	0.53	1.50	Reading after removing 1.5 gallons of product
CSW-23	31-Aug-09	24.8	25.89	1.09		Initial reading before bailing
CSW-23	31-Aug-09	25.87	26.39	0.52	2.50	Reading after removing 2.5 gallons of product
CSW-23	2-Sep-09	24.87	25.78	0.91		Initial reading before bailing
CSW-23	2-Sep-09	25.62	26.1	0.48	1.50	Reading after removing 1.5 gallons of product
CSW-23	4-Sep-09	24.9	25.8	0.9		need to bail
CSW-23	4-Sep-09	24.8	25.82	1.02		Initial reading before bailing
CSW-23	4-Sep-09	25.75	26.31	0.56	1.50	Reading after removing 1.5 gallons of product
CSW-23	8-Sep-09	24.98	26.11	1.13		need to bail
CSW-23	9-Sep-09	24.94	26.25	1.31		Initial reading before bailing
CSW-23	9-Sep-09	26.1	26.6	0.5	2.00	Reading after removing 2 gallons of product
CSW-23	11-Sep-09	25.08	25.9	0.82		Initial reading before bailing
CSW-23	11-Sep-09	25.6	26.13	0.53	1.50	Reading after removing 1.5 gallons of product
CSW-23	21-Sep-09	25.3	26.29	0.99		need to bail
CSW-23	22-Sep-09	26.35	26.71	0.36	2.00	Reading after removing 2 gallons of product
CSW-23	28-Sep-09	25.54	26.46	0.92		
CSW-23	29-Sep-09	26.14	26.59	0.45	1.50	Reading after removing 1.5 gallons of product
CSW-23	16-Oct-09	25.3	26.09	0.79		Initial reading before bailing
CSW-23	16-Oct-09	25.72	26.37	0.65	1.50	Reading after removing 1.5 gallons of product
CSW-23	22-Oct-09	25.41	26.1	0.69		Initial reading before bailing
CSW-23	22-Oct-09	25.73	26.2	0.47	0.50	Reading after removing 0.5 gallon of product
CSW-23	30-Oct-09	25.8	26.63	0.83		Initial reading before bailing
CSW-23	30-Oct-09	26.18	26.63	0.45	0.50	Reading after removing 0.5 gallon of product
CSW-23	11-Nov-09	25.75	26.52	0.77		Initial reading before bailing
CSW-23	11-Nov-09	26.22	26.64	0.42	0.50	Reading after removing 0.5 gallon of product
CSW-23	18-Nov-09	25.75	26.28	0.53		Initial reading before bailing
CSW-23	18-Nov-09	25.9	26.33	0.43	0.25	Reading after removing 0.25 gallon of product
CSW-23	25-Nov-09	25.85	26.31	0.46		
CSW-23	1-Dec-09	25.86	26.33	0.47		
CSW-23	16-Dec-09	23.38	24	0.62		Initial reading before bailing
CSW-23	16-Dec-09	24.27	24.65	0.38	1.00	Reading after removing 1 gallon of product
CSW-23	23-Dec-09	25.16	25.6	0.44		
CSW-23	30-Dec-09	27.41	27.86	0.45		

Table 18
New Painting Facility LNAPL Levels
July 2009 through June 2010
The Railyards
Sacramento, California

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-23	4-Jan-10	24.98	25.53	0.55		Initial reading before bailing
CSW-23	5-Jan-10	25.09	25.55	0.46	0.25	Reading after removing 0.25 gallon of product
CSW-23	14-Jan-10	25.11	25.76	0.65		Initial reading before bailing
CSW-23	14-Jan-10	25.35	25.84	0.49	0.25	Reading after removing 0.25 gallon of product
CSW-23	4-Feb-10	20.85	21.31	0.46		
CSW-23	10-Feb-10	20.32	20.78	0.46		
CSW-23	18-Feb-10	21.72	22.18	0.46		
CSW-23	24-Feb-10	22.03	22.5	0.47		
CSW-23	4-Mar-10	21.81	22.3	0.49		Initial reading before bailing
CSW-23	4-Mar-10	21.86	22.33	0.47	0.25	Reading after removing 0.25 gallon of product
CSW-23	4-Mar-10	21.81	22.3	0.49		
CSW-23	20-Apr-10	22.9	23.36	0.46		
CSW-23	3-May-10	22.48	22.95	0.47		
CSW-23	19-May-10	23.96	24.47	0.51		
CSW-27	10-Jul-09	24.91	24.91	0		
CSW-27	6-Aug-09	24.8	24.8	0		
CSW-27	13-Aug-09	25.16	25.16	0		Baseline for air injection
CSW-27	17-Aug-09	24.76	24.76	0		First day of air injection
CSW-27	18-Aug-09	24.66	24.66	0		
CSW-27	19-Aug-09	24.87	24.87	0		
CSW-27	20-Aug-09	24.98	24.98	0		
CSW-27	21-Aug-09	24.5	24.5	0		
CSW-27	24-Aug-09	25.44	25.44	0		
CSW-27	4-Sep-09	25.21	25.21	0		
CSW-27	11-Sep-09	25.37	25.37	0		
CSW-27	28-Sep-09	25.98	25.98	0		
CSW-27	16-Oct-09	25.71	25.71	0		
CSW-27	11-Nov-09	26.16	26.16	0		
CSW-27	1-Dec-09	26.11	26.11	0		
CSW-27	4-Jan-10	25.61	25.61	0		
CSW-27	10-Feb-10	20.33	20.33	0		
CSW-27	4-Mar-10	21.4	21.4	0		
CSW-27	20-Apr-10	22.91	22.91	0		
CSW-27	3-May-10	22.85	22.85	0		
CSW-27	19-May-10	24.09	24.09	0		
CSW-47	10-Jul-09	24.51	24.78	0.27		
CSW-47	17-Jul-09	24.58	24.93	0.35		
CSW-47	31-Jul-09	22.57	23.95	1.38		Initial reading before bailing
CSW-47	31-Jul-09	24.66	24.98	0.32	3.00	Reading after removing 3 gallons of product
CSW-47	6-Aug-09	22.6	23.26	0.66		Initial reading before bailing
CSW-47	6-Aug-09	23.01	23.45	0.44	1.00	Reading after removing 1 gallon of product
CSW-47	11-Aug-09	22	22.97	0.97		Need to Bail
CSW-47	13-Aug-09	22.25	23.15	0.9		Need to Bail
CSW-47	17-Aug-09	22.1	23.2	1.1		Need to Bail
CSW-47	18-Aug-09	22.78	23.02	0.24		
CSW-47	19-Aug-09	22.49	23.15	0.66		
CSW-47	20-Aug-09	21.75	23.02	1.27		
CSW-47	21-Aug-09	21.71	23.19	1.48		
CSW-47	26-Aug-09	24	24.93	0.93		Initial reading before bailing
CSW-47	27-Aug-09	23.4	23.81	0.41	3.00	Reading after removing 3 gallons of product
CSW-47	28-Aug-09	21.8	23.2	1.4		Initial reading before bailing
CSW-47	28-Aug-09	23.61	24.02	0.41	2.00	Reading after removing 2 gallons of product
CSW-47	31-Aug-09	21.72	24.02	2.3		Initial reading before bailing
CSW-47	31-Aug-09	23.97	24.41	0.44	3.00	Reading after removing 3 gallons of product
CSW-47	2-Sep-09	22.6	24.44	1.84		Initial reading before bailing
CSW-47	2-Sep-09	23.31	23.8	0.49	3.00	Reading after removing 3 gallons of product
CSW-47	4-Sep-09	22.85	24.7	1.85		Need to Bail
CSW-47	4-Sep-09	22.68	24.79	2.11		Initial reading before bailing
CSW-47	4-Sep-09	25.76	26.29	0.53	3.00	Reading after removing 3 gallons of product
CSW-47	8-Sep-09	23.55	25.4	1.85		Need to Bail
CSW-47	9-Sep-09	23.9	25.91	2.01		Initial reading before bailing
CSW-47	9-Sep-09	26.9	26.96	0.06	4.00	Reading after removing 4 gallons of product
CSW-47	11-Sep-09	22.47	23.88	1.41		Initial reading before bailing
CSW-47	11-Sep-09	23.7	24.11	0.41	1.50	Reading after removing 1.5 gallons of product
CSW-47	21-Sep-09	22.52	25.46	2.94		Need to Bail
CSW-47	22-Sep-09	25.41	25.88	0.47	4.50	Reading after removing 4.5 gallons of product
CSW-47	28-Sep-09	22.78	24.15	1.37		Need to Bail
CSW-47	29-Sep-09	23.45	23.88	0.43	2.00	Reading after removing 2 gallons of product
CSW-47	16-Oct-09	24.79	26.74	1.95		Initial reading before bailing
CSW-47	16-Oct-09	25.98	27.25	1.27	2.00	Reading after removing 2 gallons of product
CSW-47	22-Oct-09	24.88	26	1.12		Initial reading before bailing
CSW-47	22-Oct-09	25.93	26.38	0.45	2.00	Reading after removing 2 gallons of product
CSW-47	30-Oct-09	25.21	25.71	0.5		Initial reading before bailing
CSW-47	30-Oct-09	25.36	25.8	0.44	0.25	Reading after removing 0.25 gallon of product
CSW-47	11-Nov-09	26.25	26.62	0.37		
CSW-47	18-Nov-09	24.25	24.67	0.42		

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-47	25-Nov-09	23.46	24.15	0.69		Initial reading before bailing
CSW-47	25-Nov-09	24.17	24.55	0.38	0.25	Reading after removing 0.25 gallon of product
CSW-47	1-Dec-09	23.55	25.7	2.15		Initial reading before bailing
CSW-47	1-Dec-09	25.76	26.18	0.42	3.00	Reading after removing 3 gallons of product
CSW-47	16-Dec-09	24.86	27.37	2.51		Initial reading before bailing
CSW-47	16-Dec-09	28.58	28.87	0.29	3.00	Reading after removing 3 gallons of product
CSW-47	23-Dec-09	25.08	25.85	0.77		Initial reading before bailing
CSW-47	23-Dec-09	25.82	26.2	0.38	1.00	Reading after removing 1 gallon of product
CSW-47	30-Dec-09	25.25	25.68	0.43		
CSW-47	4-Jan-10	25.15	26.12	0.97		Initial reading before bailing
CSW-47	5-Jan-10	25.73	26.2	0.47	1.00	Reading after removing 1 gallon of product
CSW-47	14-Jan-10	23.96	27.49	3.53		Initial reading before bailing
CSW-47	14-Jan-10	27.36	27.75	0.39	5.00	Reading after removing 5 gallons of product
CSW-47	4-Feb-10	24.16	24.27	0.11		
CSW-47	10-Feb-10	23.44	23.47	0.03		
CSW-47	18-Feb-10	22.65	22.67	0.02		
CSW-47	24-Feb-10	22.1	22.12	0.02		
CSW-47	4-Mar-10	21.88	21.93	0.05		
CSW-47	30-Mar-10	23.77	23.96	0.19		
CSW-47	20-Apr-10	23.36	23.48	0.12		
CSW-47	3-May-10	23.26	23.35	0.09		
CSW-47	19-May-10	22.51	22.57	0.06		
CSW-48	10-Jul-09	24.06	24.06	0		
CSW-48	6-Aug-09	25.31	25.31	0		
CSW-48	13-Aug-09	25.68	25.68	0		Baseline for air injection
CSW-48	17-Aug-09	21.35	21.35	0		First day of air injection
CSW-48	18-Aug-09	25.6	25.6	0		
CSW-48	19-Aug-09	24.5	24.5	0		
CSW-48	20-Aug-09	25.7	25.7	0		
CSW-48	21-Aug-09	24.15	24.15	0		
CSW-48	26-Aug-09	25.95	25.95	0		
CSW-48	11-Sep-09	26.3	26.3	0		
CSW-48	28-Sep-09	26.5	26.5	0		
CSW-48	16-Oct-09	26.22	26.22	0		
CSW-48	11-Nov-09	26.6	26.6	0		
CSW-48	1-Dec-09	26.32	26.32	0		
CSW-48	4-Jan-10	26.06	26.06	0		
CSW-48	10-Feb-10	20.75	20.75	0		
CSW-48	4-Mar-10	21.82	21.82	0		
CSW-48	20-Apr-10	23.35	23.35	0		
CSW-48	19-May-10	24.54	24.54	0		
CSW-49	10-Jul-09	23.52	23.52	0		
CSW-49	6-Aug-09	23.58	23.58	0		
CSW-49	13-Aug-09	23.6	23.6	0		Baseline for air injection
CSW-49	17-Aug-09	23.65	23.65	0		First day of air injection
CSW-49	18-Aug-09	24.68	24.68	0		
CSW-49	19-Aug-09	23.7	23.7	0		
CSW-49	20-Aug-09	23.7	23.7	0		
CSW-49	21-Aug-09	24.7	24.7	0		
CSW-49	26-Aug-09	23.56	23.56	0		
CSW-49	4-Sep-09	23.61	23.61	0		
CSW-49	11-Sep-09	23.52	23.52	0		
CSW-49	28-Sep-09	23.74	23.74	0		
CSW-49	16-Oct-09	23.76	23.76	0		
CSW-49	11-Nov-09	23.86	23.86	0		
CSW-49	1-Dec-09	23.91	23.91	0		
CSW-49	4-Jan-10	23.95	23.95	0		
CSW-49	10-Feb-10	23.2	23.2	0		
CSW-49	4-Mar-10	22.79	22.79	0		
CSW-49	20-Apr-10	22.54	22.54	0		
CSW-49	3-May-10	22.62	22.62	0		
CSW-49	19-May-10	22.45	22.45	0		
CSW-50	10-Jul-09	23.98	23.98	0		
CSW-50	6-Aug-09	23.96	23.96	0		
CSW-50	13-Aug-09	23.81	23.81	0		Baseline for air injection
CSW-50	17-Aug-09	24.15	24.15	0		First day of air injection
CSW-50	18-Aug-09	24.2	24.2	0		
CSW-50	19-Aug-09	24.04	24.04	0		
CSW-50	20-Aug-09	24.03	24.03	0		
CSW-50	21-Aug-09	24.08	24.08	0		
CSW-50	26-Aug-09	23.95	23.95	0		
CSW-50	4-Sep-09	24.95	24.95	0		
CSW-50	11-Sep-09	24.05	24.05	0		
CSW-50	28-Sep-09	24.27	24.27	0		
CSW-50	16-Oct-09	24.25	24.25	0		
CSW-50	11-Nov-09	24.4	24.4	0		
CSW-50	1-Dec-09	24.53	24.53	0		
CSW-50	4-Jan-10	24.51	24.51	0		

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-50	10-Feb-10	23.54	23.54	0		
CSW-50	4-Mar-10	23.24	23.24	0		
CSW-50	20-Apr-10	23	23	0		
CSW-50	3-May-10	22.87	22.87	0		
CSW-50	19-May-10	22.91	22.91	0		
CSW-51	10-Jul-09	23.71	23.96	0.25		
CSW-51	17-Jul-09	23.81	24.12	0.31		
CSW-51	31-Jul-09	22.69	23.15	0.46		
CSW-51	6-Aug-09	22.55	23.13	0.58		Initial reading before bailing
CSW-51	6-Aug-09	22.92	23.31	0.39	1.00	Reading after removing 1 gallon of product
CSW-51	11-Aug-09	22.11	22.62	0.51		need to bail
CSW-51	13-Aug-09	22.01	22.68	0.67		need to bail
CSW-51	17-Aug-09	21.88	22.52	0.64		need to bail
CSW-51	18-Aug-09	21.78	22.51	0.73		
CSW-51	19-Aug-09	22.18	22.57	0.39		
CSW-51	20-Aug-09	21.69	22.41	0.72		
CSW-51	21-Aug-09	21.63	22.45	0.82		
CSW-51	26-Aug-09	24.01	24.46	0.45		Initial reading before bailing
CSW-51	27-Aug-09	22.98	23.43	0.45	1.50	Reading after removing 1.5 gallons of product
CSW-51	28-Aug-09	22.2	22.85	0.65		Initial reading before bailing
CSW-51	28-Aug-09	23.81	24.25	0.44	1.00	Reading after removing 1 gallon of product
CSW-51	31-Aug-09	22.58	23.21	0.63		Initial reading before bailing
CSW-51	31-Aug-09	23.08	23.54	0.46	0.50	Reading after removing 0.5 gallons of product
CSW-51	2-Sep-09	23.3	23.85	0.55		Initial reading before bailing
CSW-51	2-Sep-09	23.7	24.08	0.38	0.25	Reading after removing 0.25 gallons of product
CSW-51	4-Sep-09	23	23.42	0.42		
CSW-51	4-Sep-09	22.98	23.42	0.44		
CSW-51	8-Sep-09	22.92	23.4	0.48		
CSW-51	9-Sep-09	23.85	24.14	0.29		
CSW-51	11-Sep-09	22.4	22.97	0.57		Initial reading before bailing
CSW-51	11-Sep-09	23.67	24.06	0.39	0.50	Reading after removing 0.5 gallons of product
CSW-51	21-Sep-09	22.6	23.36	0.76		
CSW-51	22-Sep-09	24.41	24.84	0.43	1.00	Reading after removing 1 gallon of product
CSW-51	28-Sep-09	22.41	23.47	1.06		
CSW-51	29-Sep-09	23.32	23.76	0.44	2.00	Reading after removing 2 gallons of product
CSW-51	16-Oct-09	24.4	25.2	0.8		Initial reading before bailing
CSW-51	16-Oct-09	24.79	25.54	0.75	1.00	Reading after removing 1 gallon of product
CSW-51	22-Oct-09	24.42	25.22	0.8		Initial reading before bailing
CSW-51	22-Oct-09	25.03	25.46	0.43	1.00	Reading after removing 1 gallon of product
CSW-51	30-Oct-09	24.45	25.38	0.93		Initial reading before bailing
CSW-51	30-Oct-09	25.22	25.68	0.46	1.00	Reading after removing 1 gallon of product
CSW-51	11-Nov-09	24.48	25.49	1.01		Initial reading before bailing
CSW-51	11-Nov-09	25.31	25.78	0.47	1.50	Reading after removing 1.5 gallons of product
CSW-51	18-Nov-09	24.5	25.5	1		Initial reading before bailing
CSW-51	18-Nov-09	25.36	25.8	0.44	1.50	Reading after removing 1.5 gallons of product
CSW-51	25-Nov-09	23.15	24.92	1.77		Initial reading before bailing
CSW-51	25-Nov-09	24.95	25.41	0.46	2.00	Reading after removing 2 gallons of product
CSW-51	1-Dec-09	23.45	25.44	1.99		Initial reading before bailing
CSW-51	1-Dec-09	25.41	25.79	0.38	3.00	Reading after removing 3 gallons of product
CSW-51	16-Dec-09	24.01	25.1	1.09		Initial reading before bailing
CSW-51	16-Dec-09	25.43	25.76	0.33	3.00	Reading after removing 3 gallons of product
CSW-51	23-Dec-09	24.6	25.65	1.05		Initial reading before bailing
CSW-51	23-Dec-09	25.36	25.78	0.42	2.00	Reading after removing 2 gallons of product
CSW-51	30-Dec-09	24.65	25.6	0.95		Initial reading before bailing
CSW-51	30-Dec-09	25.32	25.78	0.46	1.50	Reading after removing 1.5 gallons of product
CSW-51	4-Jan-10	24.58	25.66	1.08		Initial reading before bailing
CSW-51	5-Jan-10	25.3	25.75	0.45	1.50	Reading after removing 1.5 gallons of product
CSW-51	14-Jan-10	24.14	25.6	1.46		Initial reading before bailing
CSW-51	14-Jan-10	25.32	25.79	0.47	2.50	Reading after removing 2.5 gallons of product
CSW-51	4-Feb-10	23.5	23.61	0.11		
CSW-51	10-Feb-10	24.05	24.23	0.18		
CSW-51	18-Feb-10	23.51	23.82	0.31		
CSW-51	24-Feb-10	23.28	23.66	0.38		
CSW-51	4-Mar-10	23.22	23.64	0.42		
CSW-51	18-Mar-10	23.36	23.84	0.48		Initial reading before bailing
CSW-51	18-Mar-10	23.47	23.88	0.41	0.25	Reading after removing 0.25 gallons of product
CSW-51	30-Mar-10	23.62	24.08	0.46		
CSW-51	20-Apr-10	22.78	22.87	0.09		
CSW-51	3-May-10	23.47	23.52	0.05		
CSW-51	19-May-10	22.28	22.34	0.06		
CSW-52	10-Jul-09	0	0	0		water to top of casing
CSW-52	6-Aug-09	0	0	0		water to top of casing
CSW-52	13-Aug-09	0	0	0		water to top of casing
CSW-52	17-Aug-09	0	0	0		water to top of casing
CSW-52	18-Aug-09	0	0	0		water to top of casing
CSW-52	19-Aug-09	0	0	0		water to top of casing
CSW-52	20-Aug-09	0	0	0		water to top of casing
CSW-52	21-Aug-09	0	0	0		water to top of casing

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-52	26-Aug-09	0	0	0		water to top of casing
CSW-52	2-Sep-09	0	0	0		water to top of casing
CSW-52	11-Sep-09	0	0	0		water to top of casing
CSW-52	16-Oct-09	21.31	21.31	0		
CSW-52	1-Dec-09	0	0	0		Dry
CSW-52	4-Jan-10	0	0	0		
CSW-52	10-Feb-10	0	0	0		Dry
CSW-52	4-Mar-10	0	0	0		Dry
CSW-53	10-Jul-09	23.54	23.54	0		
CSW-53	6-Aug-09	23.67	23.74	0.07		
CSW-53	13-Aug-09	23.65	23.7	0.05		Baseline for air injection
CSW-53	17-Aug-09	23.6	23.65	0.05		First day of air injection
CSW-53	18-Aug-09	23.53	23.58	0.05		
CSW-53	19-Aug-09	23.5	23.53	0.03		
CSW-53	20-Aug-09	23.56	23.61	0.05		
CSW-53	21-Aug-09	23.58	23.62	0.04		
CSW-53	26-Aug-09	23.52	23.54	0.02		
CSW-53	4-Sep-09	23.5	23.5	0		
CSW-53	11-Sep-09	23.65	23.65	0		
CSW-53	28-Sep-09	23.83	23.83	0		Product smell and color
CSW-53	16-Oct-09	23.44	23.45	0.01		
CSW-53	11-Nov-09	24.01	24.01	0		Product smelling substance on meter
CSW-53	1-Dec-09	24.19	24.22	0.03		
CSW-53	4-Jan-10	24.1	24.12	0.02		
CSW-53	10-Feb-10	23.25	23.25	0		
CSW-53	4-Mar-10	22.94	22.96	0.02		
CSW-53	20-Apr-10	22.89	22.89	0		
CSW-53	3-May-10	22.7	22.73	0.03		
CSW-53	19-May-10	22.76	22.76	0		
CSW-54	10-Jul-09	0	0	0		Dry
CSW-54	6-Aug-09	0	0	0		Dry
CSW-54	13-Aug-09	0	0	0		Dry
CSW-54	17-Aug-09	0	0	0		Dry
CSW-54	18-Aug-09	0	0	0		Dry
CSW-54	19-Aug-09	0	0	0		Dry
CSW-54	20-Aug-09	0	0	0		Dry
CSW-54	21-Aug-09	0	0	0		Dry
CSW-54	26-Aug-09	0	0	0		Dry
CSW-54	4-Sep-09	0	0	0		Dry
CSW-54	11-Sep-09	0	0	0		Dry
CSW-54	28-Sep-09	0	0	0		Dry
CSW-54	16-Oct-09	0	0	0		Dry
CSW-54	11-Nov-09	0	0	0		Dry
CSW-54	1-Dec-09	0	0	0		Dry
CSW-54	4-Jan-10	0	0	0		Dry
CSW-54	10-Feb-10	0	0	0		Dry
CSW-54	4-Mar-10	0	0	0		Dry
CSW-55	10-Jul-09	25.26	27.2	1.94		Initial reading before bailing
CSW-55	10-Jul-09	26.41	26.41	0	2.00	Reading after removing 2 gallons of product
CSW-55	17-Jul-09	25.45	25.83	0.38		
CSW-55	31-Jul-09	25.28	25.74	0.46		
CSW-55	6-Aug-09	25.36	25.85	0.49		
CSW-55	11-Aug-09	25.61	26.19	0.58		Need to bail
CSW-55	13-Aug-09	22.75	24.1	1.35		Need to bail
CSW-55	17-Aug-09	24.8	24.8	0		
CSW-55	18-Aug-09	21.92	22.13	0.21		
CSW-55	19-Aug-09	20.1	20.36	0.26		
CSW-55	20-Aug-09	16	16	0		DTW fluctuating around 16 feet
CSW-55	21-Aug-09	17	17	0		DTW fluctuating between 16 and 18 feet
CSW-55	26-Aug-09	16	16	0		DTW fluctuating around 16 feet
CSW-55	31-Aug-09	30	30	0		Foamy and aerated. DTW fluctuating around 30 feet
CSW-55	2-Sep-09	30	30	0		Foamy and aerated. DTW fluctuating around 30 feet
CSW-55	4-Sep-09	20.9	20.9	0		DTW fluctuating
CSW-55	8-Sep-09	29.9	29.9	0		
CSW-55	9-Sep-09	27	27	0		Loud churning water
CSW-55	11-Sep-09	27.3	27.3	0		Near bottom of well
CSW-55	28-Sep-09	26.57	26.82	0.25		
CSW-55	16-Oct-09	25.42	28.87	3.45		Initial reading before bailing
CSW-55	16-Oct-09	22.97	26.5	3.53	3.00	Reading after removing 3 gallons of product
CSW-55	22-Oct-09	25.73	29.01	3.28		Initial reading before bailing
CSW-55	22-Oct-09	27.55	27.69	0.14	1.00	Reading after removing 1 gallon of product
CSW-55	30-Oct-09	26.15	29.34	3.19		Initial reading before bailing
CSW-55	30-Oct-09	29.38	29.69	0.31	1.00	Reading after removing 1 gallon of product
CSW-55	11-Nov-09	26.06	29.35	3.29		Initial reading before bailing
CSW-55	11-Nov-09	27.5	27.76	0.26	2.00	Reading after removing 2 gallons of product
CSW-55	18-Nov-09	26.2	29.12	2.92		Initial reading before bailing
CSW-55	18-Nov-09	28.6	28.91	0.31	2.00	Reading after removing 2 gallons of product
CSW-55	25-Nov-09	26.2	29.21	3.01		Initial reading before bailing

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-55	25-Nov-09	28.01	28.4	0.39	1.50	Reading after removing 1.5 gallons of product
CSW-55	1-Dec-09	26.2	29.15	2.95		Initial reading before bailing
CSW-55	1-Dec-09	27.35	27.6	0.25	1.00	Reading after removing 1 gallon of product
CSW-55	16-Dec-09	25.62	28.91	3.29		Initial reading before bailing
CSW-55	16-Dec-09	26.35	30.45	4.1	5.00	Reading after removing 5 gallons of product
CSW-55	23-Dec-09	23.7	28.9	5.2		Initial reading before bailing
CSW-55	23-Dec-09	27.2	27.3	0.1	2.00	Reading after removing 2 gallons of product
CSW-55	30-Dec-09	25.7	29	3.3		Initial reading before bailing
CSW-55	30-Dec-09	27.8	27.83	0.03	1.50	Reading after removing 1.5 gallons of product
CSW-55	4-Jan-10	25.8	29.02	3.22		Initial reading before bailing
CSW-55	5-Jan-10	27.55	27.6	0.05	1.00	Reading after removing 1 gallon of product
CSW-55	14-Jan-10	25.7	28.91	3.21		Initial reading before bailing
CSW-55	14-Jan-10	27.4	27.5	0.1	0.50	Reading after removing 0.5 gallon of product
CSW-55	4-Feb-10	21.87	25.05	3.18		Initial reading before bailing
CSW-55	4-Feb-10	23.1	23.39	0.29	1.00	Reading after removing 1 gallon of product
CSW-55	10-Feb-10	21.05	22.2	1.15		Initial reading before bailing
CSW-55	10-Feb-10	22.23	22.37	0.14	0.50	Reading after removing 0.5 gallon of product
CSW-55	18-Feb-10	22.4	24.01	1.61		Initial reading before bailing
CSW-55	18-Feb-10	23.8	23.98	0.18	0.50	Reading after removing 0.5 gallon of product
CSW-55	24-Feb-10	23.35	24.41	1.06		
CSW-55	4-Mar-10	22.3	23.71	1.41		Initial reading before bailing
CSW-55	4-Mar-10	24.09	24.2	0.11	0.50	Reading after removing 0.5 gallon of product
CSW-55	4-Mar-10	22.3	23.71	1.41		
CSW-55	18-Mar-10	23.01	27.25	4.24		Initial reading before bailing
CSW-55	18-Mar-10	25.4	25.45	0.05	1.00	Reading after removing 1 gallon of product
CSW-55	30-Mar-10	24.08	28.3	4.22		Initial reading before bailing
CSW-55	30-Mar-10	26.61	26.8	0.19	1.00	Reading after removing 1 gallon of product
CSW-55	20-Apr-10	22.2	28.85	6.65		Initial reading before bailing
CSW-55	20-Apr-10	23.9	23.9	0	5.00	Reading after removing 5 gallons of product
CSW-55	3-May-10	23.42	23.68	0.26		
CSW-55	19-May-10	24.61	24.87	0.26		
CSW-56	10-Jul-09	24.97	24.97	0		
CSW-56	6-Aug-09	24.9	24.9	0		
CSW-56	13-Aug-09	25.16	25.16	0		Baseline for air injection
CSW-56	17-Aug-09	26.35	26.35	0		First day of air injection
CSW-56	18-Aug-09	26.8	26.8	0		
CSW-56	19-Aug-09	27.2	27.2	0		
CSW-56	20-Aug-09	26.82	26.82	0		
CSW-56	21-Aug-09	28.2	28.2	0		
CSW-56	26-Aug-09	26.9	26.9	0		
CSW-56	11-Sep-09	26.7	26.7	0		
CSW-56	28-Sep-09	26.28	26.28	0		
CSW-56	16-Oct-09	25.87	25.87	0		
CSW-56	11-Nov-09	26.05	26.05	0		
CSW-56	1-Dec-09	26.11	26.11	0		
CSW-56	4-Jan-10	25.77	25.77	0		
CSW-56	10-Feb-10	20.97	20.97	0		
CSW-56	4-Mar-10	22.05	22.05	0		
CSW-56	20-Apr-10	23.43	23.43	0		
CSW-56	3-May-10	22.87	22.87	0		
CSW-56	19-May-10	24.43	24.43	0		
CSW-57	10-Jul-09	25.6	25.6	0		
CSW-57	6-Aug-09	25.49	25.49	0		
CSW-57	13-Aug-09	25.82	25.82	0		Baseline for air injection
CSW-57	17-Aug-09	24.15	24.15	0		First day of air injection
CSW-57	18-Aug-09	34.31	34.31	0		Dry at 34.31 feet.
CSW-57	19-Aug-09	34.35	34.35	0		Dry at 34.35 feet
CSW-57	20-Aug-09	34.35	34.35	0		Dry at 34.35 feet
CSW-57	21-Aug-09	34.31	34.31	0		Dry at 34.31 feet.
CSW-57	26-Aug-09	30.05	30.05	0		
CSW-57	11-Sep-09	32.7	32.7	0		Recovered to 25.72 after 1 day of no AS
CSW-57	28-Sep-09	26.41	26.41	0		
CSW-57	16-Oct-09	26.17	26.17	0		
CSW-57	11-Nov-09	26.47	26.47	0		
CSW-57	1-Dec-09	26.36	26.36	0		
CSW-57	4-Jan-10	28.91	28.91	0		
CSW-57	10-Feb-10	21.58	21.78	0.2		
CSW-57	4-Mar-10	22.39	22.45	0.06		
CSW-57	20-Apr-10	23.75	23.8	0.05		
CSW-57	3-May-10	23.67	23.72	0.05		
CSW-57	19-May-10	24.7	24.75	0.05		
CSW-58	10-Jul-09	24.87	24.87	0		
CSW-58	6-Aug-09	24.45	24.45	0		
CSW-58	13-Aug-09	25	25	0		Baseline for air injection
CSW-58	17-Aug-09	24.65	24.65	0		First day of air injection
CSW-58	18-Aug-09	24.92	24.92	0		
CSW-58	19-Aug-09	25.08	25.08	0		
CSW-58	20-Aug-09	24.81	24.81	0		

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-58	21-Aug-09	24.8	24.8	0		
CSW-58	26-Aug-09	25.25	25.25	0		
CSW-58	4-Sep-09	25.05	25.05	0		
CSW-58	11-Sep-09	24.21	24.21	0		
CSW-58	28-Sep-09	25.55	25.55	0		
CSW-58	16-Oct-09	25.2	25.2	0		
CSW-58	11-Nov-09	24.68	24.68	0		
CSW-58	1-Dec-09	24.4	24.4	0		
CSW-58	4-Jan-10	0	0	0		
CSW-58	10-Feb-10	0	0	0		
CSW-59	10-Jul-09	24.02	24.02	0		
CSW-59	6-Aug-09	24.04	24.04	0		
CSW-59	13-Aug-09	24.1	24.1	0		Baseline for air injection
CSW-59	17-Aug-09	24.2	24.2	0		First day of air injection
CSW-59	18-Aug-09	23.94	23.94	0		
CSW-59	19-Aug-09	24.3	24.3	0		
CSW-59	20-Aug-09	23.45	23.45	0		
CSW-59	21-Aug-09	23.97	23.97	0		
CSW-59	26-Aug-09	23.98	23.98	0		
CSW-59	4-Sep-09	23.94	23.94	0		
CSW-59	11-Sep-09	24.05	24.05	0		
CSW-59	28-Sep-09	24.3	24.3	0		
CSW-59	16-Oct-09	24.24	24.24	0		
CSW-59	11-Nov-09	24.38	24.38	0		
CSW-59	1-Dec-09	24.5	24.5	0		
CSW-59	4-Jan-10	24.46	24.46	0		
CSW-59	10-Feb-10	23.1	23.1	0		
CSW-59	4-Mar-10	23.07	23.07	0		
CSW-59	20-Apr-10	23.31	23.31	0		
CSW-59	3-May-10	23.21	23.21	0		
CSW-59	19-May-10	23.42	23.42	0		
CSW-60	10-Jul-09	25.54	25.75	0.21		
CSW-60	17-Jul-09	25.48	25.72	0.24		
CSW-60	31-Jul-09	25.39	25.54	0.15		
CSW-60	6-Aug-09	25.45	25.61	0.16		
CSW-60	11-Aug-09	25.74	25.89	0.15		
CSW-60	13-Aug-09	25.78	25.96	0.18		Baseline for air injection
CSW-60	17-Aug-09	25.47	25.62	0.15		First day of air injection
CSW-60	18-Aug-09	23.65	23.7	0.05		
CSW-60	19-Aug-09	23.61	23.61	0		
CSW-60	20-Aug-09	23.71	23.8	0.09		
CSW-60	21-Aug-09	22.89	22.89	0		DTW fluctuating - not stable
CSW-60	26-Aug-09	30.05	30.26	0.21		Hit sand at bottom of well
CSW-60	27-Aug-09	30	30	0		Unstable readings - some product present
CSW-60	28-Aug-09	30	30	0		Unstable readings - some product present
CSW-60	31-Aug-09	26.06	26.06	0		Dry at 26.06
CSW-60	2-Sep-09	26.06	26.06	0		Dry at 26.06
CSW-60	4-Sep-09	30.14	30.14	0		
CSW-60	8-Sep-09	27.6	27.6	0		
CSW-60	9-Sep-09	28.15	28.15	0		
CSW-60	11-Sep-09	29	29.1	0.1		
CSW-60	21-Sep-09	26.42	26.87	0.45		
CSW-60	28-Sep-09	26.52	26.9	0.38		
CSW-60	16-Oct-09	26.2	26.65	0.45		
CSW-60	22-Oct-09	26.21	26.72	0.51		Initial reading before bailing
CSW-60	22-Oct-09	26.85	27.03	0.18	0.25	Reading after removing 0.25 gallon of product
CSW-60	30-Oct-09	26.6	26.93	0.33		
CSW-60	11-Nov-09	25.72	26.01	0.29		
CSW-60	1-Dec-09	26.6	27.05	0.45		
CSW-60	4-Jan-10	26.12	27.55	1.43		
CSW-60	14-Jan-10	26.1	27.49	1.39		Initial reading before bailing
CSW-60	14-Jan-10	27.3	27.37	0.07	0.25	Reading after removing 0.25 gallon of product
CSW-60	4-Feb-10	21.41	23.47	2.06		Initial reading before bailing
CSW-60	4-Feb-10	23.42	23.68	0.26	0.50	Reading after removing 0.5 gallon of product
CSW-60	10-Feb-10	21.25	21.64	0.39		
CSW-60	18-Feb-10	22.71	23.45	0.74		Initial reading before bailing
CSW-60	18-Feb-10	23.87	24.03	0.16	0.25	Reading after removing 0.25 gallon of product
CSW-60	24-Feb-10	22.87	23.32	0.45		
CSW-60	4-Mar-10	22.21	23.45	1.24		Initial reading before bailing
CSW-60	4-Mar-10	24.04	24.09	0.05	0.25	Reading after removing 0.25 gallon of product
CSW-60	18-Mar-10	23.78	24.95	1.17		Initial reading before bailing
CSW-60	18-Mar-10	26.15	26.23	0.08	0.50	Reading after removing 0.5 gallon of product
CSW-60	30-Mar-10	24.58	26.03	1.45		Initial reading before bailing
CSW-60	30-Mar-10	27.05	27.2	0.15	0.25	Reading after removing 0.25 gallon of product
CSW-60	20-Apr-10	23.18	25.73	2.55		Initial reading before bailing
CSW-60	20-Apr-10	26.9	26.9	0	3.00	Reading after removing 3 gallons of product
CSW-60	3-May-10	23.51	24.17	0.66		Initial reading before bailing
CSW-60	3-May-10	24.21	24.26	0.05	0.25	Reading after removing 0.25 gallon of product

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-60	19-May-10	24.5	25.55	1.05		
CSW-61	10-Jul-09	25.42	25.42	0		
CSW-61	6-Aug-09	25.35	25.35	0		
CSW-61	13-Aug-09	25.63	25.63	0		Baseline for air injection
CSW-61	17-Aug-09	25.63	25.63	0		First day of air injection
CSW-61	18-Aug-09	25.2	25.2	0		
CSW-61	19-Aug-09	25.28	25.28	0		
CSW-61	20-Aug-09	25.22	25.22	0		
CSW-61	21-Aug-09	25.3	25.3	0		
CSW-61	26-Aug-09	25.58	25.58	0		
CSW-61	4-Sep-09	25.3	25.3	0		
CSW-61	11-Sep-09	25.52	25.52	0		
CSW-61	28-Sep-09	26.23	26.23	0		
CSW-61	16-Oct-09	26.36	26.36	0		
CSW-61	11-Nov-09	26.73	26.73	0		
CSW-61	1-Dec-09	26.71	26.71	0		
CSW-61	4-Jan-10	26.23	26.23	0		
CSW-61	10-Feb-10	21.64	21.64	0		
CSW-61	4-Mar-10	22.6	22.6	0		
CSW-61	20-Apr-10	16.09	16.09	0		
CSW-61	3-May-10	23.63	23.63	0		
CSW-61	19-May-10	24.63	24.63	0		
CSW-62	10-Jul-09	24.53	24.53	0		
CSW-62	6-Aug-09	24.45	24.45	0		
CSW-62	13-Aug-09	24.71	24.71	0		Baseline for air injection
CSW-62	17-Aug-09	24.63	24.63	0		First day of air injection
CSW-62	18-Aug-09	24.56	24.56	0		
CSW-62	19-Aug-09	26.25	26.25	0		
CSW-62	20-Aug-09	25.01	25.01	0		
CSW-62	21-Aug-09	24.68	24.68	0		
CSW-62	26-Aug-09	26.28	26.28	0		
CSW-62	4-Sep-09	26.28	26.28	0		
CSW-62	11-Sep-09	0	0	0		Dry at 26.24
CSW-62	28-Sep-09	25.42	25.42	0		
CSW-62	16-Oct-09	25.26	25.26	0		
CSW-62	11-Nov-09	25.4	25.4	0		
CSW-62	1-Dec-09	25.72	25.72	0		
CSW-62	4-Jan-10	0	0	0		
CSW-62	10-Feb-10	0	0	0		
CSW-63	10-Jul-09	25.33	25.33	0		
CSW-63	17-Jul-09	25.27	25.38	0.11		
CSW-63	31-Jul-09	25.14	25.26	0.12		
CSW-63	6-Aug-09	25.24	25.36	0.12		
CSW-63	11-Aug-09	25.56	25.68	0.12		
CSW-63	13-Aug-09	25.62	25.73	0.11		Baseline for air injection
CSW-63	17-Aug-09	25.22	25.35	0.13		First day of air injection
CSW-63	18-Aug-09	24.96	25.27	0.31		
CSW-63	19-Aug-09	25.18	25.61	0.43		
CSW-63	20-Aug-09	25.32	25.8	0.48		
CSW-63	21-Aug-09	25.14	25.87	0.73		
CSW-63	26-Aug-09	27	27	0		
CSW-63	28-Aug-09	23.58	23.58	0		
CSW-63	31-Aug-09	25.68	25.68	0		
CSW-63	2-Sep-09	26.55	26.55	0		
CSW-63	4-Sep-09	25.42	25.42	0		
CSW-63	8-Sep-09	25.9	25.92	0.02		
CSW-63	9-Sep-09	25.9	25.9	0		
CSW-63	11-Sep-09	25.97	25.99	0.02		
CSW-63	21-Sep-09	26.2	26.22	0.02		
CSW-63	28-Sep-09	26.37	26.4	0.03		
CSW-63	16-Oct-09	26.1	26.1	0		
CSW-63	30-Oct-09	26.53	26.6	0.07		
CSW-63	11-Nov-09	26.59	26.62	0.03		
CSW-63	1-Dec-09	26.51	26.55	0.04		
CSW-63	4-Jan-10	26.25	26.33	0.08		
CSW-63	10-Feb-10	21.08	21.18	0.1		Initial reading before bailing
CSW-63	4-Mar-10	21.97	22.06	0.09		Reading after removing 1.2 gallons of product
CSW-63	20-Apr-10	23.46	23.58	0.12		
CSW-63	3-May-10	23.38	23.5	0.12		Initial reading before bailing
CSW-63	19-May-10	24.55	24.65	0.1		Reading after removing 1.5 gallons of product
CSW-65	10-Jul-09	26.09	26.09	0		
CSW-65	6-Aug-09	25.98	25.98	0		
CSW-65	13-Aug-09	26.35	26.35	0		
CSW-65	17-Aug-09	20	20	0		Water level unstable and fluctuating
CSW-65	18-Aug-09	10	10	0		Water level unstable and fluctuating
CSW-65	19-Aug-09	23.9	23.9	0		
CSW-65	20-Aug-09	20.5	20.5	0		Water level unstable and fluctuating

Well ID	Date	Product Level (ft - bmp)	Groundwater Level (ft - bmp)	Product Thickness (ft)	Product Removed (gal)	Comment
CSW-65	21-Aug-09	20	20	0		Water level unstable and fluctuating
CSW-65	26-Aug-09	25.7	25.7	0		
CSW-65	4-Sep-09	20	20	0		
CSW-65	11-Sep-09	0	0	0		Water coming out of well - pulsing out of top of casing
CSW-65	28-Sep-09	27.1	27.1	0		
CSW-65	16-Oct-09	26.88	26.88	0		
CSW-65	11-Nov-09	26.85	26.85	0		
CSW-65	1-Dec-09	27.26	27.26	0		
CSW-65	4-Jan-10	25.95	26.05	0.1		
CSW-65	10-Feb-10	20.38	20.38	0		
CSW-65	18-Feb-10	22.68	23.12	0.44		
CSW-65	18-Feb-10	23.02	23.09	0.07	0.25	
CSW-65	4-Mar-10	22.6	22.6	0		
CSW-66	10-Jul-09	25.56	25.56	0		
CSW-66	6-Aug-09	25.45	25.45	0		
CSW-66	13-Aug-09	25.82	25.82	0		Baseline for air injection
CSW-66	17-Aug-09	25.64	25.64	0		First day of air injection
CSW-66	18-Aug-09	25.7	25.7	0		
CSW-66	19-Aug-09	25.74	25.74	0		
CSW-66	20-Aug-09	25.78	25.78	0		
CSW-66	21-Aug-09	25.81	25.81	0		
CSW-66	26-Aug-09	26.06	26.06	0		
CSW-66	26-Sep-09	26.02	26.02	0		
CSW-66	11-Sep-09	26.21	26.21	0		
CSW-66	28-Sep-09	26.66	26.66	0		
CSW-66	16-Oct-09	26.39	26.39	0		
CSW-66	1-Dec-09	26.81	26.81	0		
CSW-66	16-Dec-09	27.11	29.91	2.8		
CSW-66	16-Dec-09	27.82	28.14	0.32	5	
CSW-66	4-Jan-10	26.31	26.31	0		
CSW-66	10-Feb-10	20.89	20.89	0		
CSW-66	4-Mar-10	21.95	21.95	0		
CSW-66	20-Apr-10	23.62	23.62	0		
CSW-66	3-May-10	23.65	23.65	0		
CSW-66	19-May-10	24.79	24.79	0		
				Total Product Removed =	**172.5**	

Key:
- = Not applicable
bgs = Below ground surface
ft = Feet
ft - bmp = Feet below measuring point
gal = Gallons
UTM = Unable to measure

APPENDIX F

TABLE 3
IMPACTS TO SOIL & GROUNDWATER OUTSIDE THE STUDY AREA

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1000 ALHAMBRA BLVD	SACRAMENTO	95816	ALHAMBRA DRY CLEANERS	SLIC	HJ3797	1000118203
1000 ALHAMBRA BLVD	SACRAMENTO	95816	ALHAMBRA DRY CLEANERS	ENVIROSTOR	HJ3797	1000118203
1005 B ST N	SACRAMENTO	95814	RALPH'S AND FARBER'S	LUST	FW3598	S107619891
1005 N B ST	SACRAMENTO	958110303	LEVEL 3 COMMUNICATIONS INC	Sacramento Co. CS	FW3583	S102317820
1013 D ST	SACRAMENTO	95814	CRYSTAL CREAM AND BUTTER CO	Sacramento Co. CS	CZ2978	1000904834
1013 D ST	SACRAMENTO	95814	CRYSTAL CREAM AND BUTTER CO	HIST CORTESE	CZ2978	1000904834
1013 D ST	SACRAMENTO	95814	CRYSTAL CREAM AND BUTTER CO	LUST	CZ2978	1000904834
1013 D ST	SACRAMENTO	958140000	ALBERTSON INC	CHMIRS	CZ2976	S105082732
1020 N ST	SACRAMENTO	958145624	CALIF STATE OFFICE OF REPROGRAPHICS	HIST CORTESE	Y1596	S101300946
1020 N ST	SACRAMENTO	958145624	CALIF STATE OFFICE OF REPROGRAPHICS	LUST	Y1596	S101300946
1020 N ST	SACRAMENTO		STATE OF CALIF OFFICE BLDG	Sacramento Co. CS	Y1593	S105453940
1020 O ST	SACRAMENTO	95814	STATE OF CALIFORNIA/C/O OPDM	Sacramento Co. CS	AH1887	S101300950
1020 O ST	SACRAMENTO	95814	STATE OF CALIFORNIA/C/O OPDM	HIST CORTESE	AH1887	S101300950
1020 O ST	SACRAMENTO	95814	STATE OF CALIFORNIA/C/O OPDM	LUST	AH1887	S101300950
1020 WEST CAPITOL AVE	W SACRAMENTO	95691	CENTER FOR SPIRITUAL AWARENESS	US BROWNFIELDS	GH3676	1009311467
1029 WEST CAPITOL AVE	W SACRAMENTO	95691	DHARMA BUDDHIST TEMPLE	US BROWNFIELDS	GH3671	1009311478
1030 2ND ST	SACRAMENTO			CHMIRS	AK1742	S105655928
1030 WEST CAPITOL AVE	W SACRAMENTO	95691	WEST WOOD MOTEL/SILVEY MOTEL	US BROWNFIELDS	GH3677	1009311592
1031 30TH ST	SACRAMENTO		CHEVRON #9-7022	Sacramento Co. CS	HJ3788	S103427257
1031 30TH ST	SACRAMENTO	95816	CHEVRON #9-7022 (AKA RELLES CHEVRON)	LUST	HJ3787	S109285036
1031 30TH ST	SACRAMENTO	958160000	ROSS W. RELLES INSURANCE SVC. INC	HIST CORTESE	HJ3789	S103620936
1031 30TH ST	SACRAMENTO	958160000	ROSS W. RELLES INSURANCE SVC. INC	LUST	HJ3789	S103620936
1040 SOUTH RIVER RD	W SACRAMENTO	95691	CALTRANS WEST SACRAMENTO YARD	LUST	GB3643	S104403950
1040 WEST CAPITOL AVE	W SACRAMENTO	95691	CASA MOBILE PLAZA 1	US BROWNFIELDS	GH3680	1009311465
1040 WEST CAPITOL AVE	W SACRAMENTO	95691	CASA MOBILE PLAZA 2	US BROWNFIELDS	GH3681	1009311466
1049 BROADWAY	SACRAMENTO	95818	SHELL OIL CO	HIST CORTESE	GR3687	1000288788
1049 BROADWAY	SACRAMENTO	95818	SHELL OIL CO	LUST	GR3687	1000288788
1049 BROADWAY	SACRAMENTO	92324	SHELL STATION (CLOSED)	Sacramento Co. CS	GR3688	S100179382
10TH & Q ST	RIO LINDA	95814	10TH & Q ST	ERNS	CA2346	91234562
10TH/ R ST	SACRAMENTO			CHMIRS	CP2631	S100279809
1101 BROADWAY	SACRAMENTO	95818	ARCO #4986	LUST	GR3694	S105557398
1101 BROADWAY	SACRAMENTO	95818	MAK'S SS (FORMER ARCO #49	Sacramento Co. CS	GR3692	S102424258
1101 BROADWAY	SACRAMENTO	95818	MAK'S SS (FORMER ARCO #49	HIST CORTESE	GR3692	S102424258

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1101 WEST CAPITOL AVE	WEST SACRAMEN	95691	RAMCO PROPERTY (FORMER SS)	LUST	GU3705	S105036232
1101 WEST CAPITOL AVE	WEST SACRAMEN	95691	FORMER RAMOS OIL SERVICE STATION	US BROWNFIELDS	GU3704	1009311497
1102 BROADWAY	SACRAMENTO	95818	UNOCAL #7007	Sacramento Co. CS	GR3697	S101300816
1102 BROADWAY	SACRAMENTO	95818	UNOCAL #7007	HIST CORTESE	GR3697	S101300816
1102 BROADWAY	SACRAMENTO	95818	UNOCAL #7007	LUST	GR3697	S101300816
1108 R ST	SACRAMENTO	95814	CADA WAREHOUSE REDEVELOPMENT PROJECT	VCP	CA2644	S106568276
1108 R ST	SACRAMENTO	95814	CADA WAREHOUSE REDEVELOPMENT PROJECT	ENVIROSTOR	CA2644	S106568276
1109-1117 WEST CAPITOL AVE	W SACRAMENTO	95691	RAMCO ENTERPRISES/VACANT	US BROWNFIELDS	GU3708	1009311546
111 BERCUT DR	SACRAMENTO	95814	COMMUN. CENTER	Sacramento Co. CS	EP3373	S102428057
111 BERCUT DR	SACRAMENTO	95814	COMMUN. CENTER	HIST CORTESE	EP3373	S102428057
111 BERCUT DR	SACRAMENTO	95814	COMMUN. CENTER	LUST	EP3373	S102428057
111 I ST	SACREMENTO	95814	111 I STREET	ERNS	AW1998	2007319088
1110 FRONT ST	SACRAMENTO			CHMIRS	AK1987	S105671216
1110 WEST CAPITOL AVE	W SACRAMENTO	95691	HALL	US BROWNFIELDS	GU3716	1009311470
1116 18TH ST	SACRAMENTO		BARBER'S AUTO SHOP	Sacramento Co. CS	AP1792	S102311099
1117 G ST	SACRAMENTO			CHMIRS	BK2135	S105661913
1120 N ST	SACRAMENTO	95816	1120 "N" ST.	ERNS	Y1536	91210225
1120 F ST	SACRAMENTO		BOYS & GIRLS CLUB PARK	Sacramento Co. CS	BK2294	S109612007
1120 F ST	SACRAMENTO	95814	BOYS & GIRLS CLUB PARK	SLIC	BK2295	S109521329
1131 C ST	SACRAMENTO	95814	1131 "C" ST, VACANT BLDG	ERNS	DS3223	94393488
1131 C ST	SACRAMENTO	95814	STANDARD TRANSMISSION EXCHANGE	SLIC	DS3170	1000819437
1131 C ST	SACTO	95814		CHMIRS	DS3173	S105634787
1131 C ST	SACRAMENTO	95814	THE GLOBE MILLS COMPLEX	SLIC	DS3174	S108543209
1141 WEST CAPITOL AVE	W SACRAMENTO	95691	1141 WEST CAPITOL AVENUE	US BROWNFIELDS	GU3721	1009311325
1165 W. CAPITOL AVE	W SACRAMENTO	95961	1165 W. CAPITOL AVENUE	US BROWNFIELDS	GU3743	1009311326
1200 A ST	SACRAMENTO		CONTAMINATED PROPERTY	SLIC	FK3476	S106717872
1200 1 ST	SACRAMENTO	95814	1200 1 STREET	ERNS	BS2537	94397314
1200 A ST	SACRAMENTO		1200 "A" ST (LRP #A235)**	SLIC	FK3477	S105245802
1200 A ST	SACRAMENTO		1200 "A" ST (LRP #A235)**	Sacramento Co. CS	FK3477	S105245802
1200 F ST	SACRAMENTO	95814	PDR PARK AND GAS	Sacramento Co. CS	BK2270	S104548916
1200 F ST	SACRAMENTO	95814	PDR PARK AND GAS	LUST	BK2270	S104548916
1201 WEST CAPITOL AVE	W SACRAMENTO	95691	CAROLS RESTAURANT	US BROWNFIELDS	GU3770	1009311464
1205 MERKLEY AVE	W SACRAMENTO	95691	RIVERCITY APOSTOLIC CHURCH	US BROWNFIELDS	HC3731	1009311553

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1206 C ST	SACRAMENTO	958140000	TOMS TIRE & AUTOMOTIVE	Sacramento Co. CS	DS3122	S102002234
1206 C ST	SACRAMENTO	958140000	TOMS TIRE & AUTOMOTIVE	HIST CORTESE	DS3122	S102002234
1206 C ST	SACRAMENTO	958140000	TOMS TIRE & AUTOMOTIVE	LUST	DS3122	S102002234
1215 MERKLEY AVE	W SACRAMENTO	95691	GOLDEN DAYS ADULT CARE CENTER	US BROWNFIELDS	HC3738	1009311504
1217 F ST	SACRAMENTO			CHMIRS	BQ2301	S105882480
1220 S ST	SACRAMENTO	958140000	OATES-BENNING TRUST	Sacramento Co. CS	CR2928	S108054160
1220 S ST	SACRAMENTO	95814	OATES/BENNING TRUST PROPERTY	LUST	CR2929	S107863249
1222 F ST	SACRAMENTO		BURPO PROPERTIES	Sacramento Co. CS	BQ2273	S102425929
1223-1231 MERKLEY AVE	W SACRAMENTO	95691	CAFAC VIENNA/POOJA GRILL RESTAURANTS	US BROWNFIELDS	HC3750	1012212760
1225 NORTH B ST	SACRAMENTO	95814	LEVINE METALS	CERCLIS	FV3575	1001491816
1228 H ST	SACRAMENTO	95814	MUELLER PROPERTY	Sacramento Co. CS	AQ1825	S102434063
1228 H ST	SACRAMENTO	95814	MUELLER PROPERTY	HIST CORTESE	AQ1825	S102434063
1228 H ST	SACRAMENTO	95814	MUELLER PROPERTY	LUST	AQ1825	S102434063
1228 H ST	SACRAMENTO	95814	MUELLER PROPERTY	CHMIRS	AQ1825	S102434063
1231 K ST	SACRAMENTO	95814	MCCURRY COMPANIES	ENVIROSTOR	L 453	S101481812
1231 MERKLEY AVE	W SACRAMENTO	95691	H AND H CLEANERS	ENVIROSTOR	HC3755	S100190982
1236-1240 MERKLEY AVE	W SACRAMENTO	95691	SACRAMENTO MISSION CHURCH	US BROWNFIELDS	HC3779	1009311557
1238 S ST	SACRAMENTO	95814	MASSIE & CO	Sacramento Co. CS	CR2931	S100231861
1238 S ST	SACRAMENTO	95814	MASSIE & CO	HIST CORTESE	CR2931	S100231861
1238 S ST	SACRAMENTO	95814	MASSIE & CO	LUST	CR2931	S100231861
MERKLEY AVE	W SACRAMENTO	95691	CATERING	US BROWNFIELDS	HC3772	1009311469
12TH & F ST	SACRAMENTO		12TH & F ST	ERNS	BK2285	2010934198
12TH AND R ST	SACRAMENTO	95814	CADA WAREHOUSE - CAPITOL LOFTS	US BROWNFIELDS	CR2696	1009311215
INTERSECTION OF	SACRAMENTO	95814	SIMS METAL SITE	RESPONSE	FV3623	S107737346
INTERSECTION OF	SACRAMENTO	95814	SIMS METAL SITE	ENVIROSTOR	FV3623	S107737346
INTERSECTION OF NORTH B ST	SACRAMENTO	95814	SIMS METAL SITE	Cortese	FV3623	S107737346
130 NORTH 12TH ST	SACRAMENTO	95811	SIMS METAL	SLIC	FV3616	S109521489
1301 MERKLEY AVE	W SACRAMENTO	95691	JOHNNIES SIDEWALK PIZZA	US BROWNFIELDS	HC3786	1009311511
1323 28 ST (AKA:1325)	SACRAMENTO	95816	REGIONAL TRANSIT	LUST	GL3667	S105488652
1323 28TH ST	SACRAMENTO		R T MAINTENANCE FACILITY	Sacramento Co. CS	GL3670	S102435614
1324 A ST	SACRAMENTO	95814	PURITY OIL CO	Sacramento Co. CS	FK3480	S101300787
1324 A ST	SACRAMENTO	95814	PURITY OIL CO	HIST CORTESE	FK3480	S101300787
1324 A ST	SACRAMENTO	95814	PURITY OIL CO	LUST	FK3480	S101300787

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1324 A ST N	SACRAMENTO		UNION PACIFIC RAILROAD NORTH "A" ST SITE	SLIC	FK3485	S106230358
1324 A ST	SACRAMENTO	95814	SP-PURITY OIL	RESPONSE	FK3481	S101272818
1324 A ST	SACRAMENTO	95814	SP-PURITY OIL	DEED	FK3481	S101272818
1324 A ST	SACRAMENTO	95814	SP-PURITY OIL	ENVIROSTOR	FK3481	S101272818
1324 A ST	SACRAMENTO	95814	SP-PURITY OIL	HIST Cal-Sites	FK3481	S101272818
1324 A ST	SACRAMENTO	95814	SP-PURITY OIL	HIST CORTESE	FK3481	S101272818
1324 A ST	SACRAMENTO	95814	SP-PURITY OIL	Cortese	FK3481	S101272818
1324 NORTH A ST	SACRAMENTO	95814	UNION PACIFIC RAILROAD COMPANY	SLIC	FK3484	S106484151
1325 28TH ST	SACRAMENTO	95816	REGIONAL TRANSIT	HIST CORTESE	GL3668	S105025983
1325 28TH ST	SACRAMENTO	95816	REGIONAL TRANSIT	LUST	GL3668	S105025983
1325 28TH ST	SACRAMENTO		RT BUS MAINTENANCE FACILITY	Sacramento Co. CS	GL3669	S102436070
1325 S ST	SACRAMENTO	95814	BORDEN DAIRY (FORMER)	HIST CORTESE	CT2902	S103891930
1325 S ST	SACRAMENTO	95814	BORDEN DAIRY (FORMER)	LUST	CT2902	S103891930
1325 S ST	SACRAMENTO		FORMER BORDEN DAIRY	Sacramento Co. CS	CT2901	S104586506
1326 BROADWAY	SACRAMENTO	95818	FIRST INTERSTATE BANK	Sacramento Co. CS	3699	S102430007
1326 BROADWAY	SACRAMENTO	95818	FIRST INTERSTATE BANK	HIST CORTESE	3699	S102430007
1326 BROADWAY	SACRAMENTO	95818	FIRST INTERSTATE BANK	LUST	3699	S102430007
1330 NORTH B ST	SACRAMENTO	958140000	GENERAL PRODUCE CO	CHMIRS	FK3573	S102317827
1351 MERKLEY AVE	W SACRAMENTO	95691	PAYLESS CLEANERS (2)	ENVIROSTOR	HK3794	S101482950
13TH ST / H ST	SACRAMENTO	94118		CHMIRS	AQ1891	S105661588
1400 5TH ST	SACRAMENTO	95814	TUNE UP MASTERS	Sacramento Co. CS	P1544	S102426316
1400 5TH ST	SACRAMENTO	95814	TUNE UP MASTERS	HIST CORTESE	P1544	S102426316
1400 5TH ST	SACRAMENTO	95814	TUNE UP MASTERS	LUST	P1544	S102426316
ST	SACRAMENTO	95814	ENTERPRISE FACILITY	US BROWNFIELDS	AB1701	1012171619
1415 G ST	SACRAMENTO	95814		CHMIRS	BF2076	S100274933
1416 10TH ST	SACRAMENTO	95814	STATE GARAGE	HIST CORTESE	AC1667	S100869385
1416 10TH ST	SACRAMENTO	95814	STATE GARAGE	LUST	AC1667	S100869385
1419 16TH ST	SACRAMENTO	958140000	MERCURY CLEANERS	ENVIROSTOR	AJ1724	S100189418
1419 16TH ST	SACRAMENTO	95814	MERCURY CLEANERS	US BROWNFIELDS	AJ1723	1010082375
1430 Q ST	SACRAMENTO		WELSH FAMILY TRUST	Sacramento Co. CS	BI2335	S104586501
1430 Q ST	SACRAMENTO	958140000	BRADFORD CHEVRON SERVICE	Sacramento Co. CS	BI2370	S103630520
1430 Q ST	SACRAMENTO	958140000	BRADFORD CHEVRON SERVICE	HIST CORTESE	BI2370	S103630520
1430 Q ST	SACRAMENTO	958140000	BRADFORD CHEVRON SERVICE	LUST	BI2370	S103630520
1431 Q ST	SACRAMENTO		MANDELLA GARDEN	Sacramento Co. CS	BI2305	S105626902

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1431 Q ST	SACRAMENTO	95814	MANDELLA GARDEN	SLIC	BI2332	S108543232
1500 7TH ST	SACRAMENTO	95816	F & F PARTNERS	Sacramento Co. CS	AE1801	S102310929
1500 Q ST	SACRAMENTO		BENVENUTTI PROPERTY	Sacramento Co. CS	BI2371	S102425182
1500 Q ST	SACRAMENTO	95814	1500 Q STREET SITE	ENVIROSTOR	BI2373	S101661390
1506 SPROULE AVE	SACRAMENTO	95814	E. D. PROPERTIES	HIST CORTESE	GZ3763	S103480172
1506 SPROULE AVE	SACRAMENTO	95814	E. D. PROPERTIES	LUST	GZ3763	S103480172
1509 RIVER RD S	WEST SACRAMENTO		SHELL OPUS - WEST SACRAMENTO FACILITY	SLIC	GX3723	S106230594
1509 S. RIVER ROAD	WEST SACRAMEN	95691	EQUILON ENTERPRISES, LLC	ENVIROSTOR	GX3734	S105556936
1509 SOUTH RIVER ROAD	WEST SACRAMENTO		SHELL OPUS - WEST SACRAMENTO	SLIC	GX3735	S106855425
1515 RIVER RD S	WEST SACRAMENTO		RAMOS O	SLIC	GX3736	S106230595
1515 S ST	SACRAMENTO	95814	PALM IRON WORKS	RESPONSE	DI2907	S101481722
1515 S ST	SACRAMENTO	95814	PALM IRON WORKS	ENVIROSTOR	DI2907	S101481722
1515 S ST	SACRAMENTO	95814	PALM IRON WORKS	HIST Cal-Sites	DI2907	S101481722
1515 SOUTH RIVER RD.	W SACRAMENTO	95691	RAMOS ENVIRONMENTAL SERVICE	ENVIROSTOR	GX3745	S100943205
1515 SOUTH RIVER ROAD	W SACRAMENTO	95691		SLIC	GX3744	S100277100
1515 SOUTH RIVER ROAD	W SACRAMENTO	95691		CHMIRS	GX3744	S100277100
1516 9TH ST	SACRAMENTO		STATE ENERGY COMMISSION	Sacramento Co. CS	AL1951	S104586315
1516 9TH ST	SACRAMENTO	95814	ENERGY COMMISSION BUILDING 008	LUST	AL1949	1000357997
1520 SOUTH RIVER ROAD	W SACRAMENTO	95691	LUCKY DRAYAGE	ENVIROSTOR	3793	S101482942
1520 X ST	SACRAMENTO	95818	X STREET GARAGE	Sacramento Co. CS	FY3650	S100273834
1520 X ST	SACRAMENTO	95818	X STREET GARAGE	LUST	FY3650	S100273834
1531 30TH ST	SACRAMENTO	95821	KIERNAN INVESTMENT PROPERTY	Sacramento Co. CS	3792	S102432211
1531 30TH ST	SACRAMENTO	95821	KIERNAN INVESTMENT PROPERTY	HIST CORTESE	3792	S102432211
1531 30TH ST	SACRAMENTO	95821	KIERNAN INVESTMENT PROPERTY	LUST	3792	S102432211
1531 L ST	SACRAMENTO	958140000	FIRESTONE STORE #3587	Sacramento Co. CS	AA 688	S100935314
1531 L ST	SACRAMENTO	95814	FORMER FIRESTONE SERVICE CENTER	LUST	AA 668	S106448374
1600 H ST	SACRAMENTO	95819	UNOCAL #5382	Sacramento Co. CS	K1817	S102440031
1600 H ST	SACRAMENTO	95819	UNOCAL #5382	HIST CORTESE	K1817	S102440031
1600 H ST	SACRAMENTO	95819	UNOCAL #5382	LUST	K1817	S102440031
1601 16TH	SACRAMENTO	00000	CADA PROPERTIES SITE 4	US BROWNFIELDS	BA2164	1009805931
1601 BROADWAY	SACRAMENTO	95818	VACANT LOT (FORMER CHEVRON)	Sacramento Co. CS	GK3695	S102430170
1601 BROADWAY	SACRAMENTO	95818	VACANT LOT (FORMER CHEVRON)	LUST	GK3695	S102430170
1601 J ST (AKA 925 16TH ST)	SACRAMENTO	95814	CHEVRON #9-4176	Sacramento Co. CS	I 88	S102316260
1601 J ST (AKA 925 16TH ST)	SACRAMENTO	95814	CHEVRON #9-4176	HIST CORTESE	I 88	S102316260
1601 J ST (AKA 925 16TH ST)	SACRAMENTO	95814	CHEVRON #9-4176	LUST	I 88	S102316260

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1601 L ST	SACRAMENTO	95814	SHELL OIL PRODUCTS US 170736	Sacramento Co. CS	X 685	1009402594
1601 L ST	SACRAMENTO	95814	FORMER SHELL SERVICE STATION	LUST	X 680	S106567486
1601 L ST	SACRAMENTO	95814	FORMER SHELL SERVICE STATION	LUST	X 723	S108541445
1608 T ST	SACRAMENTO	95827	MASSIE PROPERTY	Sacramento Co. CS	EE3228	S102433089
1608 T ST	SACRAMENTO	95827	MASSIE PROPERTY	HIST CORTESE	EE3228	S102433089
1608 T ST	SACRAMENTO	95827	MASSIE PROPERTY	LUST	EE3228	S102433089
1610 17TH ST	SACRAMENTO	95814	1610 17TH STREET	US BROWNFIELDS	BA2170	1010082345
1610 3RD ST	GALT	95632		CDL	BE2159	S107529295
1615 D ST	SACRAMENTO	95812	SALVATION ARMY	Sacramento Co. CS	CN2883	S100944082
1615 D ST	SACRAMENTO	95812	SALVATION ARMY	HIST CORTESE	CN2883	S100944082
1615 D ST	SACRAMENTO	95812	SALVATION ARMY	LUST	CN2883	S100944082
1616 20TH ST	SACRAMENTO	95814	(FORMERLY) TED WILLIAMS GARAGE	Sacramento Co. CS	CH2520	S101300998
1616 20TH ST	SACRAMENTO	95814	(FORMERLY) TED WILLIAMS GARAGE	HIST CORTESE	CH2520	S101300998
1616 20TH ST	SACRAMENTO	95814	(FORMERLY) TED WILLIAMS GARAGE	LUST	CH2520	S101300998
1616 29TH ST	SACRAMENTO		FORMER GULF G-0838	Sacramento Co. CS	HF3752	S102430240
1616 29TH ST	SACRAMENTO	95816	OFFICE BLDG (FORMER GULF OIL)	LUST	HF3751	S100937870
1616 N ST	SACRAMENTO	95814		CHMIRS	X1602	S105886290
1625 C ST N	SACRAMENTO	95814	PUBLIC STORAGE FACILITY	HIST CORTESE	DZ3147	S104403293
1625 C ST N	SACRAMENTO	95814	PUBLIC STORAGE FACILITY	LUST	DZ3147	S104403293
1625 N C ST	SACRAMENTO	95814	HATFIELD TRUCKING SERVICE, INC	Sacramento Co. CS	DZ3146	U001615115
1700 19TH ST	SACRAMENTO		FORMER SMUD SUBSTATION	Sacramento Co. CS	BR2476	S109149310
1700 19TH ST	SACRAMENTO	95811	FORMER SMUD SUBSTATION	SLIC	BR2475	S109117967
1701 C ST	SACRAMENTO		1701 "C" ST.	ERNS	DD3080	8722706
1701 C ST	SACRAMENTO			CHMIRS	DD3214	S106397758
1708 H ST #9	SACRAMENTO	95814		CHMIRS	AT1847	S100274871
1709 16TH ST	SACRAMENTO	94812	KINYARD	Sacramento Co. CS	CC2443	S101300993
1709 16TH ST	SACRAMENTO	94812	KINYARD	HIST CORTESE	CC2443	S101300993
1709 16TH ST	SACRAMENTO	94812	KINYARD	LUST	CC2443	S101300993
1709 S ST	SACRAMENTO	95814	SING LEE SEWING THREAD CO.	US BROWNFIELDS	CQ2959	1010082381
1711 18TH ST	SACRAMENTO	95814	ENGRAVERS	ENVIROSTOR	BR2432	S110494435
1713 S ST	SACRAMENTO	95814	NICHOLS AND SONS AUTO PARTS	US BROWNFIELDS	CQ2962	1010082378
1717 19TH ST	SACRAMENTO	958140000	HUEYS AUTOMOTIVE SVC	CHMIRS	BR2508	S103635833
1717 E	SACRAMENTO	94814	LOOMIS ARMORED INC.	HIST CORTESE	BZ2617	S110060703
1717 E ST	SACRAMENTO		LOOMIS ARMORED INC	Sacramento Co. CS	BZ2642	S104163630
1717 E ST	SACRAMENTO	95814	LOOMIS ARMORED INC.	LUST	BZ2624	S107472954

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1720 15TH ST	SACRAMENTO	958140000	R ST LOFT	Sacramento Co. CS	BI2340	S102311055
1720 15TH ST	SACRAMENTO	958140000	R ST LOFT	HIST CORTESE	BI2340	S102311055
1720 15TH ST	SACRAMENTO	958140000	R ST LOFT	LUST	BI2340	S102311055
1721 16TH ST	SACRAMENTO	95814	A-1 PLATING CO. (INACTIVE #3)	ENVIROSTOR	CC2483	S100182030
1724 13TH ST	SACRAMENTO		WARREN FONG PROPERTY	Sacramento Co. CS	CB2473	S102441076
1725 23RD ST	SACRAMENTO	958167100	TOM HARRIS	Sacramento Co. CS	EN3314	S109035048
1725 23RD ST	SACRAMENTO	95816	HARRIS PROPERTY	LUST	EN3313	S108723476
1731 17TH ST	SACRAMENTO		ORCHARD SUPPLY	SLIC	CC2500	S106112432
1731 17TH ST	SACRAMENTO	95814	SACRAMENTO	SLIC	CC2492	1000239815
1731 17TH ST	SACRAMENTO	95814	SACRAMENTO	Sacramento Co. CS	CC2492	1000239815
1731 17TH ST	SACRAMENTO	95814	SACRAMENTO	CERC-NFRAP	CC2492	1000239815
1731 17TH ST	SACRAMENTO	95814	SACRAMENTO	HIST CORTESE	CC2492	1000239815
1731 17TH ST	SACRAMENTO	95814	SACRAMENTO	LUST	CC2492	1000239815
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	RESPONSE	CC2491	S100833173
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	SLIC	CC2491	S100833173
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	DEED	CC2491	S100833173
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	LIENS	CC2491	S100833173
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	ENVIROSTOR	CC2491	S100833173
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	HIST Cal-Sites	CC2491	S100833173
1731 17TH ST	SACRAMENTO	95814	ORCHARD SUPPLY COMPANY	Cortese	CC2491	S100833173
1731 25TH ST	SACRAMENTO	95816	TARPIN/RIOS WAREHOUSE	Sacramento Co. CS	FH3511	S101332437
1731 25TH ST	SACRAMENTO	95816	TARPIN/RIOS WAREHOUSE	HIST CORTESE	FH3511	S101332437
1731 25TH ST	SACRAMENTO	95816	TARPIN/RIOS WAREHOUSE	LUST	FH3511	S101332437
1731 BROADWAY	SACRAMENTO	95818	BUBBLE MACHINE (FORMER)	Sacramento Co. CS	GT3698	S102430154
1731 BROADWAY	SACRAMENTO	95818	BUBBLE MACHINE (FORMER)	HIST CORTESE	GT3698	S102430154
1731 BROADWAY	SACRAMENTO	95818	BUBBLE MACHINE (FORMER)	LUST	GT3698	S102430154
1733 S ST	SACRAMENTO	95814	ALTA PLATING INCORPORATED	CERC-NFRAP	CQ2974	1000143073
1733 S ST	SACRAMENTO	95814	ALTA PLATING INCORPORATED	ENVIROSTOR	CQ2974	1000143073
1733 S ST	SACRAMENTO	95814	ALTA PLATING INCORPORATED	HIST CORTESE	CQ2974	1000143073
1733 S ST	SACRAMENTO	95814	ALTA PLATING INCORPORATED	CHMIRS	CQ2974	1000143073
1734 13TH ST	SACRAMENTO		JOE'S AUTOMOTIVE (FORMER)**	SLIC	CB2493	S105557015
1734 13TH ST	SACRAMENTO		JOE'S AUTOMOTIVE	SLIC	CB2494	S106486476
1800 23 RD ST	SACRAMENTO	95816	FISHER TILE & MARBLE INC	LUST	EN3347	S105174023
1800 23RD ST	SACRAMENTO	95816	FISCHER TILE & MARBLE INC	Sacramento Co. CS	EN3342	S101590561
1800 24TH ST	SACRAMENTO	95816	CONSOLIDATED ELECTRIC	Sacramento Co. CS	EN3426	S101332693

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1800 24TH ST	SACRAMENTO	95816	CONSOLIDATED ELECTRIC	HIST CORTESE	EN3426	S101332693
1800 24TH ST	SACRAMENTO	95816	CONSOLIDATED ELECTRIC	LUST	EN3426	S101332693
1801 9 ST	SACRAMENTO			CHMIRS	CP2621	S107448930
1802 26TH ST	SACRAMENTO	958140000	POWELL MATERIALS	Sacramento Co. CS	GD3634	S101301007
1802 26TH ST	SACRAMENTO	958140000	POWELL MATERIALS	HIST CORTESE	GD3634	S101301007
1802 26TH ST	SACRAMENTO	958140000	POWELL MATERIALS	LUST	GD3634	S101301007
1802 C	SACRAMENTO	95814	BLUE DIAMOND GROWERS	HIST CORTESE	EF3244	1000924938
1802 C ST	SACRAMENTO	95814	1802 C ST	ERNS	DD3180	93332605
1802 C ST	SACRAMENTO	95814	BLUE DIAMOND GROWERS	Sacramento Co. CS	DD3179	1006816349
1802 C ST	SACRAMENTO	95814	BLUE DIAMOND GROWERS	LUST	DD3179	1006816349
1802 C ST	SACRAMENTO	95814	BLUE DIAMOND GROWERS	TRIS	DD3179	1006816349
1802 C ST	SACRAMENTO	95814	BLUE DIAMOND GROWERS	LUST	DD3182	1000252323
1802 C ST	SACRAMENTO		BLUE DIAMOND GROWERS, ALMOND PROCESSING*	SLIC	EF3242	S101300826
1802 C ST	SACRAMENTO	95818		CHMIRS	EF3240	S109036833
1802 C ST	SACRAMENTO	95814	BLUE DIAMOND GROWERS	SLIC	DD3184	S108992011
1802 C ST	SACRAMENTO			CHMIRS	EF3243	1006429790
1802 C. ST	SACRAMENTO			CHMIRS	EF3241	S105630416
1807 13TH ST	SACRAMENTO	958140000	MARVIN L OATES	Sacramento Co. CS	CB2304	S103637127
1807 13TH ST STE 201	SACRAMENTO	95814	DEPT OF FISH & GAME/NETWORK SERVICES	LUST	CB2303	S107140916
1808 14TH	SACRAMENTO	95814	CA ECONOMIC DEVELOPMENT D	HIST CORTESE	CT2673	S102426002
1808 14TH ST	SACRAMENTO	95814	CA ECONOMIC DEVELOPMENT DEPT	Sacramento Co. CS	CB2309	S102438069
1808 14TH ST	SACRAMENTO	95814	CA ECONOMIC DEVELOPMENT DEPT	LUST	CB2309	S102438069
1810 S ST	SACRAMENTO	958140000	EAST COAST PARTNERS LLC	CHMIRS	DM2993	S100221517
1812 L ST	SACRAMENTO		CAPITOL PLAZA RETIREMENT	Sacramento Co. CS	AO1938	S106782286
1812-1820 L ST	SACRAMENTO	95814	CAPITOL PLAZA RETIREMENT	HIST CORTESE	AO1935	S105025988
1812-1820 L ST	SACRAMENTO	95814	CAPITOL PLAZA RETIREMENT	LUST	AO1935	S105025988
1814 D ST	SACRAMENTO	958180000	VICTORY BUILDING MAINTENANCE	Sacramento Co. CS	CV2989	S102002235
1814 BROADWAY	SACRAMENTO		CHEVRON #9-1295	Sacramento Co. CS	GT3707	S110041091
1814 D ST	SACRAMENTO	95818	VICTORY BUILDING	HIST CORTESE	CV2988	S102440921
1814 D ST	SACRAMENTO	95818	VICTORY BUILDING	LUST	CV2988	S102440921
1816 21ST ST	SACRAMENTO	95821		LIENS	DU3110	S107448954
1816 21ST ST	SACRAMENTO	95821		CHMIRS	DU3110	S107448954
1816 21ST ST	SACRAMENTO	95814	KEN'S BUFF & PLATING	US BROWNFIELDS	DU3105	1010340807
1816 21ST ST	SACRAMENTO	95814	KEN'S BUFF AND PLATING	RESPONSE	DU3111	S107736534

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1816 21ST ST	SACRAMENTO	95814	KEN'S BUFF AND PLATING	ENVIROSTOR	DU3111	S107736534
1816 21ST ST	SACRAMENTO	95814	KEN'S BUFF AND PLATING	Cortese	DU3109	S109035045
1817-1825 17TH ST	SACRAMENTO	95814	S & L BUSINESS SERVICES AND RECORDING ST	US BROWNFIELDS	CQ2769	1010082380
1818 18TH ST/ 1733 S ST	SACRAMENTO	95814	ALTA PLATING INC.	US BROWNFIELDS	CQ2846	1010082351
1819 23RD ST	SACRAMENTO		CHROME CRAFT FACILITY (FORMER)	SLIC	EW3385	U001615314
1819 23RD ST	SACRAMENTO		CHROME CRAFT FACILITY (FORMER)	Sacramento Co. CS	EW3385	U001615314
1819 23RD ST	SACRAMENTO		CHROME CRAFT FACILITY (FORMER)	ENVIROSTOR	EW3385	U001615314
1820 I ST	SACRAMENTO			CHMIRS	AY1954	S105648940
1820 J ST	SACRAMENTO	95814		CHMIRS	V 552	S100274875
1821 24TH ST	SACRAMENTO	95816	PACIFIC BELL	Sacramento Co. CS	FH3460	1000251707
1821 24TH ST	SACRAMENTO	95816	PACIFIC BELL	HIST CORTESE	FH3460	1000251707
1821 24TH ST	SACRAMENTO	95816	PACIFIC BELL	LUST	FH3460	1000251707
1822 16TH ST	SACRAMENTO	95814	FONTS PROPERTY	RESPONSE	CC2345	S102008379
1822 16TH ST	SACRAMENTO	95814	FONTS PROPERTY	ENVIROSTOR	CC2345	S102008379
1822 16TH ST	SACRAMENTO	95814	FONTS PROPERTY	HIST Cal-Sites	CC2345	S102008379
1823 H ST	SACRAMENTO	95814		CHMIRS	AT1894	S109036861
1826 16TH ST	SACRAMENTO	95814	16TH STREET PLATING	RESPONSE	CC2344	S101481711
1826 16TH ST	SACRAMENTO	95814	16TH STREET PLATING	ENVIROSTOR	CC2344	S101481711
1826 16TH ST	SACRAMENTO	95814	16TH STREET PLATING	HIST Cal-Sites	CC2344	S101481711
1828 BROADWAY	SACRAMENTO	95818	ON BROADWAY CHEVRON	HIST CORTESE	GT3709	S100222182
1828 BROADWAY	SACRAMENTO	95818	ON BROADWAY CHEVRON	LUST	GT3709	S100222182
1828 BROADWAY	SACRAMENTO	95818	ON BROADWAY CHEVRON	CHMIRS	GT3709	S100222182
1829 17TH ST	SACRAMENTO	95814	WERNER-DIETER AUTO REPAIR	US BROWNFIELDS	CQ2781	1010082383
1830 L ST	SACRAMENTO	95814	SWEIGARD PROPERTY	Sacramento Co. CS	X 686	S101300927
1830 L ST	SACRAMENTO	95814	SWEIGARD PROPERTY	HIST CORTESE	X 686	S101300927
1830 L ST	SACRAMENTO	95814	SWEIGARD PROPERTY	LUST	X 686	S101300927
1830 L ST	SACRAMENTO	95816	L STREET SITE - #1830	ENVIROSTOR	AO1959	S100182024
18TH / R ST	SACRAMENTO			CHMIRS	CQ2679	S105885199
18TH AVE AND EAST RAILROAD AVE	SACRAMENTO		18TH AVE AND EAST RAILROAD AVE	ERNS	AO2002	98447415
1900 F ST	SACRAMENTO			CHMIRS	BN2472	S105656400
1901 J ST, UNA MAS, SUITE D	SACRAMENTO			CHMIRS	AY2054	S105649203
1901 L ST	SACRAMENTO	95816	HARV'S CAR WASH	Sacramento Co. CS	AP2040	U001615323
1901 L ST	SACRAMENTO	95816	HARV'S CAR WASH	HIST CORTESE	AP2040	U001615323

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
1901 L ST	SACRAMENTO	95816	HARV'S CAR WASH	LUST	AP2040	U001615323
1912 O ST	SACRAMENTO	948140000	ALLIED PRINTING COMPANY	CHMIRS	BO2185	S100929251
1920 FRONT	SACRAMENTO		SACRAMENTO HOUSING & REDE	HIST CORTESE	BU2502	S101308025
1920 FRONT ST	SACRAMENTO	95814	SACRAMENTO HOUSING & REDEVEL	LUST	BU2505	S100927899
1920 FRONT ST	SACRAMENTO		SACTO HOUSING & REDEVELOPMENT	Sacramento Co. CS	BU2512	S104586361
1920 FRONT ST	SACRAMENTO	95814	SACRAMENTO HOUSING & REDEVELOPMENT AGENCY	HIST Cal-Sites	BU2504	S101272815
1920 FRONT ST	SACRAMENTO	95814	SACRAMENTO HOUSING & REDEVELOPMENT AGENCY	Cortese	BU2504	S101272815
1924 16TH ST	SACRAMENTO	95814	YOUR CLEANERS (INACTIVE #242)	ENVIROSTOR	DI3061	S100189433
1930 9TH ST	SACRAMENTO	95816	SCURFIELD PROPERTY	Sacramento Co. CS	DV3075	S101332236
1930 9TH ST	SACRAMENTO	95816	SCURFIELD PROPERTY	HIST CORTESE	DV3075	S101332236
1930 9TH ST	SACRAMENTO	95816	SCURFIELD PROPERTY	LUST	DV3075	S101332236
1942 BROADWAY	SACRAMENTO		MONIER PROPERTY	Sacramento Co. CS	3720	S102433933
2 ND / D ST	W SACRAMENTO			CHMIRS	DE3003	S109037068
2000 16TH	SACRAMENTO	95818	CRABTREE TRUST	LUST	EE3236	S105911363
2000 16TH ST	SACRAMENTO		CRABTREE TRUST	Sacramento Co. CS	EE3237	S106198510
2000 FRONT ST	SACRAMENTO		PLANT, SACR	SLIC	DK2942	S100833174
2000 FRONT ST	SACRAMENTO		PLANT, SACR	HIST CORTESE	DK2942	S100833174
2000 FRONT ST	SACRAMENTO	95818	PG&E - SACRAMENTO SITE	RESPONSE	DK2943	S101272813
2000 FRONT ST	SACRAMENTO	95818	PG&E - SACRAMENTO SITE	DEED	DK2943	S101272813
2000 FRONT ST	SACRAMENTO	95818	PG&E - SACRAMENTO SITE	ENVIROSTOR	DK2943	S101272813
2000 FRONT ST	SACRAMENTO	95818	PG&E - SACRAMENTO SITE	HIST Cal-Sites	DK2943	S101272813
2000 FRONT ST	SACRAMENTO	95818	PG&E - SACRAMENTO SITE	Cortese	DK2943	S101272813
2000 S RIVER RD	W SACRAMENTO	95691	CLARK TRUCKING SERVICE, INC.	ENVIROSTOR	3806	1000363418
2001 18TH ST	SACRAMENTO			CHMIRS	DM3249	S105673721
2020 J ST	SACRAMENTO	95814	MID-TOWN OFFICE CENTER	HIST CORTESE	BC2399	S100273811
2020 J ST	SACRAMENTO	95814	MID-TOWN OFFICE CENTER	LUST	BC2399	S100273811
2025 BROADWAY	SACRAMENTO	958180000	JACK RYE	HIST CORTESE	GW3732	S100231715
2025 BROADWAY	SACRAMENTO	958180000	JACK RYE	LUST	GW3732	S100231715
2025 BROADWAY	SACRAMENTO	95818	WONDER MINI MARKET & GAS	Sacramento Co. CS	GW3733	S101628320
205 2ND ST	W SACRAMENTO	95691	205 2ND STREET	US BROWNFIELDS	EI3278	1011812502
206 24TH ST	SACRAMENTO		BLAIR LEASING	Sacramento Co. CS	FQ3635	S105799088
206 24TH ST	SACRAMENTO	95816	BLAIR LEASING COMPANY	LUST	FQ3636	S105736192
208 JIBBOOM ST	SACRAMENTO	95814	LA QUINTA INN	CERCLIS	3781	1005440846
21 ST / L ST	SACRAMENTO			CHMIRS	BS2540	S100280737
2100 BROADWAY	SACRAMENTO	95818	ARCO #2068	Sacramento Co. CS	GW3757	U003937654

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
2100 BROADWAY	SACRAMENTO	95818	ARCO #2068	LUST	GW3757	U003937654
2100 BROADWAY	SACRAMENTO	958180000	BP WEST COAST PRODUCTS LLC 2068	CHMIRS	GW3758	S100178708
2100 Q ST	SACRAMENTO		SACRAMENTO MCCLATCHY NEWSPAPER	Sacramento Co. CS	CH2823	S102436239
2100 Q ST	SACRAMENTO	958160000	SAC REGIONAL TRANSIT	SLIC	CH2824	S104941581
2100 Q ST	SACRAMENTO	95816	THE SACRAMENTO BEE	SLIC	CH2822	1000353469
2100 Q ST	SACRAMENTO	95816	THE SACRAMENTO BEE	HIST CORTESE	CH2822	1000353469
2100 Q ST	SACRAMENTO	95816	THE SACRAMENTO BEE	LUST	CH2822	1000353469
2112 4TH ST	SACRAMENTO	95818	BILL REID PAINTING SERVICE	Sacramento Co. CS	FB3389	S100231681
2112 4TH ST	SACRAMENTO	95818	BILL REID PAINTING SERVICE	HIST CORTESE	FB3389	S100231681
2112 4TH ST	SACRAMENTO	95818	BILL REID PAINTING SERVICE	LUST	FB3389	S100231681
211-217 16TH ST N	SACRAMENTO	95814	MCDONALD'S FOOD EQUIPMENT	LUST	DZ3332	S104403312
2125 16TH ST	SACRAMENTO		MOBIL	Sacramento Co. CS	FA3395	S105034856
2127 FRONT ST	SACRAMENTO	95814	SACRAMENTO ANIMAL SHELTER	Sacramento Co. CS	EU3381	S101332652
2127 FRONT ST	SACRAMENTO	95814	SACRAMENTO ANIMAL SHELTER	HIST CORTESE	EU3381	S101332652
2127 FRONT ST	SACRAMENTO	95814	SACRAMENTO ANIMAL SHELTER	LUST	EU3381	S101332652
2200 5TH ST	SACRAMENTO	95818	MULL/CANNON SITE (VACANT)	Sacramento Co. CS	FB3488	S101301022
2200 5TH ST	SACRAMENTO	95818	MULL/CANNON SITE (VACANT)	CDL	FB3488	S101301022
2200 5TH ST	SACRAMENTO	95818	MULL/CANNON SITE (VACANT)	HIST CORTESE	FB3488	S101301022
2200 5TH ST	SACRAMENTO	95818	MULL/CANNON SITE (VACANT)	LUST	FB3488	S101301022
2201 J ST	SACRAMENTO	95816	WOODWARD CLEANERS AND DRYER	ENVIROSTOR	CK2813	S101481848
2207 J ST	SACRAMENTO			CHMIRS	CK2820	S109037380
222 JIBBOOM ST	SACRAMENTO	95814	ARCO #6168	Sacramento Co. CS	GM3717	U003937776
222 JIBBOOM ST	SACRAMENTO	95814	ARCO #6168	LUST	GM3717	U003937776
2222 21ST ST	SACRAMENTO	95818	CHEVRON #9-3038	Sacramento Co. CS	GE3629	S102427033
2222 21ST ST	SACRAMENTO	95818	CHEVRON #9-3038	HIST CORTESE	GE3629	S102427033
2222 21ST ST	SACRAMENTO	95818	CHEVRON #9-3038	LUST	GE3629	S102427033
2225 16TH ST	SACRAMENTO	95818	ARCO #6025	Sacramento Co. CS	FA3528	S101332028
2225 16TH ST	SACRAMENTO	95818	ARCO #6025	HIST CORTESE	FA3528	S101332028
2225 16TH ST	SACRAMENTO	95818	ARCO #6025	LUST	FA3528	S101332028
225 JIBBOOM ST	SACRAMENTO	95814	SHELL #204-6678-9003	HIST CORTESE	GF3652	S102437054
225 JIBBOOM ST	SACRAMENTO	95814	SHELL #204-6678-9003	LUST	GF3652	S102437054
225 JIBBOOM ST	SACRAMENTO		SHELL SERVICE STATION	Sacramento Co. CS	GM3715	S104857541
226 JIBBOOM ST	SACRAMENTO	95814	TEXACO SS (FORMER)	Sacramento Co. CS	GM3713	S100930739
226 JIBBOOM ST	SACRAMENTO	95814	TEXACO SS (FORMER)	HIST CORTESE	GM3713	S100930739

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
226 JIBBOOM ST	SACRAMENTO	95814	TEXACO SS (FORMER)	LUST	GM3713	S100930739
22ND / Q ST	SACRAMENTO			CHMIRS	DN3079	S105653596
230 Q ST	SACRAMENTO		CHEVRON #T59-5041	Sacramento Co. CS	BE2289	S104970709
240 JIBBOOM ST	SACRAMENTO	950000000	1X CAL DEPT OF WATER RESOURCES	SLIC	GM3672	S101481789
240 JIBBOOM ST	SACRAMENTO	950000000	1X CAL DEPT OF WATER RESOURCES	DEED	GM3672	S101481789
240 JIBBOOM ST	SACRAMENTO	950000000	1X CAL DEPT OF WATER RESOURCES	VCP	GM3672	S101481789
240 JIBBOOM ST	SACRAMENTO	950000000	1X CAL DEPT OF WATER RESOURCES	ENVIROSTOR	GM3672	S101481789
240 JIBBOOM ST	SACRAMENTO		JIBBOOM JUNKYARD	SLIC	GM3673	S101300918
240 JIBBOOM ST	SACRAMENTO		JIBBOOM JUNKYARD	Sacramento Co. CS	GM3673	S101300918
240 JIBBOOM ST	SACRAMENTO		JIBBOOM JUNKYARD	HIST CORTESE	GM3673	S101300918
240 JIBBOOM ST	SACRAMENTO		JIBBOOM JUNKYARD	LUST	GM3673	S101300918
240 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD SUPERFUND SITE	CERCLIS	EP3437	1000164253
240 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD SUPERFUND SITE	US ENG CONTROLS	EP3437	1000164253
240 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD SUPERFUND SITE	CONSENT	EP3437	1000164253
240 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD SUPERFUND SITE	Delisted NPL	EP3437	1000164253
240 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD SUPERFUND SITE	ROD	EP3437	1000164253
240 JIBBOON ST	SACRAMENTO		PG&E - POWER PLANT BUILDING	SLIC	GM3674	S106486509
2400 15TH ST	SACRAMENTO	95818	TOSCO (76) STATION #5828	LUST	GK3664	S105174021
2400 15TH ST	SACRAMENTO		TOSCO STATION #5828	Sacramento Co. CS	GK3665	S105155798
2400 5TH ST	SACRAMENTO		LEE & NAKATA AUTO REPAIR	Sacramento Co. CS	GI3647	S104795639
2400 5TH ST	SACRAMENTO	95818	LEE'S ARCO	HIST CORTESE	GI3649	S102432576
2400 5TH ST	SACRAMENTO	95818	LEE'S ARCO	LUST	GI3649	S102432576
2400 5TH ST	SACRAMENTO		LEE'S OIL COMPANY	Sacramento Co. CS	GI3648	S104163670
2401 16TH ST	SACRAMENTO	95821	SIU'S REDWOOD SS #310	HIST CORTESE	GK3662	S101300995
2401 16TH ST	SACRAMENTO	95821	SIU'S REDWOOD SS #310	LUST	GK3662	S101300995
2401 16TH ST A	SACRAMENTO		SIU'S AUTO SERVICE	Sacramento Co. CS	GK3663	S101332333
240-260 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD	ENVIROSTOR	GM3675	S101481773
240-260 JIBBOOM ST	SACRAMENTO	95814	JIBBOOM JUNKYARD	HIST Cal-Sites	GM3675	S101481773
2405 K ST	SACRAMENTO			CHMIRS	DX3317	S105270039
2408 X ST	SACRAMENTO	95818	SACRAMENTO AMBULANCE	Sacramento Co. CS	HH3775	S105035268
2408 X ST	SACRAMENTO	95818	SACRAMENTO AMBULANCE	LUST	HH3775	S105035268
2414 X ST	SACRAMENTO		24TH & X STREET	Sacramento Co. CS	HH3776	S104586520
2414 X ST	SACRAMENTO	958180000	JOHN KOOGLE	HIST CORTESE	HH3777	S104570394
2414 X ST	SACRAMENTO	958180000	JOHN KOOGLE	LUST	HH3777	S104570394
2416 X ST	SACRAMENTO	95814	STANDARD APPLIANCE PARTS	Sacramento Co. CS	HH3778	S102425261

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
2416 X ST	SACRAMENTO	95814	STANDARD APPLIANCE PARTS	HIST CORTESE	HH3778	S102425261
2416 X ST	SACRAMENTO	95814	STANDARD APPLIANCE PARTS	LUST	HH3778	S102425261
2417 21ST ST	SACRAMENTO	95818	BEE KEEPER SUPPLY	Sacramento Co. CS	GW3714	S101301002
2417 21ST ST	SACRAMENTO	95818	BEE KEEPER SUPPLY	HIST CORTESE	GW3714	S101301002
2417 21ST ST	SACRAMENTO	95818	BEE KEEPER SUPPLY	LUST	GW3714	S101301002
2417 BROADWAY	SACRAMENTO	95818	STERLING CLEANERS	Sacramento Co. CS	HH3795	1000364530
2417 BROADWAY	SACRAMENTO	95818	STERLING CLEANERS	ENVIROSTOR	HH3795	1000364530
2417 BROADWAY	SACRAMENTO	95818	STERLING CLEANERS	LUST	HH3795	1000364530
2420 FRONT ST	SACRAMENTO	95818	CHEVRON 1001620	SLIC	3661	1000434478
2420 FRONT ST	SACRAMENTO	95818	CHEVRON 1001620	Sacramento Co. CS	3661	1000434478
2420 FRONT ST	SACRAMENTO	95818	CHEVRON 1001620	HIST CORTESE	3661	1000434478
2430 5TH ST	SACRAMENTO		FORMER JET GAS STATION	Sacramento Co. CS	GI3657	S102430248
2430 5TH ST	SACRAMENTO	95818	KAYO OIL CO (FORMER JET GAS)	LUST	GI3658	S100938131
2500 J ST	SACRAMENTO		FORMER RED FEATHER DRY CLEANERS	SLIC	ES3411	S100189431
2500 J ST	SACRAMENTO		FORMER RED FEATHER DRY CLEANERS	ENVIROSTOR	ES3411	S100189431
2500 J ST	SACRAMENTO		FORMER RED FEATHER DRY CLEANERS	SLIC	ES3410	S106717825
2570 3RD ST	SACRAMENTO	958180000	SETZER FOREST PRODUCTS INC	LUST	GS3759	S103647066
2570 3RD ST / 2630 5TH ST	SACRAMENTO	95818	SETZER FOREST PRODUCTS, INC.	VCP	GS3761	S109149567
2570 3RD ST / 2630 5TH ST	SACRAMENTO	95818	SETZER FOREST PRODUCTS, INC.	ENVIROSTOR	GS3761	S109149567
2570 THIRD ST	SACRAMENTO	95818	SETZER FOREST PRODUCTS & SACRAMENTO FARM	LUST	GS3760	S108935386
2608 R ST	SACRAMENTO	95816	HOLDENER CONSTRUCTION	Sacramento Co. CS	GD3637	S105036051
2608 R ST	SACRAMENTO	95816	HOLDENER CONSTRUCTION	LUST	GD3637	S105036051
2675 BROADWAY	SACRAMENTO	95818	BOB'S CLEANERS	ENVIROSTOR	3801	S100188563
2701 HARBOR VIEW DR	SACRAMENTO	95831	MILLER PARK	LUST	GY3762	S105033825
2701 MARINA VIEW DR	SACRAMENTO	95818	SACRAMENTO MARINA	Sacramento Co. CS	GY3767	U003786922
2701 MARINA VIEW DR	SACRAMENTO	95818	SACRAMENTO MARINA	LUST	GY3767	U003786922
2730 L ST	SACRAMENTO		SUTTER MEDICAL CENTER EXPANSION	Sacramento Co. CS	GG3641	S108225898
2730 L ST	SACRAMENTO	95816	SUTTER MEDICAL CENTER NEW PHYSICAL PLANT	SLIC	GG3642	S109349258
2735 RIVERSIDE BLVD	SACRAMENTO	958180000	RIVER TERRACE CLEANERS	ENVIROSTOR	3804	S101481849
2809 S ST	SACRAMENTO		SACRAMENTO PLATING	SLIC	HG3754	S106717887

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
2809 S ST	SACRAMENTO	95816	D T S C CAL EPA	RESPONSE	HG3753	1000353467
2809 S ST	SACRAMENTO	95816	D T S C CAL EPA	SLIC	HG3753	1000353467
2809 S ST	SACRAMENTO	95816	D T S C CAL EPA	ENVIROSTOR	HG3753	1000353467
2809 S ST	SACRAMENTO	95816	D T S C CAL EPA	HIST Cal-Sites	HG3753	1000353467
2809 S ST	SACRAMENTO	95816	D T S C CAL EPA	HIST CORTESE	HG3753	1000353467
2809 S ST	SACRAMENTO	95816	D T S C CAL EPA	Cortese	HG3753	1000353467
2816 S ST	SACRAMENTO		A-1 PAINTERS, DECORATORS & WALLPAPER HAN	SLIC	HG3765	S106717874
2816 S ST	SACRAMENTO		A-1 PAINTERS, DECORATORS & WALLPAPER HAN	SLIC	HG3766	S100351348
2816 S ST	SACRAMENTO		A-1 PAINTERS, DECORATORS & WALLPAPER HAN	Sacramento Co. CS	HG3766	S100351348
2816 S ST	SACRAMENTO		A-1 PAINTERS, DECORATORS & WALLPAPER HAN	ENVIROSTOR	HG3766	S100351348
2821 E ST	SACRAMENTO		CHEVRON SERVICE STATION #9-5632	Sacramento Co. CS	HA3728	S109035052
2822 S ST REAR	SACRAMENTO	958160000	AMERICAN PLANTING CO.	ENVIROSTOR	HG3769	S103649341
2822 SOUTH ST	SACRAMENTO	95816	AMERICAN PLATING	ENVIROSTOR	HG3768	1000353466
2828 J ST	SACRAMENTO		ARCO	Sacramento Co. CS	GP3682	S104795655
2828 J ST (AKA: 2838)	SACRAMENTO	95816	ARCO #2183	LUST	GP3683	S105418590
2838 J ST	SACRAMENTO	95816	ARCO FAC #2183	Sacramento Co. CS	GP3685	S102424230
2838 J ST	SACRAMENTO	95816	ARCO FAC #2183	HIST CORTESE	GP3685	S102424230
2900 L ST	SACRAMENTO	95816	SUTTER CANCER CENTER	HIST CORTESE	HB3730	S102438269
2900 L ST	SACRAMENTO	95816	SUTTER CANCER CENTER	LUST	HB3730	S102438269
2900 L ST	SACRAMENTO		SUTTER GENERAL	Sacramento Co. CS	HB3729	S102438272
2ND / E ST	W SACRAMENTO	95691	2ND & "E" STS	ERNS	CW3014	91209982
2ND / E ST	W SACRAMENTO	95691		CHMIRS	DE2825	S100277319
300 RICHARDS BLVD	SACRAMENTO		CARDLOCK	Sacramento Co. CS	HE3747	S102426333
300 RICHARDS BLVD	SACRAMENTO	95814	PACIFIC MOTOR TRUCKING CO	LUST	HE3749	1000250575
300 RICHARDS BLVD	SACRAMENTO	958140000	RICHARDS BLVD PARTNERS	Sacramento Co. CS	HE3748	S103427246
300 RICHARDS BLVD	SACRAMENTO	958140000	RICHARDS BLVD PARTNERS	HIST CORTESE	HE3748	S103427246
3000 CAPITOL AVE	SACRAMENTO	95816	UNION OIL SS#5036	Sacramento Co. CS	3785	1000167235
3000 CAPITOL AVE	SACRAMENTO	95816	UNION OIL SS#5036	LUST	3785	1000167235
301 RICHARDS BLVD	SACRAMENTO	95815	MOTOROLA	Sacramento Co. CS	HE3764	U001615283
301 RICHARDS BLVD	SACRAMENTO	95815	MOTOROLA	HIST CORTESE	HE3764	U001615283
301 RICHARDS BLVD	SACRAMENTO	95815	MOTOROLA	LUST	HE3764	U001615283
317 12TH ST	SACRAMENTO		LA VALENTINA DEVELOPMENT	Sacramento Co. CS	DS3047	S110041090

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
317 12TH ST	SACRAMENTO	95814	LA VALENTINA DEVELOPMENT	SLIC	DS3049	S109604713
317 3RD ST	W SACRAMENTO	95605	WASHINGTON FIREHOUSE	US BROWNFIELDS	EH3277	1010082382
319 3RD ST	W SACRAMENTO	95606	CAPITOL PLATING	US BROWNFIELDS	EH3274	1010340801
319 3RD ST	W SACRAMENTO	95605	CAPITOL PLATING CORPORATION	RESPONSE	EH3276	S101482938
319 3RD ST	W SACRAMENTO	95605	CAPITOL PLATING CORPORATION	ENVIROSTOR	EH3276	S101482938
319 3RD ST	W SACRAMENTO	95605	CAPITOL PLATING CORPORATION	Cortese	EH3276	S101482938
320 10TH ST	SACRAMENTO	95813	NIELSEN PROPERTY	LUST	GJ3653	S104403321
320 N 10TH ST	SACRAMENTO	95814	NIELSEN, VASKO & EARL, INC.	Sacramento Co. CS	GJ3654	U001615154
3200 FOLSOM BLVD	SACRAMENTO	95816	SPURGEON CLEANING & DYEING	Sacramento Co. CS	HL3802	S100189443
3200 FOLSOM BLVD	SACRAMENTO	95816	SPURGEON CLEANING & DYEING	ENVIROSTOR	HL3802	S100189443
324 16TH	SACRAMENTO	958140000	BC STOCKING DISTRIBUTOR	HIST CORTESE	DD3024	S103652831
324 16TH ST N	SACRAMENTO	95814	FORMER BC STOCKING STATION	LUST	DD3022	S105174006
324 N 16TH ST	SACRAMENTO		FORMER B C STOCKING CARDLOCK	Sacramento Co. CS	GC3659	S104586316
324 N 16TH ST	SACRAMENTO		PETRO-SPEED	Sacramento Co. CS	GC3660	S102435143
3301 FOLSOM BOULEVARD	SACRAMENTO	95816	CLEANERS	ENVIROSTOR	HL3803	S102860933
3315 FOLSOM BLVD.	SACRAMENTO	95816	CLEANERS	ENVIROSTOR	HL3805	S101481816
344 N 7 TH ST	SACRAMENTO	95814	OFFICE STATE PRINTING	LUST	GV3712	S105418584
344 N 7TH ST	SACRAMENTO	95814	OFFICE OF STATE PUBLISHING	Sacramento Co. CS	GV3710	1008152862
344 N 7TH ST	SACRAMENTO	95814	OFFICE OF STATE PUBLISHING	HIST CORTESE	GV3711	1000246850
344 N 7TH ST	SACRAMENTO	95814	OFFICE OF STATE PUBLISHING	LUST	GV3711	1000246850
344 N 7TH ST	SACRAMENTO		STATE OFFICE OF PRINTERS	Sacramento Co. CS	GV3722	S102955800
360 10TH ST	SACRAMENTO	95814	WASTE MANAGEMENT OF SAC	HIST CORTESE	DO3029	S104403315
360 10TH ST	SACRAMENTO	95814	WASTE MANAGEMENT OF SAC	LUST	DO3029	S104403315
3RD / D ST	W SACRAMENTO			CHMIRS	EH3261	S105885512
3RD ST / O ST	SACRAMENTO			CHMIRS	AG1873	S108404747
400 29TH ST	SACRAMENTO	95816	BOSKO-IJUBISAVIUIC	Sacramento Co. CS	HA3791	S102425562
400 29TH ST	SACRAMENTO	95816	BOSKO-IJUBISAVIUIC	HIST CORTESE	HA3791	S102425562
400 29TH ST	SACRAMENTO	95816	BOSKO-IJUBISAVIUIC	LUST	HA3791	S102425562
400 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - MANUFACTURED GAS PLAN	RESPONSE	A1563	S107737490
400 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - MANUFACTURED GAS PLAN	ENVIROSTOR	A1563	S107737490
400 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - MANUFACTURED GAS PLAN	Cortese	A1563	S107737490
401 I ST	SACRAMENTO			CHMIRS	A1613	S105641566
401 BROADWAY	SACRAMENTO	95818	BROADWAY SELF STORAGE	SLIC	GS3691	S104654651

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
401 BROADWAY	SACRAMENTO	95818	BROADWAY SELF STORAGE	Sacramento Co. CS	GS3691	S104654651
401 I ST	SACRAMENTO		401 I ST	ERNS	A1623	2005616493
401 I ST	SACRAMENTO		401 I ST	ERNS	A1624	2005604343
401 I ST	SACRAMENTO		401 I ST	ERNS	A1629	2004734992
401 I ST	SACRAMENTO	95814	SOUTHERN PACIFIC TRANS CO	SLIC	A1643	1000409221
401 I ST	SACRAMENTO	95814	SOUTHERN PACIFIC TRANS CO	CORRACTS	A1643	1000409221
401 I ST	SACRAMENTO	95814	SOUTHERN PACIFIC TRANS CO	Sacramento Co. CS	A1643	1000409221
401 I ST	SACRAMENTO	95814	SOUTHERN PACIFIC TRANS CO	CERC-NFRAP	A1643	1000409221
401 I ST	SACRAMENTO	95814	SOUTHERN PACIFIC TRANS CO	ENVIROSTOR	A1643	1000409221
401 I ST	SACRAMENTO		SPRR-SACRAMENTO LOCOMOTIVE	Sacramento Co. CS	A1637	S104795582
401 I ST	SACRAMENTO		SACRAMENTO RAILYA	SLIC	A1626	S101300908
401 I ST	SACRAMENTO		SACRAMENTO RAILYA	HIST CORTESE	A1626	S101300908
401 I ST	SACRAMENTO		SACRAMENTO RAILYA	LUST	A1626	S101300908
401 I ST	SACRAMENTO		401 I ST.	ERNS	A1622	2005618876
401 I ST	SACRAMENTO		401 I ST.	ERNS	A1627	2006792863
401 I ST	SACRAMENTO	95695		CHMIRS	A1634	S106401116
401 I ST	SACRAMENTO	95695		CHMIRS	A1635	S107450047
401 I ST	SACRAMENTO		401 I STREET	ERNS	A1630	2003657052
401 I ST	SACRAMENTO		401 I STREET	ERNS	A1631	2003651158
401 I ST	SACRAMENTO	95814	SP, SAC - BATTERY SHOP YARD	HIST Cal-Sites	A1621	S100351390
401 I ST	SACRAMENTO	95814	SP, SAC - SACRAMENTO STATION	HIST Cal-Sites	A1628	S101481755
401 I ST	SACRAMENTO	95814	SP, SAC - SAND PILES	RESPONSE	A1618	S100351371
401 I ST	SACRAMENTO	95814	SP, SAC - SAND PILES	SLIC	A1618	S100351371
401 I ST	SACRAMENTO	95814	SP, SAC - SAND PILES	DEED	A1618	S100351371
401 I ST	SACRAMENTO	95814	SP, SAC - SAND PILES	VCP	A1618	S100351371
401 I ST	SACRAMENTO	95814	SP, SAC - SAND PILES	ENVIROSTOR	A1618	S100351371
401 I ST	SACRAMENTO	95814	SP, SAC - SAND PILES	HIST Cal-Sites	A1618	S100351371
401 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - CENTRAL SHOPS	HIST Cal-Sites	A1636	S105954432
401 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - CENTRAL SHOPS	CHMIRS	A1636	S105954432
401 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - CENTRAL SHOPS	Cortese	A1636	S105954432
401 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - LAGOON	HIST Cal-Sites	A1633	S105954434
401 I ST	SACRAMENTO	95814	UP, DOWNTOWN SAC - LAGOON	Cortese	A1633	S105954434
401 N 16TH ST	SACRAMENTO	95814	CALIFORNIA ANALYTICAL LABS.	ENVIROSTOR	CN2848	S101481861

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
401 O ST	SACRAMENTO	95814	ALLRIGHT PARKING	HIST CORTESE	AS1843	S101300951
401 O ST	SACRAMENTO	95814	ALLRIGHT PARKING	LUST	AS1843	S101300951
401 O ST	SACRAMENTO		CAPITOL SQUARE PROPERTIES	Sacramento Co. CS	AS1845	S104163626
405 U ST	SACRAMENTO	95814	SHRA	Sacramento Co. CS	EB3348	S101300979
405 U ST	SACRAMENTO	95814	SHRA	HIST CORTESE	EB3348	S101300979
405 U ST	SACRAMENTO	95814	SHRA	LUST	EB3348	S101300979
410 10TH ST	SACRAMENTO	95814	RIO LINDA CHEMICAL CO.	HIST CORTESE	CZ2834	S104163633
410 10TH ST	SACRAMENTO	95814	RIO LINDA CHEMICAL CO.	LUST	CZ2834	S104163633
410 13TH ST	SACRAMENTO			CHMIRS	DA2772	S105884291
410 N 10TH ST	SACRAMENTO	95814	RIO LINDA CHEMICAL COMPANY	Sacramento Co. CS	CZ2837	U001615173
420 Q ST	SACRAMENTO	95814	VACANT BLDG (UNION PAC REALTY)	Sacramento Co. CS	BY2350	S102439603
420 Q ST	SACRAMENTO	95814	VACANT BLDG (UNION PAC REALTY)	HIST CORTESE	BY2350	S102439603
420 Q ST	SACRAMENTO	95814	VACANT BLDG (UNION PAC REALTY)	LUST	BY2350	S102439603
422 - 424 C ST	W SACRAMENTO	95691	422 - 424 C STREET	US BROWNFIELDS	EY3378	1010082347
424 12TH ST	SACRAMENTO		FORMER MOHAWK SERVICE STATION	Sacramento Co. CS	CF2754	S102430296
424 12TH ST	SACRAMENTO	95814	MOHAWK SS (FORMER) TEXACO	HIST CORTESE	CF2753	S101300988
424 12TH ST	SACRAMENTO	95814	MOHAWK SS (FORMER) TEXACO	LUST	CF2753	S101300988
424 N. 7TH ST	SACRAMENTO	95814	424 N. 7TH STREET	ERNS	CY2746	2002630605
424 NORTH 7TH ST	SACRAMENTO	95814	SACRAMENTO FOODS (DIV OF BORDEN FOODS)	ENVIROSTOR	CY2744	S104163634
424 NORTH 7TH ST	SACRAMENTO	95814	SACRAMENTO FOODS, INC.	CHMIRS	CY2747	U001615181
425 1ST AVE	SACRAMENTO	95818	SACRAMENTO CITY UNIF SCH DIST	Sacramento Co. CS	GS3773	S103976415
425 1ST AVE (AKA 5TH ST @ 1ST AVE)	SACRAMENTO	95818	SACRAMENTO CITY UNIFIED SCHOOL DISMAINT.	LUST	GS3774	S106916108
426 N 7TH ST	SACRAMENTO	95814	SIERRA QUALITY CANNERS	LUST	CY2742	S109285027
426 N 7TH ST	SACRAMENTO	95814	SIERRA QUALITY CANNERS INC.	Sacramento Co. CS	CY2741	1000368670
426 N 7TH ST	SACRAMENTO	95814	SIERRA QUALITY CANNERS INC.	HIST CORTESE	CY2741	1000368670
426 N 7TH ST	SACRAMENTO	95814	SIERRA QUALITY CANNERS INC.	LUST	CY2741	1000368670
427 C ST	W SACRAMENTO	95691	GARY'S SERVICE CASE #1	HIST CORTESE	EY3418	S101306161
427 C ST	W SACRAMENTO	95691	GARY'S SERVICE CASE #1	LUST	EY3418	S101306161
427 C ST	W SACRAMENTO	95605	GARY'S MOWHAWK SERVICE CASE #2	LUST	EY3420	S106229795
430 17TH ST	SACRAMENTO	95814	430 17TH ST	ERNS	CN2731	92264046
430 29TH ST	SACRAMENTO	95816	CHEVRON #5632	LUST	HA3784	U001615309
444 RICHARDS BLVD	SACRAMENTO	95814	CALVADA SALES COMPANY	Sacramento Co. CS	HI3780	S101590615
444 RICHARDS BLVD	SACRAMENTO	95814	CALVADA SALES COMPANY	LUST	HI3780	S101590615

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
455 BANNON ST	SACRAMENTO	958140203	MATHESON POSTAL SERVICES	Sacramento Co. CS	FZ3645	S104586326
455 BANNON ST	SACRAMENTO	958140203	MATHESON POSTAL SERVICES	HIST CORTESE	FZ3645	S104586326
455 BANNON ST	SACRAMENTO	958140203	MATHESON POSTAL SERVICES	LUST	FZ3645	S104586326
455 BANNON ST	SACRAMENTO	958140000	MATHESON POSTAL SERVICES INC	LUST	FZ3646	S103706821
470 16TH ST N (AKA:1506 SPROU	SACRAMENTO	95814	CREST DISTRIBUTORS	HIST CORTESE	CN2702	S105025987
470 16TH ST N (AKA:1506 SPROU	SACRAMENTO	95814	CREST DISTRIBUTORS	LUST	CN2702	S105025987
470 N 16TH ST	SACRAMENTO		E D PROPERTY	Sacramento Co. CS	GZ3727	S103427155
471 BANNON ST	SACRAMENTO	95814	SCHETTER ELECTRIC	Sacramento Co. CS	FZ3639	1004678407
471 BANNON ST	SACRAMENTO	95814	SCHETTER ELECTRIC	LUST	FZ3640	S106859275
490 CAPITOL	W SACRAMENTO	95606	RALEY'S LANDING/PARRISH A	HIST CORTESE	EG3247	S105027361
490 WEST CAPITOL AVE	W SACRAMENTO	95691	RALEY'S LANDING/PARRISH ARCO	LUST	EG3248	S104403933
4TH ST / B ST	W SACRAMENTO	95691	YOLO CO PUBLIC WORKS	HIST CORTESE	EY3489	S105027375
4TH ST / B ST	W SACRAMENTO	95691	YOLO CO PUBLIC WORKS	LUST	EY3489	S105027375
50 SOUTH RIVER ROAD	W SACRAMENTO	95691	WEYERHAEUSER PROPERTY	US BROWNFIELDS	DQ3254	1010416007
500 12TH ST N	SACRAMENTO	95814	CARS-R-US (FORMER SS)	Sacramento Co. CS	CF2590	S101300989
500 12TH ST N	SACRAMENTO	95814	CARS-R-US (FORMER SS)	HIST CORTESE	CF2590	S101300989
500 12TH ST N	SACRAMENTO	95814	CARS-R-US (FORMER SS)	LUST	CF2590	S101300989
500 5TH ST	W SACRAMENTO	95691	ON THE BALL GRAPHICS	HIST CORTESE	FC3390	S102434688
500 5TH ST	W SACRAMENTO	95691	ON THE BALL GRAPHICS	LUST	FC3390	S102434688
500 C ST	W SACRAMENTO	95691	FORMER HUDSON	HIST CORTESE	FO3509	S102430246
500 C ST	W SACRAMENTO	95691	FORMER HUDSON	LUST	FO3509	S102430246
500 E ST	W SACRAMENTO	956052615	RALEY'S	HIST CORTESE	FC3393	S104536169
500 E ST	W SACRAMENTO	956052615	RALEY'S	LUST	FC3393	S104536169
500 Q	SACRAMENTO		UNOCAL #5520 (FORMER)	HIST CORTESE	BG2246	S101308037
500 Q ST	SACRAMENTO	95818	UNOCAL #5520 (FORMER)	LUST	BG2321	S102440432
500 Q ST	SACRAMENTO	95814	UNOCAL SERVICE STATION #5520	Sacramento Co. CS	BG2314	1000167268
500 RICHARDS BLVD	SACRAMENTO	95814	BIG VALLEY EXPRESS	Sacramento Co. CS	HI3783	S101332003
500 RICHARDS BLVD	SACRAMENTO	95814	BIG VALLEY EXPRESS	HIST CORTESE	HI3783	S101332003
500 RICHARDS BLVD	SACRAMENTO	95814	BIG VALLEY EXPRESS	LUST	HI3783	S101332003
501 JIBBOOM ST	SACRAMENTO	958140000	UNION PACIFIC RAILROAD	ENVIROSTOR	3504	S106387895
515 10TH ST N	SACRAMENTO	95814	AUTO GLASS DIST	HIST CORTESE	BV2464	S102317765
515 10TH ST N	SACRAMENTO	95814	AUTO GLASS DIST	LUST	BV2464	S102317765
516 13TH ST	SACRAMENTO		516 13TH ST	ERNS	BQ2462	8712629
520 12TH ST N	SACRAMENTO	95814	GEMSCH COMPANY	LUST	CF2461	S105034772

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
520 N 12TH ST	SACRAMENTO		CARSON DEVELOPMENT	Sacramento Co. CS	3790	S102426382
522 NO. 12TH ST	SACRAMENTO	95814	GEMSCH COMPANY	HIST CORTESE	CF2456	U001615108
525 16TH ST	SACRAMENTO	95814	DOWNTOWN FORD SALES INC	Sacramento Co. CS	BZ2454	1000322720
525 16TH ST	SACRAMENTO	95814	DOWNTOWN FORD SALES INC	HIST CORTESE	BZ2454	1000322720
525 16TH ST	SACRAMENTO	95814	DOWNTOWN FORD SALES INC	LUST	BZ2454	1000322720
550 2ND ST	W SACRAMENTO			CHMIRS	CW2779	S105664103
BOULEVARD	SACRAMENTO	95814	BIGGERS INDUSTRIAL GERLINGER	ENVIROSTOR	HI3796	S101481702
575 7TH ST	SACRAMENTO		BUILDING DESIGN	Sacramento Co. CS	CD2421	S102425895
600 NORTH 10TH ST	SACRAMENTO	95814		CHMIRS	BV2308	S100218369
600 Q ST	SACRAMENTO	958146311	AP THOMPSON CONSTRUCTION	Sacramento Co. CS	BG2257	S102428992
600 Q ST	SACRAMENTO	958146311	AP THOMPSON CONSTRUCTION	HIST CORTESE	BG2257	S102428992
600 Q ST	SACRAMENTO	958146311	AP THOMPSON CONSTRUCTION	LUST	BG2257	S102428992
601 7TH ST N	SACRAMENTO	95814	CONTINENTAL CAN CO	HIST CORTESE	CD2386	S102428316
601 7TH ST N	SACRAMENTO	95814	CONTINENTAL CAN CO	LUST	CD2386	S102428316
612 MICHIGAN BLVD	W SACRAMENTO	95691	TOMLIN'S SUNSHINE CLEANERS	ENVIROSTOR	3800	S101482951
615 S ST	SACRAMENTO	95814	EAGLE PROP #3	Sacramento Co. CS	DF2868	S100733880
615 S ST	SACRAMENTO	95814	EAGLE PROP #3	HIST CORTESE	DF2868	S100733880
615 S ST	SACRAMENTO	95814	EAGLE PROP #3	LUST	DF2868	S100733880
623 Q ST	SACRAMENTO	6310		CHMIRS	BW2259	S100280719
624 Q ST	SACRAMENTO	95814		CHMIRS	BW2359	S100219809
625 Q ST	SACRAMENTO	95814	CENTRAL HEATING & COOLING PLNT	Sacramento Co. CS	BW2262	S101590580
625 Q ST	SACRAMENTO	95814	PLANT BLOCK	LUST	BW2265	S107619923
630 22ND ST	SACRAMENTO	95816	TARNASKY RESIDENCE	HIST CORTESE	DP3006	S102438439
630 22ND ST	SACRAMENTO	95816	TARNASKY RESIDENCE	LUST	DP3006	S102438439
631 H ST	SACRAMENTO		LAB REDE	Sacramento Co. CS	AM1915	S109417877
631 H ST	SACRAMENTO	958140000	CITY OF SAC/FLEET MANAGEMENT	LUST	AM1917	S105724275
66 BROADWAY	SACRAMENTO		TOSCO CORP. - SACRAMENTO TERMINAL	SLIC	GY3739	S101629737
66 BROADWAY	SACRAMENTO	95818	TOSCO CORPORATION, SACRAMENTO TERMINAL	Sacramento Co. CS	GY3740	1000175634
66 BROADWAY	SACRAMENTO		TOSCO REFINING CO. 66 BROADWAY (FORMER)	SLIC	GY3737	S106484234
706 TOWER COURT	W SACRAMENTO	95691	FORMER TOWER COURT PROPERTIES	US BROWNFIELDS	EV3392	1009311498
706 WEST CAPITAL AVE	W SACRAMENTO	95695	TOWER COURT	VCP	FF3493	S109348566
706 WEST CAPITAL AVE	W SACRAMENTO	95695	TOWER COURT	ENVIROSTOR	FF3493	S109348566

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
711 G ST	SACRAMENTO		SACRAMENTO CO-SHERIFF'S BLDG	Sacramento Co. CS	AM2151	S104795572
711 G ST	SACRAMENTO	958140000	SACRAMENTO SHERIFF'S DEPT ID	HIST CORTESE	AM2152	S100872869
711 G ST	SACRAMENTO	958140000	SACRAMENTO SHERIFF'S DEPT ID	LUST	AM2152	S100872869
714 P ST	SACRAMENTO		STATE OF CAL OB - 8	Sacramento Co. CS	BB2118	S104586497
714 P ST	SACRAMENTO		STATE OF CA-OB 8	Sacramento Co. CS	BB2112	S101332056
714 P ST (CASE # 1)	SACRAMENTO	95814	MOBIL #8	HIST CORTESE	BB2123	S100941011
714 P ST (CASE # 1)	SACRAMENTO	95814	MOBIL #8	LUST	BB2123	S100941011
721 N B ST	SACRAMENTO	95814	ENVIROTECH CORP. WEMCO DIVISION	CERCLIS	GA3608	1001491862
723 S ST	SACRAMENTO		SACRA	SLIC	DG2881	S101481894
723 S ST	SACRAMENTO		SACRA	ENVIROSTOR	DG2881	S101481894
723 S ST	SACRAMENTO		GILBERT PROPERTY	Sacramento Co. CS	DG2880	S102430782
723 S ST	SACRAMENTO		CONTAMINATED PROPERTY FORMER JUNKYARD	SLIC	DG2882	S108992099
5TH STR	W SACRAMENTO	95691	TOWER BRIDGE GATEWAY NORTH	US BROWNFIELDS	DB2790	1012126892
725 7TH ST	SACRAMENTO		COUNTY PARKING GARAGE	Sacramento Co. CS	AM2025	S104586312
725 7TH ST	SACRAMENTO	95814	DOWNTOWN PARKING GARAGE	LUST	AM2029	S105488632
730 29TH ST	SACRAMENTO	95816	SHELL OIL CO	Sacramento Co. CS	HD3741	1000288761
730 29TH ST	SACRAMENTO	95816	SHELL SERVICE STATION	HIST CORTESE	HD3742	S103670644
730 29TH ST	SACRAMENTO	95816	SHELL SERVICE STATION	LUST	HD3742	S103670644
731 BROADWAY	SACRAMENTO	95818	FIRE STATION #5	HIST CORTESE	GQ3689	S100850544
731 BROADWAY	SACRAMENTO	95818	FIRE STATION #5	LUST	GQ3689	S100850544
731 BROADWAY	SACRAMENTO		SAC CITY FIRE STATION #5	Sacramento Co. CS	GQ3690	S102436212
731 BROADWAY, O'NEIL PARK	SACRAMENTO		#5	SLIC	GQ3686	S106112439
76 BROADWAY	SACRAMENTO		TOSCO CORP. (FORMER UNOCAL CORP.) - SACR	SLIC	GY3726	S100947200
76 BROADWAY	SACRAMENTO		TOSCO CORP. (FORMER UNOCAL CORP.) - SACR	HIST CORTESE	GY3726	S100947200
76 BROADWAY	SACRAMENTO		TOSCO CORP. (FORMER UNOCAL CORP.) - SACR	LUST	GY3726	S100947200
76 BROADWAY	SACRAMENTO		UNOCAL BULK TERMINAL	Sacramento Co. CS	GY3725	S102440208
76 BROADWAY ST	SACRAMENTO	95818	TOSCO- 76 BROADWAY	SLIC	GY3724	S106487206
800 DELTA LN	W SACRAMENTO	95691	ROADWAY EXPRESS INC	HIST CORTESE	EV3430	S100217150
800 DELTA LN	W SACRAMENTO	95691	ROADWAY EXPRESS INC	LUST	EV3430	S100217150
800 DELTA LN	W SACRAMENTO	95691	ROADWAY EXPRESS INC	CHMIRS	EV3430	S100217150
800 MERKLEY AVE	W SACRAMENTO	95691	800 MERKLEY AVENUE	US BROWNFIELDS	GU3701	1009311439
801 5TH ST	SACRAMENTO	95814	SAFETY GARAGE	HIST CORTESE	D1736	S102436251

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
801 5TH ST	SACRAMENTO	95814	SAFETY GARAGE	LUST	D1736	S102436251
801 5TH ST	SACRAMENTO	95814	801 5TH STREET	ERNS	D1737	92262185
801 RIVER RD S	W SACRAMENTO		COAST OIL COMPANY** UP TO 1997 ARCHIVED	SLIC	CG2572	S106230593
801 SOUTH RIVER RD.	W SACRAMENTO	95691	WESTCO TECHNOLOGIES	ENVIROSTOR	CG2569	S101482934
804 S RIVER RD	W SACRAMENTO	95691	804 S. RIVER RD	ERNS	CG2560	91238276
804 S RIVER RD	W SACRAMENTO	956910000	O'DALEY OIL CORPORATION	LUST	CG2567	S103672856
804 S RIVER RD	W SACRAMENTO	95691	RELLES OIL	LUST	CG2568	S105791099
804 S RIVER RD	W SACRAMENTO	95691	WHALEY PROPERTY	US BROWNFIELDS	CG2563	1012126895
804 S RIVER RD	W SACRAMENTO	95691		CHMIRS	CG2559	S100278360
805 E ST	W SACRAMENTO	95814	805 E ST	ERNS	CL2666	91238296
808-824 MERKLEY AVE	W SACRAMENTO	95691	RAMOS TRIANGLE	US BROWNFIELDS	GU3700	1009311547
809 20TH ST	SACRAMENTO	95814	CHEAPER #142	Sacramento Co. CS	BM2323	S101300999
809 20TH ST	SACRAMENTO	95814	CHEAPER #142	HIST CORTESE	BM2323	S101300999
809 20TH ST	SACRAMENTO	95814	CHEAPER #142	LUST	BM2323	S101300999
809 20TH ST	SACRAMENTO	95814	FOOD & LIQUOR #142 (AKA FORMER CHEAPER!)	LUST	BM2326	S109285022
817 WEST CAPITOL AVE	W SACRAMENTO	95691	CAPITOL TRAVEL INN	US BROWNFIELDS	FR3614	1009311462
820 & 824 WEST CAPITOL AVE	W SACRAMENTO	95691	820 & 824 WEST CAPITOL AVENUE	US BROWNFIELDS	FR3591	1010415982
820 MERKLEY AVE	W SACRAMENTO	95691	SUNSHINE LAUNDRY AND CLEANERS	ENVIROSTOR	GU3703	S100190978
820 WEST CAPITOL AVE	W SACRAMENTO	95691	820 WEST CAPITOL AVENUE	US BROWNFIELDS	FR3587	1009311443
820-824 WEST CAPITOL AVE	W SACRAMENTO	95691	FORMER EXPERIENCE MOTEL	LUST	FR3586	S109285403
824 WEST CAPITOL AVE	W SACRAMENTO	95651	THE EXPERIENCE MOTEL	US BROWNFIELDS	FR3597	1009311571
826 WEST CAPITOL AVE	W SACRAMENTO	95691	OLD TOWN INN	US BROWNFIELDS	FR3600	1009311536
827 JEFFERSON BOULEVARD	W SACRAMENTO	95691	FABRICARE ONE HOUR MARTINIZING #2	ENVIROSTOR	HK3798	S107736310
828 MERKLEY AVE	W SACRAMENTO	95691	828 MERKLEY AVENUE	US BROWNFIELDS	GU3706	1009311448
830 E ST	W SACRAMENTO	956050000	USF BESTWAY	HIST CORTESE	GN3679	S102433400
830 E ST	W SACRAMENTO	956050000	USF BESTWAY	LUST	GN3679	S102433400
832 F ST	W SACRAMENTO	956052314	CONDOR FREIGHT LINES	HIST CORTESE	GN3684	S102438105
832 F ST	W SACRAMENTO	956052314	CONDOR FREIGHT LINES	LUST	GN3684	S102438105
850 DELTA LN	W SACRAMENTO	956910000	FREDERICKSEN TANK LINES	LUST	EV3366	S105032981
850 F ST	W SACRAMENTO	95691	WILLIG FREIGHT LINES	LUST	3719	U004004462
850 RIVER	W SACRAMENTO		VAN WATERS & ROGERS	SLIC	CG2671	S105027374
850 RIVER	W SACRAMENTO		VAN WATERS & ROGERS	HIST CORTESE	CG2671	S105027374
850 S RIVER RD	W SACRAMENTO	95691		CHMIRS	CG2689	S100275140

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
850 S RIVER RD	W SACRAMENTO			CHMIRS	CG2672	S105639371
850 S RIVER RD	W SACRAMENTO	95691	VAN WATERS & ROGERS, INC	CERCLIS	CG2690	1003109060
850 S RIVER RD	W SACRAMENTO	95691	VAN WATERS AND ROGERS, INC	ENVIROSTOR	CG2688	S101482948
860 RISKE LANE	W SACRAMENTO	95691	SACRAMENTO STUCCO CO.	VCP	EM3295	S107737188
860 RISKE LANE	W SACRAMENTO	95691	SACRAMENTO STUCCO CO.	ENVIROSTOR	EM3295	S107737188
860 RISKE LN	W SACRAMENTO	95691	C&S BATTERY & LEAD CO	CERC-NFRAP	EM3293	1003878420
880 S RIVER RD	W SACRAMENTO	95691	880 SOUTH RIVER ROAD	ERNS	CG2720	99634691
880 S RIVER RD	W SACRAMENTO	95691	880 SOUTH RIVER ROAD	ERNS	CG2721	99635210
880 S RIVER RD	W SACRAMENTO			CHMIRS	CG2722	S105662038
8TH / SACRAMENTO AVE	W SACRAMENTO	95691	TURNER LAND COMPANY PROPERTY (FORMERLY 8	LUST	3666	S108997092
900 E ST	SACRAMENTO		900 E ST	HMIRS	CL2612	2008433356
900 E ST	SACRAMENTO		900 E ST	HMIRS	CL2614	2008430432
900 E ST	SACRAMENTO		900 E ST	HMIRS	CL2611	2009043746
900 E ST	W SACRAMENTO	95691	CONWAY WESTERN EXPRESS, INC.	LUST	GN3756	S102428339
900 E ST	SACRAMENTO		900 E STREET	HMIRS	CL2610	2005710988
900 E ST	SACRAMENTO			HMIRS	CL2609	9900012298
900 E ST	SACRAMENTO			HMIRS	CL2608	9999091113
900 F ST	W SACRAMENTO		900 F ST.	ERNS	BV2392	2009922017
900 F ST	BRODERICK			HMIRS	BV2391	200112184
900 RICHARDS BLVD	SACRAMENTO	95814	YELLOW CAB COMPANY	Sacramento Co. CS	3782	S104025384
900 RICHARDS BLVD	SACRAMENTO	95814	YELLOW CAB COMPANY	HIST CORTESE	3782	S104025384
900 RICHARDS BLVD	SACRAMENTO	95814	YELLOW CAB COMPANY	LUST	3782	S104025384
900 WEST CAPITOL AVE	W SACRAMENTO	95691	CAPITOL BOWL	US BROWNFIELDS	FR3638	1009311461
901 P	SACRAMENTO	95814	STATE OF CA - BONDERSON B	HIST CORTESE	BH2089	S103995129
901 P ST	SACRAMENTO	95814	STATE OF CA - BONDERSON BLDG	Sacramento Co. CS	BH2091	S102438070
901 P ST	SACRAMENTO	95814	STATE OF CA - BONDERSON BLDG	LUST	BH2091	S102438070
901 P ST	SACRAMENTO		STATE WATER RESOURCES BOARD	Sacramento Co. CS	BH2090	S104586498
901 S RIVER RD	W SACRAMENTO	95691	RICE GROWERS ASSOCIATION OF CAL	ENVIROSTOR	EZ3382	1000196926
901 S RIVER RD	W SACRAMENTO	95691	UNION PACIFIC-BRIDGE HOUSING PROPERTY	US BROWNFIELDS	EZ3383	1012126893
908 20TH ST	SACRAMENTO	95814	LAWRENCE MAYFLOWER MOVING & ST	Sacramento Co. CS	BT2226	S103427229
908 20TH ST	SACRAMENTO	95814	LAWRENCE MAYFLOWER MOVING & ST	LUST	BT2226	S103427229
908914 20TH	SACRAMENTO	95814	LAWRENCE MAYFLOWER MOVING	HIST CORTESE	BT2212	S101301000
915 B ST N	SACRAMENTO	95814	FORT SUTTER COMPANY, INC	HIST CORTESE	FW3599	S104403317

TABLE 3
IMPACTS TO SOIL AND GROUNDWATER OUTSIDE OF THE STUDY AREA

ADDRESS[1,2]	CITY	ZIP CODE	FACILITY NAME	Database Listing[3]	EDR Report, MAP ID[4]	EDR Report ID Number[5]
915 B ST N	SACRAMENTO	95814	FORT SUTTER COMPANY, INC	LUST	FW3599	S104403317
915 N B ST	SACRAMENTO	958140000	FORT SUTTER CO	Sacramento Co. CS	FW3601	S101300810
920 WEST CAPITOL AVE	W SACRAMENTO	95691	FLAMINGO MOTEL	US BROWNFIELDS	GH3644	1009311489
925 S ST	SACRAMENTO		WES LASHER VOLKSWAGON	Sacramento Co. CS	CP2915	S104163638
925 S ST	SACRAMENTO	95814	WES LASHER VW	HIST CORTESE	CP2916	S100735696
925 S ST	SACRAMENTO	95814	WES LASHER VW	LUST	CP2916	S100735696
940 WEST CAPITOL AVE	W SACRAMENTO	95691	TOWNHOUSE MOTEL	US BROWNFIELDS	GH3651	1009311573
958 WEST CAPITOL AVE	W SACRAMENTO	95691	CREST MOTEL	US BROWNFIELDS	GH3655	1009311475
964 WEST CAPITOL AVE	W SACRAMENTO	95691	BUDGET MOTEL	US BROWNFIELDS	GH3656	1009311459
BLOCK 222 BOUNDED BY O & P ST, 12TH & 1	SACRAMENTO	00000	CADA PROPERTIES SITE 222	US BROWNFIELDS	AJ1809	1009805930
FRONT / T ST	SACRAMENTO	95814	SMUD, FRONT & T STREETS	RESPONSE	DK3088	S101482984
FRONT / T ST	SACRAMENTO	95814	SMUD, FRONT & T STREETS	DEED	DK3088	S101482984
FRONT / T ST	SACRAMENTO	95814	SMUD, FRONT & T STREETS	ENVIROSTOR	DK3088	S101482984
FRONT / T ST	SACRAMENTO	95814	SMUD, FRONT & T STREETS	HIST Cal-Sites	DK3088	S101482984
FRONT / T ST	SACRAMENTO	95814	SMUD, FRONT & T STREETS	Cortese	DK3088	S101482984
FRONT AND K ST	SACRAMENTO		FRONT AND K ST	ERNS	AZ2020	91201913
H / 19TH ST	SACRAMENTO			CHMIRS	AY2160	S105669539
I5 Q ST OFFRAMP	SACRAMENTO	95814	CALTRANS, I-5 Q STREET O	HIST CORTESE	BE2378	S105025968
I-5 S/B AT Q ST OFF RAMP	SACRAMENTO	95814		CHMIRS	BU2403	S100276984
IN THE ALLEY NEXT TO 1816 21S	SACRAMENTO			CHMIRS	DU3106	S107452139
ONE CITY BLOCK	SACRAMENTO	94203	CHILDREN'S THEATRE	US BROWNFIELDS	GL3678	1006884620
S RIVER RD & RISKE LN	W SACRAMENTO	95691	CAMPBELL CONSTRUCTION CO	CERC-NFRAP	3408	1003877965
ST	W SACRAMENTO	95691	RIVER WALK PROPERTY	US BROWNFIELDS	CG2460	1010340811
TWO BLOCK SECTION OF R ST BETWEEN 16TH &	SACRAMENTO	00000	CADA PROPERTIES R STREET	US BROWNFIELDS	CQ2660	1009805928

Notes

1 = Information based on *The EDR Radius Map ™ Report with Geocheck®, City of Sacramento, Downtown Infrastructure Study,900 K Street, Sacramento, California, 95814. Inquiry Number 2947641.1s. December 16, 2010.* (EDR Report) (Appendix A). This table only contains select databases with documented releases to soil or groundwater. Other databases that document permitted facilities that handle hazardous substances or petroleum product were excluded from this table because they do not provide information on releases to soil or

2 = Addresses were compiled by multiple regulatory agencies and may contain errors associated with transcription. All listed addresses are located in Sacramento, California.

3 = The database acronyms are defined in Table 1 and in the EDR Report.

4 = Refer to the Overview Map and Detail Maps provided in the EDR Radius Map Report for the plotted location of the provided MAP ID.

5 = Refer to the EDR Radius Map Report for details of the database listing (e.g., contamination, media affected, regulatory status).

APPENDIX G

BASIN 52 STORMWATER MASTER PLAN

APPENDIX G – BASIN 52 STORMWATER MASTER PLAN STUDY AREA

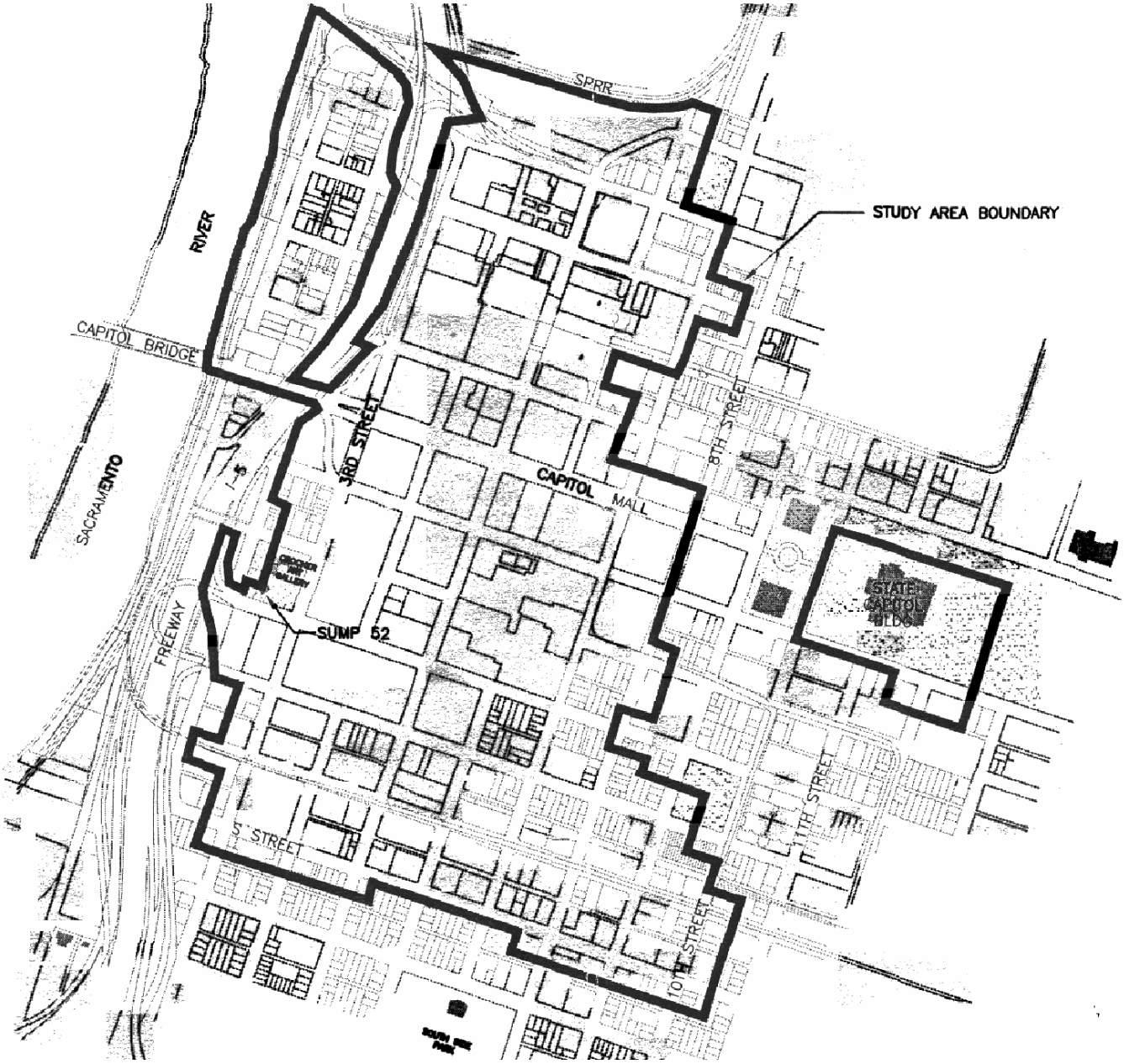
Basin 52 Stormwater Master Plan Study Area

Basin 52 Stormwater Master Plan Recommended Improvements from Master Plan

Basin 52 Stormwater Master Plan Revised Improvements

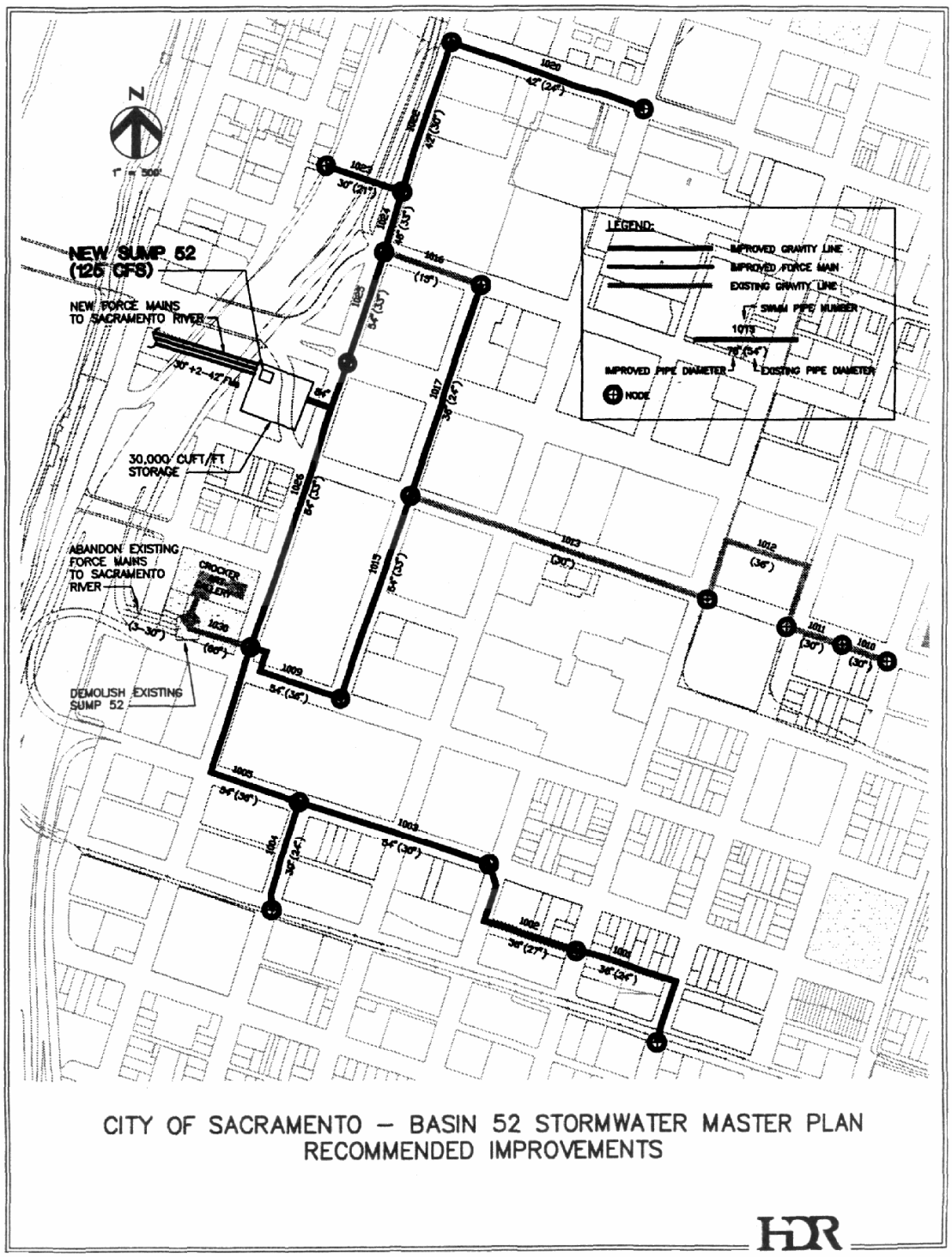
Basin 52 Stormwater Master Plan

Study Area



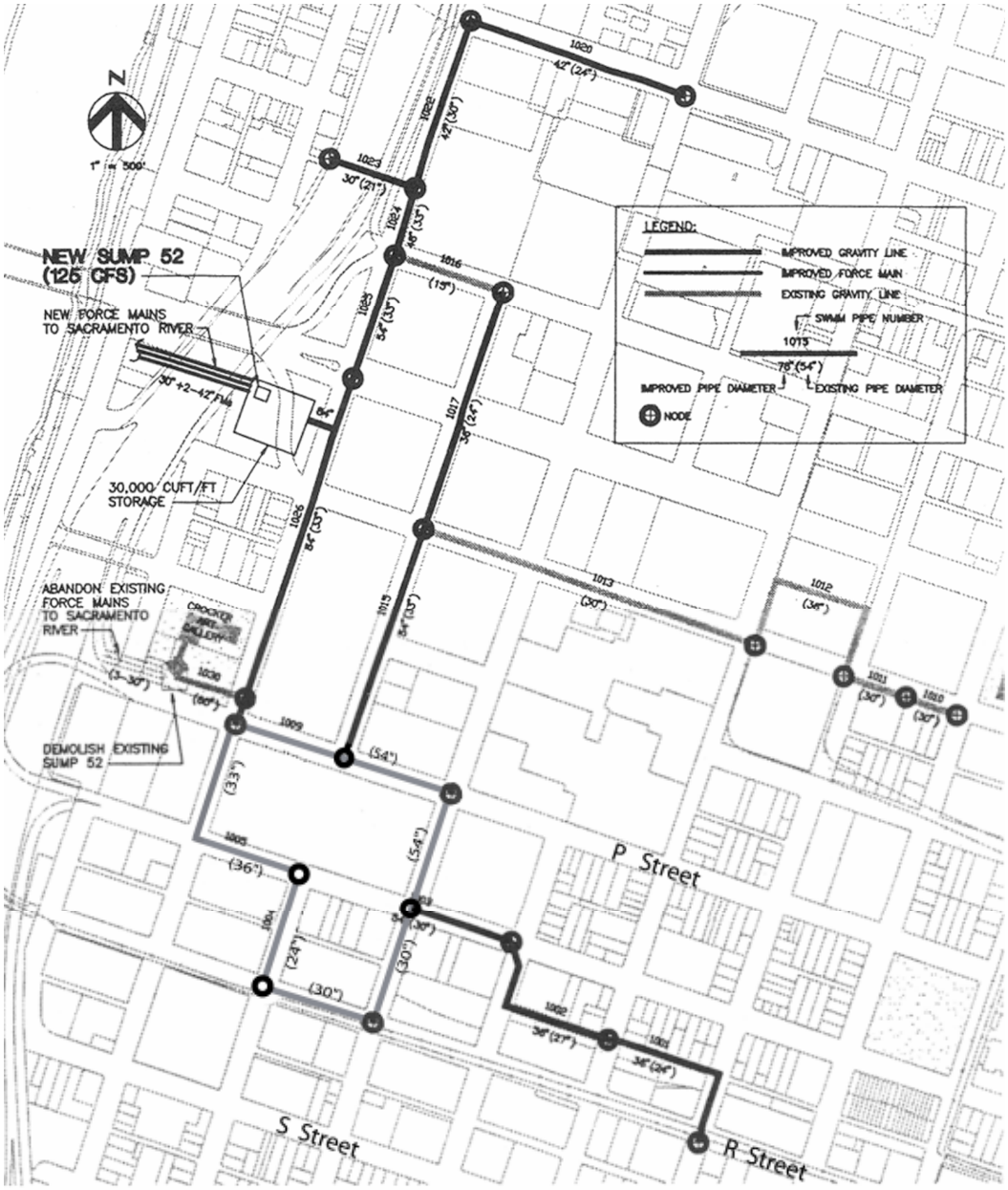
SOURCE: Basin 52 Stormwater Master Plan, City of Sacramento Department of Utilities

Basin 52 Stormwater Master Plan Recommended Improvements



SOURCE: Basin 52 Stormwater Master Plan, City of Sacramento Department of Utilities.

Basin 52 Stormwater Master Plan Revised Improvements



SOURCE: Basin 52 Stormwater Master Plan, City of Sacramento Department of Utilities