Carlos

California Regional Water Quality Control Board

Los Angeles Region

Linda S. Adams
Agency Secretary

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Arnold Schwarzenegger
Governor

August 4, 2010

Ms. Holly Quasem
ConocoPhillips Company
Risk Management and Remediation
P.O. Box 25376
Santa Ana, CA 92799

GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER CLEANUP AT PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND And/Or HEXAVALENT CHROMIUM IMPACTED SITES—76 STATION NO. 6965, 3014 STUDEBAKER ROAD, LONG BEACH (ORDER NO. R4-2007-0019, SERIES NO. 135; CI NO. 8773)

Dear Ms. Quasem:

The subject site is currently an active service station with 2 gasoline underground storage tanks (USTs), 1 diesel UST, 4 dispensers and a mini-market.

In June and July 1994, 4 USTs and the dispensers and associated piping were removed. Soil samples collected from the bottom of the excavation detected TPHg at concentrations up to 1,300 mg/kg. Subsequently since September 1995, 14 on-site and off-site groundwater monitoring wells (MW-1 through 'MW-14) were installed to characterize soil and groundwater beneath the site. Historically, TPHg, benzene, TBA and MTBE have been detected at concentrations as high as 48,000, 7,700, 4,600 and 180 µg/L, in groundwater, respectively.

To remediate the impacted soil and groundwater, ConocoPhillips submitted in November 2001 the "Interim Remedial Action Plan" (IRAP) to propose the use of Ozone/Air Sparging technology to supplement a soil vapor extraction operation. The Waste Discharge Requirements No. R4-2004-0110 and the Monitoring and Reporting Program No. CI-8773 were issued in July 1, 2004 for the proposed injection of ozone into groundwater. Order R4-2004-0110 expired on June 4, 2009, and ConocoPhillips applied for an extension of the Order on January 7, 2009. However, ozone injection has not been initiated for groundwater remediation at the site.

On March 1, 2010 ConocoPhillips submitted the "Remedial Well Installation Work Plan" dated February 23, 2010, to install additional soil vapor extraction wells and ozone injection wells. Regional Board letter dated May 5, 2010, approved the proposed work. Please refer to Figures 2, 4, and 5 attached to revised CI-8773 for groundwater gradient, representative groundwater plume of Benzene, and proposed ozone injection well locations.

Regional Board staff has determined that the proposed discharge meets the conditions specified in Order No. R4-2007-0019, "*Revised General Waste Discharge Requirements for Groundwater Remediation At Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent*

Chromium Impacted Sites (General WDRs)," adopted by the Los Angeles Regional Water Quality Control Board on March 1, 2007.

Enclosed are your Waste Discharge Requirements, consisting of General WDRs Board Order No. R4-2007-0019 and revised Monitoring and Reporting Program No. CI-8773 and Standard Provisions. This Waste Discharge Requirements shall not be terminated without the regulatory oversight agency's prior approval.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-8773, which will assure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

To avoid paying future annual fees, please submit written request for termination of your enrollment under the general permit in a separate letter when your project has been completed and the permit is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

We are sending a copy of Order No. R4-2007-0019 only to the applicant. A copy of the Order will be furnished to anyone who requests it, or on line at:
http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/general_orders/r4-2007-0019/r4-2007-0019.pdf

If you have any questions, please contact Dr. Rebecca Chou at (213) 620-6156 or rchou@waterboards.ca.gov for WDRs administration matters, or Mr. Gregg Kwey at (213) 576-6702 or gkwey@waterboards.ca.gov for technical matters.

Sincerely,

Samuel Unger
Interim Executive Officer

Enclosure:
1. Board Order No. R4-2007-0019
2. Standard Provisions for Reporting and Monitoring
3. Revised Monitoring and Reporting Program No. CI-8773

cc: Ms. Christina McClelland, Conestoga-Rovers & Associates

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

REVISED MONITORING AND REPORTING PROGRAM NO. CI-8773
FOR

76 STATION NO. 6965
3014 STUDEBAKER ROAD, LONG BEACH

(OZONE INJECTION FOR GROUNDWATER CLEANUP)
(ORDER NO. R4-2007-0019, SERIES NO. 135)

I. REPORTING REQUIREMENTS

A. ConocoPhillips Company (hereinafter Discharger) shall implement this revised monitoring program on the effective date of Regional Board Order No. R4-2007-0019. The first monitoring report under this program, for June to December 2010, shall be received at the Regional Board by January 15, 2011. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

Monitoring Period	Report Due
January – June	July 15
July – December	January 15

B. If there is no discharge or injection during any reporting period, the report shall so state. Monitoring reports must be addressed to the Regional Board, Attention: Information Technology Unit.

C. By March 1st of each year, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall explain the compliance record and the corrective actions taken, or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements (WDRs).

D. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be provided each time a new and/or renewal certification is obtained from ELAP.

E. The method limits (MLs) employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can

demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.

F. Groundwater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136. All QA/QC samples must be run on the same dates when samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.

G. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services, and in accordance with current United States Environmental Protection Agency (USEPA) guideline procedures or as specified in this Monitoring Program." Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report.

H. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all excursions of effluent limitations.

I. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

J. If the Discharger performs analyses on any groundwater samples more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the report.

K. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements and, where applicable, shall include results of receiving water observations.

II. OZONE INJECTION MONITORING REQUIREMENTS

The Semi-Annually reports shall contain the following information regarding injection activities:

1. Location map showing injection points used for the Ozone. Groundwater monitoring wells shall not be used as injection points to avoid reduction of groundwater monitoring network, data bias, well screen clogging and alternation. Up to six injection points, OS-1 through OS-6 (see attached Figure 5), are proposed. Additional injection points should be reviewed and approved by the Regional Board prior to implementations.

2. Written and tabular summary defining the quantity of Ozone injected per month to the groundwater and a summary describing the days on which the injection system was in operation.

III. GROUNDWATER MONITORING PROGRAM

The Discharger shall conduct groundwater monitoring at the site. Please refer to attached Figure 2 and Figure 4 for groundwater gradient and representative groundwater plume of Benzene. Groundwater samples shall be collected from one up-gradient groundwater monitoring well MW-12, one source area well MW-19, and two down-gradient wells MW-14 and MW-18 on a semi-annual basis to monitor the effectiveness of the in-situ groundwater remediation. Ozone injection points shall not be used as monitoring points. Groundwater shall be monitored for the duration of the remediation in accordance with the following discharge monitoring program:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd)	µg/L	Grab	• Semi-Annually[1]
Benzene, Toluene, Ehylbenzene, Xylenes (BTEX)	µg/L	Grab	• Semi-Annually[1]
Methyl tertiary butyl ether (MTBE), Tertiary butyl alcohol (TBA), Tertiary amyl methyl ether (TAME), Di-isopropyl ether (DIPE), ether (ETBE)	µg/L	Grab	• Semi-Annually[1]

Ethanol Formaldehyde Acetone	µg/L	Grab	• Semi-Annually[1]
Total dissolved solids, Arsenic, Boron, Chloride, Bromide, Sulfate, Lead, Nickel, Cadmium, Manganese	mg/L	Grab	• Semi-Annually[1]
Oxidation-reduction potential	milivolts		• Semi-Annually[1]
Dissolved Oxygen	µg/L	Grab	• Semi-Annually[1]
Dissolved ferrous iron	µg/L	Grab	• Semi-Annually[1]
Total Chromium and chromium six [2]	µg/L	Grab	• Semi-Annually[1]
PH	pH units	Grab	• Semi-Annually[1]
Temperature	^{0}F/^{0}C	Grab	• Semi-Annually[1]
Groundwater Elevation	Feet, mean sea level and below ground surface	In situ	• Semi-Annually[1]

[1] One week before injection and Semi-Annually thereafter

[2] The Discharger is required to monitor for total chromium and chromium six in the baseline, second and fourth Semi-Annually sampling. If detected at any of these sampling events, the total chromium and chromium six must be monitored Semi-Annually thereafter.

All groundwater monitoring reports must include, at a minimum, the following:

a. Well identification, date and time of sampling;
b. Sampler identification, and laboratory identification;
c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

IV. MONITORING FREQUENCIES

Monitoring frequencies may be adjusted to a less frequent basis or parameters dropped by the Executive Officer if the Discharger makes a request and the Executive Officer determines that the request is adequately supported by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the _____day of _____ at _____.

_____(Signature)

_____(Title)"

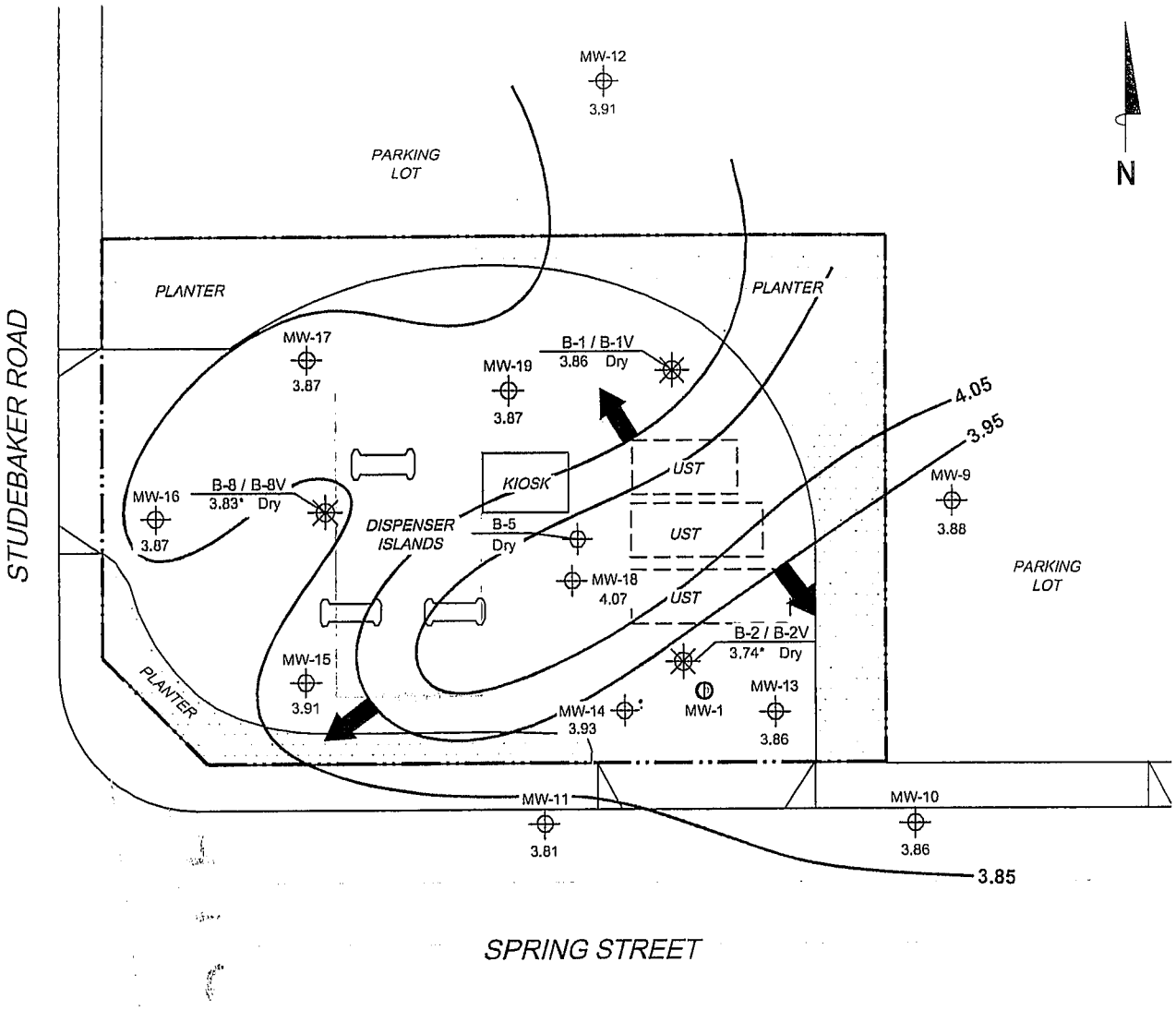
VI. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during normal business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.

Ordered by: Samuel Unger

Samuel Unger
Interim Executive Officer

Date: August 4, 2010



LEGEND

MW-19 — Monitoring Well with Groundwater Elevation (feet)

B-8 / B-8V — Nested Monitoring/Vadose Well

MW-1 — Vadose Well

4.05 — Groundwater Elevation Contour

General Direction of Groundwater Flow

NOTES:

Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. * = not included in groundwater contour interpretation. UST = underground storage tank.

SCALE (FEET)

0 30

TRC

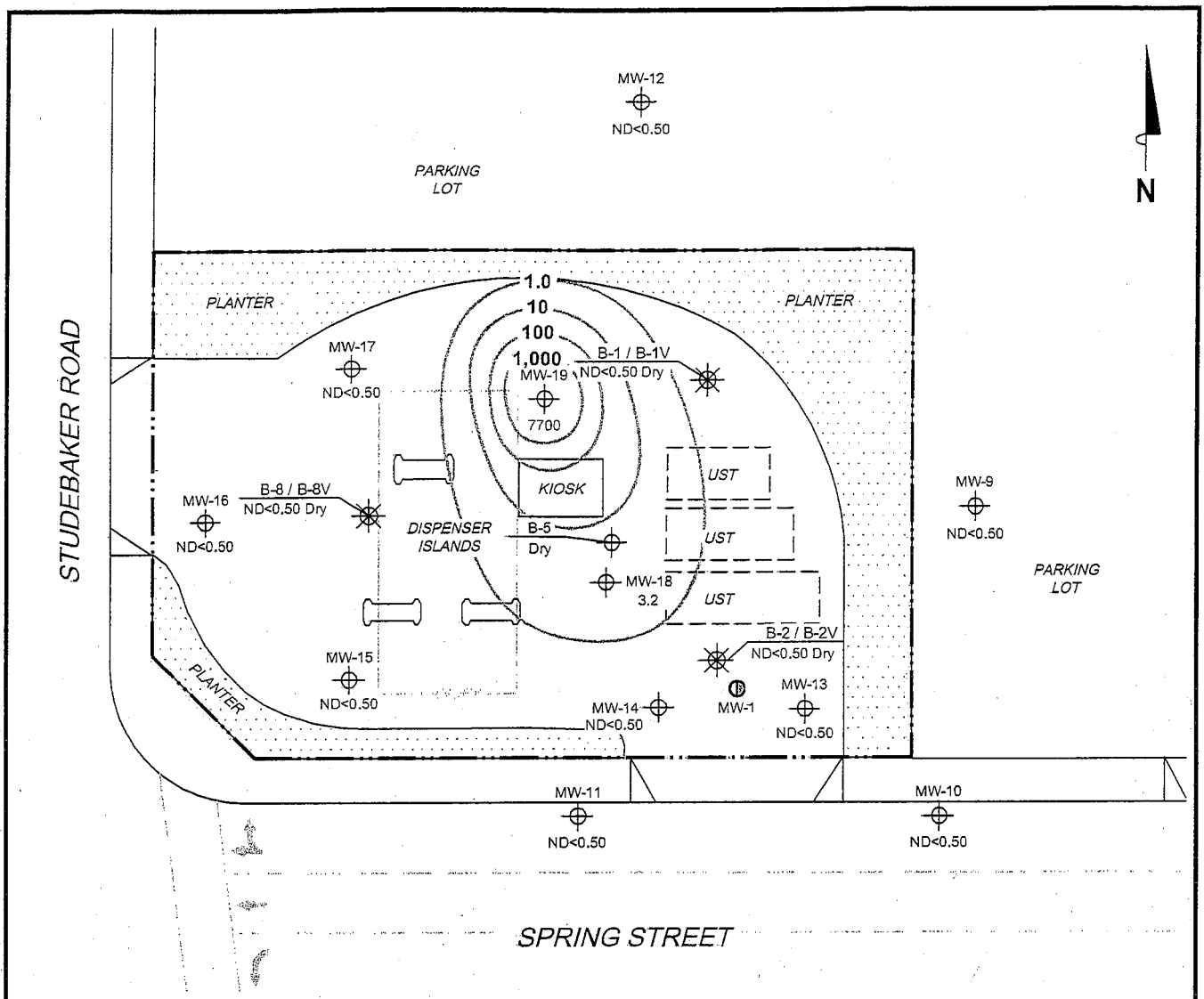
PROJECT: 173844

FACILITY:
76 STATION 6965
3014 STUDEBAKER ROAD
LONG BEACH, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP
May 13, 2010

FIGURE 2

MS=1:30 6965-003 L:\Graphics\QMS NORTH-SOUTH\x-6000\696516965 - QMS.dwg Jun 18, 2010 - 1:28pm bschmidt



LEGEND

MW-19 — Monitoring Well with Dissolved-Phase Benzene Concentration (µg/l)

B-8 / B-8V — Nested Monitoring/Vadose Well

MW-1 — Vadose Well

1,000 — Dissolved-Phase Benzene Contour (µg/l)

NOTES:

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.
µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.
UST = underground storage tank.

SCALE (FEET)

0 30

TRC

PROJECT: 173844

FACILITY:
76 STATION 6965
3014 STUDEBAKER ROAD
LONG BEACH, CALIFORNIA

DISSOLVED-PHASE BENZENE CONCENTRATION MAP
May 13, 2010

FIGURE 4

MS=1:30 6965-003 L:\Graphics\QMS NORTH-SOUTH\x-600\6965\6965 - QMS.dwg Jun 18, 2010 - 1:29pm bschmidt

EXPLANATION

MW-1 ● GROUNDWATER MONITORING WELL LOCATION

B-11 ▲ SOIL VAPOR EXTRACTION WELL LOCATION

B-8 ⊡ NESTED MONITORING/SOIL VAPOR EXTRACTION WELL LOCATION

B10 ■ BORING LOCATION

CS-1 ○ C-SPARGE WELL LOCATION

OS-1 ◐ OZONE SPARGE WELL LOCATION

OS-6 ◐ PROPOSED OZONE SPARGE WELL LOCATION

B-13 Ⓐ PROPOSED SOIL VAPOR EXTRACTION WELL LOCATION

---- EXISTING OZONE PIPE

—— PROPOSED REMEDIATION PIPE

---- EXISTING UNDERGROUND ELECTRICAL

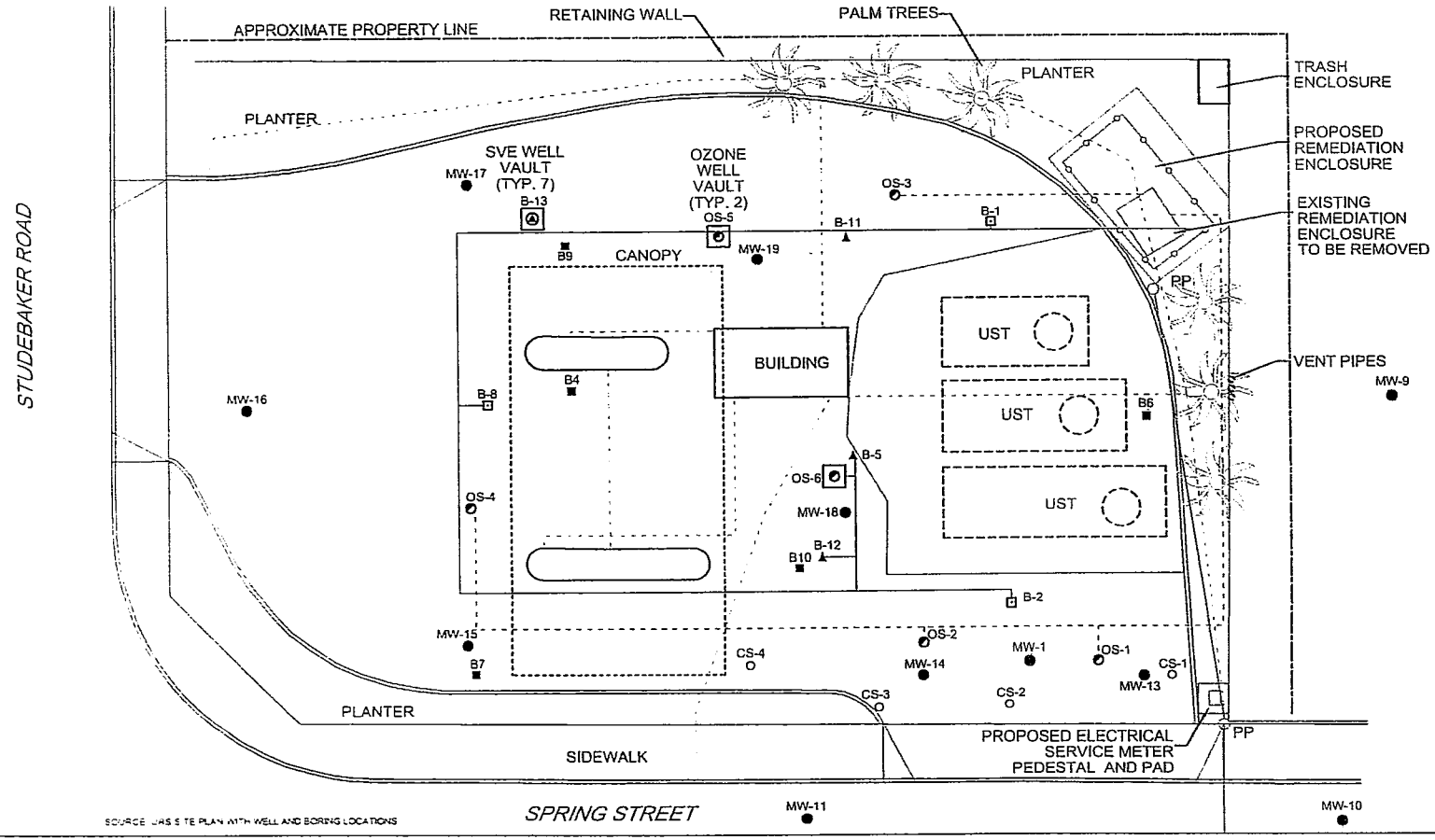
—— PROPOSED OVERHEAD ELECTRICAL

—— PROPERTY LINE

PPO PROPOSED POWER POLE

0 7.5 15

Approximate Scale (ft)



SOURCE: SITE PLAN WITH WELL AND BORING LOCATIONS

CLIENT

CONOCOPHILLIPS

PROJECT

76 STATION NO. 6965
3014 STUDEBAKER ROAD
LONG BEACH, CALIFORNIA

PROJECT No. 053959

TITLE

OZONE INJECTION & SOIL VAPOR EXTRACTION SYSTEM LAYOUT

DRAWING STATUS

NO	Revision	Date	Initial

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

CONESTOGA-ROVERS & ASSOCIATES
5900 HOLLIS STREET, SUITE A
EMERYVILLE, CA 94608
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Source Reference

Designed By: TJJ	Date: 11/20/09	Drawing No: 5
Drafted By: TJJ	Date: 11/20/09	
Reviewed By: DNL	Date: 11/20/09	
Scale: 1":15'		

11/23/09