CITY OF HOUSTON MUNICIPAL SETTING DESIGNATION APPLICATION

SITE LOCATED AT 3777 WEST 12 TH STREET
3777 WEST 12 TH STREET
HOUSTON, TEXAS

October 28, 2011
Project No. 92117358
TCEQ VCP No. 2265

Prepared for:
Wackman Properties, LLC
PO Box 920949
Houston, Texas 77292

Prepared by:
Terracon Consultants, Inc.
11555 Clay Road, Suite 100
Houston, Texas 77043

Offices Nationwide
Employee-Owned
Established in 1965
terracon.com
Terracon
Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

Municipal Setting Designation
Application Instructions

Pre-Application Meeting: While a pre-application meeting is not mandatory, it is strongly encouraged to discuss the specific details of the site. Please note: the City of Houston will not support a Municipal Settings Designation (MSD) application unless a Professional Geologist (P.G.) or Professional Engineer (P.E.) has certified that the groundwater plume is stable or decreasing, the source has been removed, and there is no contact of the contaminated groundwater to surface water.

Please contact Richard Chapin at (832) 395-2689, Richard.Chapin@houstontx.gov, or Jedediah Greenfield at (832) 395-2695, Jedediah.Greenfield@houstontx.gov to schedule a pre-application meeting.

Application Form: For the application to be complete please submit the following:

1) Two (2) hard copies of the application (The well logs are not necessary for the hard copies). Please separate the application appendices with divider sheets that are tabbed.
2) An electronic portable digital file (pdf) of the application including all supporting material
3) An electronic Excel file with mailing addresses for water well owners and property owners. (Templates can be found on the MSD website, www.houstonmsd.org)

The MSD application process is governed by Chapter 47, Article XIII of the City of Houston's Code of Ordinances (ordinance number 2007-959, and amended by ordinance number 2010-556). Failure to use this application form may result in denial of the application.

The application should be clear, complete, concise, correct, contain only relevant information and be organized to facilitate analysis. Supporting documentation should be submitted as a separate appendix to the application, as noted (Label "Appendix__ ") for each numbered item. You should also indicate by checking "Yes", "No", or "N/A" in response to the stated question.

Maps: All maps must be accurate and should be drawn to scale. The supporting information can be consolidated on fewer maps than are listed, provided the information is legible.

A professional surveyor registered with the Texas Board of Professional Surveying must certify that all property descriptions with metes and bounds are accurate.

Submittal: Submit the application form and all supporting information, along with an application fee of $3,400.00 (payable to City of Houston) to the address below. Important Note: The applicant must also pay the cost of mailing notices, (approximately $8.00 per certified mail and $3.00 per first-class mail), and any applicable venue costs (costs vary by location).

Jedediah Greenfield
City of Houston MSD Program
Public Works and Engineering Department
611 Walker, 19th Floor
Houston, Texas 77002

CITY OF HOUSTON

PUBLIC WORKS AND ENGINEERING
PLANNING & DEVELOPMENT DIVISION

Application for Approval of Municipal Setting Designation

APPLICANT INFORMATION

Applicant's Name: Wackman Properties, LLC

☐ Individual ☑ Private Entity ☐ Public Entity ☐ Non-Profit Entity ☐ Other _____

Address: P.O. Box 920949 (Street) Houston (City) TX (State) 77292-0949 (Zip)

Phone No.: 713-898-7301 Fax No.: _____

Email: cwackman@hotmail.com

Contact Information

Name of Contact: Edward W. James

Title: Senior Project Manager

Address: 11555 Clay Road (Street) Houston (City) TX (State) 77043 (Zip)

Phone No.: 713-939-6479 Fax No.: _____

Email: ewjames@terracon.com

SITE INFORMATION

Site Name: Site Located at 3777 West 12th Street

Site Size: 9.1677 acres

Site Address: 3777 West 12th Street (Street) Houston (City) TX (State) 77055 (Zip)

(List all owners – additional sheet is attached, if needed)

Owner: Wackman Properties, LLC

Owner Address: P.O. Box 920949 (Street) Houston (City) TX (State) 77292-0949 (Zip)

Name of Contact: Christopher C. Wackman

Title: President

Organization: Wackman Properties, LLC

Phone No.: 713-898-7301 Fax No.: _____

Email: cwackman@hotmail.com

Additional Owner List

(Cont'd from pg. 2)

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

EXECUTIVE SUMMARY

The designated property is 9.1677-acre property located adjacent southwest of the intersection of Penner Street and West 12th Street in Houston, Harris County, Texas. The property consists of land improved with five buildings totaling 162,748 square feet. A map depicting the designated property is presented in Appendix B, Figure 1 (Site Plan). A map depicting the adjacent properties within 500 feet of the designated property is presented in Appendix B, Figure 1A (Site Plan-Adjacent Properties). The property is currently owned by Wackman Properties, LLC. The general land use surrounding the site is commercial/industrial. The site is bounded to the north by West 12th Street, then by the Former Stauffer Chemical Company (Stauffer) property across the street. The site is bounded to the south by a railroad track, then by a warehouse. The site is bounded to the east by Penner Street, then by Forge USA. The site is bounded to the west by West Loop 610 North feeder road. The Stauffer property, located to the north across West 12th Street, is a Resource Conservation Recovery Act Generator (RCRAG), No Further Remedial Action Planned (NFRAP), and Industrial Hazardous Waste (IHW) facility. This facility is undergoing remedial action to comply with an Enforcement Compliance Directive issued by Texas Department of Water Resources (TDWR), a Texas Commission on Environmental Quality (TCEQ) predecessor agency, in September 1980. Current land use at Stauffer consists entirely of operation of a pump-and-treat groundwater remediation system that pumps groundwater out of eleven pumping wells along the southern boundary of the facility. Groundwater is extracted from these wells at a combined rate of 45 gallons per minute and this pumping has effectively dictated the localized groundwater flow direction, which is generally towards the recovery wells.

Recent operations at the designated property included manufacturing of 55-gallon steel drums. The designated property is being vacated and is not in use. The designated property formerly operated two 1,000-gallon single-walled steel USTs that were installed in 1978 and removed from the ground in 1992. These USTs were located on the north-central portion of the site and were used to store methyl ethyl ketone (MEK), “Xylol”, and “Painters Naphtha” prior to their removal in 1992. Releases from one or both of the former USTs have affected groundwater at the site.

The site has two affected property areas. Affected Property 1 is located at the north-central portion of the site in the vicinity of the former USTs and contains a groundwater protective concentration level exceedence (PCLE) zone with 1,1-dichloroethene (1,1-DCE), MEK, benzene, cis-1,2-dichloroethene (cis-1,2-DCE), ethylbenzene, toluene, trichloroethene (TCE), vinyl chloride, and xylenes. Affected Property 1 also contains a subsurface soil PCLE zone, encountered approximately 16 feet below ground surface

(bgs), with 1,2,4-timethylbenzene, MEK, benzene, ethylbenzene, methylene chloride, PCE, toluene, and xylenes[1]. No overlying soil was identified as affected.

Affected Property 2 is located south of the Manufacturing Building near the terminal end of a historic railroad spur and contains a groundwater PCLE zone with PCE, cis-1,2-DCE, TCE, and vinyl chloride. A soil PCLE zone has not been identified in Affected Property 2.

Affected Properties 1 and 2 also contain groundwater a PCLE zone for arsenic. The groundwater PCLE zone for arsenic is believed to be sourced off-site.

Seventeen monitor wells installed at the site have been sampled for six or more consecutive quarters and linear regression and Mann-Kendall statistical analyses indicate that concentrations of COCs in the wells are generally stable or declining. Potential sources for the COCs identified at the site (other than arsenic) are the following:

- Two former 1,000-gallon USTs in the north-central portion of the site installed in 1978 and removed in 1992 that contained MEK. These USTs also reportedly contained the products “Xylol” and “Painter’s Naphtha” in the past. Material Safety Data Sheets (MSDS) indicate that “Xylol” primarily consists of xylenes but also appears to contain appreciable proportions of ethylbenzene (typically 20%) and occasionally toluene.

- Chemical storage building, which handled and stored chemicals and paints; chemical handling included paint mixing operations in the past.

- The former 5-gallon-pail and 15-gallon-drum production/lithographic printing area located along the northern portion of the Manufacturing Building. Operations in this area involved lithographic printing. The printing component of production involved use of printing ink, which may contain chlorinated solvents including PCE.

[1] As discussed in the TCEQ-approved APAR, the on-site subsurface soil contains a smear zone, a zone between a calcareous cemented interval (15 to 17 feet bgs) and the saturated zone at approximately 23 feet bgs. The “smear zone” is an area within the zone of water table fluctuations that have occurred since the time of the COC releases. The fluctuations of the groundwater table within the “smear zone” can potentially leave COC mass adhered to the soil grains through sorption. 1,2,4-trimethylbenzene, benzene, PCE, and toluene exceedences were observed in the subsurface soil, but only in the smear zone and are therefore not believed to be representative of soil media. However, they are conservatively included in this MSD application.

- The terminal end of a historic railroad spur south of the Manufacturing Building. The railroad tracks were used in the past for loading/unloading of chemical products.

Since the potential on-site sources listed above are no longer active, no continued sources of groundwater contamination, other than the small area of residual in the deep soil PCLE zone, remain on-site. The northern extent of affected groundwater from the designated property has been effectively defined as terminating at the line of recovery wells on the southern portion of the Stauffer property, as shown in Figure 1 included in Appendix B.

Future plans for the designated property will include sale and redevelopment with the potential for residential use. The surrounding properties will most likely be both commercial/industrial and residential. There are no municipalities, other than the City of Houston, within one-half mile of the designated property boundary.

The applicant's current plan for the designated property is to obtain regulatory closure through the TCEQ Voluntary Clean-up Program (VCP). The property has been entered to the VCP and assigned a VCP No. 2265. Upon approval of the MSD Ordinance by the City of Houston for this designated property, a TCEQ MSD Application will be completed and submitted to the TCEQ for approval. With an MSD, COCs in the groundwater at the affected properties will not exceed the residential assessment level for the groundwater ingestion pathway. An Amended APAR will then be prepared based on MSD applicable PCLs and submitted to the TCEQ to obtain a VCP Certificate of Completion.

Appendix B

A site map showing:

a. The location of the designated property.
b. The topography of the designated property as indicated on publicly available sources, which must note the watershed and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code.
c. The detected area of groundwater contamination.
d. The location of all soil sampling locations and all groundwater monitoring wells.
e. Groundwater gradients, to the extent known, and direction of groundwater flow.
f. The ingestion protective concentration level exceedence zone for each contaminant of concern, to the extent known.

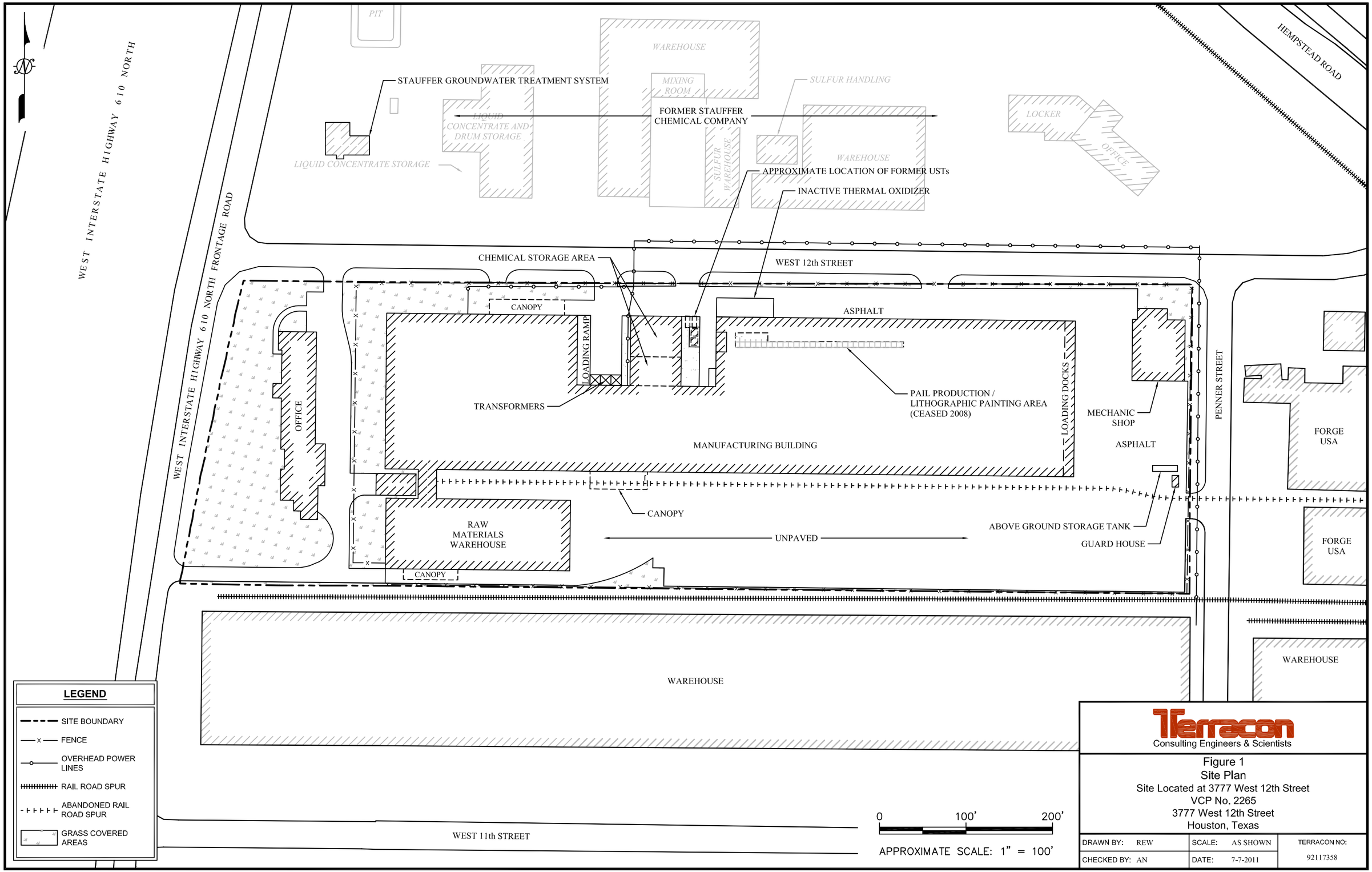
Attached Figures

Figure 1 – Site Plan
Figure 1A – Site Plan-Adjacent Properties
Figure 2 – Topographic Map
Figure 3 – Site Plan with Boring Locations
Figure 4-1 – Potentiometric Surface Contour Map (March, 2009, Stauffer Property Annual Report)
Figure 4-2 – Potentiometric Surface Contour Map (October 2010, Stauffer Property Annual Report)
Figure 4-3 – Groundwater Gradient Map (July 1, 2009)
Figure 4-4 – Groundwater Gradient Map (October 14, 2009)
Figure 4-5 – Groundwater Gradient Map (January 20, 2010)
Figure 4-6 – Groundwater Gradient Map (May 19, 2010)
Figure 4-7 – Groundwater Gradient Map (August 19, 2009)
Figure 4-8 – Groundwater Gradient Map (December 7, 2010)
Figure 4-9 – Groundwater Gradient Map (March 8, 2011))
Figure 5-1 – Groundwater PCLE Zone – Arsenic
Figure 5-2 – Groundwater PCLE Zone – Benzene
Figure 5-3 – Groundwater PCLE Zone – 1,2-Dichloroethene
Figure 5-4 – Groundwater PCLE Zone – cis-1,2-Dichloroethene
Figure 5-5 – Groundwater PCLE Zone – Ethylbenzene
Figure 5-6 – Groundwater PCLE Zone – Methyl Ethyl Ketone (MEK)
Figure 5-7 – Groundwater PCLE Zone – Tetrachloroethene
Figure 5-8 – Groundwater PCLE Zone – Toluene
Figure 5-9 – Groundwater PCLE Zone – Trichloroethene
Figure 5-10– Groundwater PCLE Zone – Vinyl Chloride
Figure 5-11– Groundwater PCLE Zone – Xylenes
Figure 6-1 – Subsurface Soil COC Concentration Map-Overview
Figure 6-2 – Subsurface Soil COC Concentration Map-Detail

The surface soil (0 to 15 feet bgs) at the designated property does not contain COCs that exceed the ingestion PCLs. The subsurface soil (below 15 feet bgs) contains a few COCs that exceed the ingestion PCLs[1]. Figures 6-2 and 6-3 show the distribution of the COC

[1] As discussed in the TCEQ-approved APAR, the on-site subsurface soil contains a smear zone, a zone between a calcareous cemented interval (15 to 17 feet bgs) and the saturated zone at approximately 23 feet bgs. The "smear zone" is an area within the zone of water table fluctuations that have occurred since the time of the COC releases. The fluctuations of the groundwater table within the "smear zone" can potentially leave COC mass adhered to the soil grains through sorption. 1,2,4-trimethylbenzene, benzene, PCE, and toluene exceedences were observed in the subsurface soil, but only in the smear zone and are therefore not believed to be representative of soil media. However, they are conservatively included in this MSD application.

concentrations in the subsurface soil and highlight (bold) the concentrations that exceed the ingestion PCLs.


PIT
WAREHOUSE
MIXING ROOM
STAUFFER GROUNDWATER TREATMENT SYSTEM
SULFUR HANDLING
LIQUID CONCENTRATE AND DRUM STORAGE
FORMER STAUFFER CHEMICAL COMPANY
LOCKER
OFFICE
SULFUR WAREHOUSE
WAREHOUSE
LIQUID CONCENTRATE STORAGE
APPROXIMATE LOCATION OF FORMER USTs
INACTIVE THERMAL OXIDIZER
HEMPSTEAD ROAD
WEST INTERSTATE HIGHWAY 610 NORTH
WEST INTERSTATE HIGHWAY 610 NORTH FRONTAGE ROAD
CHEMICAL STORAGE AREA
WEST 12th STREET
CANOPY
ASPHALT
LOADING RAMP
PAIL PRODUCTION / LITHOGRAPHIC PAINTING AREA (CEASED 2008)
LOADING DOCKS
MECHANIC SHOP
PENNER STREET
TRANSFORMERS
OFFICE
MANUFACTURING BUILDING
ASPHALT
FORGE USA
CANOPY
RAW MATERIALS WAREHOUSE
UNPAVED
ABOVE GROUND STORAGE TANK
GUARD HOUSE
FORGE USA
CANOPY
WAREHOUSE
WAREHOUSE
WEST 11th STREET
0
100'
200'
APPROXIMATE SCALE: 1" = 100'
LEGEND
SITE BOUNDARY
FENCE
OVERHEAD POWER LINES
RAIL ROAD SPUR
ABANDONED RAIL ROAD SPUR
GRASS COVERED AREAS
Terracon
Consulting Engineers & Scientists
Figure 1
Site Plan
Site Located at 3777 West 12th Street
VCP No. 2265
3777 West 12th Street
Houston, Texas
DRAWN BY: REW
SCALE: AS SHOWN
TERRACON NO:
CHECKED BY: AN
DATE: 7-7-2011
92117358
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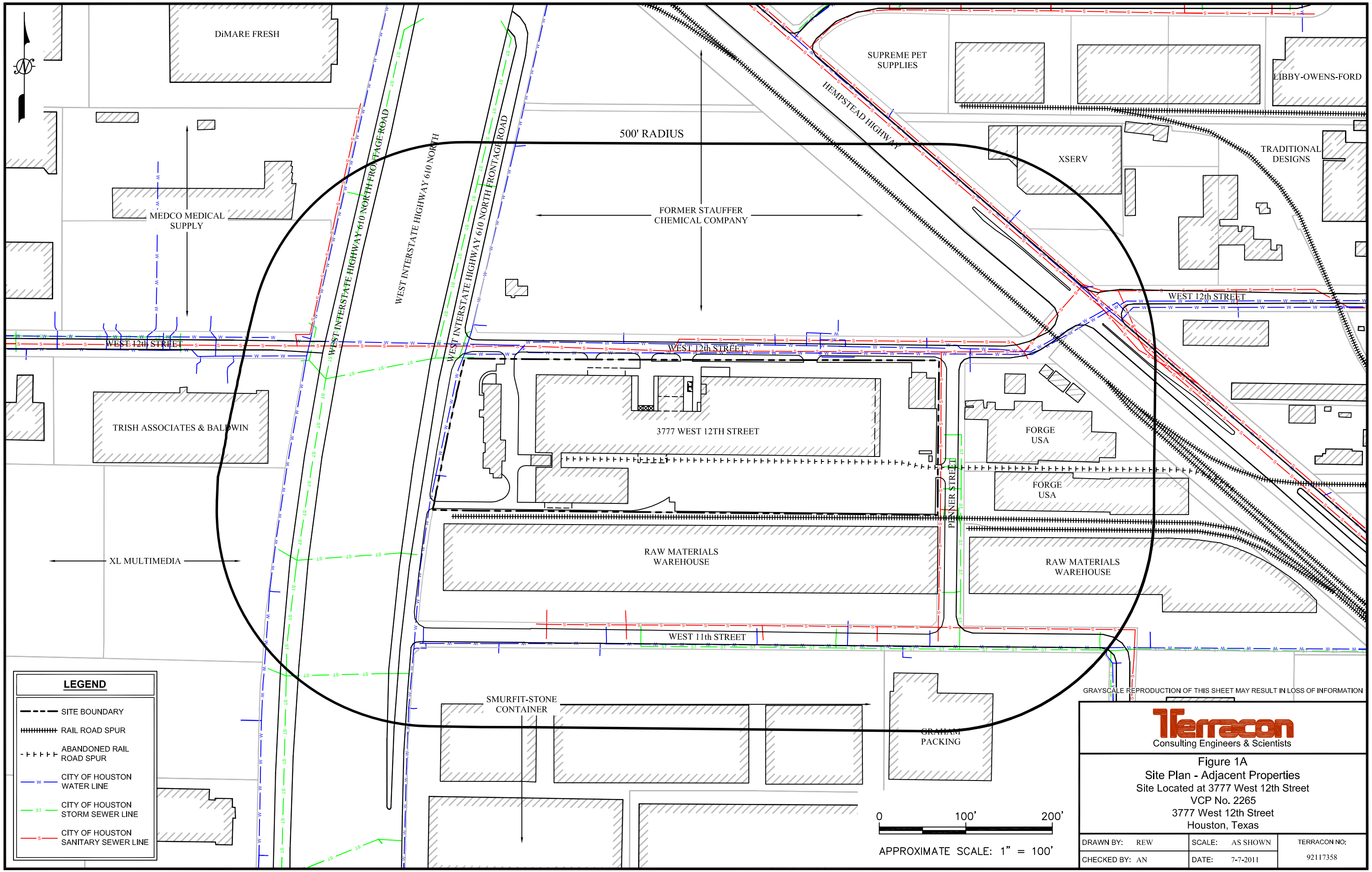
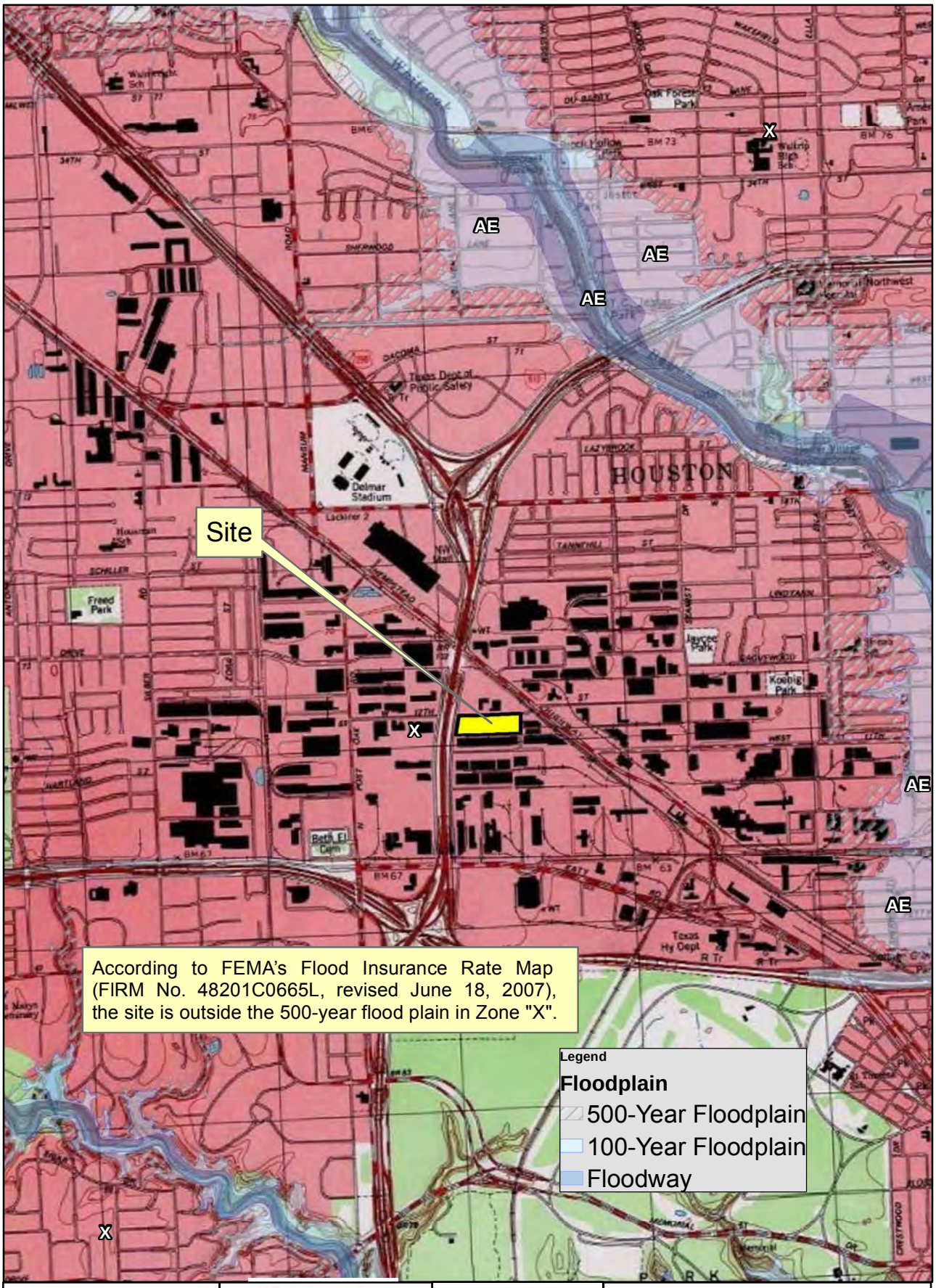

DiMARE FRESH
SUPREME PET SUPPLIES
LIBBY-OWENS-FORD
500' RADIUS
HEMPSTEAD HIGHWAY
XSERV
TRADITIONAL DESIGNS
MEDCO MEDICAL SUPPLY
WEST INTERSTATE HIGHWAY 610 NORTH FRONTAGE ROAD
WEST INTERSTATE HIGHWAY 610 NORTH
FORMER STAUFFER CHEMICAL COMPANY
WEST 12th STREET
WEST 12th STREET
WEST 12th STREET
TRISH ASSOCIATES & BALDWIN
3777 WEST 12TH STREET
FORGE USA
FORGE USA
PENNER STREET
XL MULTIMEDIA
RAW MATERIALS WAREHOUSE
RAW MATERIALS WAREHOUSE
WEST 11th STREET
SMURFIT-STONE CONTAINER
GRAHAM PACKING
LEGEND
SITE BOUNDARY
RAIL ROAD SPUR
ABANDONED RAIL ROAD SPUR
CITY OF HOUSTON WATER LINE
CITY OF HOUSTON STORM SEWER LINE
CITY OF HOUSTON SANITARY SEWER LINE
0
100'
200'
APPROXIMATE SCALE: 1" = 100'
GRAYSCALE REPRODUCTION OF THIS SHEET MAY RESULT IN LOSS OF INFORMATION
Terracon
Consulting Engineers & Scientists
Figure 1A
Site Plan - Adjacent Properties
Site Located at 3777 West 12th Street
VCP No. 2265
3777 West 12th Street
Houston, Texas
DRAWN BY: REW
SCALE: AS SHOWN
TERRACON NO: 92117358
CHECKED BY: AN
DATE: 7-7-2011
N:\ENV\dox\2011\Drafting\92117358\MUD Application 2011\92117358 Potential Receptors Map.dwg : Figure 1A



0 1,250 2,500 Feet

1 inch = 2,500 feet

Terracon
Consulting Engineers & Scientists

Terracon No. 92117358

VCP ID: 2265	
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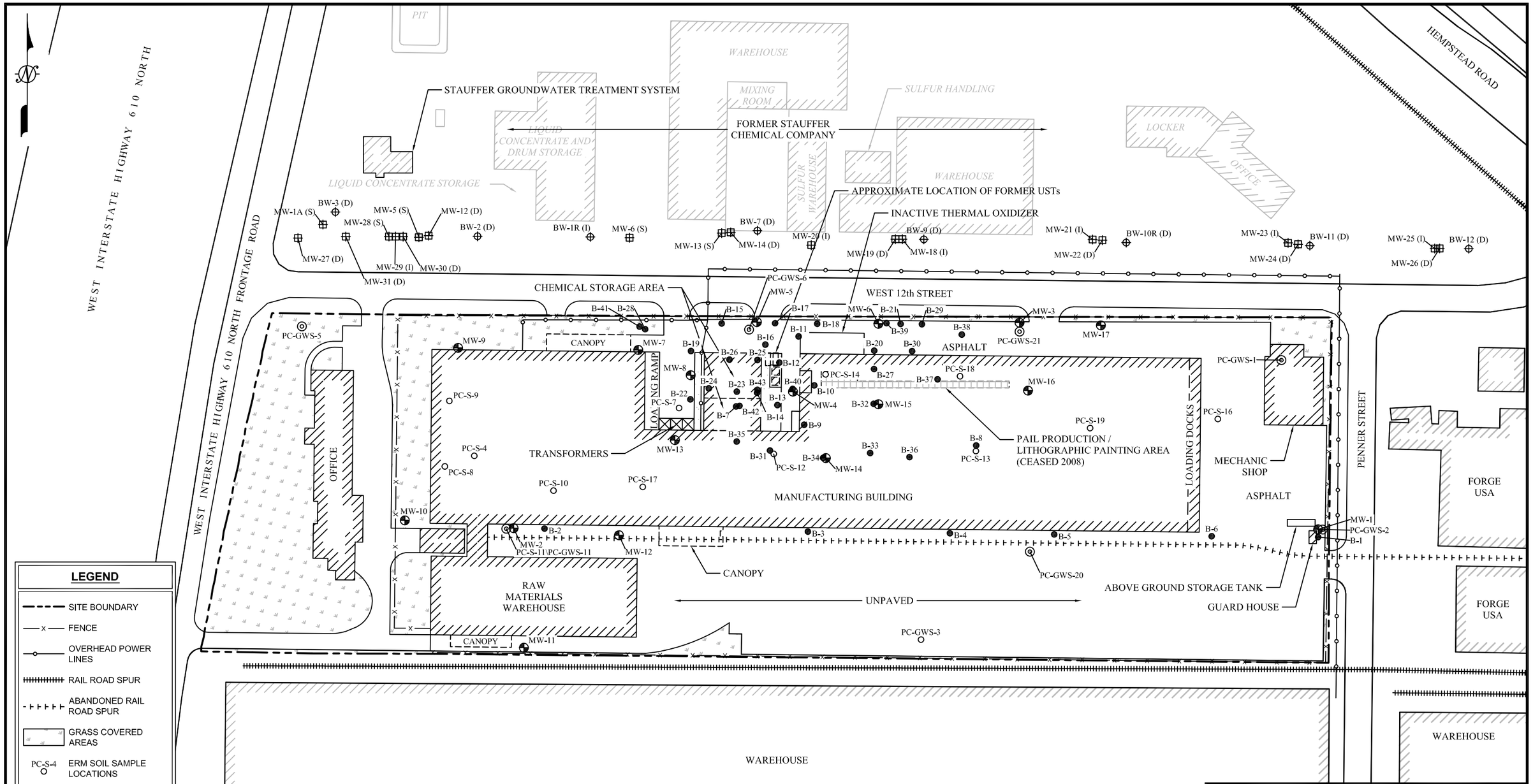
DATE:	7-12-2011

Figure 2
Topographic Map
Site Located at 3777 West 12th Street
3777 West 12th Street
Houston, Texas



LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD SPUR
- ABANDONED RAIL ROAD SPUR
- GRASS COVERED AREAS
- PC-S-4 — ERM SOIL SAMPLE LOCATIONS
- PC-GWS-1 — ERM SOIL / GROUNDWATER SAMPLE LOCATION
- B-1 — TERRACON SOIL BORING LOCATION
- MW-1 — TERRACON MONITOR WELL LOCATION
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

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Consulting Engineers & Scientists

Figure 3
Site Plan with Boring Locations
Site Located at 3777 West 12th Street
VCP No. 2265
3777 West 12th Street
Houston, Texas

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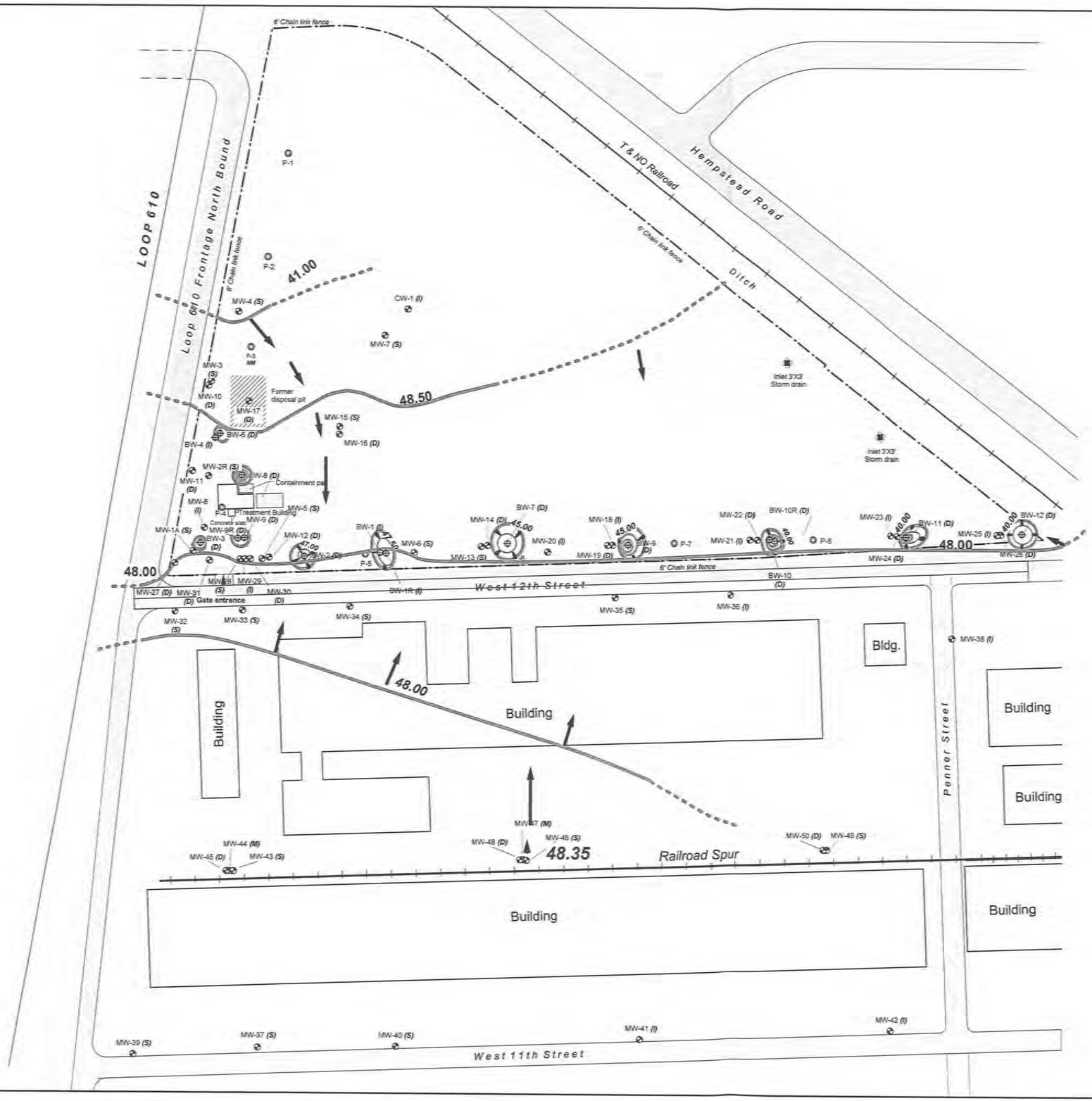
Figure 4.1

Potentiometric Surface Contour Map

March 2009

[Source: Annual Report on Interceptor Well System Performance: 2009 submitted to the TCEQ for the off-site Stauffer property (TCEQ ISW Reg. No. 31181)]



N

LEGEND

- Monitoring well location
- Barrier well or DNAPL recovery well location
- Shallow piezometer location for cap monitoring
- (S) Shallow well, maximum screened depth < 35 ft, bgs
- (I) Intermediate well, maximum screened depth from 35 to 50 ft, bgs
- (D) Deep well, maximum screened depth > 50 ft, bgs

NOTES:
1) Monitoring wells, DNAPL recovery wells, and barrier wells are completed within the sand unit encountered at an approximate depth interval of 20 to 60 ft below grade.
2) Piezometers range in depth from 8 to 15 ft below grade and are used only for monitoring moisture levels beneath the surface cap. These piezometers do not extend to the depth of the groundwater-bearing sand unit.
3) MW-32 through MW-36 P&A'd JAN 2003
4) MW-43 through MW-50 installed JAN 2003.
5) MW-43 through MW-45 and MW-47MW-50 P&A'd December 2004.

SCALE (ft.)
0 75 150

Potentiometric Surface Contour Map
March 2009

Stauffer Management Company
8901 Hempstead Road, Houston, Texas

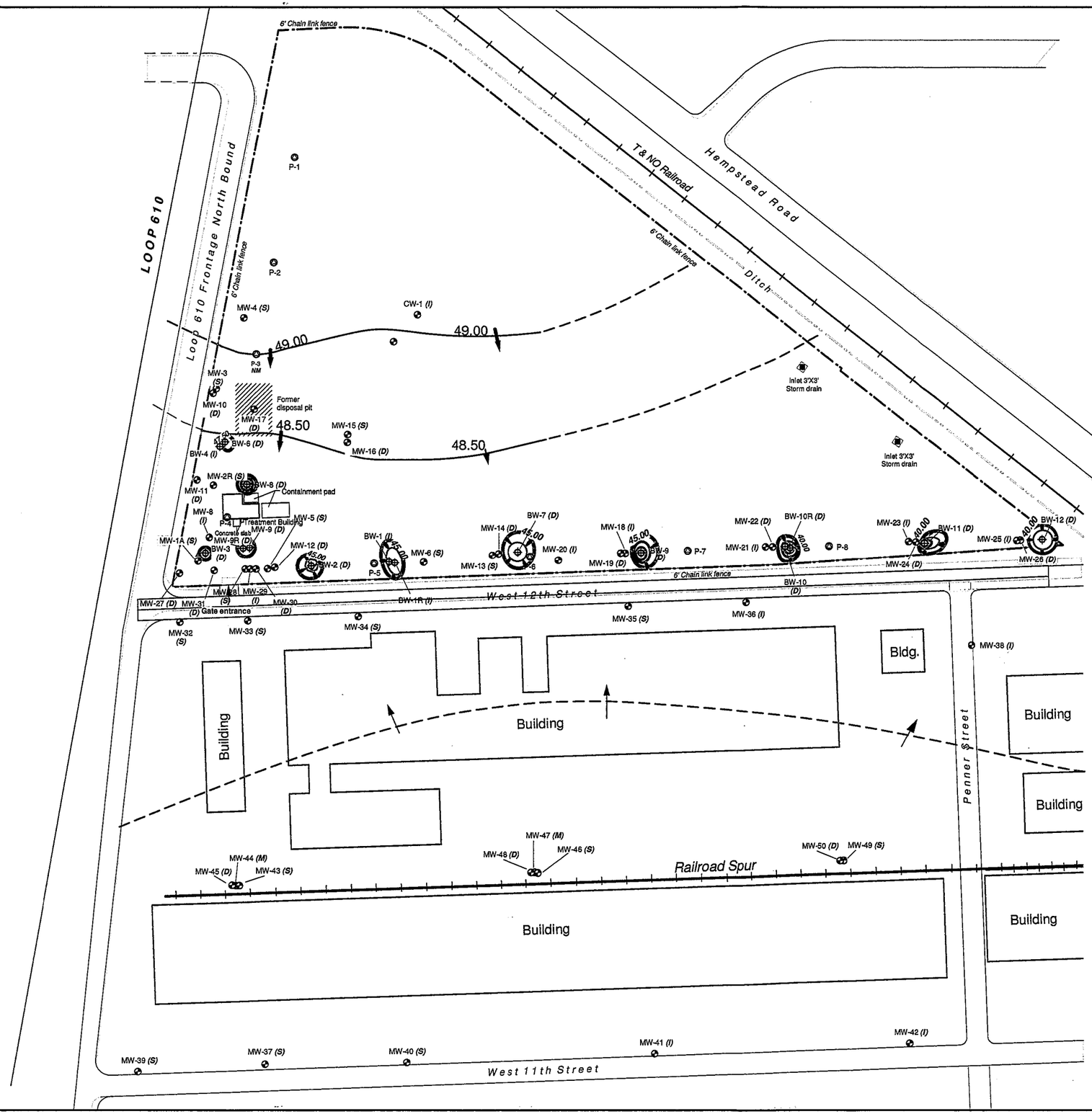
		Drawn By:	skb
Issued:	2/10/10 skb	Chk'd By:	MZ
Revised:		Appv'd By:	MZ
Scale:	As Shown		FIGURE 7

Figure 4.2

Potentiometric Surface Contour Map

October 2010

[Source: Annual Report on Interceptor Well System Performance: 2010 submitted to the TCEQ for the off-site Stauffer property (TCEQ ISW Reg. No. 31181)]



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LEGEND

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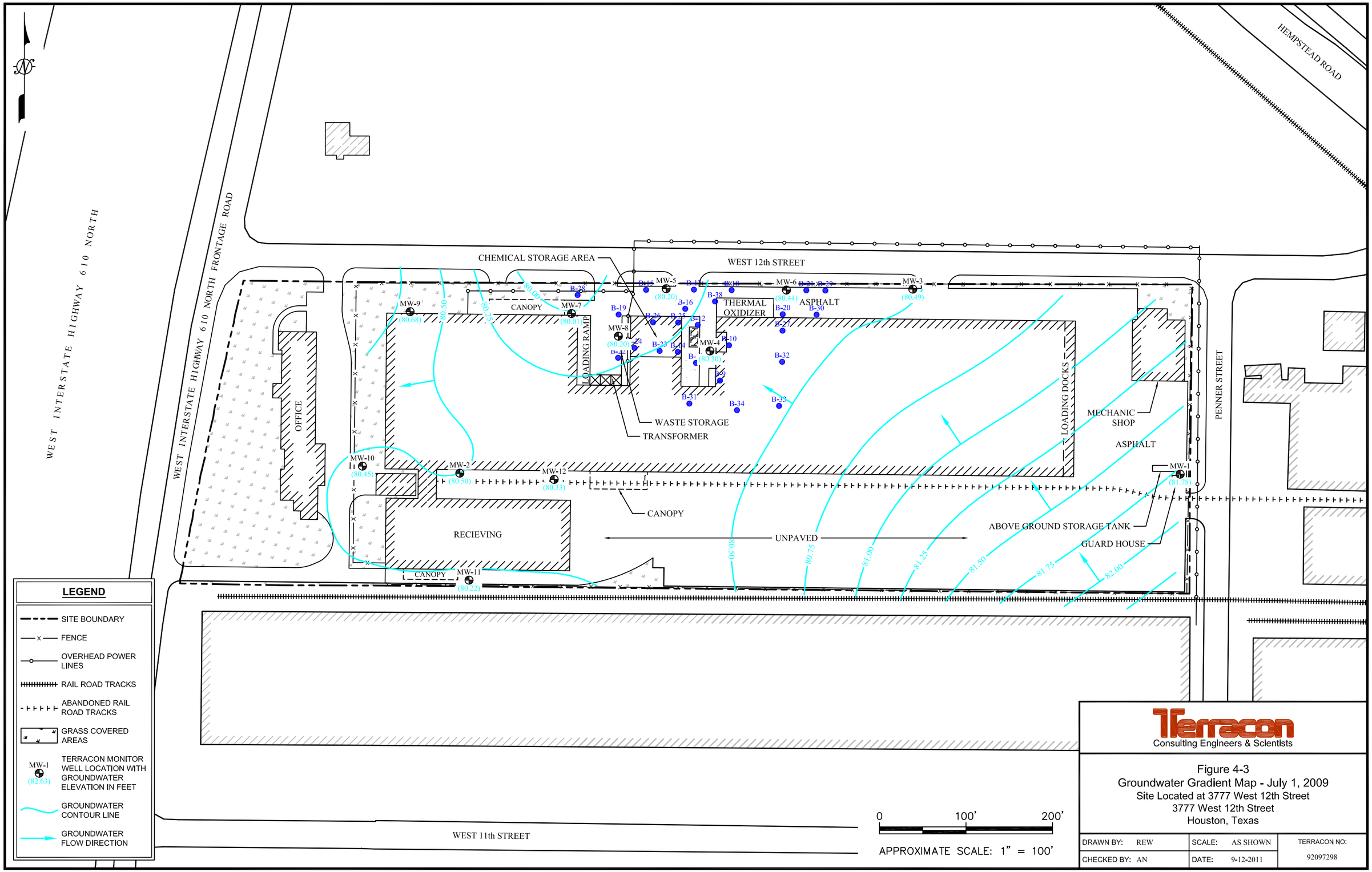
5) MW-43 through MW-45 and MW-47MW-50 P&A'd December 2004.

SCALE (ft.)
0 75 150

Potentiometric Surface Contour Map
October 2010

Stauffer Management Company
8901 Hempstead Road, Houston,
Texas

		Drawn By:	skb
Issued:	1/18/11 skb	Chk'd By:	MZ
Revised:		Appv'd By:	MZ
Scale:	As Shown		**FIGURE 8**



Terracon
Consulting Engineers & Scientists

Figure 4-3
Groundwater Gradient Map - July 1, 2009
Site Located at 3777 West 12th Street
3777 West 12th Street
Houston, Texas

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CHECKED BY: AN		DATE: 9-12-2011		92097298

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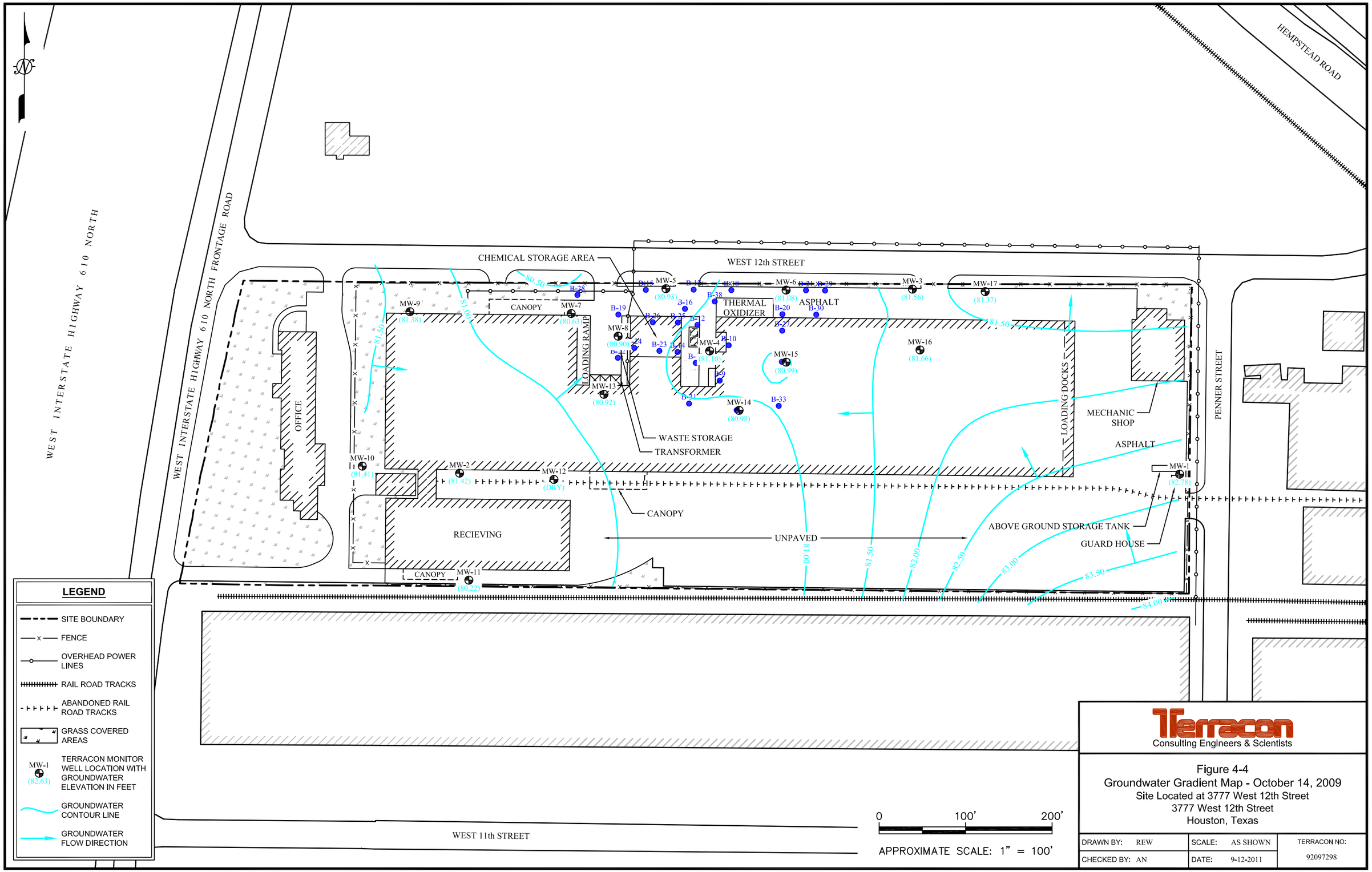
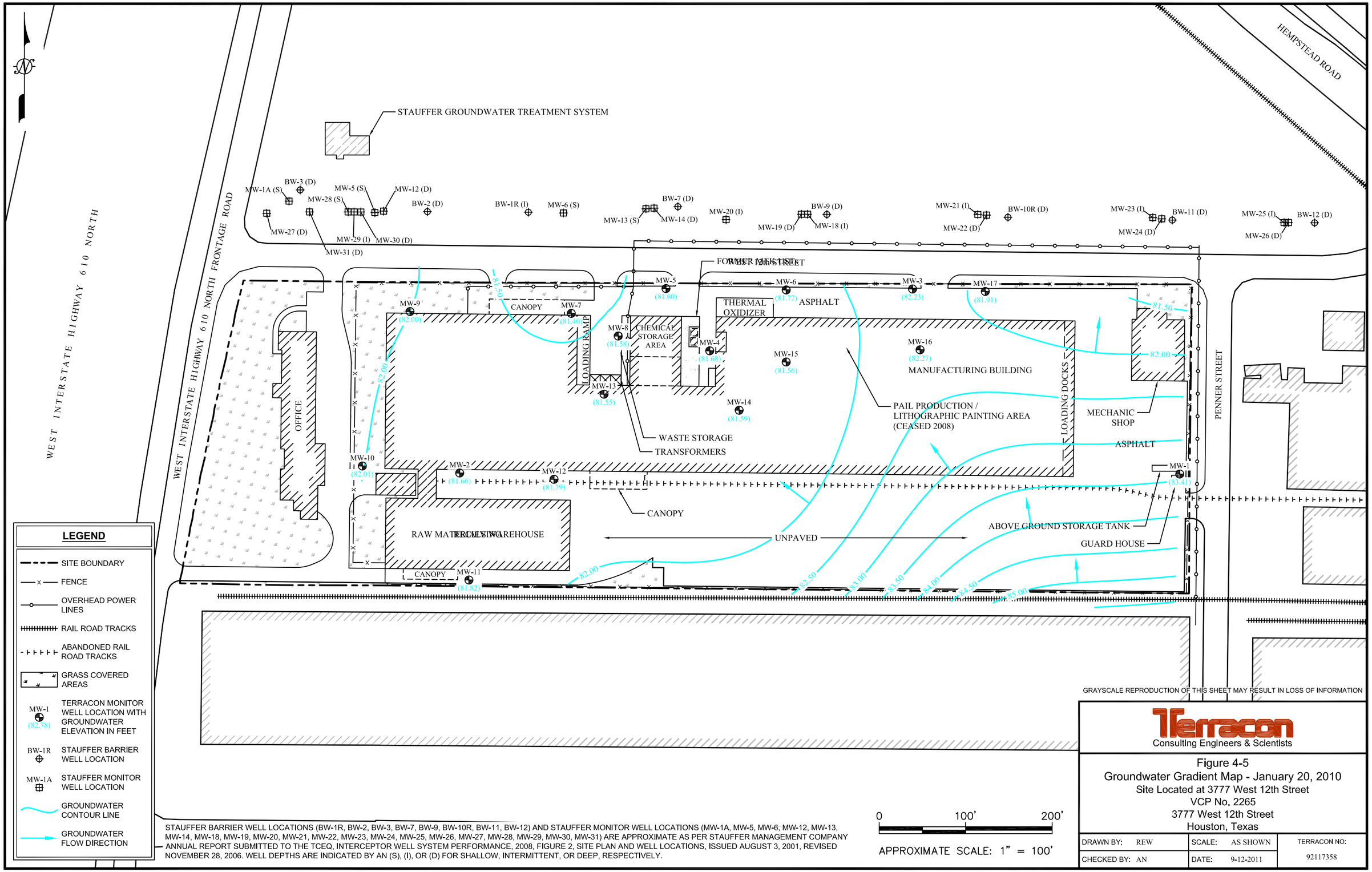
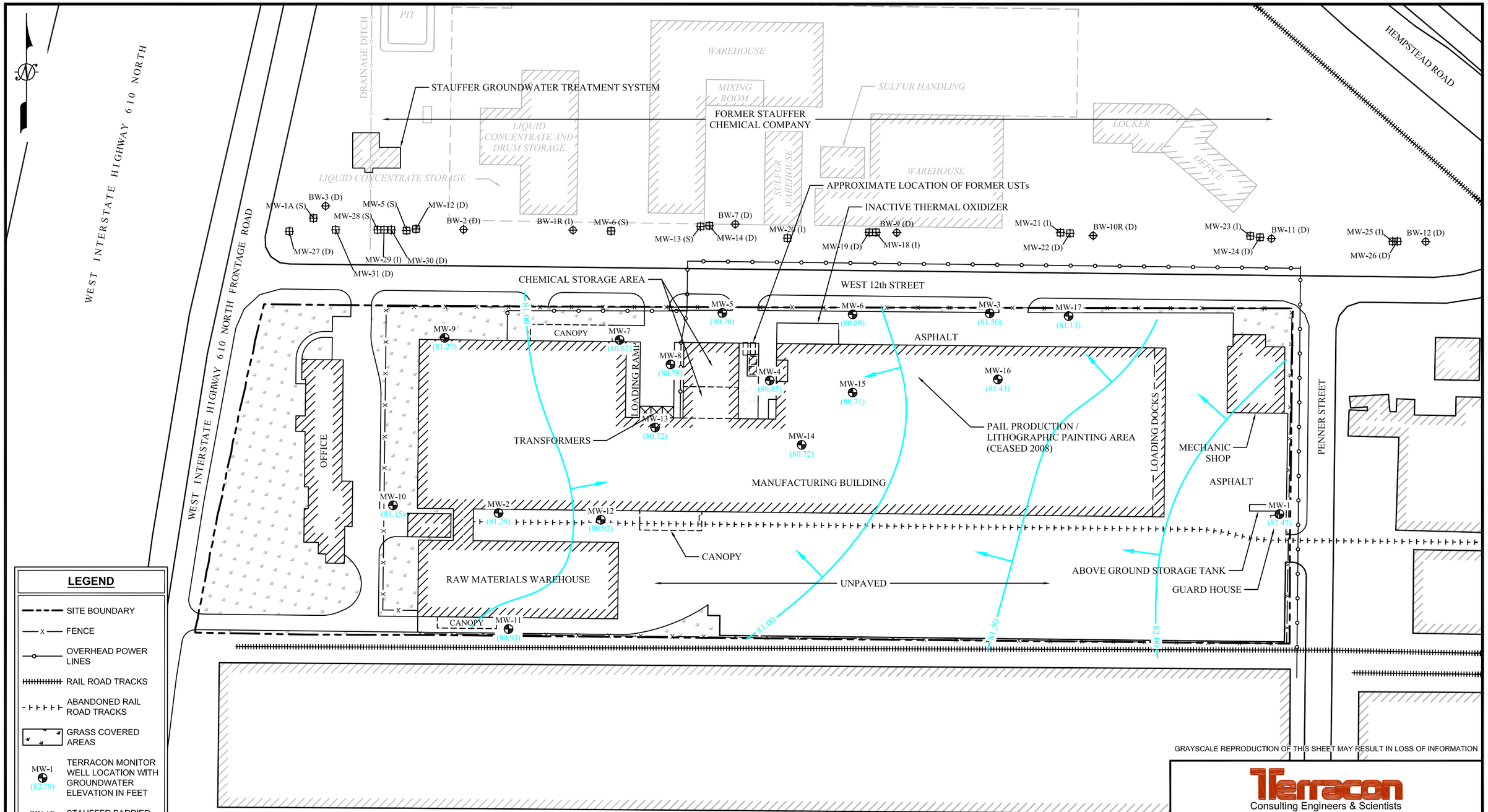

HEMPSTEAD ROAD
WEST INTERSTATE HIGHWAY 610 NORTH
WEST INTERSTATE HIGHWAY 610 NORTH FRONTAGE ROAD
WEST 12th STREET
WEST 11th STREET
PENNER STREET
CHEMICAL STORAGE AREA
THERMAL OXIDIZER
ASPHALT
CANOPY
LOADING RAMP
OFFICE
RECIEVING
WASTE STORAGE
TRANSFORMER
UNPAVED
LOADING DOCKS
MECHANIC SHOP
ABOVE GROUND STORAGE TANK
GUARD HOUSE
MW-1 (82.78)
MW-2 (81.42)
MW-3 (81.56)
MW-4 (81.10)
MW-5 (80.93)
MW-6 (81.08)
MW-7 (80.63)
MW-8 (80.90)
MW-9 (81.38)
MW-10 (81.41)
MW-11 (80.22)
MW-12 (DRY)
MW-13 (80.92)
MW-14 (80.98)
MW-15 (80.99)
MW-16 (81.66)
MW-17 (81.37)
80.50
81.00
81.50
82.00
82.50
83.00
83.50
84.00
0 100' 200'
APPROXIMATE SCALE: 1" = 100'
LEGEND
SITE BOUNDARY
FENCE
OVERHEAD POWER LINES
RAIL ROAD TRACKS
ABANDONED RAIL ROAD TRACKS
GRASS COVERED AREAS
MW-1 (82.63) TERRACON MONITOR WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET
GROUNDWATER CONTOUR LINE
GROUNDWATER FLOW DIRECTION
Terracon
Consulting Engineers & Scientists
Figure 4-4
Groundwater Gradient Map - October 14, 2009
Site Located at 3777 West 12th Street
3777 West 12th Street
Houston, Texas
DRAWN BY: REW
CHECKED BY: AN
SCALE: AS SHOWN
DATE: 9-12-2011
TERRACON NO: 92097298
N:\ENV\dox\2011\Drafting\92117358\MUD Application 2011\92117358 GWGM 2009-10-14.dwg : SURFER



STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.



LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (82.78) — TERRACON MONITOR WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW DIRECTION

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

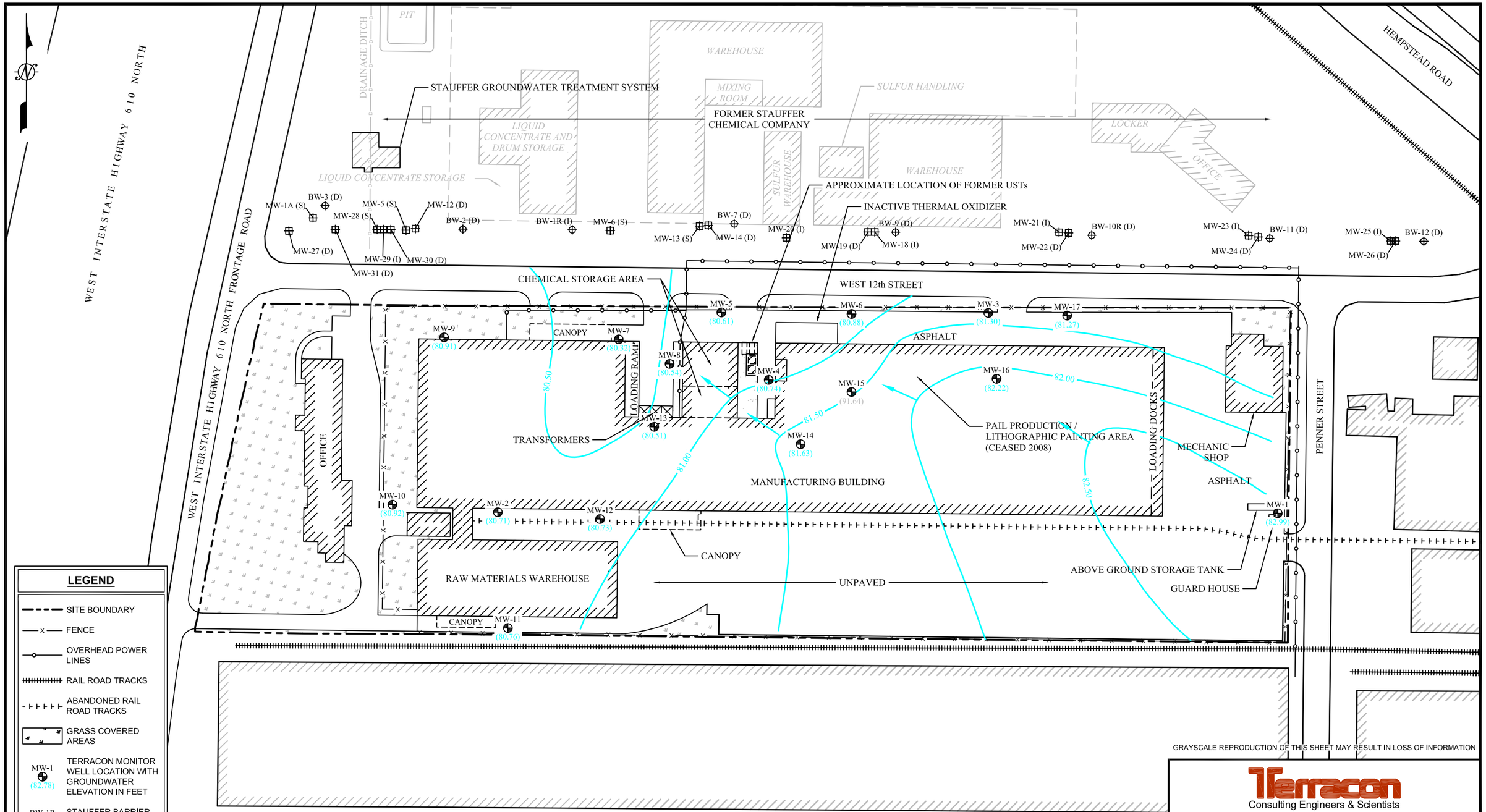
GRAYSCALE REPRODUCTION OF THIS SHEET MAY RESULT IN LOSS OF INFORMATION

Terracon
Consulting Engineers & Scientists

Figure 4-6
Groundwater Gradient Map - May 19, 2010
Site Located at 3777 West 12th Street
VCP No. 2265
3777 West 12th Street
Houston, Texas

DRAWN BY: REW	SCALE: AS SHOWN	TERRACON NO:
CHECKED BY: AN	DATE: 9-12-2011	92117358

N:\ENV\dox\2011\Drafting\92117358\MUD Application 2011\92117358 Revised GWGM 2010-05-19.dwg : Revised Figure 4-1



LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (82.78) — TERRACON MONITOR WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW DIRECTION

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

GRAYSCALE REPRODUCTION OF THIS SHEET MAY RESULT IN LOSS OF INFORMATION

Terracon
Consulting Engineers & Scientists

Figure 4-7
Groundwater Gradient Map - August 19, 2010
Site Located at 3777 West 12th Street
VCP No. 2265
3777 West 12th Street
Houston, Texas

DRAWN BY: REW	SCALE: AS SHOWN	TERRACON NO:
CHECKED BY: AN	DATE: 9-12-2011	92117358

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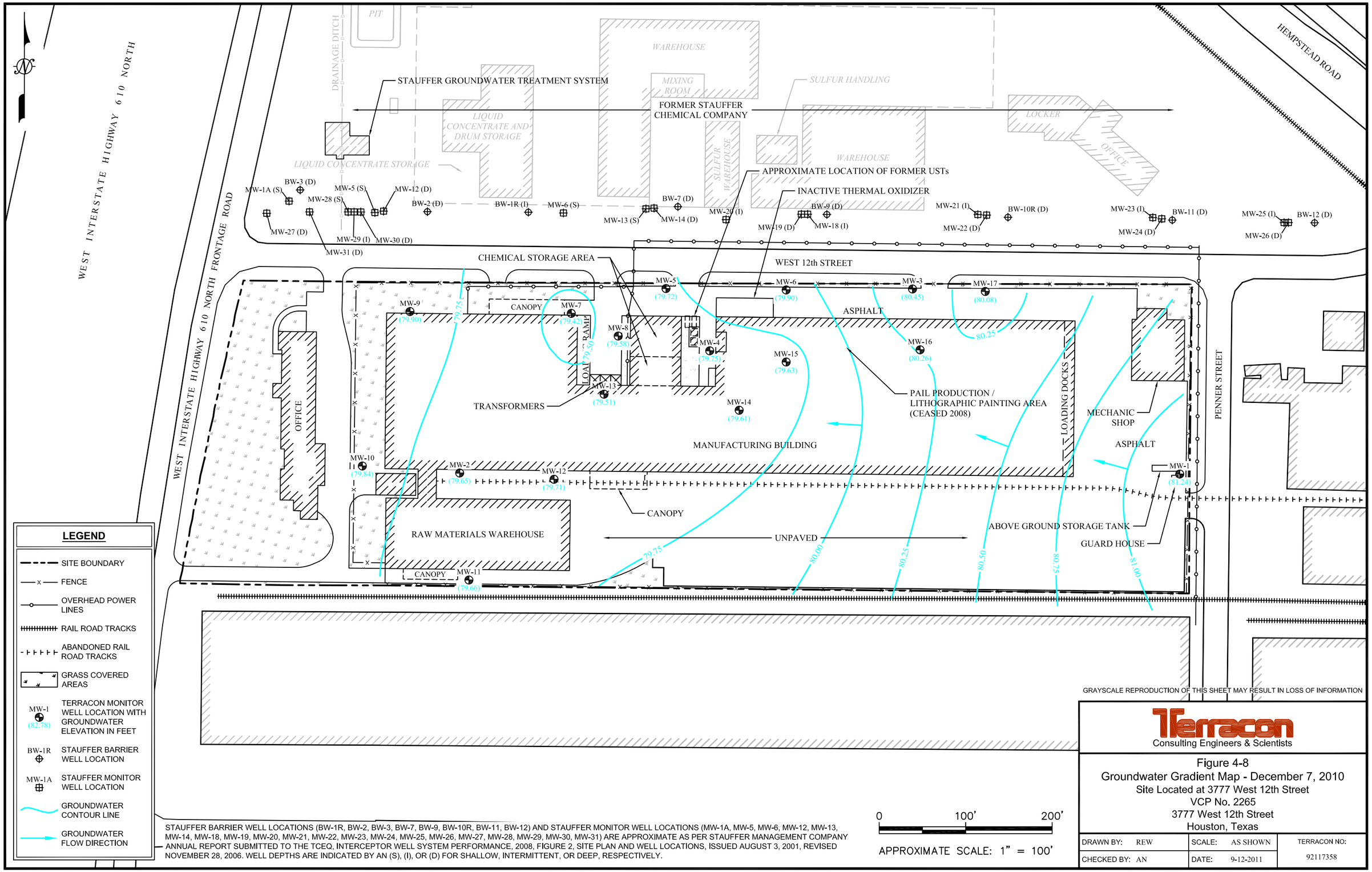
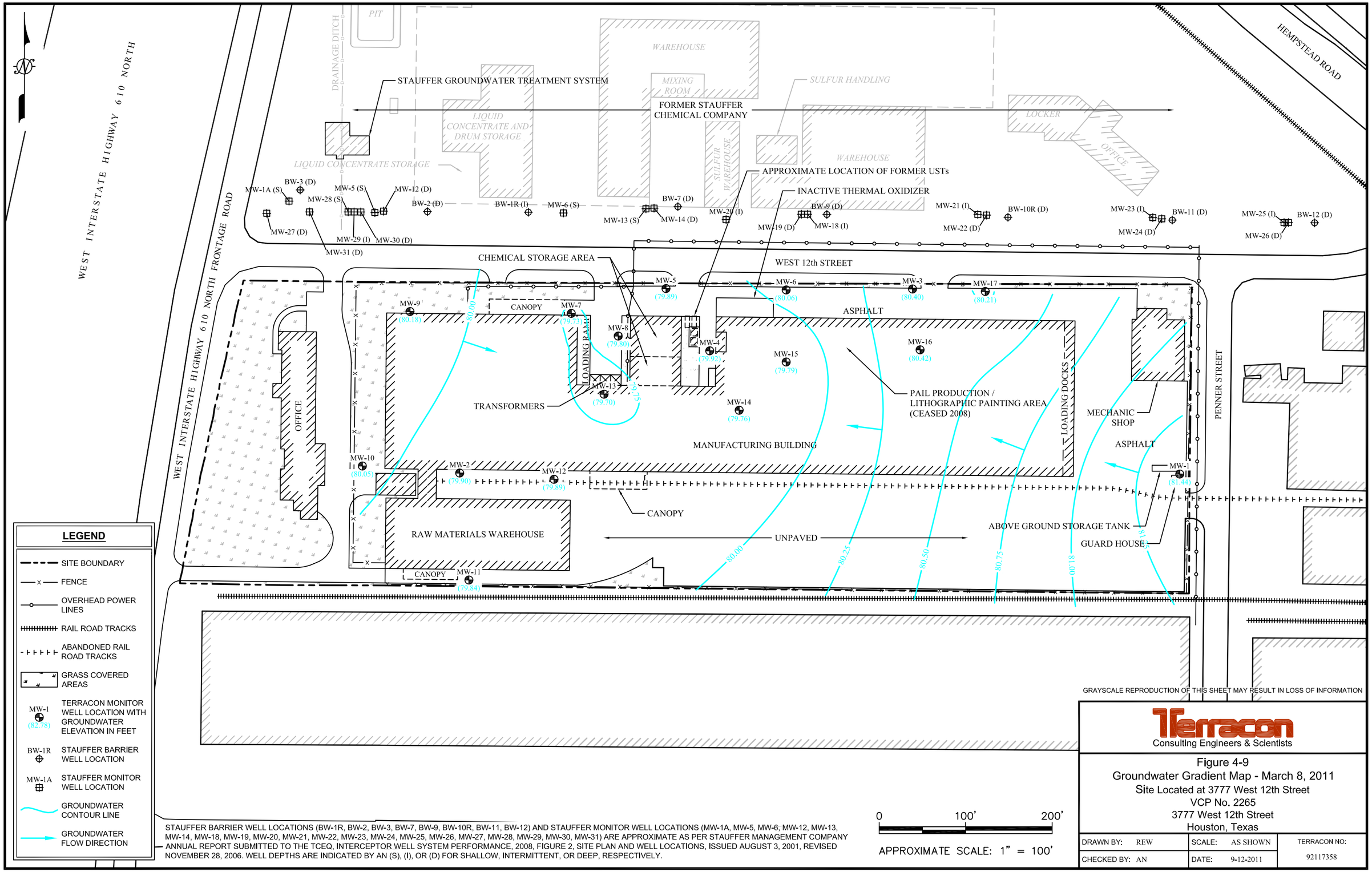
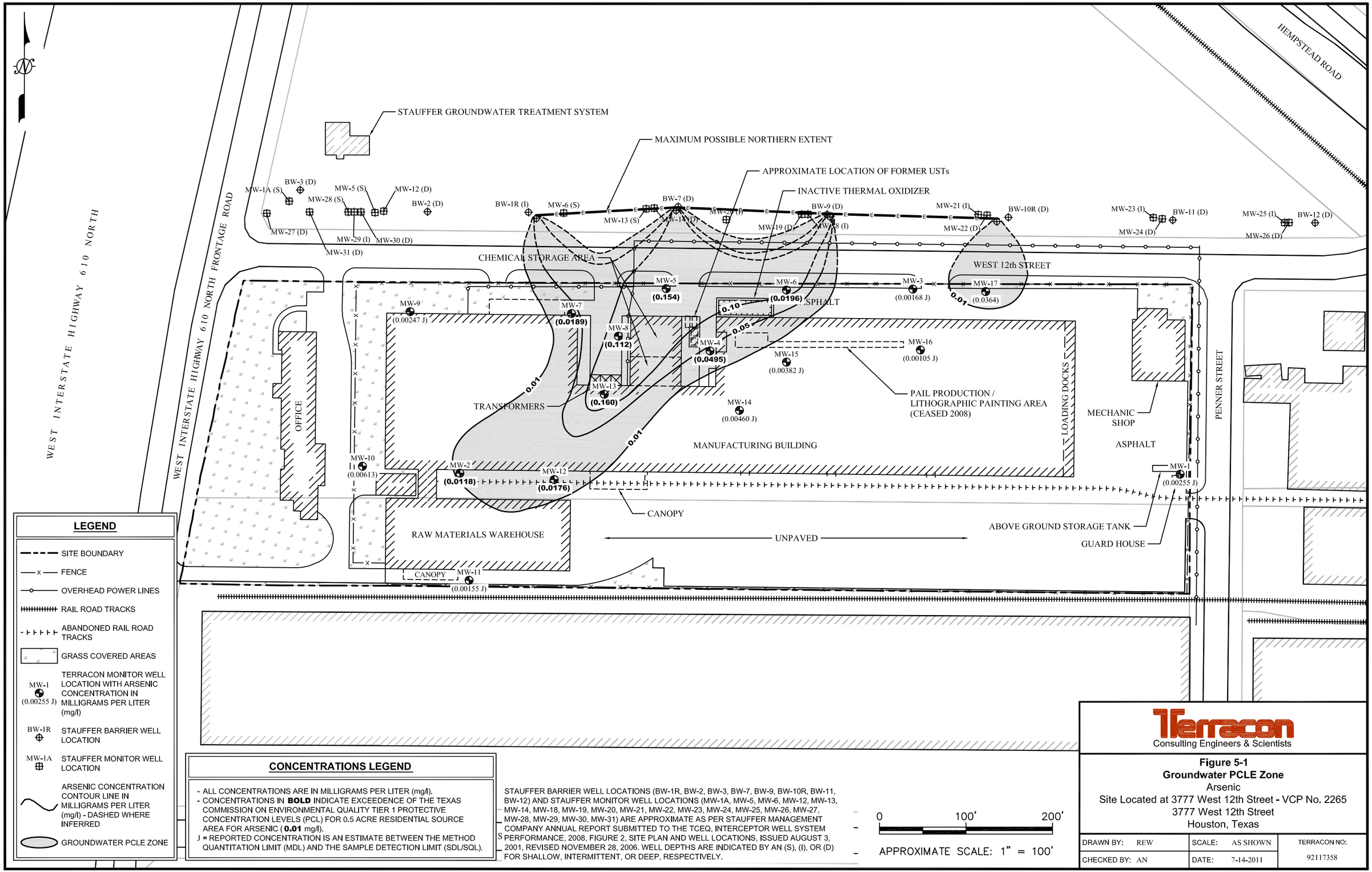


STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.



STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.


STAUFFER GROUNDWATER TREATMENT SYSTEM
MAXIMUM POSSIBLE NORTHERN EXTENT
APPROXIMATE LOCATION OF FORMER USTs
INACTIVE THERMAL OXIDIZER
HEMPSTEAD ROAD
WEST INTERSTATE HIGHWAY 610 NORTH
WEST INTERSTATE HIGHWAY 610 NORTH FRONTAGE ROAD
WEST 12th STREET
PENNER STREET
CHEMICAL STORAGE AREA
TRANSFORMERS
PAIL PRODUCTION / LITHOGRAPHIC PAINTING AREA (CEASED 2008)
MANUFACTURING BUILDING
RAW MATERIALS WAREHOUSE
OFFICE
LOADING DOCKS
MECHANIC SHOP
ASPHALT
CANOPY
UNPAVED
ABOVE GROUND STORAGE TANK
GUARD HOUSE
MW-1A (S)
BW-3 (D)
MW-28 (S)
MW-5 (S)
MW-12 (D)
BW-2 (D)
MW-27 (D)
MW-29 (I)
MW-30 (D)
MW-31 (D)
BW-1R (I)
MW-6 (S)
MW-13 (S)
BW-7 (D)
MW-19 (D)
BW-9 (D)
MW-21 (I)
MW-22 (D)
BW-10R (D)
MW-23 (I)
MW-24 (D)
BW-11 (D)
MW-25 (I)
MW-26 (D)
BW-12 (D)
MW-9 (0.00247 J)
MW-7 (0.0189)
MW-5 (0.154)
MW-8 (0.112)
MW-13 (0.160)
MW-4 (0.0495)
MW-6 (0.0196)
MW-3 (0.00168 J)
MW-17 (0.0364)
MW-16 (0.00105 J)
MW-15 (0.00382 J)
MW-14 (0.00460 J)
MW-10 (0.00613)
MW-2 (0.0118)
MW-12 (0.0176)
MW-1 (0.00255 J)
MW-11 (0.00155 J)
0.01
0.05
0.10
LEGEND
SITE BOUNDARY
FENCE
OVERHEAD POWER LINES
RAIL ROAD TRACKS
ABANDONED RAIL ROAD TRACKS
GRASS COVERED AREAS
MW-1 (0.00255 J) TERRACON MONITOR WELL LOCATION WITH ARSENIC CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
BW-1R STAUFFER BARRIER WELL LOCATION
MW-1A STAUFFER MONITOR WELL LOCATION
ARSENIC CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
GROUNDWATER PCLE ZONE
CONCENTRATIONS LEGEND
- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN BOLD INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR ARSENIC (0.01 mg/l).
J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).
STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.
0 100' 200'
APPROXIMATE SCALE: 1" = 100'
Terracon
Consulting Engineers & Scientists
Figure 5-1
Groundwater PCLE Zone
Arsenic
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas
DRAWN BY: REW
SCALE: AS SHOWN
TERRACON NO: 92117358
CHECKED BY: AN
DATE: 7-14-2011
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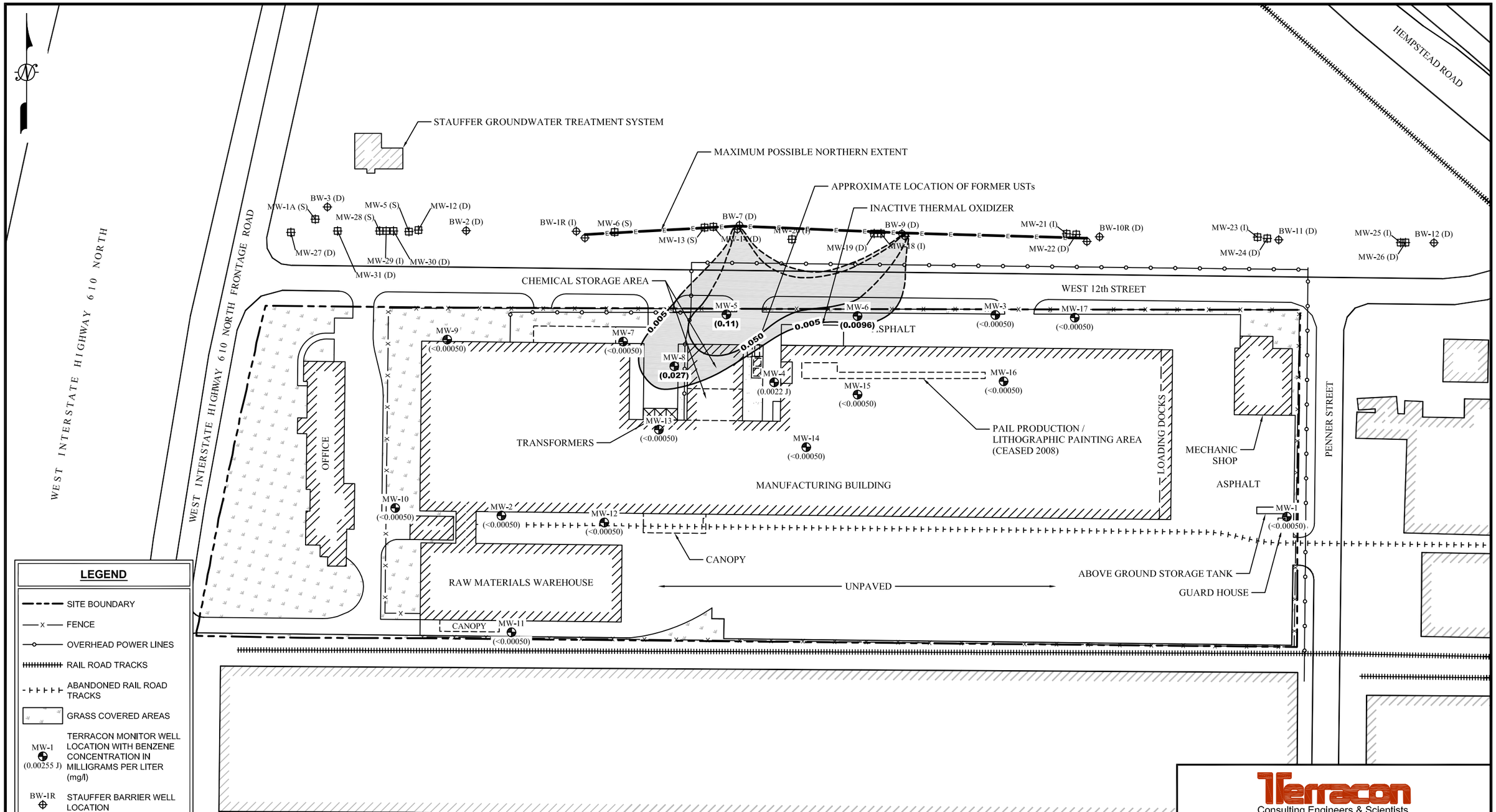

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (0.00255 J) — TERRACON MONITOR WELL LOCATION WITH BENZENE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- BENZENE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
- GROUNDWATER PCLE ZONE

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR BENZENE (**0.005** mg/l).
- J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

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Figure 5-2
Groundwater PCLE Zone
Benzene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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CHECKED BY: AN	DATE: 7-14-2011	92117358

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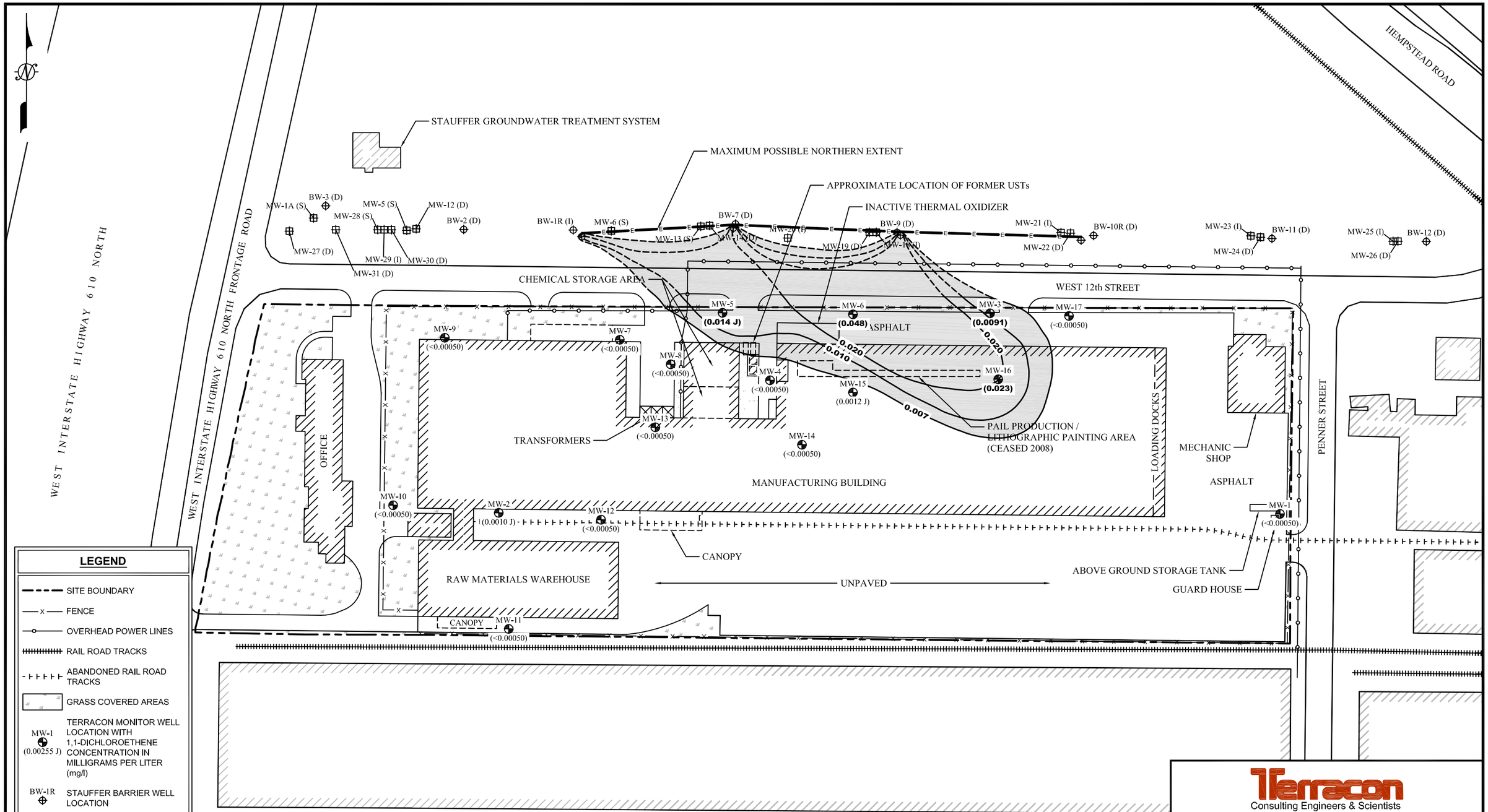
STAUFFER GROUNDWATER TREATMENT SYSTEM
MAXIMUM POSSIBLE NORTHERN EXTENT
APPROXIMATE LOCATION OF FORMER USTs
INACTIVE THERMAL OXIDIZER
HEMPSTEAD ROAD
WEST INTERSTATE HIGHWAY 610 NORTH
WEST INTERSTATE HIGHWAY 610 NORTH FRONTAGE ROAD
WEST 12th STREET
PENNER STREET
CHEMICAL STORAGE AREA
ASPHALT
TRANSFORMERS
PAIL PRODUCTION / LITHOGRAPHIC PAINTING AREA (CEASED 2008)
LOADING DOCKS
MECHANIC SHOP
ASPHALT
OFFICE
MANUFACTURING BUILDING
CANOPY
RAW MATERIALS WAREHOUSE
UNPAVED
ABOVE GROUND STORAGE TANK
GUARD HOUSE
BW-3 (D)
MW-1A (S)
MW-28 (S)
MW-5 (S)
MW-12 (D)
BW-2 (D)
MW-27 (D)
MW-29 (I)
MW-30 (D)
MW-31 (D)
BW-1R (I)
MW-6 (S)
BW-7 (D)
MW-13 (S)
MW-20 (I)
MW-19 (D)
BW-9 (D)
MW-21 (I)
BW-10R (D)
MW-22 (D)
MW-23 (I)
BW-11 (D)
MW-24 (D)
MW-25 (I)
BW-12 (D)
MW-26 (D)
MW-5 (0.014 J)
MW-6 (0.048)
MW-3 (0.0091)
MW-17 (<0.00050)
MW-9 (<0.00050)
MW-7 (<0.00050)
MW-8 (<0.00050)
MW-4 (<0.00050)
MW-16 (0.023)
MW-15 (0.0012 J)
MW-13 (<0.00050)
MW-14 (<0.00050)
MW-10 (<0.00050)
MW-2 (0.0010 J)
MW-12 (<0.00050)
MW-1 (<0.00050)
MW-11 (<0.00050)
0.020
0.010
0.020
0.007
LEGEND
SITE BOUNDARY
FENCE
OVERHEAD POWER LINES
RAIL ROAD TRACKS
ABANDONED RAIL ROAD TRACKS
GRASS COVERED AREAS
MW-1 (0.00255 J) TERRACON MONITOR WELL LOCATION WITH 1,1-DICHLOROETHENE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
BW-1R STAUFFER BARRIER WELL LOCATION
MW-1A STAUFFER MONITOR WELL LOCATION
1,1-DICHLOROETHENE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
GROUNDWATER PCLE ZONE
CONCENTRATIONS LEGEND
- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN BOLD INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR 1,1-DICHLOROETHENE (0.007 mg/l).
J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).
STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.
0 100' 200'
APPROXIMATE SCALE: 1" = 100'
Terracon
Consulting Engineers & Scientists
Figure 5-3
Groundwater PCLE Zone
1,1-Dichloroethene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas
DRAWN BY: REW
SCALE: AS SHOWN
TERRACON NO: 92117358
CHECKED BY: AN
DATE: 7-14-2011
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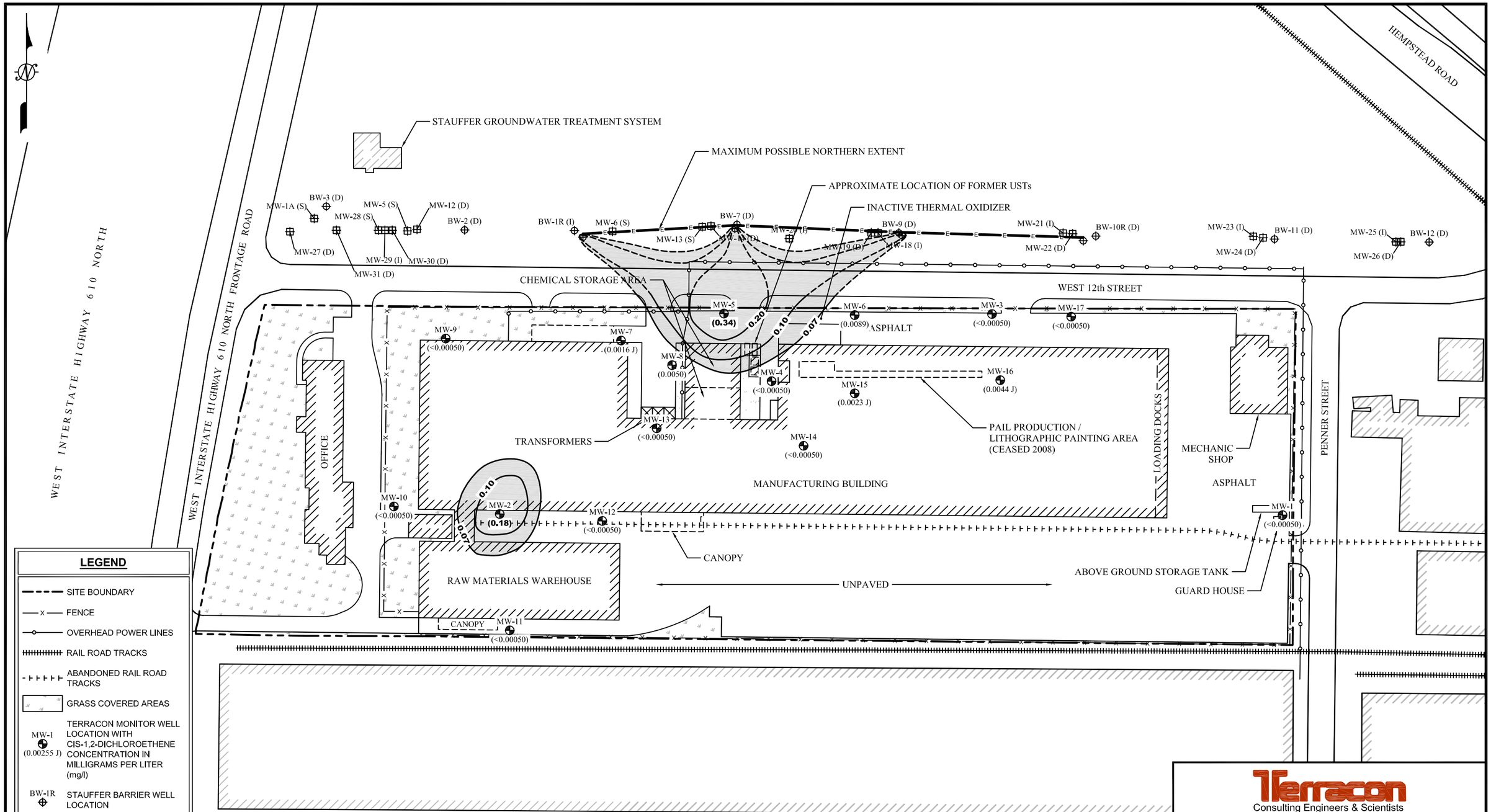

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (0.00255 J) — TERRACON MONITOR WELL LOCATION WITH CIS-1,2-DICHLOROETHENE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- CIS-1,2-DICHLOROETHENE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
- GROUNDWATER PCLE ZONE

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR CIS-1,2-DICHLOROETHENE (**0.07** mg/l).
- J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

Terracon
Consulting Engineers & Scientists

Figure 5-4
Groundwater PCLE Zone
cis-1,2-Dichloroethene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

DRAWN BY: REW	SCALE: AS SHOWN	TERRACON NO:
CHECKED BY: AN	DATE: 7-14-2011	92117358

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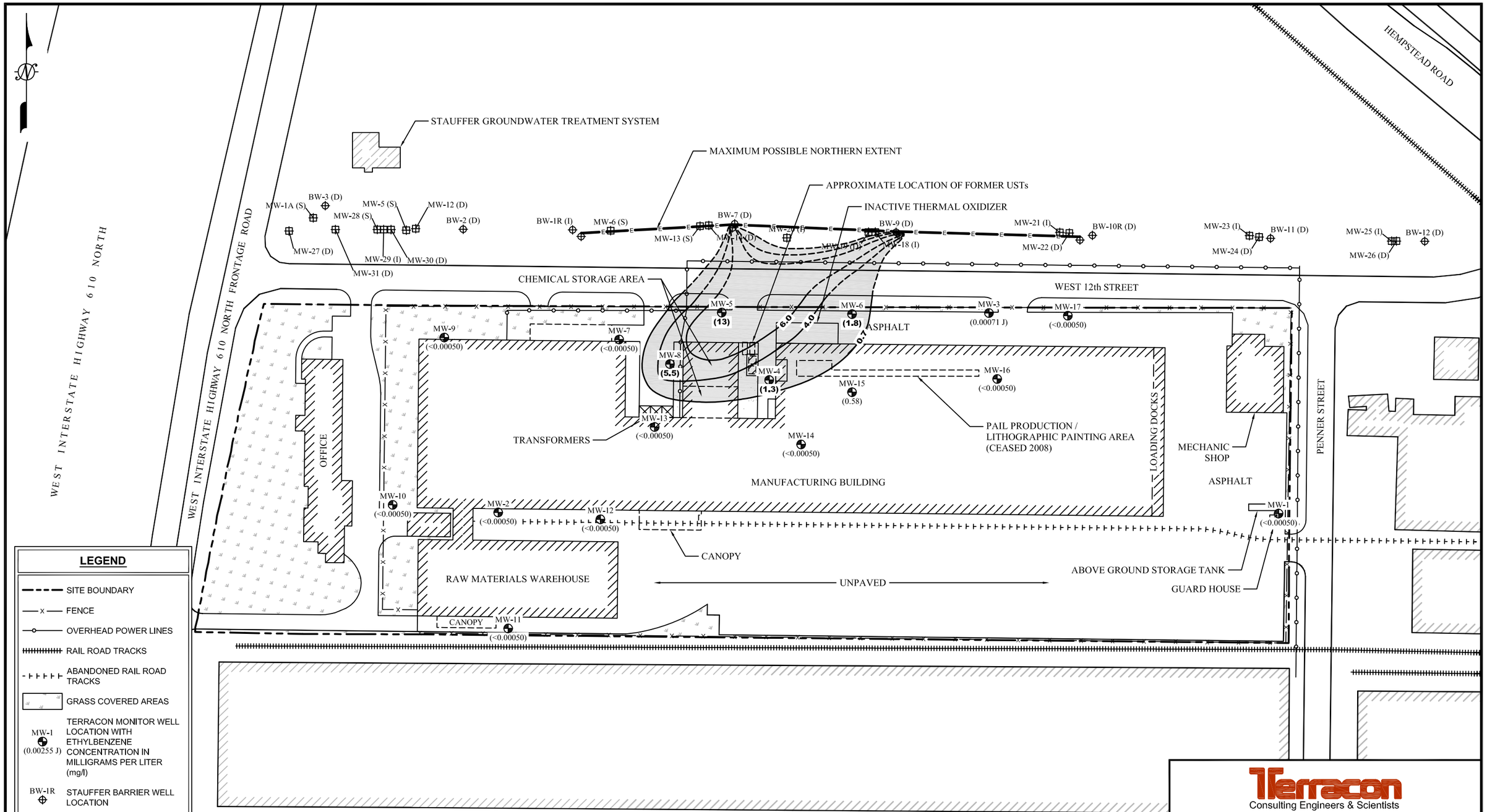
STAUFFER GROUNDWATER TREATMENT SYSTEM
MAXIMUM POSSIBLE NORTHERN EXTENT
APPROXIMATE LOCATION OF FORMER USTs
INACTIVE THERMAL OXIDIZER
HEMPSTEAD ROAD
WEST INTERSTATE HIGHWAY 610 NORTH
WEST INTERSTATE HIGHWAY 610 NORTH FRONTAGE ROAD
WEST 12th STREET
PENNER STREET
CHEMICAL STORAGE AREA
TRANSFORMERS
OFFICE
MANUFACTURING BUILDING
PAIL PRODUCTION / LITHOGRAPHIC PAINTING AREA (CEASED 2008)
LOADING DOCKS
MECHANIC SHOP
ASPHALT
CANOPY
RAW MATERIALS WAREHOUSE
UNPAVED
ABOVE GROUND STORAGE TANK
GUARD HOUSE
BW-3 (D)
MW-1A (S)
MW-28 (S)
MW-5 (S)
MW-12 (D)
BW-2 (D)
MW-27 (D)
MW-29 (I)
MW-30 (D)
MW-31 (D)
BW-1R (I)
MW-6 (S)
MW-13 (S)
BW-7 (D)
MW-14 (D)
MW-20 (I)
MW-19 (D)
MW-18 (I)
BW-9 (D)
MW-21 (I)
MW-22 (D)
BW-10R (D)
MW-23 (I)
MW-24 (D)
BW-11 (D)
MW-25 (I)
MW-26 (D)
BW-12 (D)
MW-5 (13)
MW-6 (1.8)
MW-3 (0.00071 J)
MW-17 (<0.00050)
MW-9 (<0.00050)
MW-7 (<0.00050)
MW-8 (5.5)
MW-4 (1.3)
MW-15 (0.58)
MW-16 (<0.00050)
MW-13 (<0.00050)
MW-14 (<0.00050)
MW-10 (<0.00050)
MW-2 (<0.00050)
MW-12 (<0.00050)
MW-1 (<0.00050)
MW-11 (<0.00050)
6.0
4.0
0.7
LEGEND
SITE BOUNDARY
FENCE
OVERHEAD POWER LINES
RAIL ROAD TRACKS
ABANDONED RAIL ROAD TRACKS
GRASS COVERED AREAS
MW-1 (0.00255 J) TERRACON MONITOR WELL LOCATION WITH ETHYLBENZENE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
BW-1R STAUFFER BARRIER WELL LOCATION
MW-1A STAUFFER MONITOR WELL LOCATION
ETHYLBENZENE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
GROUNDWATER PCLE ZONE
CONCENTRATIONS LEGEND
- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN BOLD INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR ETHYLBENZENE (0.7 mg/l).
J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).
STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.
0 100' 200'
APPROXIMATE SCALE: 1" = 100'
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Figure 5-5
Groundwater PCLE Zone
Ethylbenzene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas
DRAWN BY: REW
SCALE: AS SHOWN
TERRACON NO: 92117358
CHECKED BY: AN
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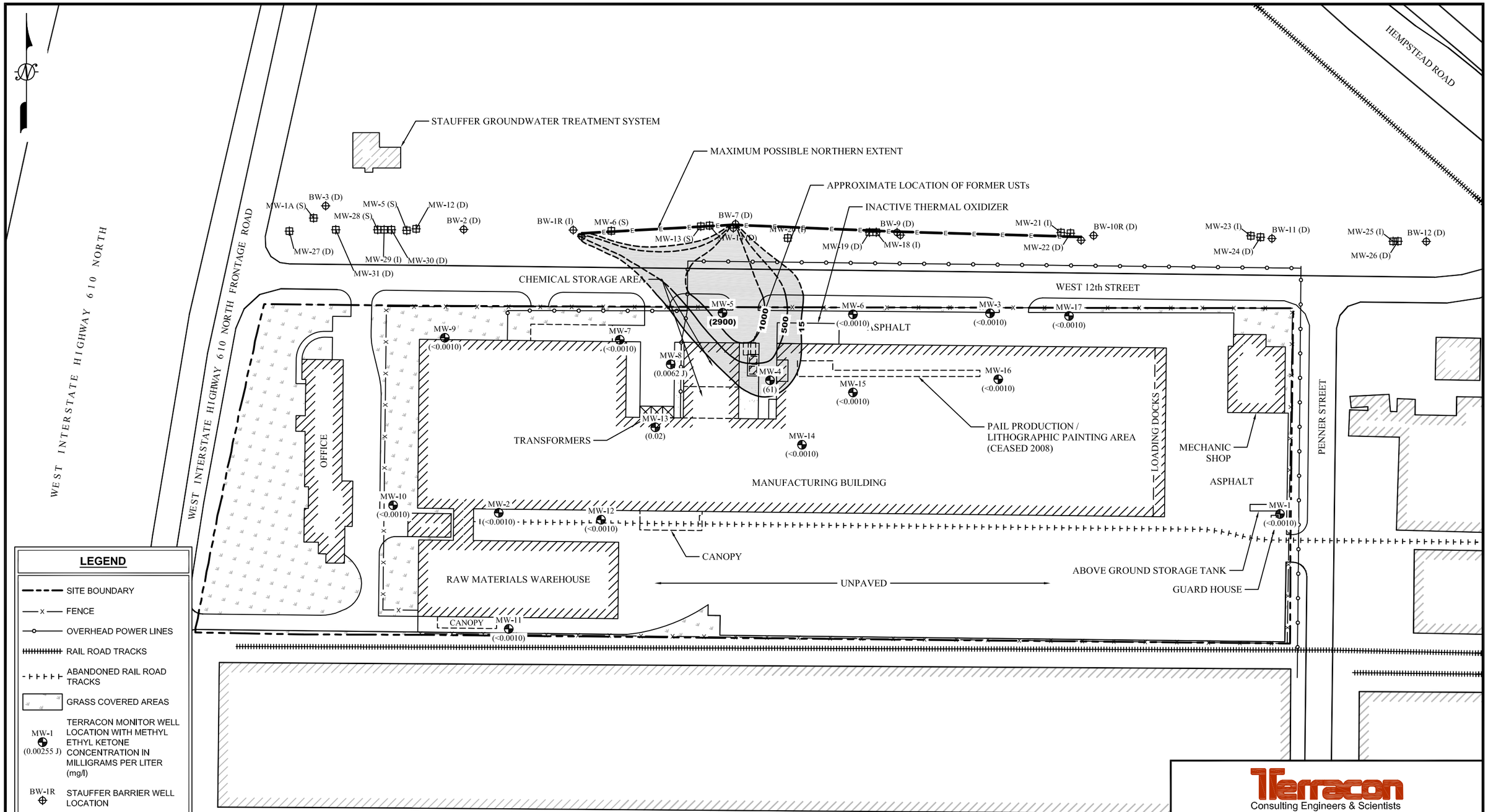

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (0.00255 J) — TERRACON MONITOR WELL LOCATION WITH METHYL ETHYL KETONE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER BARRIER WELL LOCATION
- METHYL ETHYL KETONE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
- GROUNDWATER PCLE ZONE

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR METHYL ETHYL KETONE (**15** mg/l).
- J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

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Figure 5-6
Groundwater PCLE Zone
Methyl Ethyl Ketone
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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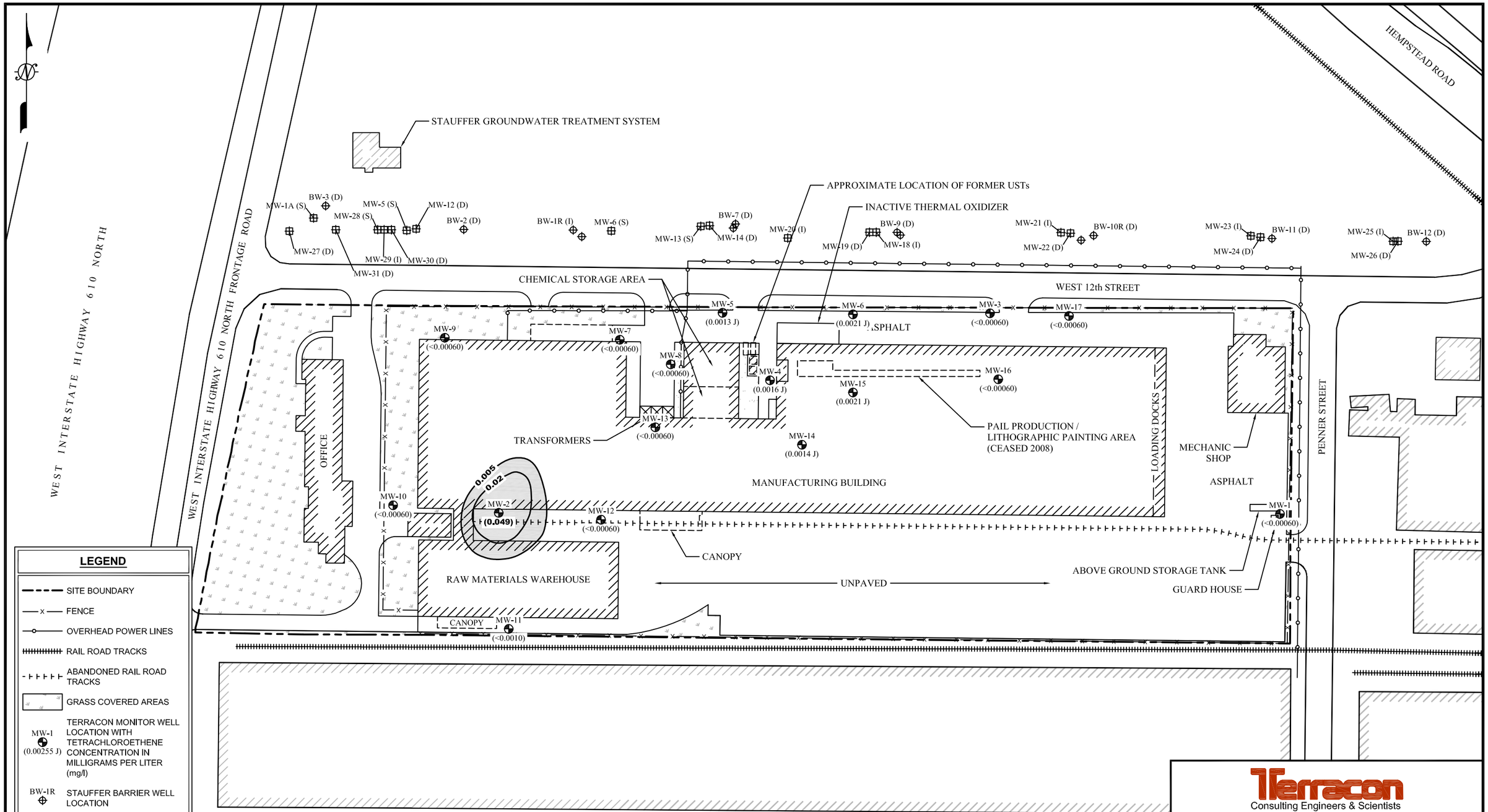

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (0.00255 J) — TERRACON MONITOR WELL LOCATION WITH TETRACHLOROETHENE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- TETRACHLOROETHENE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
- GROUNDWATER PCLE ZONE

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR TETRACHLOROETHENE (**0.005** mg/l).
- J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

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Figure 5-7
Groundwater PCLE Zone
Tetrachloroethene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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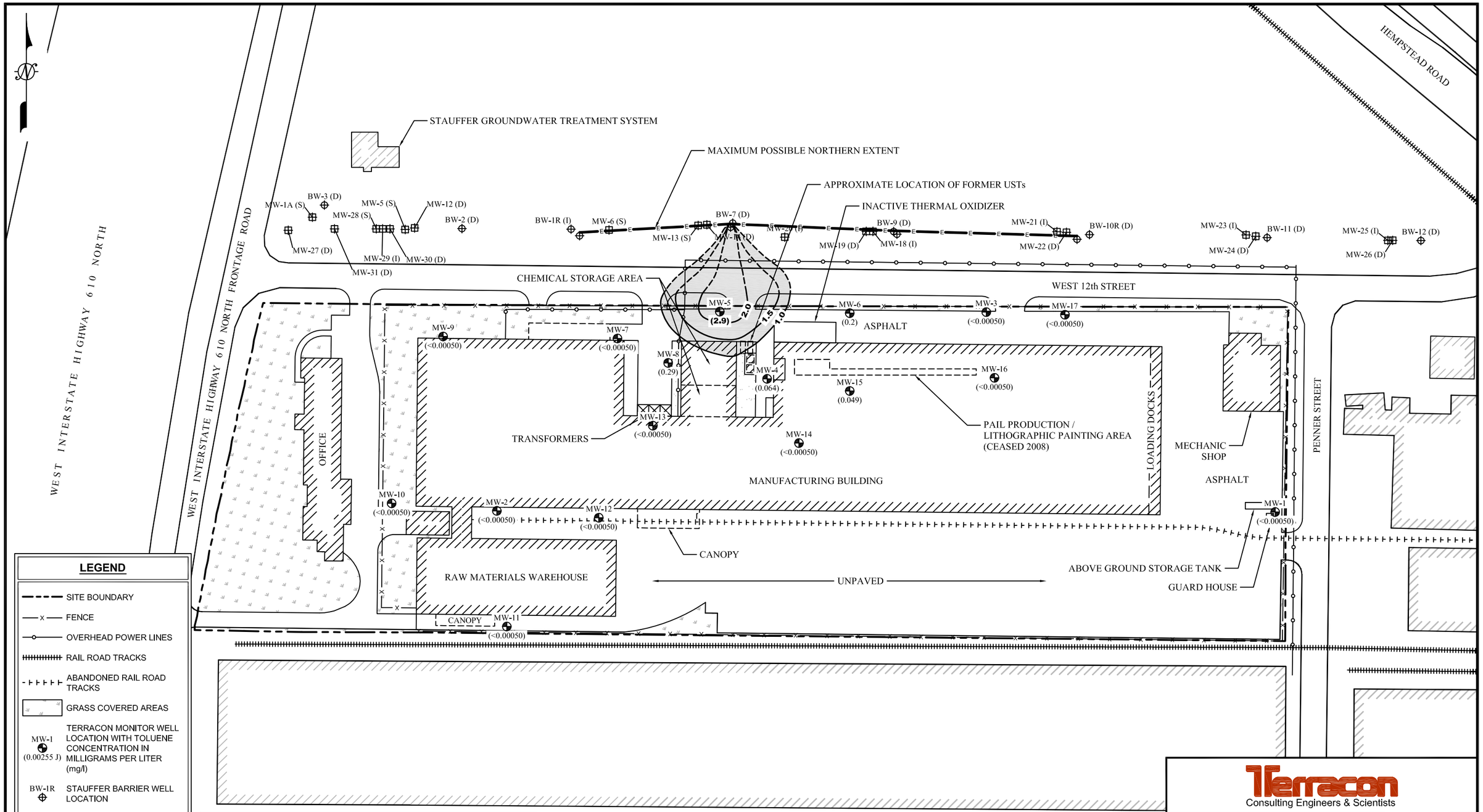

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (0.00255 J) — TERRACON MONITOR WELL LOCATION WITH TOLUENE CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- TOLUENE CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
- GROUNDWATER PCLE ZONE

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR TOLUENE (**1.0** mg/l).
- J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

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Figure 5-8
Groundwater PCLE Zone
Toluene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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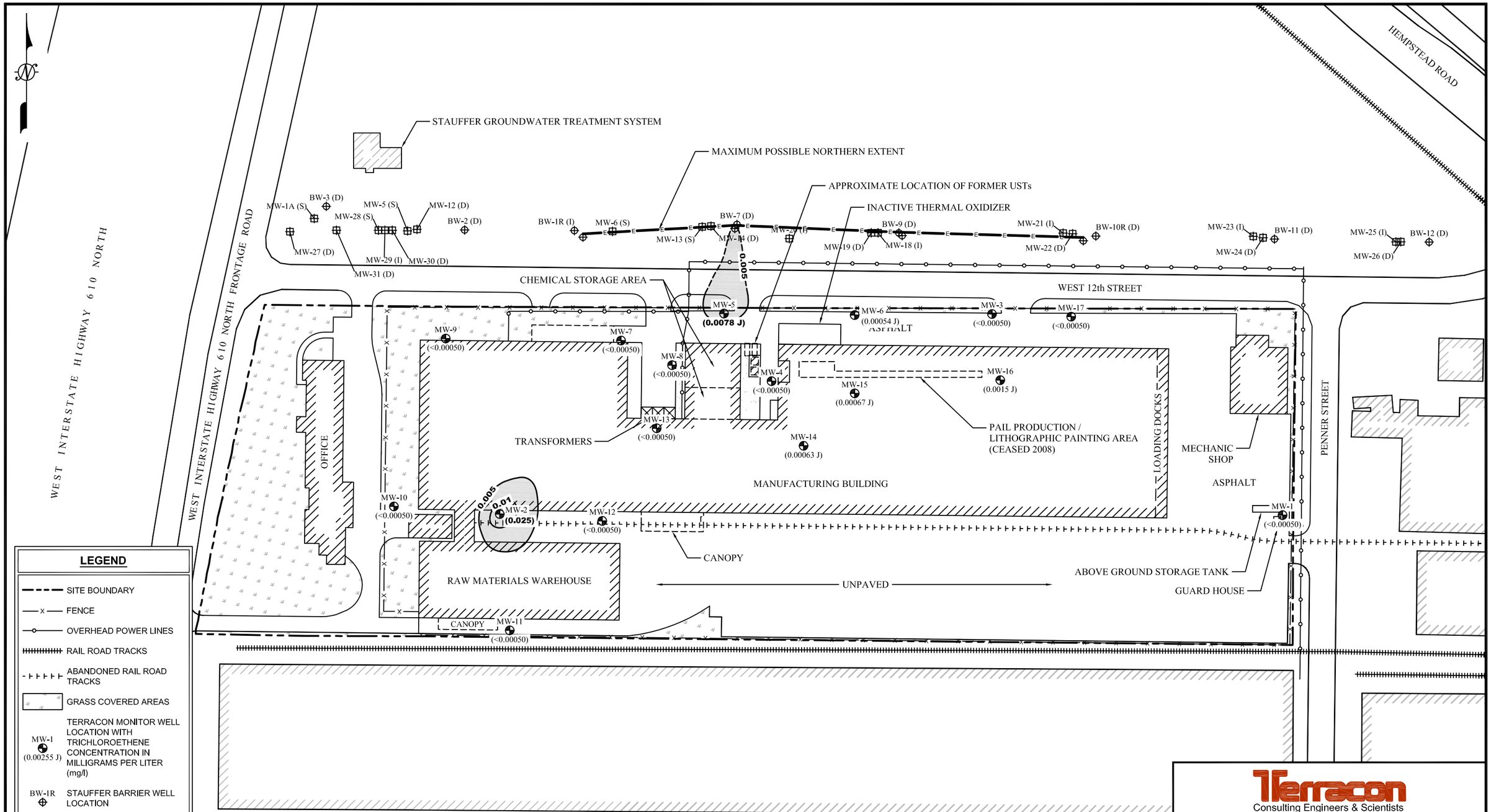

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR TRICHLOROETHENE (**0.005** mg/l).

J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

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Figure 5-9
Groundwater PCLE Zone
Trichloroethene
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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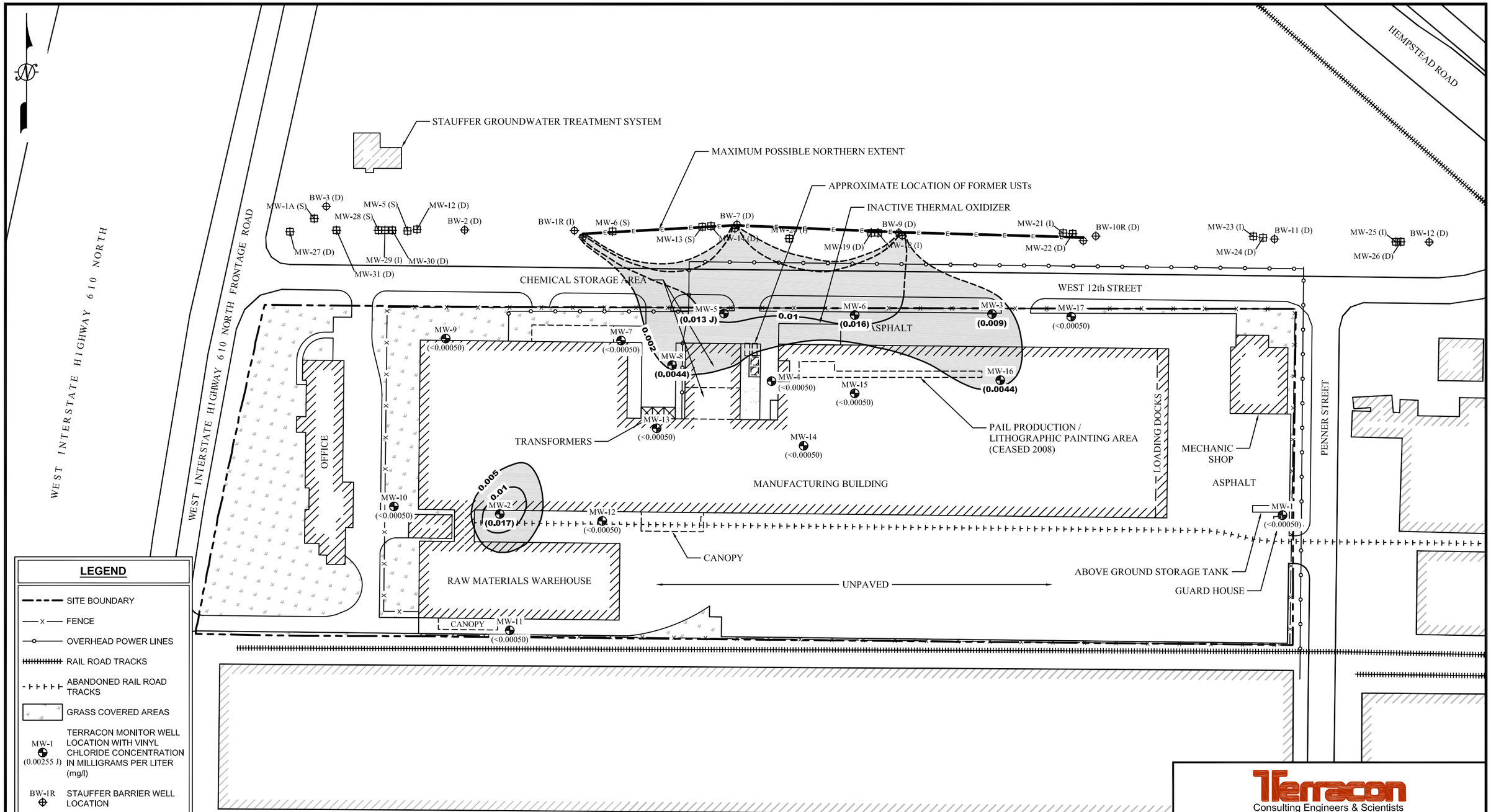

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Figure 5-10
Groundwater PCLE Zone
Vinyl Chloride
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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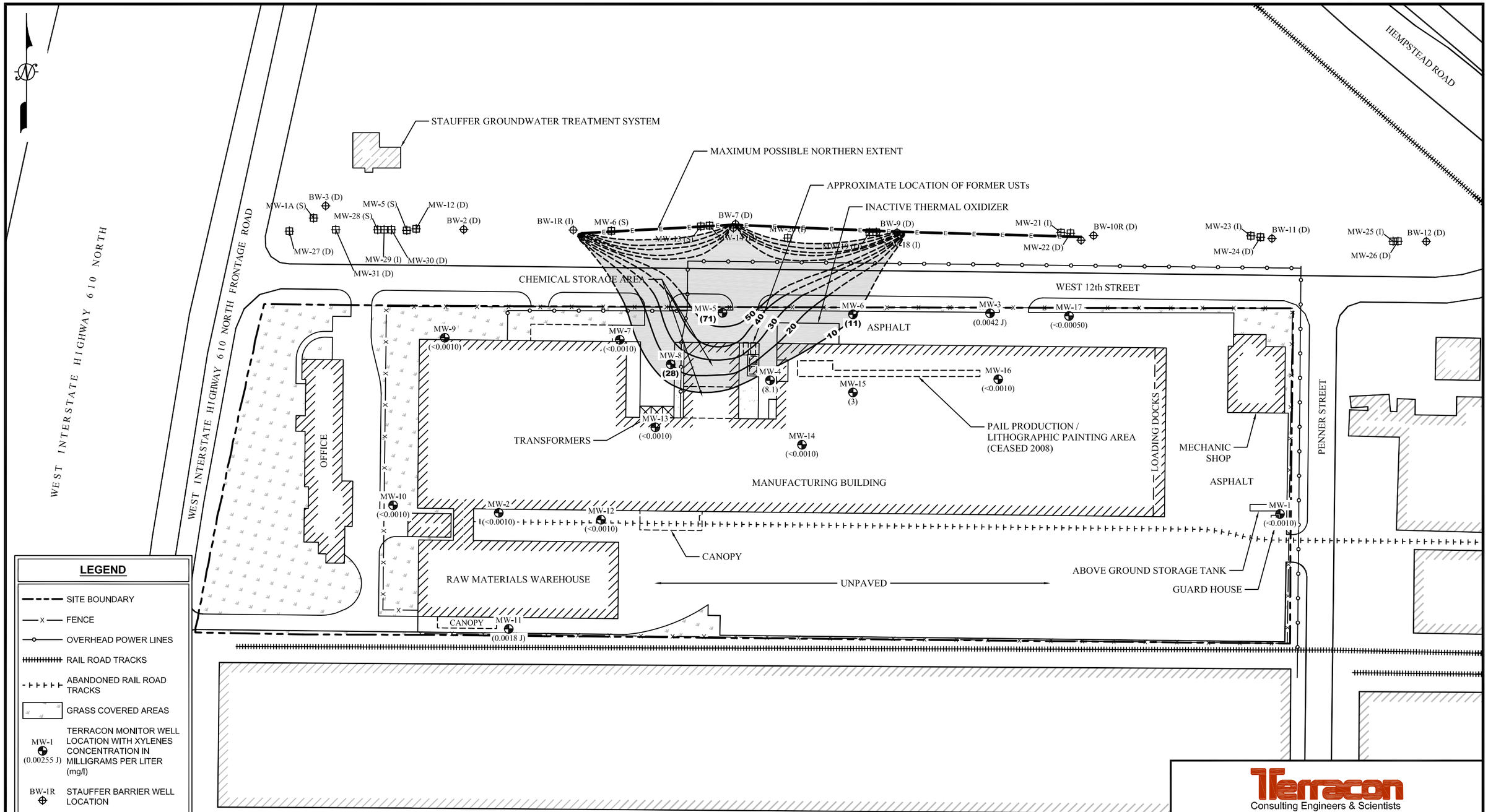

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- MW-1 (0.00255 J) — TERRACON MONITOR WELL LOCATION WITH XYLENES CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)
- BW-1R — STAUFFER BARRIER WELL LOCATION
- MW-1A — STAUFFER MONITOR WELL LOCATION
- XYLENES CONCENTRATION CONTOUR LINE IN MILLIGRAMS PER LITER (mg/l) - DASHED WHERE INFERRED
- GROUNDWATER PCLE ZONE

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/l).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA FOR XYLENES (**10** mg/l).
- J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).

STAUFFER BARRIER WELL LOCATIONS (BW-1R, BW-2, BW-3, BW-7, BW-9, BW-10R, BW-11, BW-12) AND STAUFFER MONITOR WELL LOCATIONS (MW-1A, MW-5, MW-6, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31) ARE APPROXIMATE AS PER STAUFFER MANAGEMENT COMPANY ANNUAL REPORT SUBMITTED TO THE TCEQ, INTERCEPTOR WELL SYSTEM PERFORMANCE, 2008, FIGURE 2, SITE PLAN AND WELL LOCATIONS, ISSUED AUGUST 3, 2001, REVISED NOVEMBER 28, 2006. WELL DEPTHS ARE INDICATED BY AN (S), (I), OR (D) FOR SHALLOW, INTERMITTENT, OR DEEP, RESPECTIVELY.

0 100' 200'

APPROXIMATE SCALE: 1" = 100'

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Figure 5-11
Groundwater PCLE Zone
Xylenes
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

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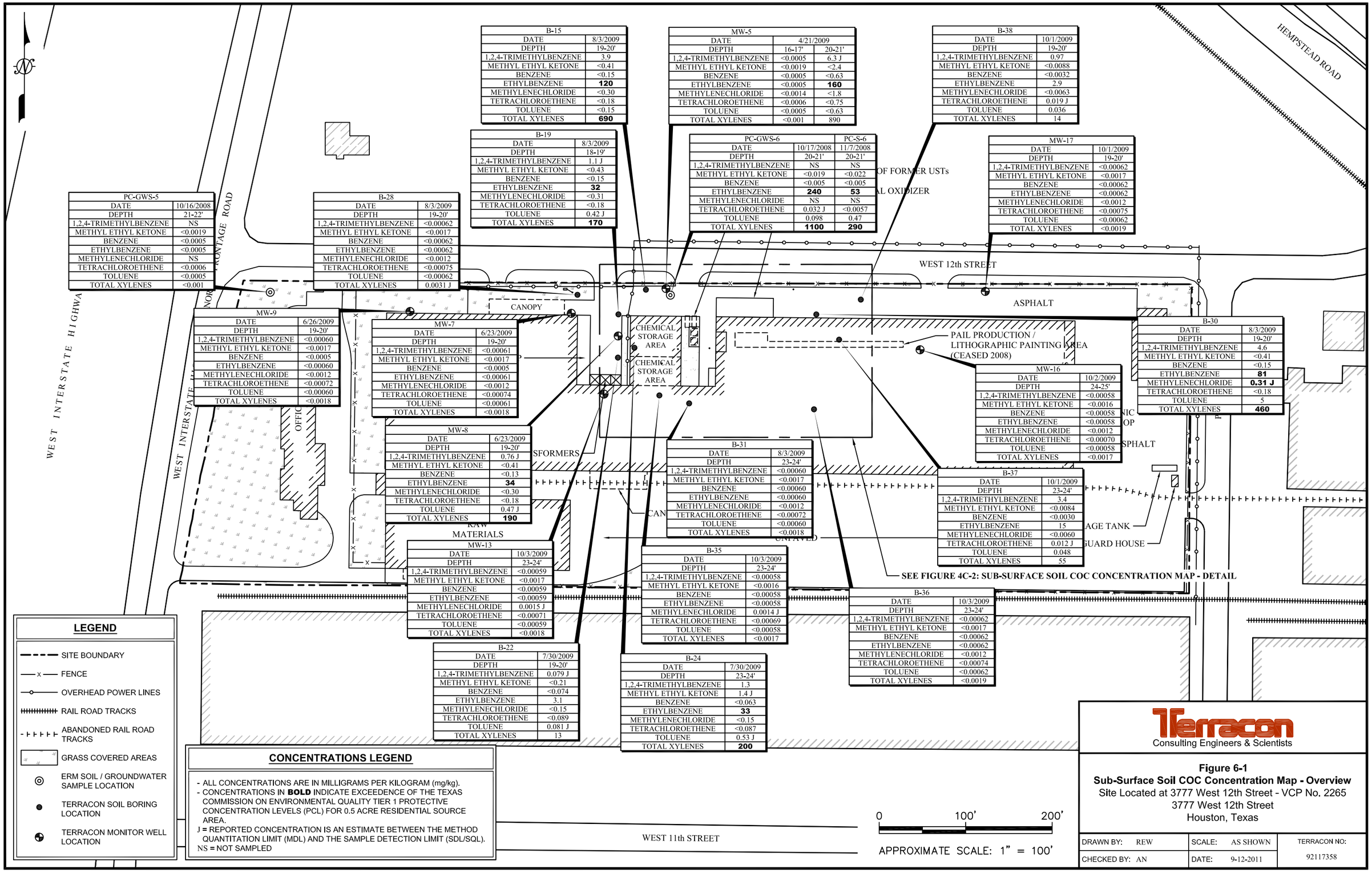

B-15	
DATE	8/3/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	3.9
METHYL ETHYL KETONE	<0.41
BENZENE	<0.15
ETHYLBENZENE	**120**
METHYLENECHLORIDE	<0.30
TETRACHLOROETHENE	<0.18
TOLUENE	<0.15
TOTAL XYLENES	**690**

MW-5		
DATE	4/21/2009	
DEPTH	16-17'	20-21'
1,2,4-TRIMETHYLBENZENE	<0.0005	6.3 J
METHYL ETHYL KETONE	<0.0019	<2.4
BENZENE	<0.0005	<0.63
ETHYLBENZENE	<0.0005	**160**
METHYLENECHLORIDE	<0.0014	<1.8
TETRACHLOROETHENE	<0.0006	<0.75
TOLUENE	<0.0005	<0.63
TOTAL XYLENES	<0.001	890

B-38	
DATE	10/1/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	0.97
METHYL ETHYL KETONE	<0.0088
BENZENE	<0.0032
ETHYLBENZENE	2.9
METHYLENECHLORIDE	<0.0063
TETRACHLOROETHENE	0.019 J
TOLUENE	0.036
TOTAL XYLENES	14

B-19	
DATE	8/3/2009
DEPTH	18-19'
1,2,4-TRIMETHYLBENZENE	1.1 J
METHYL ETHYL KETONE	<0.43
BENZENE	<0.15
ETHYLBENZENE	**32**
METHYLENECHLORIDE	<0.31
TETRACHLOROETHENE	<0.18
TOLUENE	0.42 J
TOTAL XYLENES	**170**

PC-GWS-6		PC-S-6
DATE	10/17/2008	11/7/2008
DEPTH	20-21'	20-21'
1,2,4-TRIMETHYLBENZENE	NS	NS
METHYL ETHYL KETONE	<0.019	<0.022
BENZENE	<0.005	<0.005
ETHYLBENZENE	**240**	**53**
METHYLENECHLORIDE	NS	NS
TETRACHLOROETHENE	0.032 J	<0.0057
TOLUENE	0.098	0.47
TOTAL XYLENES	**1100**	**290**

MW-17	
DATE	10/1/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	<0.00062
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.00062
ETHYLBENZENE	<0.00062
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00075
TOLUENE	<0.00062
TOTAL XYLENES	<0.0019

PC-GWS-5	
DATE	10/16/2008
DEPTH	21-22'
1,2,4-TRIMETHYLBENZENE	NS
METHYL ETHYL KETONE	<0.0019
BENZENE	<0.0005
ETHYLBENZENE	<0.0005
METHYLENECHLORIDE	NS
TETRACHLOROETHENE	<0.0006
TOLUENE	<0.0005
TOTAL XYLENES	<0.001

B-28	
DATE	8/3/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	<0.00062
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.00062
ETHYLBENZENE	<0.00062
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00075
TOLUENE	<0.00062
TOTAL XYLENES	0.0031 J

MW-9	
DATE	6/26/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	<0.00060
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.0005
ETHYLBENZENE	<0.00060
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00072
TOLUENE	<0.00060
TOTAL XYLENES	<0.0018

MW-7	
DATE	6/23/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	<0.00061
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.0005
ETHYLBENZENE	<0.00061
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00074
TOLUENE	<0.00061
TOTAL XYLENES	<0.0018

B-30	
DATE	8/3/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	4.6
METHYL ETHYL KETONE	<0.41
BENZENE	<0.15
ETHYLBENZENE	**81**
METHYLENECHLORIDE	**0.31 J**
TETRACHLOROETHENE	<0.18
TOLUENE	5
TOTAL XYLENES	**460**

MW-16	
DATE	10/2/2009
DEPTH	24-25'
1,2,4-TRIMETHYLBENZENE	<0.00058
METHYL ETHYL KETONE	<0.0016
BENZENE	<0.00058
ETHYLBENZENE	<0.00058
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00070
TOLUENE	<0.00058
TOTAL XYLENES	<0.0017

MW-8	
DATE	6/23/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	0.76 J
METHYL ETHYL KETONE	<0.41
BENZENE	<0.13
ETHYLBENZENE	**34**
METHYLENECHLORIDE	<0.30
TETRACHLOROETHENE	<0.18
TOLUENE	0.47 J
TOTAL XYLENES	**190**

B-31	
DATE	8/3/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	<0.00060
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.00060
ETHYLBENZENE	<0.00060
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00072
TOLUENE	<0.00060
TOTAL XYLENES	<0.0018

B-37	
DATE	10/1/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	3.4
METHYL ETHYL KETONE	<0.0084
BENZENE	<0.0030
ETHYLBENZENE	15
METHYLENECHLORIDE	<0.0060
TETRACHLOROETHENE	0.012 J
TOLUENE	0.048
TOTAL XYLENES	55

MW-13	
DATE	10/3/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	<0.00059
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.00059
ETHYLBENZENE	<0.00059
METHYLENECHLORIDE	0.0015 J
TETRACHLOROETHENE	<0.00071
TOLUENE	<0.00059
TOTAL XYLENES	<0.0018

B-35	
DATE	10/3/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	<0.00058
METHYL ETHYL KETONE	<0.0016
BENZENE	<0.00058
ETHYLBENZENE	<0.00058
METHYLENECHLORIDE	0.0014 J
TETRACHLOROETHENE	<0.00069
TOLUENE	<0.00058
TOTAL XYLENES	<0.0017

B-36	
DATE	10/3/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	<0.00062
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.00062
ETHYLBENZENE	<0.00062
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00074
TOLUENE	<0.00062
TOTAL XYLENES	<0.0019

B-22	
DATE	7/30/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	0.079 J
METHYL ETHYL KETONE	<0.21
BENZENE	<0.074
ETHYLBENZENE	3.1
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	<0.089
TOLUENE	0.081 J
TOTAL XYLENES	13

B-24	
DATE	7/30/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	1.3
METHYL ETHYL KETONE	1.4 J
BENZENE	<0.063
ETHYLBENZENE	**33**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	<0.087
TOLUENE	0.53 J
TOTAL XYLENES	**200**

LEGEND

- SITE BOUNDARY
- FENCE
- OVERHEAD POWER LINES
- RAIL ROAD TRACKS
- ABANDONED RAIL ROAD TRACKS
- GRASS COVERED AREAS
- ERM SOIL / GROUNDWATER SAMPLE LOCATION
- TERRACON SOIL BORING LOCATION
- TERRACON MONITOR WELL LOCATION

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM (mg/kg).
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA.

J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).
NS = NOT SAMPLED

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Figure 6-1
Sub-Surface Soil COC Concentration Map - Overview
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

DRAWN BY: REW	SCALE: AS SHOWN	TERRACON NO:
CHECKED BY: AN	DATE: 9-12-2011	92117358

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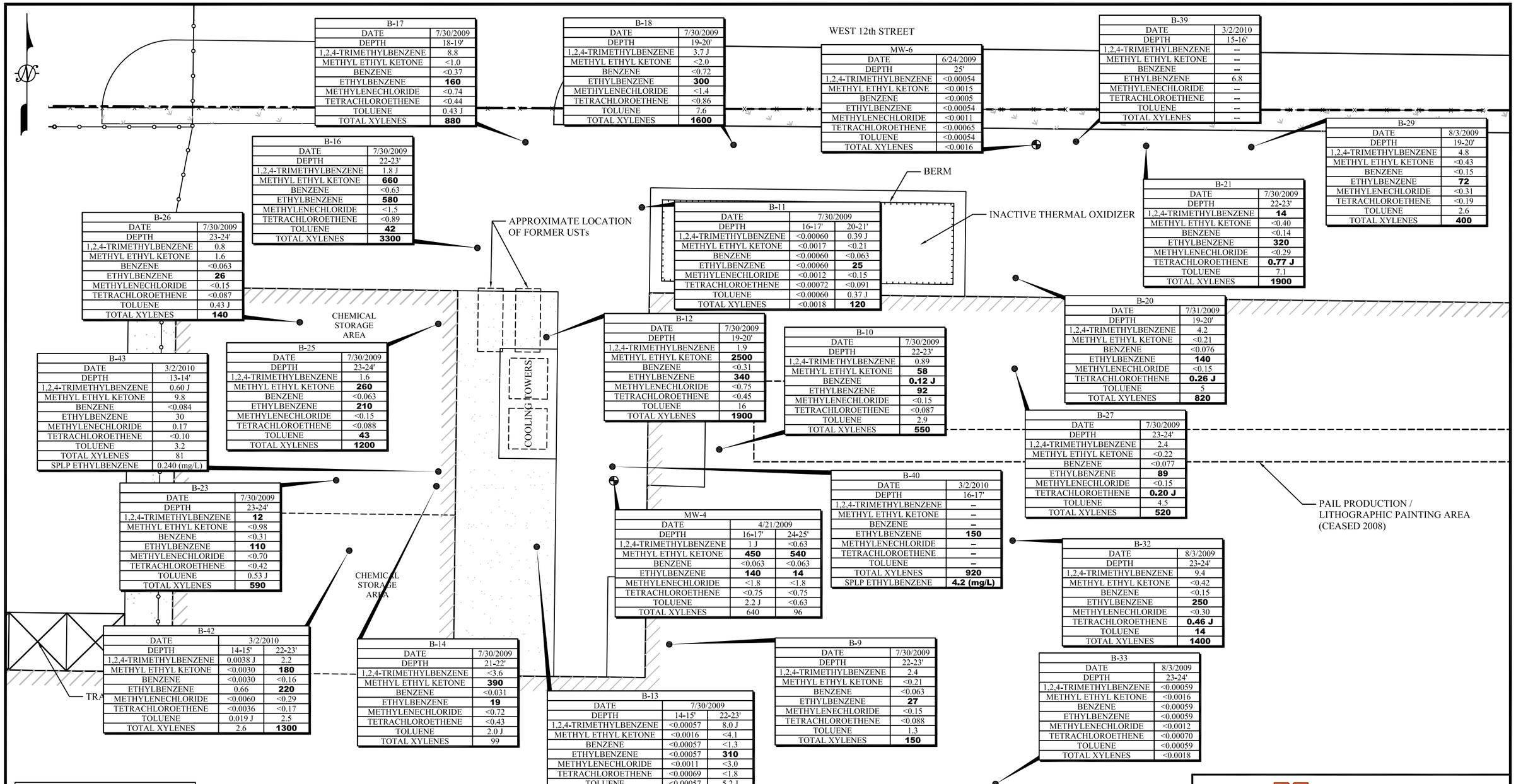

B-17	
DATE	7/30/2009
DEPTH	18-19'
1,2,4-TRIMETHYLBENZENE	8.8
METHYL ETHYL KETONE	<1.0
BENZENE	<0.37
ETHYLBENZENE	**160**
METHYLENECHLORIDE	<0.74
TETRACHLOROETHENE	<0.44
TOLUENE	0.43 J
TOTAL XYLENES	**880**

B-18	
DATE	7/30/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	3.7 J
METHYL ETHYL KETONE	<2.0
BENZENE	<0.72
ETHYLBENZENE	**300**
METHYLENECHLORIDE	<1.4
TETRACHLOROETHENE	<0.86
TOLUENE	7.6
TOTAL XYLENES	**1600**

MW-6	
DATE	6/24/2009
DEPTH	25'
1,2,4-TRIMETHYLBENZENE	<0.00054
METHYL ETHYL KETONE	<0.0015
BENZENE	<0.0005
ETHYLBENZENE	<0.00054
METHYLENECHLORIDE	<0.0011
TETRACHLOROETHENE	<0.00065
TOLUENE	<0.00054
TOTAL XYLENES	<0.0016

B-39	
DATE	3/2/2010
DEPTH	15-16'
1,2,4-TRIMETHYLBENZENE	--
METHYL ETHYL KETONE	--
BENZENE	--
ETHYLBENZENE	6.8
METHYLENECHLORIDE	--
TETRACHLOROETHENE	--
TOLUENE	--
TOTAL XYLENES	--

B-29	
DATE	8/3/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	4.8
METHYL ETHYL KETONE	<0.43
BENZENE	<0.15
ETHYLBENZENE	**72**
METHYLENECHLORIDE	<0.31
TETRACHLOROETHENE	<0.19
TOLUENE	2.6
TOTAL XYLENES	**400**

B-16	
DATE	7/30/2009
DEPTH	22-23'
1,2,4-TRIMETHYLBENZENE	1.8 J
METHYL ETHYL KETONE	**660**
BENZENE	<0.63
ETHYLBENZENE	**580**
METHYLENECHLORIDE	<1.5
TETRACHLOROETHENE	<0.89
TOLUENE	**42**
TOTAL XYLENES	**3300**

B-21	
DATE	7/30/2009
DEPTH	22-23'
1,2,4-TRIMETHYLBENZENE	**14**
METHYL ETHYL KETONE	<0.40
BENZENE	<0.14
ETHYLBENZENE	**320**
METHYLENECHLORIDE	<0.29
TETRACHLOROETHENE	**0.77 J**
TOLUENE	7.1
TOTAL XYLENES	**1900**

B-26	
DATE	7/30/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	0.8
METHYL ETHYL KETONE	1.6
BENZENE	<0.063
ETHYLBENZENE	**26**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	<0.087
TOLUENE	0.43 J
TOTAL XYLENES	**140**

B-11		
DATE	7/30/2009	
DEPTH	16-17'	20-21'
1,2,4-TRIMETHYLBENZENE	<0.00060	0.39 J
METHYL ETHYL KETONE	<0.0017	<0.21
BENZENE	<0.00060	<0.063
ETHYLBENZENE	<0.00060	**25**
METHYLENECHLORIDE	<0.0012	<0.15
TETRACHLOROETHENE	<0.00072	<0.091
TOLUENE	<0.00060	0.37 J
TOTAL XYLENES	<0.0018	**120**

B-20	
DATE	7/31/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	4.2
METHYL ETHYL KETONE	<0.21
BENZENE	<0.076
ETHYLBENZENE	**140**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	**0.26 J**
TOLUENE	5
TOTAL XYLENES	**820**

B-43	
DATE	3/2/2010
DEPTH	13-14'
1,2,4-TRIMETHYLBENZENE	0.60 J
METHYL ETHYL KETONE	9.8
BENZENE	<0.084
ETHYLBENZENE	30
METHYLENECHLORIDE	0.17
TETRACHLOROETHENE	<0.10
TOLUENE	3.2
TOTAL XYLENES	81
SPLP ETHYLBENZENE	0.240 (mg/L)

B-25	
DATE	7/30/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	1.6
METHYL ETHYL KETONE	**260**
BENZENE	<0.063
ETHYLBENZENE	**210**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	<0.088
TOLUENE	**43**
TOTAL XYLENES	**1200**

B-12	
DATE	7/30/2009
DEPTH	19-20'
1,2,4-TRIMETHYLBENZENE	1.9
METHYL ETHYL KETONE	**2500**
BENZENE	<0.31
ETHYLBENZENE	**340**
METHYLENECHLORIDE	<0.75
TETRACHLOROETHENE	<0.45
TOLUENE	16
TOTAL XYLENES	**1900**

B-10	
DATE	7/30/2009
DEPTH	22-23'
1,2,4-TRIMETHYLBENZENE	0.89
METHYL ETHYL KETONE	**58**
BENZENE	**0.12 J**
ETHYLBENZENE	**92**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	<0.087
TOLUENE	2.9
TOTAL XYLENES	**550**

B-27	
DATE	7/30/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	2.4
METHYL ETHYL KETONE	<0.22
BENZENE	<0.077
ETHYLBENZENE	**89**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	**0.20 J**
TOLUENE	4.5
TOTAL XYLENES	**520**

B-23	
DATE	7/30/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	**12**
METHYL ETHYL KETONE	<0.98
BENZENE	<0.31
ETHYLBENZENE	**110**
METHYLENECHLORIDE	<0.70
TETRACHLOROETHENE	<0.42
TOLUENE	0.53 J
TOTAL XYLENES	**590**

MW-4		
DATE	4/21/2009	
DEPTH	16-17'	24-25'
1,2,4-TRIMETHYLBENZENE	1 J	<0.63
METHYL ETHYL KETONE	**450**	**540**
BENZENE	<0.063	<0.063
ETHYLBENZENE	**140**	**14**
METHYLENECHLORIDE	<1.8	<1.8
TETRACHLOROETHENE	<0.75	<0.75
TOLUENE	2.2 J	<0.63
TOTAL XYLENES	640	96

B-40	
DATE	3/2/2010
DEPTH	16-17'
1,2,4-TRIMETHYLBENZENE	–
METHYL ETHYL KETONE	–
BENZENE	–
ETHYLBENZENE	**150**
METHYLENECHLORIDE	–
TETRACHLOROETHENE	–
TOLUENE	–
TOTAL XYLENES	**920**
SPLP ETHYLBENZENE	**4.2 (mg/L)**

B-32	
DATE	8/3/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	9.4
METHYL ETHYL KETONE	<0.42
BENZENE	<0.15
ETHYLBENZENE	**250**
METHYLENECHLORIDE	<0.30
TETRACHLOROETHENE	**0.46 J**
TOLUENE	**14**
TOTAL XYLENES	**1400**

B-42		
DATE	3/2/2010	
DEPTH	14-15'	22-23'
1,2,4-TRIMETHYLBENZENE	0.0038 J	2.2
METHYL ETHYL KETONE	<0.0030	**180**
BENZENE	<0.0030	<0.16
ETHYLBENZENE	0.66	**220**
METHYLENECHLORIDE	<0.0060	<0.29
TETRACHLOROETHENE	<0.0036	<0.17
TOLUENE	0.019 J	2.5
TOTAL XYLENES	2.6	**1300**

B-14	
DATE	7/30/2009
DEPTH	21-22'
1,2,4-TRIMETHYLBENZENE	<3.6
METHYL ETHYL KETONE	**390**
BENZENE	<0.031
ETHYLBENZENE	**19**
METHYLENECHLORIDE	<0.72
TETRACHLOROETHENE	<0.43
TOLUENE	2.0 J
TOTAL XYLENES	99

B-9	
DATE	7/30/2009
DEPTH	22-23'
1,2,4-TRIMETHYLBENZENE	2.4
METHYL ETHYL KETONE	<0.21
BENZENE	<0.063
ETHYLBENZENE	**27**
METHYLENECHLORIDE	<0.15
TETRACHLOROETHENE	<0.088
TOLUENE	1.3
TOTAL XYLENES	**150**

B-33	
DATE	8/3/2009
DEPTH	23-24'
1,2,4-TRIMETHYLBENZENE	<0.00059
METHYL ETHYL KETONE	<0.0016
BENZENE	<0.00059
ETHYLBENZENE	<0.00059
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00070
TOLUENE	<0.00059
TOTAL XYLENES	<0.0018

B-13		
DATE	7/30/2009	
DEPTH	14-15'	22-23'
1,2,4-TRIMETHYLBENZENE	<0.00057	8.0 J
METHYL ETHYL KETONE	<0.0016	<4.1
BENZENE	<0.00057	<1.3
ETHYLBENZENE	<0.00057	**310**
METHYLENECHLORIDE	<0.0011	<3.0
TETRACHLOROETHENE	<0.00069	<1.8
TOLUENE	<0.00057	5.2 J
TOTAL XYLENES	<0.0017	**1500**

B-34	
DATE	8/3/2009
DEPTH	22-23'
1,2,4-TRIMETHYLBENZENE	<0.00061
METHYL ETHYL KETONE	<0.0017
BENZENE	<0.00061
ETHYLBENZENE	<0.00061
METHYLENECHLORIDE	<0.0012
TETRACHLOROETHENE	<0.00073
TOLUENE	<0.00061
TOTAL XYLENES	<0.0018

LEGEND

- SITE BOUNDARY
- OVERHEAD POWER LINES
- GRASS COVERED AREAS
- TERRACON SOIL BORING LOCATION
- TERRACON MONITOR WELL LOCATION

CONCENTRATIONS LEGEND

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM (mg/kg), UNLESS OTHERWISE INDICATED.
- CONCENTRATIONS IN **BOLD** INDICATE EXCEEDENCE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY TIER 1 PROTECTIVE CONCENTRATION LEVELS (PCL) FOR 0.5 ACRE RESIDENTIAL SOURCE AREA.

J = REPORTED CONCENTRATION IS AN ESTIMATE BETWEEN THE METHOD QUANTITATION LIMIT (MDL) AND THE SAMPLE DETECTION LIMIT (SDL/SQL).
NS = NOT SAMPLED

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Figure 6-2
Sub-Surface Soil COC Concentration Map - Detail
Site Located at 3777 West 12th Street - VCP No. 2265
3777 West 12th Street
Houston, Texas

DRAWN BY: REW	SCALE: AS SHOWN	TERRACON NO:
CHECKED BY: AN	DATE: 9-12-2011	92117358

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