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Chevron

November 23, 1993

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

459

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chevron Service Station #9-2506
2630 Broadway, Oakland, CA 94612

Dear Ms. Eberle:

Enclosed is the Work Plan for Offsite Subsurface Environmental Assessment dated November 18, 1993, prepared by our consultant RESNA Industries, Inc. for the above referenced site.

The proposed work includes drilling four soil borings and completing the borings as ground water monitor wells. Soil and ground water samples collected will be analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX. This work will be performed to delineate the extent of hydrocarbon impacts to ground water.

Additionally, if hydrocarbons are not detected in the newly installed up gradient well, monitor wells B-1, B-2, B-3, and B-4 will be abandoned. These four wells are installed immediately cross and up gradient from the underground storage tanks. It appears that monitor wells B-5 through B-8, tank backfill wells TP-1 and TP-2, and the four proposed wells will provide sufficient monitoring data for the site.

Chevron and RESNA are ready to begin work following your review and formal concurrence.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB - Bay Area
Mr. S.A. Willer
File (9-2506 SA1 WP1)

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

WORK PLAN

OFFSITE SUBSURFACE ENVIRONMENTAL ASSESSMENT

AT

Chevron Service Station No. 9-2506
2630 Broadway
Oakland, California

130069.01

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

November 18, 1993

Mr. Mark Miller
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583-0804

Subject: Work Plan for an Offsite Subsurface Environmental Assessment, Chevron Service Station No. 9-2506, 2630 Broadway, Oakland, California

Dear Mr. Miller:

At the request of Chevron U.S.A. Products Company (Chevron), RESNA Industries Inc. (RESNA) has prepared this work plan for an offsite subsurface environmental assessment at the subject site (Plate 1). The assessment is being performed to investigate the extent of petroleum hydrocarbons in soil and groundwater downgradient and upgradient of the existing groundwater monitoring wells (Plate 2). Analytical results of groundwater samples collected from wells B-1 through B-8 and two tank backfill wells (TP-1 and TP-2) during the previous quarter indicated detectable total petroleum hydrocarbons as gasoline (TPHg) at concentrations ranging from less than the detection limit to 110,000 parts per billion (ppb) and benzene ranging from less than the detection limit to 3,200 ppb (Sierra Environmental, October 1993).

The scope of work for this assessment consists of preparing this work plan and a site safety plan; obtaining the appropriate permits; drilling and sampling four soil borings at the locations shown on Plate 2; collecting soil samples from the borings; converting the borings to groundwater monitoring wells (B-9, B-10, B-11, and B-12); developing the wells; collecting groundwater samples from the wells; submitting the soil and groundwater samples to a Chevron-approved, state-certified laboratory for analyses; and preparing a report.

In addition, if groundwater analytical results for the proposed upgradient well indicate petroleum hydrocarbons are not detected, RESNA will destroy groundwater monitoring wells B-1, B-2, B-3, and B-4 located in the vicinity of the existing pump islands and the underground storage tank complex (Plate 2). If petroleum hydrocarbons are detected, at least three of the wells will be destroyed. These wells were installed during an initial site assessment to evaluate whether petroleum hydrocarbons were present in soil and groundwater after a tank leak occurred at the site in 1982. It is anticipated that wells B-5 through B-8, tank backfill wells TP-1 and TP-2, and the four proposed wells will provide sufficient monitoring data for the site. Therefore, continued monitoring of wells B-1 through B-4 do not appear to be necessary, and these wells could be destroyed.

In response to a tank leak that occurred early in 1982, previous work at the subject site included replacing the underground storage tank system with all new fiberglass tanks and lines (Chevron, October 1993). To assess whether soil and groundwater were impacted by petroleum hydrocarbons, eight groundwater monitoring wells (B-1 through B-8) were installed by J.H. Kleinfelder & Associates under the supervision of IT Enviroscience in March 1982 (J.H. Kleinfelder & Associates, March

1982) (IT Enviroscience, April and August 1982). According to Chevron file notes, separate-phase hydrocarbons (SPH) were removed from well B-4 on a weekly basis from August 1982 to February 1983. SPH removal was discontinued when it was no longer observed to recharge into the well. On September 8, 1993, a leak occurred in the mid-grade product line and was repaired on September 9, 1993. The location of the leak was just to the east of the underground storage tanks. According to the dealer's inventory records, the estimated loss was approximately 20 gallons or less (Chevron, October 1993). The most current groundwater sampling was performed in September 1993. The eight groundwater wells and two tank backfill wells were sampled and analyzed for TPHg and benzene, toluene, ethyl benzene, and total xylenes (BTEX) (Sierra Environmental, October 1993).

BACKGROUND REVIEW/SITE-SPECIFIC HEALTH AND SAFETY PLAN/PERMITTING

RESNA will conduct a technical review of pertinent information supplied by Chevron associated with the site. A site-specific Health and Safety Plan will be prepared by RESNA as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 Code of Federal Regulations 1910.120). The Health and Safety Plan will be prepared by RESNA personnel following a complete review of the site conditions and any existing health and safety concerns with the Project Manager. The document will be reviewed by RESNA personnel and subcontractors performing work at the site. A copy of the Health and Safety Plan will be kept on-site during work operations and will be available for reference by appropriate parties during the work. The RESNA field geologist for the subject site will act as the Site Safety Officer.

All applicable local and state permits pertaining to the proposed work will be obtained prior to drilling. RESNA will utilize traffic control equipment as required during the drilling of all soil borings.

SOIL BORINGS/SAMPLING AND ANALYSES/WELL INSTALLATION

Four soil borings will be drilled using a truck-mounted drill rig equipped with 8-inch diameter hollow stem augers. The soil borings will be drilled to depths of approximately 20 to 14 feet below the ground surface, depending on where groundwater is first encountered. During the most recent subsurface investigation (J.H. Kleinfelder & Associates, March 1982), it appears that groundwater was first encountered between depths of 8 to 25 feet below the ground surface, then rose to within 4 to 8 feet of the existing groundsurface. The hollow stem augers will be steam cleaned between each boring and all sampling equipment will be properly cleaned between sample intervals.

Soil samples will be collected at approximately 5-foot depth intervals just above first encountered groundwater, and at notable lithologic changes utilizing an 18-inch modified California, split-spoon sampler equipped with 6-inch long by 2-inch diameter brass sample sleeves. Samples will be collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler will be driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval will be counted and recorded to provide an indication of soil consistency. Drilling will be performed under the observation of a RESNA geologist, and the subsurface materials in the borings will be identified using visual and manual methods, and classified as drilling progresses according to the Unified Soil

analyze which samples?

Classification System. This work will be performed under the supervision of a California registered geologist. The drilling will be conducted over a 3-day period.

Each soil sample interval will be screened for volatile compounds utilizing a photoionization detector (P.I.D). If volatile compounds are detected in the sample interval, one brass liner will be sealed with aluminum foil, capped, labeled, and placed on ice in an insulated container. Chain-of-custody records will be initiated in the field by the geologist, updated throughout handling of the samples, and sent along with the samples to the analytical laboratory. Copies of chain-of-custody records will be included in our report. Selected samples will be analyzed by a state-certified laboratory for TPHg using modified U.S. Environmental Protection Agency (EPA) Method 8015, and for BTEX using EPA Method 8020. Analytical methods and detection limits will conform to guidelines specified in the latest edition of the Tri-Regional Recommendations of the California Regional Water Quality Control Board (CRWQCB) (CRWQCB August 1990). Laboratory analyses will be performed by a California State-certified laboratory approved by Chevron. Soil generated through drilling will be stored between plastic sheeting pending characterization for disposal. Soil will be disposed by a contractor selected by Chevron. follow up

ok

After the borings are completed to the appropriate depth, RESNA will supervise the installation of a 2-inch diameter, Schedule 40, Polyvinyl Chloride (PVC) casing with flush threads, and 0.010-inch slot well screen into each boring. Generally, the well screens for B-9 through b-12 will be installed approximately 5 feet above and 10 below first encountered groundwater to permit entry of separate-phase hydrocarbons, if present, and to allow for fluctuations in the groundwater elevation. Depth of the screening interval will be evaluated in the field based on hydrogeologic observations. To complete each well, a sand filter pack will be placed around the well screen to a height of approximately 2 feet above the top of the screen. An approximately 1 foot thick bentonite seal will be placed above the sand pack and hydrated in place with clean water. An annular neat-cement grout seal will be placed to within approximately 1 foot of the surface and then with concrete to grade. Each wellhead will be protected by a locking cap and a traffic-rated street box set in concrete with a water-tight bolted lid.

WELL DEVELOPMENT/SAMPLING/ANALYSES

B-1 B-11

Monitoring wells B-1 through B-4 will be developed using a combination of surging and bailing. A RESNA field technician will use a surge block to agitate and set the sand pack around the annulus of each well. Groundwater will be bailed between surges to remove fine-grained material and to improve the hydraulic conductivity between the wells and the natural formation.

Before sampling, RESNA will first check each well for the presence of separate-phase hydrocarbons. If less than 0.02 feet of separate-phase hydrocarbons are present in a well, the well will be purged of approximately 3 casing volumes, and a sample will be collected for laboratory analysis. The water level will be allowed to recover to at least 80 percent of static conditions, and samples will be collected with clean bailers. The groundwater will be transferred from the bailer to the appropriate laboratory supplied sample containers for analyses. Chain-of-custody records will be initiated in the field by the geologist, updated throughout handling of the samples, and sent along with the samples to the analytical laboratory. Copies of the chain-of-custody records will be included in our report. Water purged from the wells will be directed to a purge water trailer on-site and transported to the Chevron Refinery in Richmond, California.

The groundwater samples collected from the wells will be analyzed for TPHg using modified EPA Method 8015 and for BTEX using EPA Method 8020. Detection limits for the tests requested and concentrations present will be stated on the laboratory reports. Analytical methods and detection limits will conform to guidelines specified in the latest edition of the Tri-Regional Recommendations of the CRWQCB. Laboratory analyses will be performed by a California State-certified laboratory approved by Chevron.

REPORT PREPARATION

A report summarizing methodology, soil stratigraphy observed in the borings, well construction details, and laboratory results will be prepared for Chevron. Information gathered during the investigation will be released through the authorization of Chevron.

PROJECT SCHEDULE

RESNA is prepared to begin work on this project immediately upon approval of the work plan by Chevron and the County of Alameda Health Care Services.

REFERENCES

Chevron, October 7, 1993, Letter from Mark Miller of Chevron U.S.A. Products Company to Jennifer Eberle of the Alameda County Health Care Services regarding Chevron Service Station #9-2506, 2630 Broadway, Oakland, CA,.

CRWQCB, August 19, 1990, Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites.

J.H. Kleinfelder & Associates, March 26, 1982, Groundwater Monitoring Well Installation Report, Chevron Service Station, 2630 Broadway, Oakland, CA, File B-1189-1.

IT Enviroscience, April 6, 1982, Progress Report #1, Gasoline Leakage, Chevron Service Station #2506, 2630 Broadway, Oakland, CA,94612, WC58X34.

IT Enviroscience, August 2, 1982, Progress Report #2 (Final), Gasoline Leakage, Chevron Service Station #2506, 2630 Broadway, Oakland, CA,94612, WC58X34, ITE #1-3508.

Sierra Environmental, October 1, 1993, Report, Chevron Service Station, 2630 Broadway, Oakland, California, SES Project #1-364-04.

RESNA
Working to Restore Nature

November 18, 1993
Chevron Service Station No. 9-2506, Oakland, California

Please contact Ms. Cynthia Virostko at (408) 264-7723 if you have any questions or comments regarding this work plan.

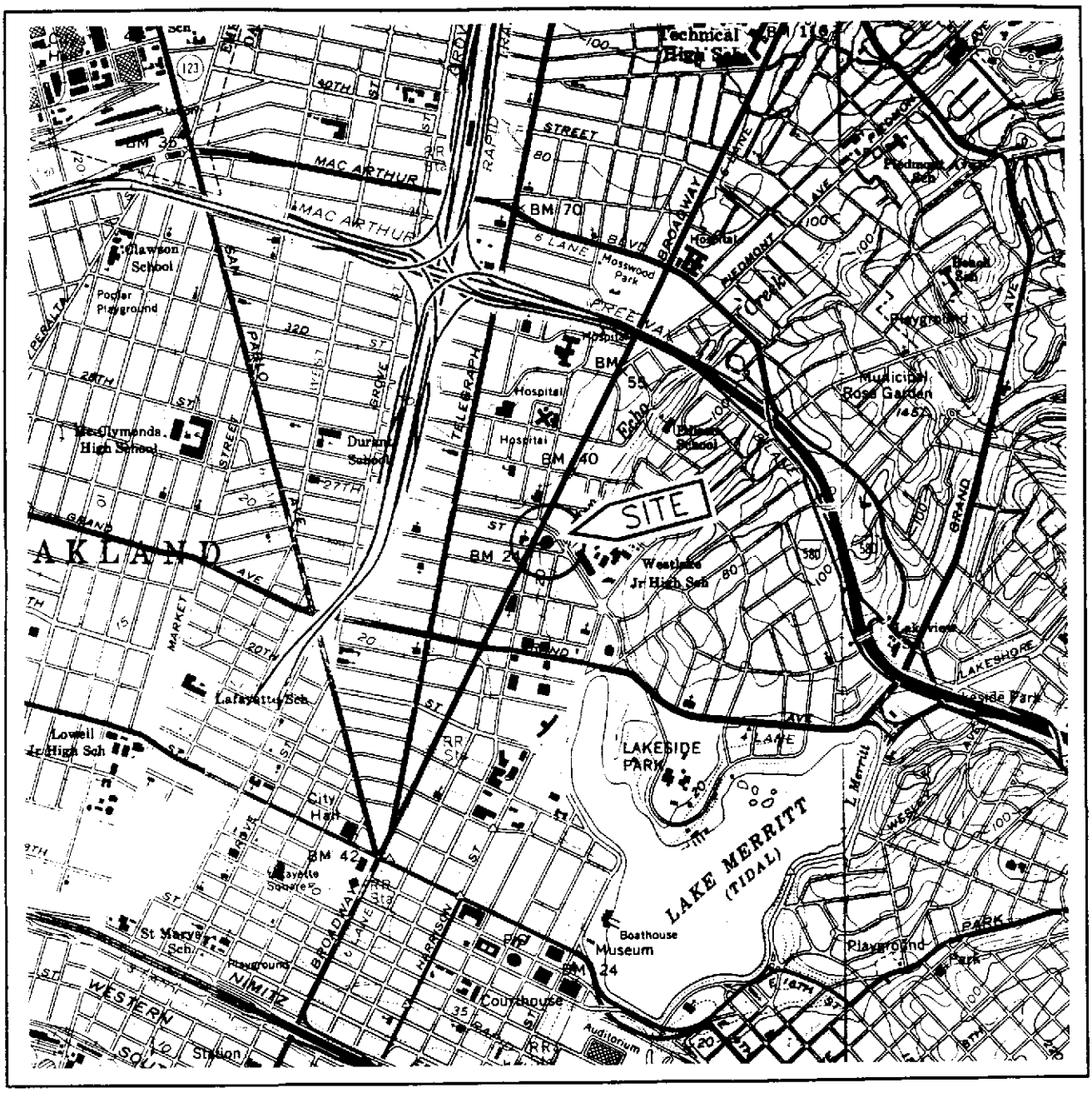
Sincerely,
RESNA Industries Inc.

Cynthia R. Virostko
Project Manager

James L. Nelson, C.E.G. 1463
Senior Project Geologist

REGISTERED GEOLOGIST
JAMES LEWIS NELSON
No. 1463
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

CRV/JLN/lr
Attachments: Plate 1 Site Vicinity Map
Plate 2 Generalized Site Plan



Source: U.S. Geological Survey
7.5-Minute Quadrangles
Oakland East/Oakland West, California
Photorevised 1980

Approximate Scale

2000 1000 0 2000

feet

RESNA
Working to Restore Nature

PROJECT 130069.01

SITE VICINITY MAP
Chevron Station 9-2506
2630 Broadway
Oakland, California

PLATE
1

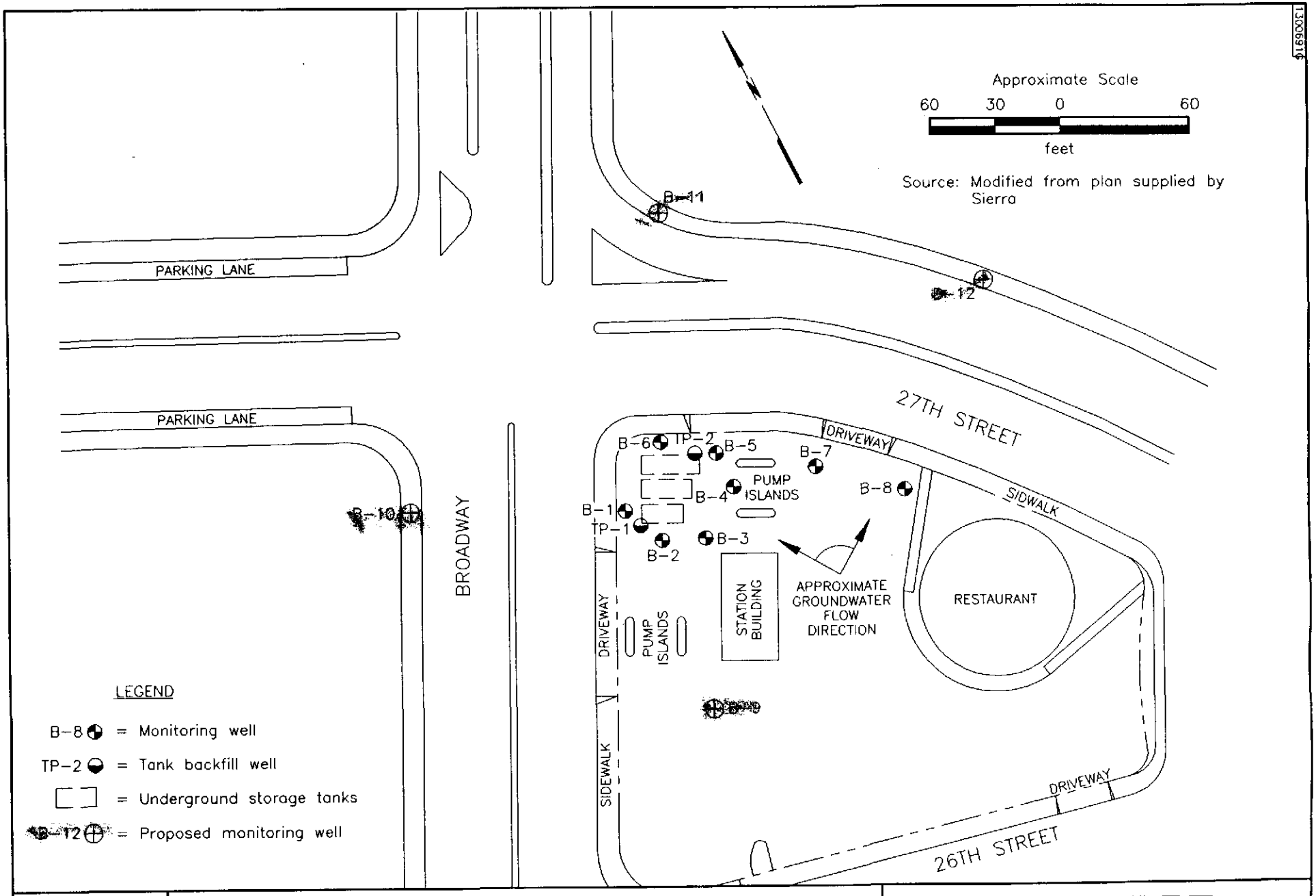


PLATE	GENERALIZED SITE PLAN Chevron Station 9-2506 2630 Broadway Oakland, California	RESNA Working to Restore Nature
2		PROJECT 130069.01