ConocoPhillips
76 Broadway
Sacramento, California 95818

April 3, 2009

Ms. Barbara Jakub
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Re: **Addendum to Additional Site Assessment Work Plan**
76 Service Station #6277
15803 East 14th Street
San Leandro, California
Fuel Leak Case No. RO00002969

Dear Ms. Jakub:

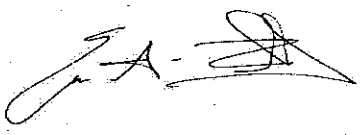
I declare under penalty of perjury that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions or need additional information, please call:

Ted Moise (Contractor)
ConocoPhillips
Risk Management & Remediation
76 Broadway
Sacramento, CA 95818

Phone: (510) 245-5162
Fax: (918) 662-4480

Sincerely,



Eric G. Hetrick
Site Manager
Risk Management & Remediation

Attachment

April 6, 2009

Ms. Barbara Jakub
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Addendum to Additional Site Assessment Work Plan
76 Service Station No. 6277
15803 East 14th Street
San Leandro, California
Fuel Leak Case No. RO00002969

DELTA

Dear Ms. Jakub:

Delta Consultants (Delta) has prepared this addendum to the original work plan dated October 27, 2008. This work plan addendum has been prepared as requested in the March 6, 2009 letter from your department and supersedes the previously submitted work plan to the Alameda County Health Care Services Agency (ACHCSA) on October 27, 2008. The ACHCSA letter is presented as **Attachment A**. The purpose of the proposed scope of work is to define the vertical and horizontal extent of petroleum hydrocarbons and fuel oxygenates in the soil and groundwater beneath the subject site.

The site location is shown on **Figure 1**.

GENERAL SITE DESCRIPTION

The site is currently an operating ConocoPhillips (76) service station located at 15803 East 14th Street in San Leandro, California. The site's current underground storage tanks (USTs) system configuration includes two fuel 12,000-gallon USTs (unleaded and premium unleaded gasoline), one 520-gallon waste oil tank and two dispenser islands. All USTs are double walled, steel with fiberglass coating added to the outside. The piping is also double walled fiberglass. The site is characterized by gently sloping, southwest trending topography, and is located approximately three miles northeast of the present shoreline of San Francisco Bay. **Figure 2** shows the location of the USTs.

a member of: Inogen Environmental Alliance

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PREVIOUS ASSESSMENT

1969 - Reported site history indicates the site was first developed as a gas station from an empty lot in 1969.

1989 - Two 10,000-gallon gasoline underground storage tanks (USTs), one 550-gallon waste oil UST, and the product piping were removed from the site in March of 1989 during UST replacement activities. Kaprealian Engineering Inc. (KEI) work at the site began on March 6, 1989, when KEI was retained by Unocal to drill two exploratory borings designated as SB-1 and SB-2 at the site. The borings were drilled at the request of Alameda County. The borings were installed in order to explore for the possible presence of soil contamination in the vicinity of the pit for the proposed new underground storage tanks. The borings were drilled to depths of 10.5 and 13.5 feet below grade. Ground water was encountered in the borings at depths of 11 to 12 feet below grade.

The samples collected from the exploratory borings SB-1 and SB-2 were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethyl-benzene and total xylenes, (BTEX). The analytical results of the soil samples collected at a depth of 5 feet below grade in the two borings indicated TPHg concentrations ranging from non-detectable to 2.1 parts per million (ppm).

The analytical results of the soil samples collected at a depth of 10 feet below grade indicated TPHg concentrations ranging from 200 ppm to 620 ppm. Based on results of this preliminary investigation, KEI recommended that the contractor excavate the existing tank pit to a depth of approximately 13 feet below grade. KEI returned to the site on March 13, 1989. Water was encountered in the fuel tank pit at a depth of about 11 feet below grade, thus prohibiting the collection of any soil samples from immediately beneath the tanks. Six soil samples, labeled SW1 through SW6, were collected from the sidewalls of the fuel tank pit at depths of approximately 1 foot above the water table; and one soil sample, labeled W01, was collected from beneath the waste oil tank at a depth of about 10 feet below grade. Based on observations in the field, it was decided to excavate additional soil from three of the four tank pit sidewalls.

On March 14, 1989, four trenches were installed to define the limits of additional soil excavation needed. Four soil samples were then collected at depths of about 10 feet below grade. The analytical results of the soil samples collected from the fuel tank pit indicated TPHg concentrations ranging from 24 ppm to 150 ppm. A sample collected adjacent to the existing building indicated 3,500 ppm of TPH as gasoline; however, the sample collected after excavating 2 feet of sidewall toward the building, indicated TPH as gasoline at concentration of 100 ppm. One analytical sample (SW2) indicated 390 ppm of TPHg. The analytical results of the soil samples collected from the waste oil tank pit indicated 280 and 41 ppm of total oil and grease (TOG). The analytical results of the water sample (W1) collected from the old fuel tank pit indicated 19,000 ppb of TPHg and 230 ppb of benzene.

On March 23, 1989, KEI returned to the site for pipe trench soil sampling. Six soil samples, labeled P1, P2, P3, P4, P5, and P6, were collected from beneath the product lines at depths of approximately 3 to 3.5 feet below grade. The analytical results of the soil samples P1 through P6 collected from the pipe trenches indicated concentrations of TPHg ranging from 1.1 ppm to 6.8 ppm.

The fuel UST pit and the waste oil UST pit were over-excavated in order to remove hydrocarbon-impacted soil. The majority of the hydrocarbon-impacted soil appears to have been removed from the site, except for the capillary fringe in the vicinity of the former UST pit and the building.

On May 24, 1989, four two-inch diameter monitoring wells, designated as MW-1 through MW-4 were installed at the site. The four wells were each drilled and completed to total depths ranging from 24.5 to 25 feet below grade. Ground water was encountered at depths ranging from 11 to 12 feet beneath the surface during drilling.

The monitoring and sampling program was initiated in July of 1989, and monitoring wells MW-1 through MW-4 and two additional monitoring wells (MW-5 and MW-6) installed on March 9, 1993 have been monitored monthly and sampled on a quarterly basis until 1996. Groundwater flow has predominantly ranged from the southwest to the north during the course of the investigation. Chlorinated solvents have consistently been reported in the up-gradient monitoring wells MW-3 and MW-4, and it appears that the chlorinated solvent impact at the Tosco site may be due to an unidentified source (or sources) located up-gradient of the subject site, or is part of a regional chlorinated solvent contaminant plume. The perimeter monitoring wells have historically shown relatively low to non-detectable concentrations of TPHg and BTEX.

On February 1, 1990, monitoring well MW-2 was destroyed in preparation for additional soil excavation in the vicinity of this well. Soil was excavated to a depth corresponding to approximately 6 to 12 inches below the level of the ground water, which was encountered at a depth of about 11.5 feet below grade. After additional excavation, four soil samples were collected from the sidewalls of the excavation, each approximately 6 to 12 inches above ground water. Soil excavation activities were terminated due to the close proximity of the former and new underground storage tank pits and the property line of the site. The analytical results of three soil samples indicated concentrations of TPHg ranging from 140 ppm to 1,100 ppm, while concentrations of TPH as diesel (TPHd) ranged from non-detectable to 280 ppm. The analytical results also indicated non-detectable levels of EPA method 8010 constituents and TOG for all four samples, except for one sample which indicated a concentration of TOG at 210 ppm. Soil excavation in the vicinity of monitoring well MW-2 was completed in April of 1990. Monitoring well MW-2 was then replaced with a new monitoring well (MW-2A) in March 1991.

1997 - Water sampled from monitoring well MW-1 continued to show the highest concentrations of fuel hydrocarbons throughout the duration of the investigation. Monitoring well MW-1 is the most down-gradient of the monitoring wells at the site. An off-site study was conducted in March 1997 to assess any impacts in the down-gradient direction.

Three Geoprobe® borings (EB-3, -4, and -5) were advanced through E. 14th Street in a northerly transect from the site. The three borings were each advanced to total depths ranging from 11 to 15 feet below grade. Ground water was encountered at depths ranging from 10.5 to 15 feet below grade during drilling. No detectable target compounds were identified in either soil or ground water samples.

1998 – A "Case Closure Summary" was prepared by the Alameda County Environmental Protection Department. This document concluded that drinking water

wells are not affected. It also documented the maximum contaminant concentrations – before and after cleanup as follows:

Contaminant	Soil (ppm)			Water (ppb)	
	Before	**After**		**Before**	**After**
TPHg	3500	1100		19000	510
TPHd	ND	6.2		NA	NA
Benzene	40	8		230	72
Toluene	280	43		79	ND
Total Xylenes	600	230		1300	17
Ethyl-benzene	100	37		ND	ND
MtBE	NA	NA		NA	390
Oil & Grease	7700	1300		NA	NA
Heavy Metals	NA	NA		NA	NA
Other HVOC TCE	0.063	ND	**TCE**	4.4	ND
			PCE	110	950
			1,2-DCA	2.8	ND

The "Case Closure Summary" concluded that "there are no known municipal or residential water wells or surface water bodies within 750' down-gradient of the subject site that would be impacted by shallow groundwater from this site".

December 26, 2000 – Alameda County Health Care Services Agency issued a "Case Closure" letter.

2003 – Six groundwater monitoring wells destroyed. Groundwater was at 6-11 ft below ground surface (bgs).

2007- On September 25 and 26, 2007, six soil borings (ATC-1, ATC-2, ATC-3, ATC-4, ATC-5 and ATC-6) were advanced in the vicinity of the existing fuel and waste oil USTs and dispensers. The borings were advanced to total depths of approximately 20 feet bgs (ATC-2, ATC-3, ATC-4 and ATC-5) and 25 feet bgs (ATC-1 and ATC-6). Groundwater was initially encountered at depths ranging from 14 feet bgs to 24 feet bgs during drilling activities.

Groundwater samples were collected from borings ATC-1, ATC-2, ATC-3, ATC-4, ATC-5, and ATC-6 after each boring was advanced approximately less than one to seven feet into groundwater. A duplicate groundwater sample designated as "Duplicate B-1" was collected from boring ATC-1.

The lithology underlying the site generally consists of clay, silty clay and sandy clay from the ground surface to approximately 25 feet bgs, the maximum extent of exploration. PID readings from the screened soil samples ranged from 1.4 ppm to 2,272 ppm.

Laboratory analytical results for the **soil samples** selected for analysis indicate the following:

• Toluene was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample collected at approximately five feet bgs from boring ATC-5

• Ethyl-benzene was report at concentrations of 0.016 mg/kg, 8.8 mg/kg, 0.82 mg/kg, 11 mg/kg, and 6.2 mg/kg in the soil samples collected at approximately 12 feet bgs from borings ATC-1, ATC-2 and ATC-3 and five feet bgs from borings ATC-4 and ATC-5, respectively.

• Total xylenes were reported at concentrations of 0.029 mg/kg, 48 mg/kg, 2.93 mg/kg, 43 mg/kg, 25.2 mg/kg and 0.007 mg/kg in the soil samples collected at approximately 12 feet bgs from borings ATC-1, ATC-2 and ATC-3, five feet bgs from borings ATC-4 and ATC-5 and 20 feet bgs from boring ATC-5, respectively.

• Tetrachloroethene (PCE) was reported at concentrations of 0.013 mg/kg and 0.033 mg/kg in the soil samples collected at approximately 20 feet bgs from borings ATC-4 and ATC-5, respectively.

• Methyl tert butyl ether (MTBE) was reported at concentrations of 0.024 mg/kg, 0.83 mg/kg, 0.011 mg/kg, and 0.015 mg/kg in the soil samples collected at approximately 12 feet bgs from borings ATC-1 and ATC-2 and 20 feet bgs from borings ATC-2 and ATC-4, respectively.

• t-Butyl alcohol was reported at a concentration of 0.19 mg/kg in the soil sample collected at approximately 12 feet bgs from boring ATC-1.

• SVOCs were also reported.

• TPHg was reported at concentrations of 100 mg/kg, 560 mg/kg, 27 mg/kg, 59 mg/kg, 1,000 mg/kg, and 220 mg/kg in the soil samples collected at 12 feet bgs from borings ATC-1, ATC-2, ATC-3, and ATC-6 and five feet bgs from borings ATC-4 and ATC-5, respectively.

• TPHd was reported at concentrations of 57 mg/kg, 51 mg/kg, 310 mg/kg,18 mg/kg, and 170 mg/kg in the soil samples collected at 12 feet bgs from borings ATC-1, ATC-2, and ATC-3, 18 feet bgs from boring ATC-3 and five feet bgs from boring ATC-4, respectively.

• Chromium was reported at concentrations of 58.2 mg/kg and 44.8 mg/kg in the soil samples collected at approximately 12 and 15 feet bgs from boring ATC-6, respectively.

• Lead was reported in each of the soil samples submitted for analysis. Nickel was reported at concentrations of 57.8 mg/kg and 45.5 mg/kg in the soil samples collected at approximately 12 and 15 feet bgs from boring ATC-6, respectively.

• Zinc was reported at concentrations of 52.9 mg/kg and 42.2 mg/kg in the soil samples collected at approximately 12 and 15 feet bgs from boring ATC-6, respectively.

Laboratory analytical results for the **groundwater samples** collected from borings ATC-1 (including Duplicate B-1), ATC-2, ATC-3, ATC-4, ATC-5 and ATC-6 indicated the following:

• Benzene was reported at concentrations of 39 micrograms per liter (µg/L), 60 µg/L and 33 µg/L in the groundwater samples collected from borings ATC-2, ATC-4 and ATC-5, respectively.

• Toluene was reported at concentrations of 120 µg/L and 64 µg/L in the groundwater samples collected from borings ATC-4 and ATC-5, respectively.

• Ethyl-benzene was reported at concentrations of 27 µg/L, 160 µg/L, 300 µg/L, and 110 µg/L in the groundwater samples collected from borings ATC-2, ATC-3, ATC-4, and ATC-5, respectively.

• Total xylenes were reported at concentrations of 7 µg/L, 12 µg/L, 117 µg/L, 630 µg/L, 1,040 µg/L, and 400 µg/L in the groundwater samples collected from borings ATC-1 (including Duplicate B-1), ATC-2, ATC-3, ATC-4 and ATC-5, respectively.

• Trichloroethylene (TCE) was reported at concentrations of 12 µg/L, 11 µg/L, 15 µg/L, 9 µg/L, 14 µg/L, 16 µg/L, and 12 µg/L in the groundwater samples collected from borings ATC-1 (including Duplicate B-1), ATC-2, ATC-3, ATC-4, ATC-5, and ATC-6, respectively.

• Tetrachloroethene (PCE) was reported at concentrations of 100 µg/L, 96 µg/L, 100 µg/L, 29 µg/L, 230 µg/L, 240 µg/L, and 100 µg/L in the groundwater samples collected from borings ATC-1 (including Duplicate B-1), ATC-2, ATC-3, ATC-4, ATC-5, and ATC-6, respectively.

• cis-1,2-dichloroethene was reported at a concentration of 8 µg/L in the groundwater sample collected from boring ATC-2.

• MTBE was reported at concentrations of 7 µg/L, 13 µg/L, 210 µg/L, 37 µg/L, and 6 µg/L in the groundwater samples collected from borings ATC-1 (including Duplicate B-1), ATC-2, ATC-4, and ATC-5, respectively.

• Phenanthrene was reported at a concentration of 5 µg/L in the groundwater sample collected from boring ATC-6.

• Total TPH was reported at a concentration of 2,500 µg/L in the groundwater sample collected from boring ATC-6.

• TPHg was reported at concentrations of 140 µg/L, 140 µg/L, 860 µg/L, 3,700 µg/L, 6,400 µg/L, 2,500 µg/L, and 93 µg/L in the groundwater samples collected from borings ATC-1 (including Duplicate B-1), ATC-2, ATC-3, ATC-4, ATC-5, and ATC-6, respectively.

• TPHd was reported at concentrations of 15,000 µg /L, 1,100 µg /L, 5,200 µg /L, 8,100 µg /L, 1,900 µg /L, 810 µg /L, and 910 µg /L in the groundwater samples collected fron1 borings ATC-1 (including Duplicate B-1), ATC-2, ATC-3, ATC-4, ATC-5, and ATC-6, respectively.

• TPH-ORO was reported at a concentration of 1,600 µg/L in the groundwater sample collected from boring ATC-6.

FILE REVIEWS

Due to the regular occurrence of PCE, TCE and 1,2-DCA in sampled ground water, a review of records documenting historic site activities was performed in 1991-1993.

In 1991, file reviews to determine whether there were any up-gradient sources contributing to the contamination at the Unocal site were conducted by KEI at the Regional Water Quality Control Board (RWQCB). This review focused on three sites with monitoring wells located within a half-mile of the Unocal station. The three sites had been previously identified during a well survey carried out by KEI, using data from the Alameda County Flood Control and Water Conservation District.

Site #1: The Okada property, located at 16109 Ashland Avenue, contained in 1991 three monitoring wells that were installed after an underground fuel storage tank removal project. This site is located approximately 1,000 feet southeast of the Unocal site. Based on reports prepared by Terra Vac of San Jose, California, as of March 1990, the ground water flow direction had been consistently to the west for the three previous quarters. In addition, TPHg had been reported in ground water at concentrations up to 280 ppb, and TPHd at concentrations up to 1,100 ppb. Benzene had been reported at concentrations less than 0.5 ppb.

Site #2: A former USA Petroleum station is located at 15120 Hesperian Boulevard, approximately 2,300 feet west of the Unocal site. Based on a letter report prepared by Aqua Engineers of San Ramon, California, and dated May 24, 1989, underground fuel storage tanks were removed in May 1989, and TPHg was reported in the soil samples at concentrations of up to 9,670 ppm.

Site #3: The third site within a half-mile of the Unocal site that contains monitoring wells is reportedly owned by Kaufman and Broad, and is located at 1630-162nd Avenue, approximately 1,800 feet east-southeast of the Unocal site. No files were available in 1991 at the RWQCB for this location.

Based on the west and northwest flow directions at the Okada property and the Unocal site, respectively, and the distances between the Okada property, the former USA Petroleum station, and the Unocal site, in 1991 it was concluded that "it appears unlikely that contamination from these sites has commingled".

KEI reviewed the Unocal real estate file and the available general arrangement plans for the subject site. The general arrangement plans did not show any potential on-site sources of chlorinated solvent contamination in the vicinity of monitoring wells MW-3 and MW-4.

Unocal pre-construction photographs show a former Richfield service station located on the property now occupied by the SpeeDee Oil Change shop. Aerial photographs from the same period show one definite and possibly two auto wrecking yards located to the southeast of the site. The confirmed wrecking yard in the aerial photos was located behind the former ABC Auto Repair and appeared to be part of their operations. The other possible wrecking yard was located approximately 500 feet southeast of the subject site.

In December 1992, a KEI representative visited the subject site to determine land use and the types of businesses in the area. The vicinity surrounding the site was a mixed commercial/residential area. East of the site, across the East 14th Street and 159th Avenue intersection, was a SpeeDee oil Change shop, and to the southeast existed a closed auto repair shop that was formerly ABC Auto Repair. Various other businesses, including a sign shop and a recreational vehicle storage lot, existed to the southeast of the Unocal site along East 14th Street. In 1992, the Unocal site was surrounded on the southwest, west, and northwest by an apartment complex. To the northeast of the Unocal site, across E. 14th Street, was a vacant lot.

In 1992, a file review was conducted at the ACHCSA. Four sites with existing or former underground storage tanks were located through the file review. These sites are as follows: 1.) Narou Properties, 1500 Thrush Avenue; 2.) ABC Auto Repair, 15960 East 14th Street; 3.) Petsas Property, 16035 East 14th Street, and; 4.) SpeeDee oil change, 15900 East 14th Street.

In the 1991-1993 the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), identified regional chlorinated solvent contamination of the upper aquifer in the San Leandro area.

Based upon information obtained from the report "Interim Groundwater Contamination Report for Central San Leandro" dated January 20, 1993, by Woodward-Clyde Consultants of Oakland, California, in 1992 DTSC was conducting investigations at three State Superfund sites in the San Leandro area, and a regional Hydropunch® ground water sampling program throughout the "San Leandro Plume" area. However, the Unocal site was located outside the study area (approximately 1/2-mile to the southeast).

In summary, in 1993, based on the results of the site history research, site reconnaissance, and file review, and based upon the fact that no evidence of an on-site solvent source area in the vicinity of MW-3 and MW-4 was evident, it was concluded that there was no likely on-site source of the halogenated volatile organic compounds (HVOC) impact identified.

The potential for an off-site HVOC source is further supported by the fact that the highest HVOC concentrations have been found in samples collected from wells MW-3 and MW-4, located on the up-gradient side of the subject site. Hence, HVOCs reported in these monitoring wells are likely coming from a source (e.g. reaching sanitary sewer lines, etc.) up-gradient of the site.

Water Well Survey

A detailed review of available information on producing water wells and ground water monitoring wells adjacent to the subject site was performed by KEI in 1991. The well survey focused on the area within a one-half mile radius of the subject site, and is based upon data obtained in 1991 from the Alameda County Flood Control and Water Conservation District. The information reviewed revealed the presence of 15 producing wells within the study area. All of the located producing wells are designated as irrigation wells and have depths ranging from 20 to 440 feet below grade. Three sites with existing monitoring wells were located within the study area; the closest one was approximately 1,000 feet from the subject site. The Alameda County Flood Control and

water Conservation District records suggested that the status of many of the irrigation wells is unknown. In the 1991 survey, it was stated that "no producing wells that could possibly influence the ground water flow direction at the subject site were located". The closest irrigation well (148 ft deep) was noted in the North corner of East 14th Street and 159th Avenue. The County records suggested that the status of many of the irrigation wells is unknown.

Agency Receptor Survey - 2008

The agency receptor survey was completed to identify all water supply wells within a half-mile radius of the site referenced above. The survey entailed a request to the California Department of Water Resources (DWR) office in Sacramento to provide well log records. DWR well log records were reviewed in order to determine the location of any water-supply wells in the vicinity of the subject site. Using the DWR well logs, a total of 5 wells had verifiable addresses within a half-mile radius of the site.

Historic Sites Activities in the Immediate Surroundings

A request for file review was submitted to DTSC; however, in a letter dated October 14, 2008, Ms. Lule Varela, Regional Records Coordinator with DTSC indicated that "no such records exist pertaining to the sites referenced (E 14th St, E 159th St, Thrush St.)". On October 17, 2008, the existing files for the immediate surrounding properties listed on Geotracker were reviewed at the Alameda County Health Care Services Agency. A few inspection notes were available only for the adjacent site to the East, immediately across the intersection between East 14th Street and 159th Avenue - "City Auto Service" 15900 East 14th Street:

1) "Notice of Failure to Return to Compliance" – dated August 13, 2008 Failure to submit the hazardous materials/waste compliance documentation

2) "Hazardous Waste Generator Inspection Checklist" – dated June 3, 2008

   Hazardous Waste determination not done.
   Containers not labeled
   Containers not closed/sealed
   Storage area not inspected weekly
   Training non-compliance

3) "Inspection Report Summary / Summary of Violations" – dated September 7, 2007,

   Notes: "General housekeeping needs to improve"
   Summary of violations: Illegal disposal of hazardous waste, HMBP not submitted, spills not cleaned up immediately, training not documented, used oil tank open and label not filled out.

   Eleven (11) photographs are attached to this Inspection Report showing spills, spill migrating towards storm drain inlet, spill in driveway not cleaned up, spill on floor not cleaned up, spill below waste oil tank not cleaned up, etc.

4) "Hazardous Materials Inspection Form" – dated April 20, 1993

No major violations; mentioned that solvents are removed each 8 weeks by "Safety Kleen",

Preferential Pathways

While no direct evidence from the investigation indicates that a preferential pathway exists to facilitate direct chemical migration, this transport mechanism has not been discounted. A preferential pathway is a more permeable pathway through the native material. Trench backfill for the buried sanitary sewer, storm sewer, water lines, gas lines, and other underground utilities (including wells) can contain more sand or gravel and may constitute potential pathways for groundwater flow.

The closest irrigation well (148 ft deep) installed in 1949, was noted in the KEI 1993 Report in the North corner of East 14th Street and 159th Avenue. The County records suggested that the status of the irrigation wells is unknown. In 1993 this site was vacant land; now a "Walgreens" store exists in that area.

The approximate location and direction of offsite underground utilities shown on these maps are based on information/maps provided by Alameda County Public Works and PG&E. The approximate location of onsite utilities was provided by ConocoPhillips.

Based on the data obtained, trench backfill material ranges from native soil to trench sand. The minimum cover above identified utilities in the area was reported to be 2.5 feet. Based on the information obtained, the depths of the utility trenches in the immediate surrounding areas do not exceed 5 feet.

Based on the historical depth to groundwater (between 5.85 ft. and 11.34 ft bgs, but 14-24 ft bgs in 2007) and underground utilities direction and depths it is unlikely that any utility trench extending less than 5 feet bgs would provide a direct conduit for groundwater migration between the site and the surrounding area.

However, stains and spills have been documented at the adjacent site to the east of the site, including staining from a leaking auto, spills not cleaned up immediately, a spill migrating toward a storm drain inlet, a spill in the driveway not cleaned up, and a spill beneath the waste oil tank was not appropriately addressed. Moreover, it is documented that solvents were used at this adjacent site in 1993 and based on that site history, it appears that solvents have been used at that site for decades. It should be mentioned that a release at a neighboring site could, by lateral transport, dispersion, and dissolution, reach aquifer material in the surrounding areas.

ADDENDUM TO PROPOSED ACTIVITIES

As indicated above, in 2007, groundwater was encountered at depths ranging from 14 feet bgs to 24 feet bgs during drilling activities. Delta proposes to define the vertical and lateral extent of TPHg and MTBE in the soil and the groundwater by advancing a series of exploratory borings. Based on the September 2007, ATC report TPHd was reported at a maximum concentration of 15,000 µg/L in ATC-1. TPHg and benzene were reported at maximum concentrations of 6,400 µg/L and 60 µg/L, respectively in ATC-4. MTBE was reported at a maximum concentration of 210 µg/L in ATC-2. **Figure 2** shows the location of the ATC borings.

Permitting, Utility Notification and Borehole Clearance

Before commencing field activities, Delta will prepare a Health and Safety Plan in accordance with state and federal requirements for use during on-site assessment activities.

In addition, drilling permits will be obtained for the soil borings from the Alameda County Water public Work Agency (ACPWA). Prior to drilling, Underground Service Alert (USA) and a private utility locator will be notified as required to clear the proposed boring locations for underground utilities.

Borings

Delta proposes the advancement seven direct push borings (B-1 through B-7) will be advanced to a minimum depth of approximately 30 feet bgs using a direct push drill-rig. Soil samples will be logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of volatile organic compounds by headspace analysis using a pre-calibrated photo ionization detector (PID). Soil samples will be collected continuously for lithological interpretation and field screening. At a minimum, soil samples with the highest PID readings, just above first water, and the bottom of the borehole from each boring will be submitted for analysis. A chain-of-custody will accompany the samples during transportation to the laboratory. The proposed well locations are shown in **Figure 2**.

Soil samples retained for analysis will be analyzed for fuel oxygenates which include di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), ethylene dibromide (EDB), 1,2-dichloroethane (1,2-DCA), ethanol, and ethylene dichloride (EDC) by EPA Method 8260B; halogenated volatile organic compounds (HVOC), including BTEX by Environmental Protection Agency (EPA) Method 8260B; TPHd (by silica gel treatment and without silica gel), TPHg, and total petroleum hydrocarbons as motor oil (TPHmo) by EPA Method 8015B modified; and selected samples will also be analyzed for Cadmium, Chromium, Lead, Nickel, and Zinc using total threshold limit concentration (TTLC) by EPA Method 6010B.

Groundwater samples will be analyzed for fuel oxygenates which include DIPE, ETBE, TAME, TBA, EDB, 1,2-DCA, ethanol, and EDC by EPA Method 8260B; HVOC, including BTEX by EPA Method 8260B; TPHd (**with and without silica gel treatment**), TPHg, and TPHmo by EPA Method 8015B modified; and selected samples will also be analyzed for Cadmium, Chromium, Lead, Nickel, and Zinc using TTLC by EPA Method 6010B.

Upon completion of the boring all down-hole tools will be decontaminated by steam cleaning to avoid cross contamination. The decontamination procedure will entail multiple wash and rinse cycles using potable water and a non-phosphate detergent.

Disposal of Drill Cuttings and Wastewater

Drill cuttings and decontamination water generated during boring advancement activities will be placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and temporarily stored on the property. Samples of the drill cuttings and wastewater will be collected, properly labeled and placed on ice for submittal to a California-certified laboratory and analyzed for TPH-G and TPH-D (silica gel treated) by EPA Method 8015M, BTEX and MTBE by EPA Method 8260B, and total lead by EPA Method 6010B. A chain-of-custody will accompany the samples during transportation to the laboratory.

Subsequent to receiving the laboratory analytical results, the drummed drill cuttings and wastewater will be profiled, transported, and disposed of at a COP approved facility.

Reporting

Following completion of the field work and receipt of analytical results, a site investigation report will be prepared and submitted within 60 days. The report will present the details of the boring activities, including copies of boring permits, and details of disposal activities and copies of disposal documents. Required electronic submittals will be uploaded to the State Geotracker database.

Utility Maps

Delta contacted the Alameda County Public Works (ACPW) for utility maps in March 2009. Mr. Allen Humes of the ACPW supplied maps for sewer and storm sewer. The utility maps have been re-drawn for clarity and to outline piping depths. The PG&E piping depths appear to be at a depth of 2 to 3 feet bgs. **Attachment B** shows the utility line locations.

Last year Delta obtained utility maps from Jerry Cabral of PG&E. On 3/20/2009, Delta contacted PG&E to obtain depths of the electric and gas utilities. Based on PG&E data the depth of their utilities are usually 2 to 3 feet deep. The utility lines do not appear to be acting as preferential pathway based on the groundwater depth of approximately of 14 feet bgs in 2007. However, groundwater has been observed at 6-11 feet bgs.

REMARKS/SIGNATURES

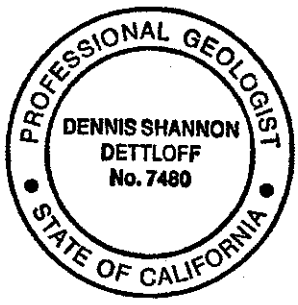
The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report will be performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions regarding this project, please contact Tony Perini at (408) 826-1867.

Sincerely,
DELTA CONSULTANTS

Tony Perini
Senior Project Manager, Remediation Lead

Dennis S. Dettloff, P.G.
Senior Project Manager
California Registered Professional Geologist No. 7480

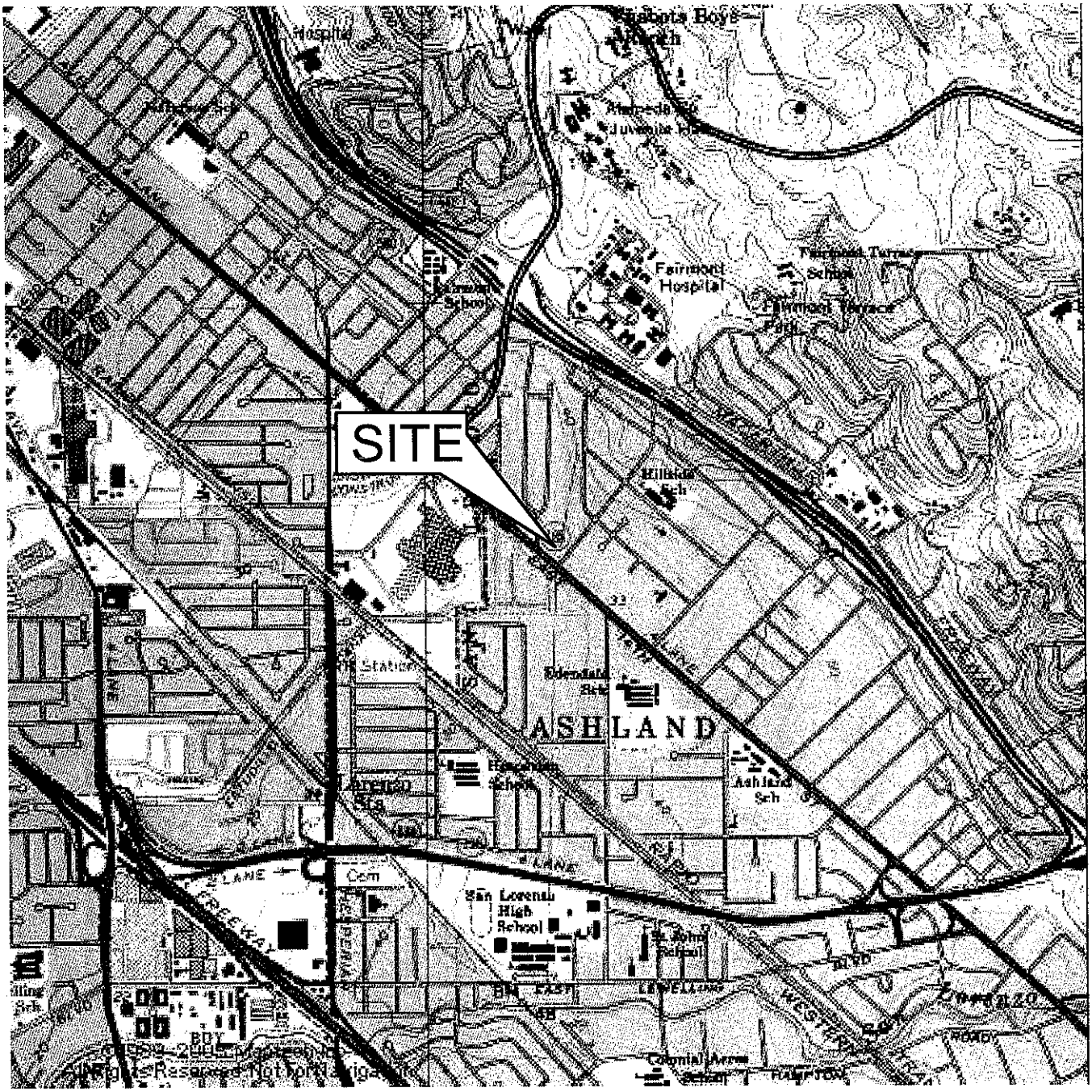


Figures

Figure 1 - Site Location Map
Figure 2 - Site Plan with proposed boring locations

Attachment A - ACHCSA Letter dated, March 6, 2009
Attachment B - Utility Maps

Figures



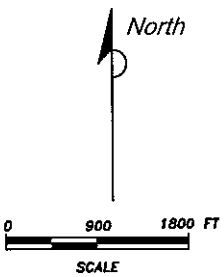


FIGURE 1

SITE LOCATION MAP

CONOCOPHILLIPS SITE NO. 256277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. 14256277	DRAWN BY JH 03/26/09
FILE NO. 6277-SiteLocator	PREPARED BY LH
REVISION NO.	REVIEWED BY

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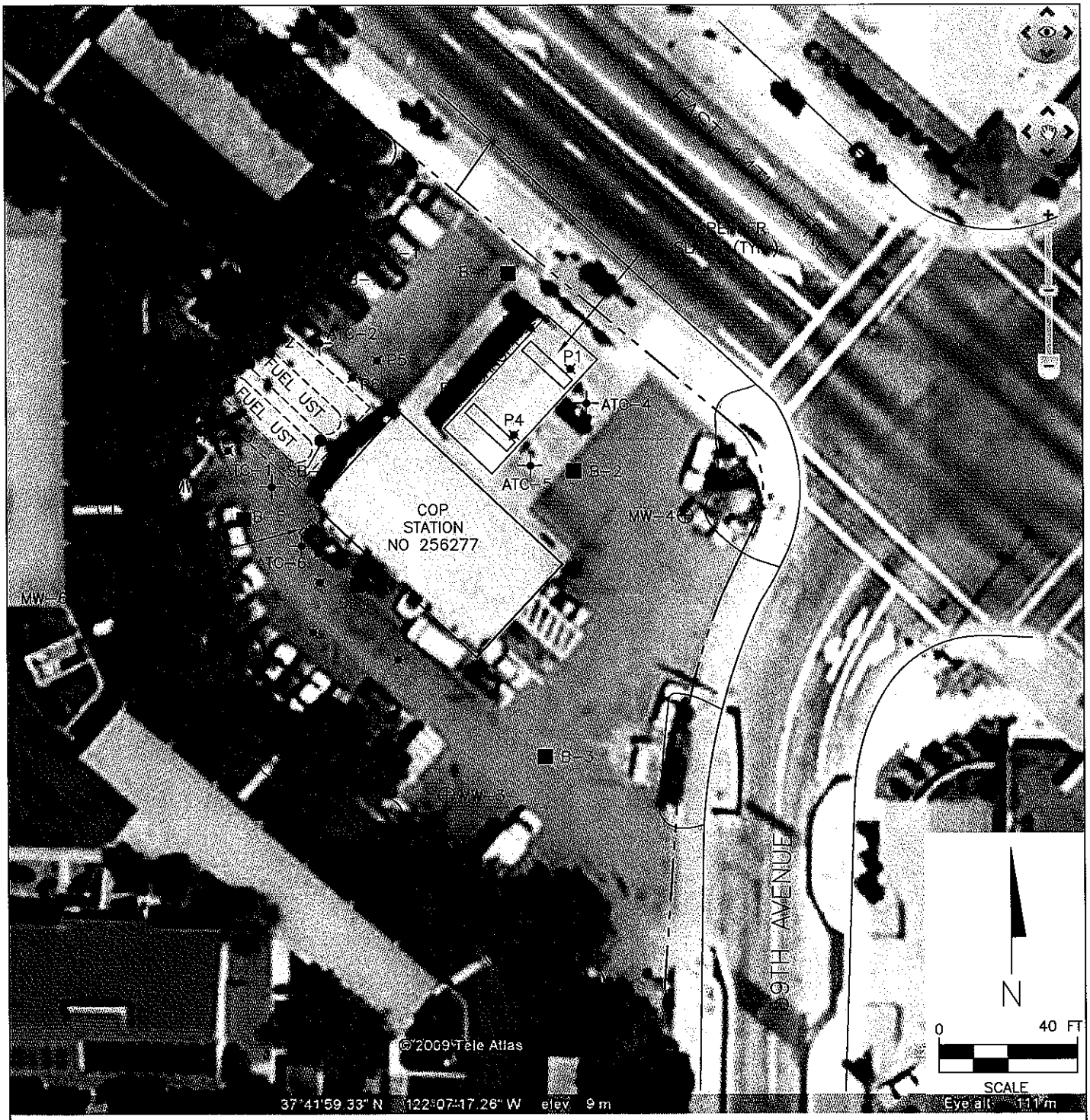
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE (1973)



AERIAL IMAGE PROVIDED BY GOOGLE EARTH (JUNE 2007).
SITE PLAN ADAPTED FROM BASE MAPS DATED
1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

LEGEND:

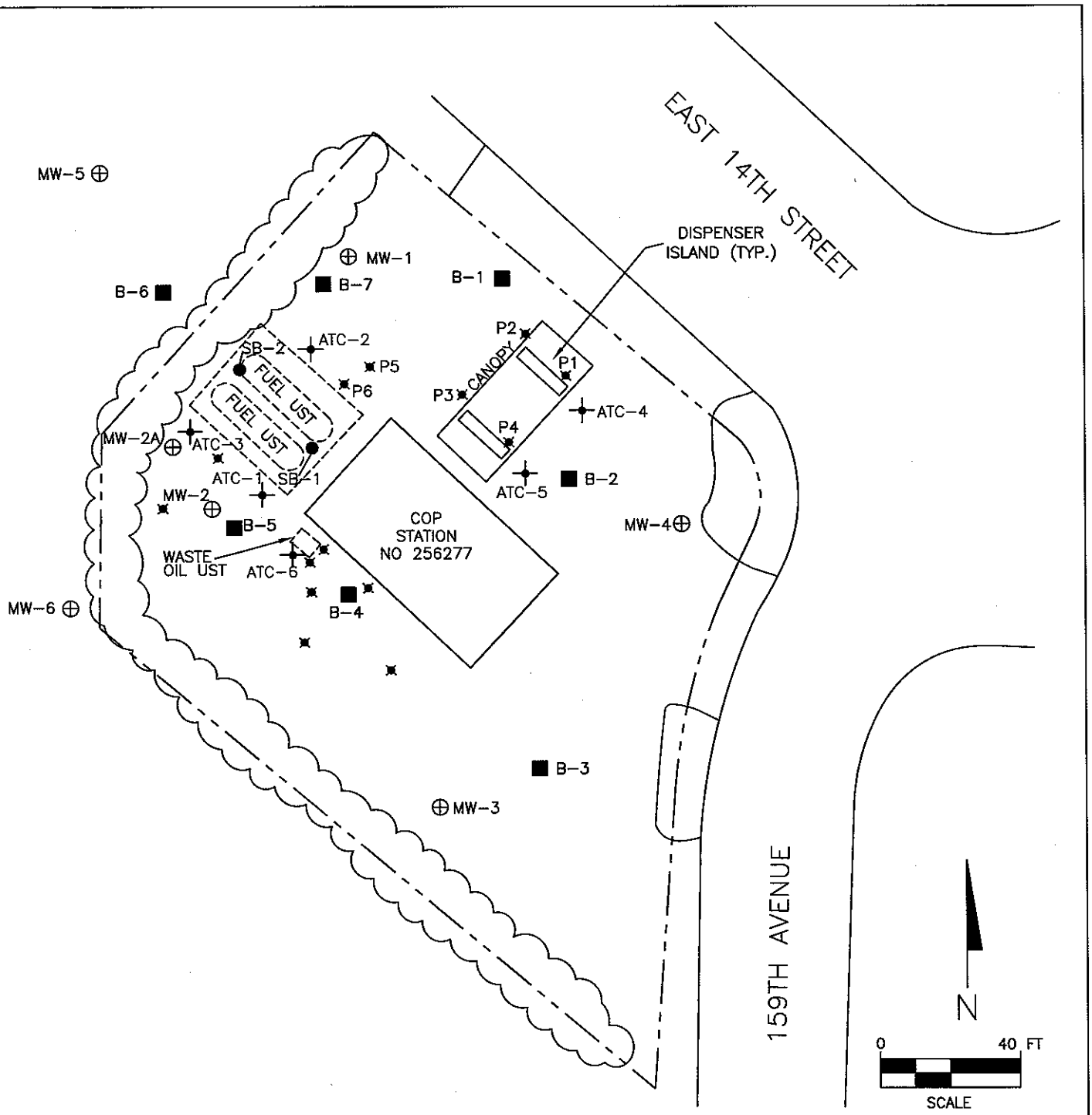
- APPROXIMATE PROPERTY BOUNDARY
- DESTROYED/ABANDONED MONITORING WELL
- SOIL SAMPLE LOCATION (KEI 1989)
- SOIL BORING (KEI 1989)
- SOIL BORING (ATC 2007)
- PROPOSED BORING LOCATION

FIGURE 2
SITE PLAN

CONOCOPHILLIPS SITE NO. 256277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
4256277	TP	JH
DATE	REVIEWED BY	FILE NAME
03/26/09		6277-SM

DELTA®



SITE PLAN ADAPTED FROM BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

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15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	TP	JH
DATE	REVIEWED BY	FILE NAME
03/26/09		6277-SM

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Attachment A

ACHCSA Letter
dated, March 6, 2009

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 6, 2009

Mr. Eric Hetrick
ConocoPhillips
76 Broadway
Sacramento, CA 95818

Coelho Gas, LLC
18616 Highway 33E
Dos Palos, CA 93620

Subject: Fuel Leak Case No. RO00002969 and Geotracker Global ID T0619718179, Unocal 36277 15803 E 14th St., San Leandro, CA 94706

Dear Mr. Hetrick and Mrs. Ella Coelho Trust:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site including the document entitled, *Additional Site Assessment Work Plan*, dated October 27, 2008 prepared by Delta. The work plan recommends installing eight soil borings utilizing Geoprobe and presented the results of a well survey and utility survey. We request that you address the following technical comments and submit a brief work plan addendum that addresses the technical comments below.

TECHNICAL COMMENTS

1. **Groundwater Analysis** – The boring logs do not indicate that high organic content is present in the borings; therefore, using Silica Gel cleanup for the total petroleum hydrocarbons as diesel may not be appropriate. We request that you collect duplicate groundwater samples, submit them for analysis with and without silica gel cleanup to determine if using silica gel cleanup is appropriate at this site. Please analyze groundwater samples for ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), ethylene dichloride (EDC) and ethanol by EPA Method 8260 in addition to your proposed analysis. Ethanol analysis can be limited to the source area.

2. **Soil Analysis** – In addition to your proposed analysis, please analyze soil for ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), and ethylene dichloride (EDC) by EPA Method 8260.

3. **Soil Sampling** – In addition to your proposed sampling at five foot intervals, at the capillary fringe and areas with high PID readings, ACEH also requests that you collect continuous soil samples for lithologic logging and also submit soil samples from the saturated zone to define the vertical extent of soil contamination since fluctuations in groundwater levels can submerge contaminated soils, leaving a soil source that would otherwise go undetected if not sampled.

4. **Groundwater Flow Direction and Soil Boring Locations.** Your work plan does not discuss the groundwater flow direction at the site. Information from the previous case closure summary for this site indicates that groundwater flow direction is to the northwest and north. Based on this flow direction, most of your boring locations are on the upgradient or cross-gradient direction and do not appear to be appropriately located. We request that you relocate your borings to define the lateral and vertical extent of contamination in soil and groundwater in the source areas (USTs and dispenser islands) and also areas downgradient of these locations. Also, consider placing borings along transects. Provide a map of your revised locations in the work plan addendum requested below. Please use aerial photographs as the base for all your maps.

5. **Vertical Extent of Contamination.** Your work plan does not propose a way to evaluate the vertical extent of contamination at the site as requested in the ACEH letter dated June 26, 2008 but suggests that this will be defined in the second phase of the work. Following the Expedited Site Assessment Process, ACEH recommends that the vertical extent of contamination be assessed along with the lateral extent of contamination in this phase of work rather than in additional future mobilizations. Please update your work plan to address this data gap.

6. **Utility Survey.** The utility survey presented did not include the depth of many of the utilities such as gas lines, and the utilities that are included appear blurry and difficult to read. Please include an updated map in the report requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Barbara Jakub), according to the following schedule:

- **April 6, 2009** –Soil and Water Investigation Work Plan Addendum

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for

submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including

the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara J Jakub

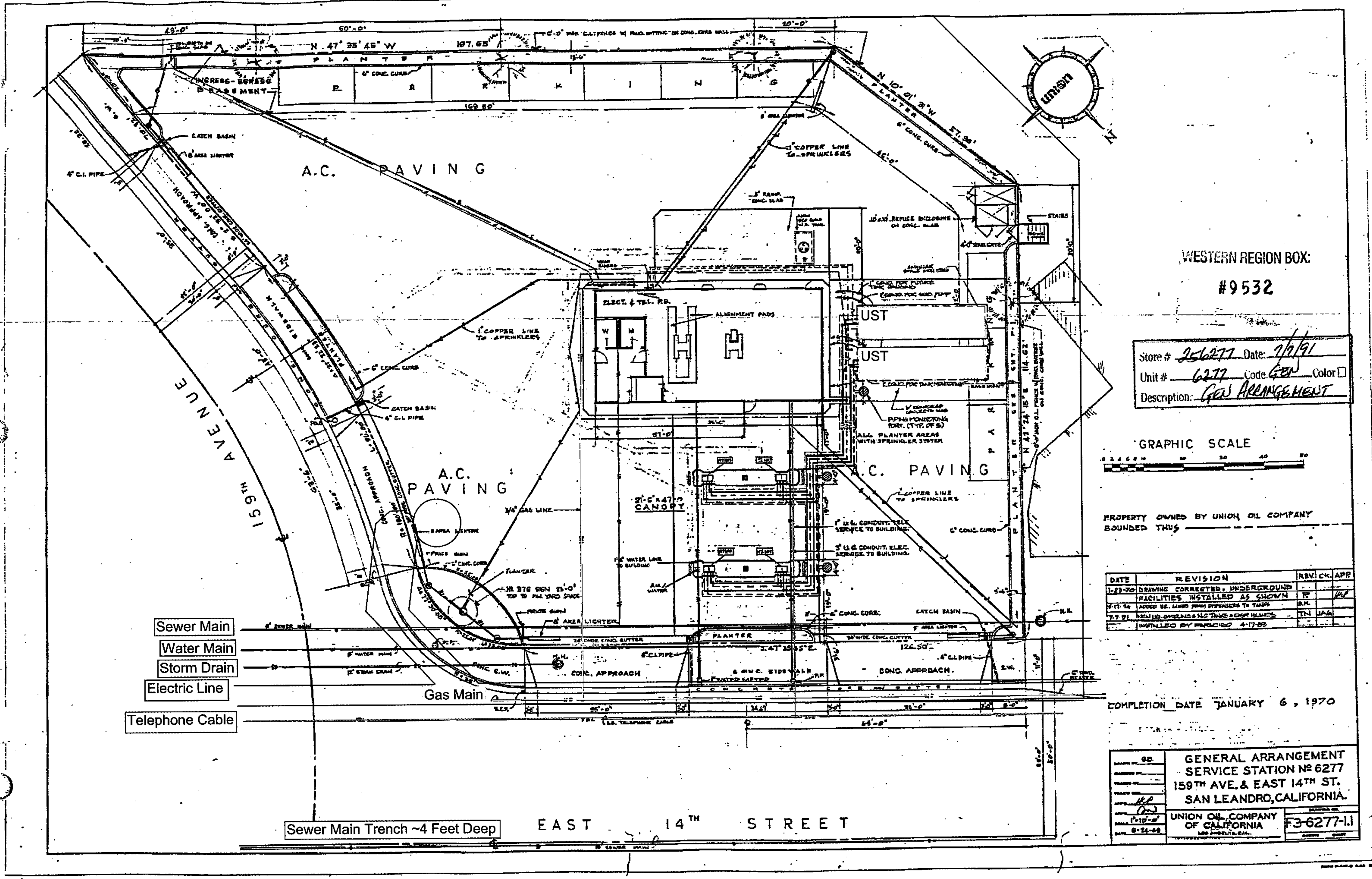
Barbara Jakub, P.G.
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

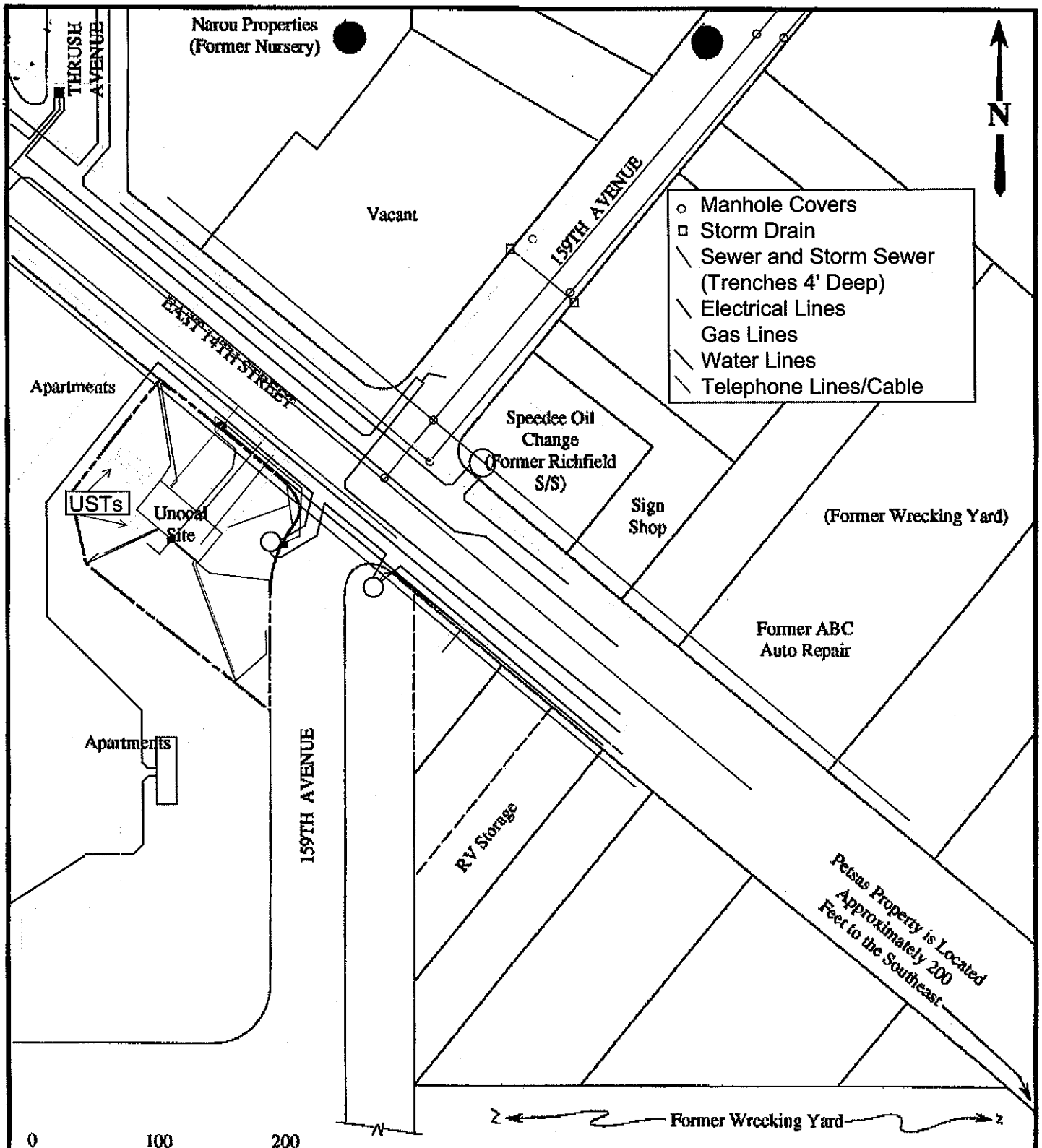
cc: Valentin Constantinescu, Delta, 11050 White Rock Rd., Suite 110, Rancho Cordova, CA, 94670
Donna Drogos, ACEH
Barbara Jakub, ACEH
File

Attachment B

Utility Maps

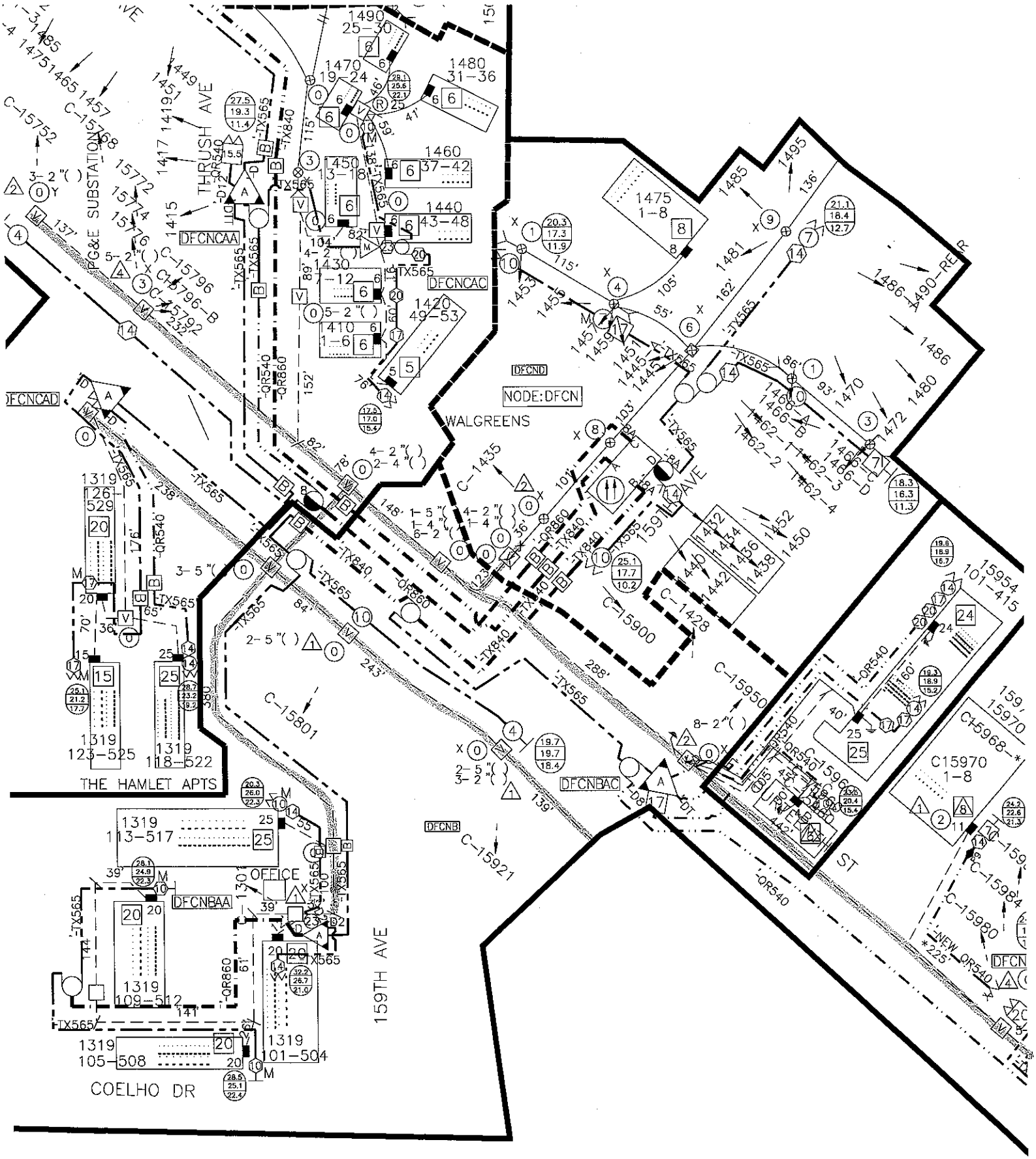


WESTERN REGION BOX:
#9532
Store # 256277 Date: 7/2/91
Unit # 6277 Code GEN Color
Description: GEN ARRANGEMENT
GRAPHIC SCALE
PROPERTY OWNED BY UNION OIL COMPANY BOUNDED THUS
DATE | REVISION | RBV. | CK. | APP.
1-23-70 DRAWING CORRECTED, UNDERGROUND FACILITIES INSTALLED AS SHOWN
COMPLETION DATE JANUARY 6, 1970
GENERAL ARRANGEMENT
SERVICE STATION Nº 6277
159TH AVE. & EAST 14TH ST.
SAN LEANDRO, CALIFORNIA.
UNION OIL COMPANY OF CALIFORNIA
F3-6277-1.1
A.C. PAVING
A.C. PAVING
A.C. PAVING
159TH AVENUE
EAST 14TH STREET
UST
UST
ELECT. & TEL. P.B.
ALIGNMENT PADS
21'-6" x 47'-0" CANOPY
3/4" GAS LINE
1" COPPER LINE TO SPRINKLERS
ALL PLANTER AREAS WITH SPRINKLER SYSTEM
PIPING MONITORING PORT. (TYP. OF 5)
CATCH BASIN
4" C.I. PIPE
6" CONC. CURB
8" AREA LIGHTER
INGRESS-EGRESS EASEMENT
PLANTER
PARKING
N. 47° 35' 45" W
N 10° 01' 3" W
STAIRS
Sewer Main
Water Main
Storm Drain
Electric Line
Gas Main
Telephone Cable
Sewer Main Trench ~4 Feet Deep
CONC. APPROACH



DELTA

ConocoPhillips
15803 East 14th Street
San Leandro, CA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G&E SUBSTATION
DFCNCAA
DFCNCAC
DFCNCAD
DFCND
NODE:DFCN
WALGREENS
DFCNBAC
DFCNB
DFCNBAA
OFFICE
THE HAMLET APTS
159TH AVE
COELHO DR
ST
1319 126-529
1319 123-525
1319 118-522
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EXISTING UNDERGROUND CATV