

Municipal Setting Designations



MSDs: Another tool for Houston

Richard Chapin
Sr. Project Manager

Jedediah Greenfield
Environmental Analyst

Municipal Setting Designations (MSDs)



Agenda

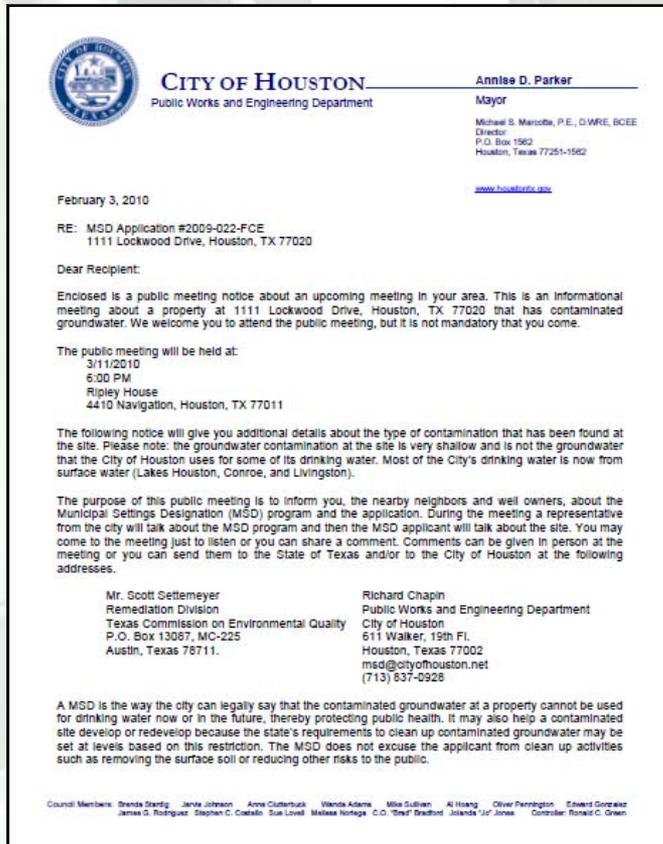
- City of Houston
 - Why we are here
 - Who the MSD impacts
 - What an MSD is
 - Why support an MSD
 - Steps in the MSD process
- MSD Applicant
 - Specific information on the site
11092 - 11311 Fondren Road
- Public comment and questions

Why Are We Here



- Inform you about an MSD application
 - Weingarten Realty Investors
 - MSD # 2010-024-FSW
- Explain what an MSD is and what it does for the applicant, the local community, and the City
- Receive public comments

MSD Notice Letters



■ Public Notices:

- Property owners

First Class Mail

½-Mile

- Water well owners

Certified Mail

5-Miles

Who the MSD Impacts



- Unless you are the applicant:
 - An MSD **does not** affect your property
 - An MSD **does not** affect your water well
 - There are no requirements on you
- Drinking water supplied by the City is not affected

What an MSD is



- Voluntary deed restriction to prevent the use of contaminated groundwater
 - State program created in 2003, administered by TCEQ
 - City process created in November 2007, administered by Public Works & Engineering
- TCEQ cannot approve an MSD without the City Council's support

What an MSD is



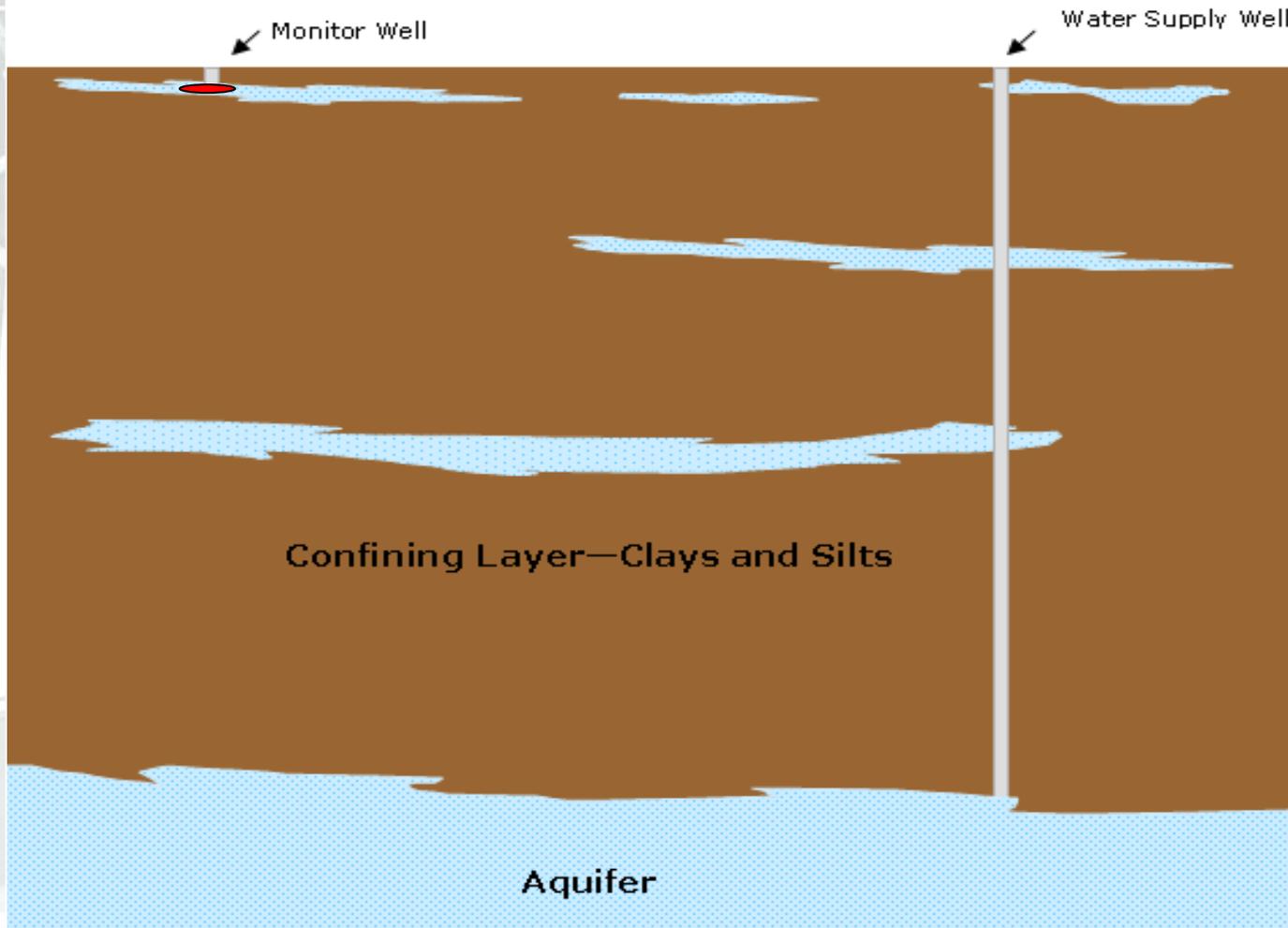
- An alternative method to address groundwater contamination
- Houston has shallow groundwater contamination scattered across the city
- This program only considers very shallow contamination (up to 200' below the surface)

City Water Supply



- Houston's drinking water comes from either deep aquifers or surface water
 - Nearest public water supply well
 - D-49-2 #3
 - 1 mile
 - Braeswood
 - 1 ³/₄ mile
 - Surface water supply
 - Lake Houston
 - Lake Conroe
 - Lake Livingston

Shallow Contamination



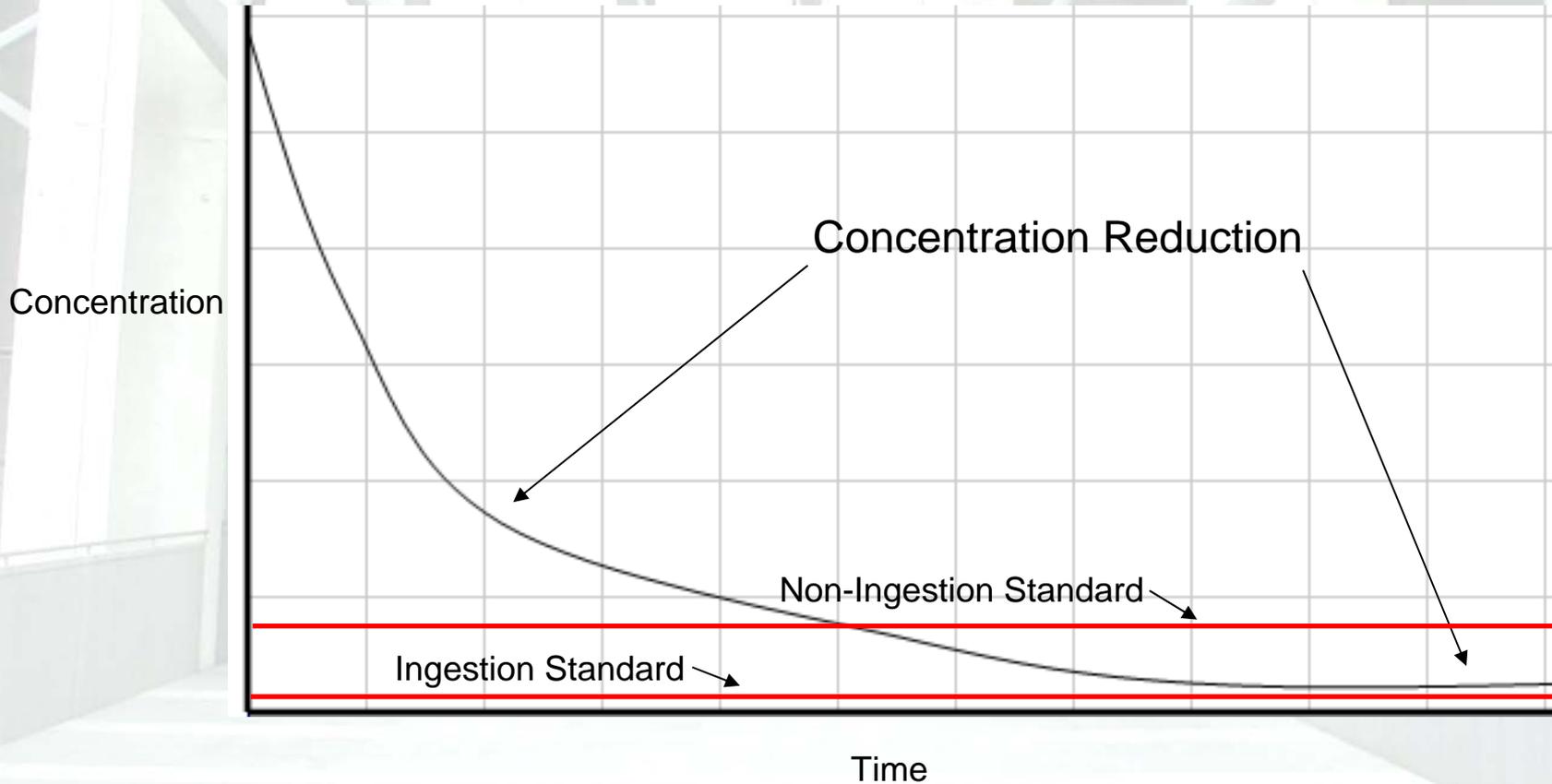
Impacted groundwater is typically between 20 and 60 feet below the surface. Drinking Water Supply Wells typically get water from 600 feet or deeper below the surface.

Problems of Traditional Remediation Methods



- Groundwater must be cleaned to drinking water standards even if:
 - There is no need or desire to use it, or
 - Water bearing zone is too silty, too salty, or low producing
- Groundwater remediation to drinking water standards is inefficient, costly, and can take decades

Groundwater Remediation



Municipal Setting Designations (MSDs)

Applicant's Responsibility



- An MSD does **NOT** excuse the applicant from reducing other risks to the public
- Owner must still address:
 - Non-Ingestion
 - Soil
 - Vapors
 - Runoff and other flows

City's Requirements of the Applicant:



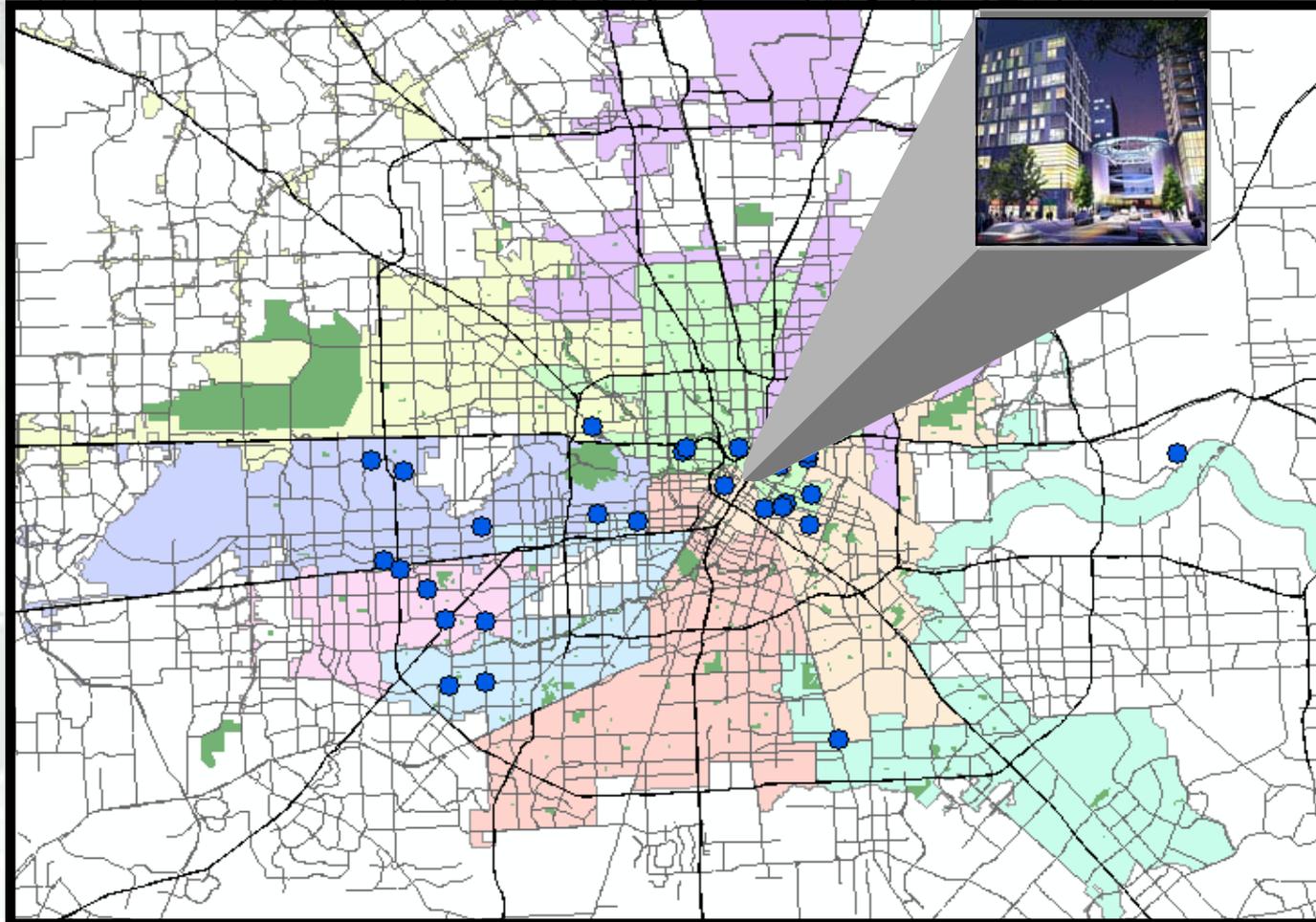
- Site must already be in a State or Federal clean up program
- Site must have been thoroughly investigated
- Data must show that the groundwater plume is stable or diminishing.
- A Professional Engineer (P.E.) or Professional Geologist (P.G.) must be willing to certify that the plume is stable or contracting.

Why Support An MSD?



- Protects the public from consumption of shallow contaminated groundwater
- Encourages clean-up of contaminated sites through participation in a State or Federal program
- Promotes redevelopment of under-utilized properties

MSD Sites in Houston



Municipal Setting Designations (MSDs)

Steps in the Process



- Based on input from this meeting and the public hearing, the City will consider supporting an MSD
- If supported, the applicant submits its application to the TCEQ
- TCEQ grants or denies the MSD
- If granted, the City files a deed restriction on the property

MSD Application



- Meyer Library
reference desk
- 5005 West Belfort
Houston, TX 77035

The MSD Website



www.houstonmsd.org

Carol Ellinger Haddock
Senior Assistant Director, PE
PW&E/Planning & Development Services Division
PH 713.837.0928
FX 713.837.0658

#	Article Title
1	MSD Calendar
2	MSD Completed
3	MSD in Review

The screenshot shows the City of Houston website interface for Municipal Setting Designations (MSDs). It includes a search bar, a navigation menu with categories like 'Business' and 'Departments', and a main content area with sections for 'History', 'General Information', 'Forms and Information', and 'FAQ'. A table at the bottom of the page lists articles, with an orange arrow pointing from the table in the screenshot to the table on the right.

Municipal Setting Designations (MSDs)

The MSD Website



Westbrook Investments, LP, # 2009-022-FCE (Former Cooper Energy Services Facility)
Executive Summary
Full Application
Public Meeting Notice
KBR Technical Services, Inc. # 2009-023-KBR (KBR Clinton Drive Facility)
Executive Summary
Full Application
Public Meeting Notice
Weingarten Realty Investors # 2010-024-FSW (Fondren Southwest Village Shopping Center Site)
Executive Summary
Full Application
Silver Bishop Holdings, LP # 2010-025-NOR (Navigation-Norwood Site)

Date	Time	Event
3/11/2010	6:00 PM	Public Meeting: Westbrook Investmetns, LP (MSD # 2009-022-FCE) Ripley House, 4410 Navigation, Houston, TX 77011
4/6/2010	6:00 PM	Public Meeting: KBR Technical Services, Inc. (MSD # 2009-023-KBR) Ripley House, 4410 Navigation, Houston, TX 77011
4/14/2010	9:00 AM	Public Hearing: Flex Tank Systems, LLC (MSD #2009-021-DZR) City Hall Council Chambers, 2 nd Floor, 901 Bagby, Houston, TX 77002
4/14/2010	9:00 AM	Public Hearing: Westbrook Investments, LP (MSD #2009-022-FCE) City Hall Council Chambers, 2 nd Floor, 901 Bagby, Houston, TX 77002
4/20/2010	6:00 PM	Public Meeting: Weingarten Realty Investors (MSD # 2010-024-FSW) Bayland Community Center, 6400 Bissonnet, Houston, TX 77074
5/06/2010	6:00 PM	Public Meeting: Silver Bishop Holdings, LP (MSD #2010-025-NOR) Ripley House Community Center, 4410

Public Hearing



- Date: May 19, 2010
- Time: 9:00 am
- Place: City Council Chamber
- Address: 901 Bagby, Second Floor
Houston, Texas 77002

Any person wishing to speak on this issue can contact the City Secretary's office at (832) 393-1100 to reserve time no later than 8:30 am on 5/19/10, or arrive early and sign-up at the meeting.

Contact Information



Richard Chapin
Senior Project Manager



&

Jedediah Greenfield
Environmental Analyst

**Public Works & Engineering
City of Houston,
611 Walker, 19th Floor
Houston, Texas 77002**



**msd@cityofhouston.net
(713) 837-0928**



Municipal Setting Designations (MSDs)

Contact Information



Scott Settemeyer

Remediation Division

Texas Commission on Environmental Quality

P.O. Box 13087, MC-225

Austin, Texas 78711



Municipal Setting Designations (MSDs)

Fondren Southwest Shopping Center

Fondren Road at West Bellfort Avenue



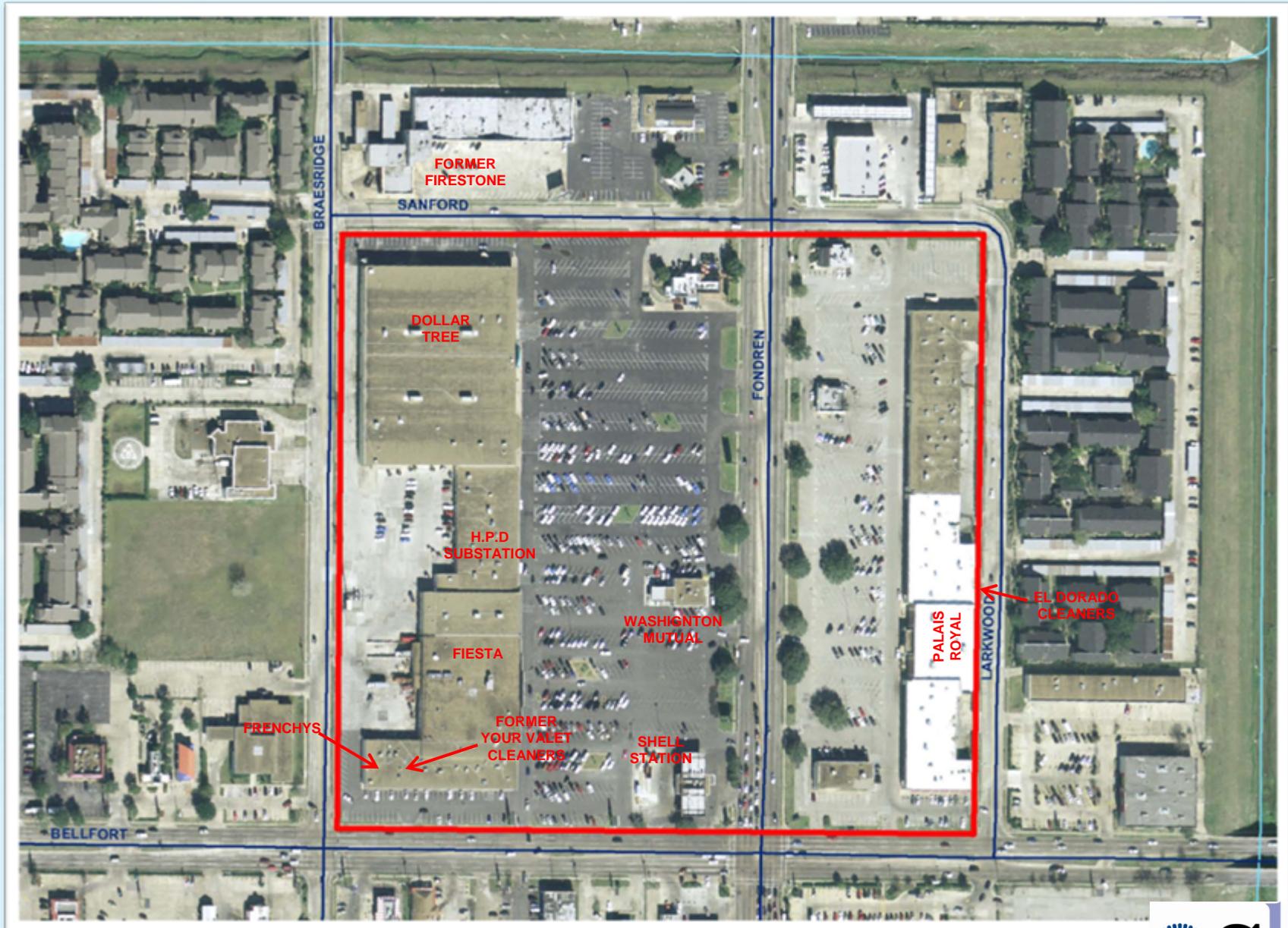
Chris Schulz
Project Manager

Mike Schultz, P.E.
Vice President/Partner
713-266-6056

April 20, 2010



VIEW OF MSD BOUNDARY



CURRENT SITE CONDITIONS

- Developed as a commercial retail shopping center during the 1980s
- Consists of 28.7 acres
- Located 9 miles southwest of downtown Houston
- Property is 97% occupied including:
 - Fiesta, Dollar Tree, Frenchy's Chicken, Chase, Houston Police Department

CURRENT REGULATORY STATUS

- Texas Commission on Environmental Quality registrations:
 - Voluntary Cleanup Program ID No. 1964 for El Dorado Cleaners and Your Valet Cleaners
 - Leaking Petroleum Storage Tank ID No. 118074 for Shell Service Station

NATURE OF CONTAMINATION

- Dry cleaning uses solvents instead of water to wash clothing
- These dry cleaning operations used the solvent perchloroethylene (PCE)
 - PCE is the most common dry cleaning solvent from the 1960s to today.
 - PCE is a man-made chemical that degrades in the environment to:
 - Trichloroethylene (TCE)
 - cis-1,2 Dichloroethylene (cis-1,2-DCE)
 - Vinyl Chloride (VC)
 - PCE and its degradation products are all heavier than water compounds
- Dry cleaning wastes were sometimes improperly disposed of in the sanitary sewer system

NATURE OF CONTAMINATION

- Service station dispensed gasoline and diesel.
- Gasoline naturally contains hundreds of different chemicals including:
 - Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
 - To make gasoline burn cleaner, methyl-tertiary butyl ether (MTBE) is added in the refining process
 - Gasoline compounds are lighter than water
- Service stations have leaks at cracks in tanks and piping
- Modern tanks and piping are fiberglass to prevent rust/corrosion
- Tanks are sometimes overfilled and the excess leaks into the ground

SOURCES OF CONTAMINATION

- Two Dry Cleaners
 - El Dorado Cleaners
 - 11175 Fondren Road (east side of Fondren Road)
 - PCE solvent utilized from 1985 to 2006
 - Currently operating using a petroleum-based solvent (non-PCE)
 - Exact release point is unknown
 - Your Valet Cleaners
 - 7590 West Bellfort Avenue (west side of Fondren Road)
 - PCE solvent utilized from 1979 to 1996
 - Operations have closed and the suite has been redeveloped
 - Exact release point is unknown

SOURCES OF CONTAMINATION

- One Gasoline Service Station
 - Shell Service Station
 - 11290 Fondren Road (northwest corner of Fondren and West Bellfort intersection)
 - Fueling operations began in 1992 and currently active
 - Tanks and lines currently test as “tight”
 - Exact release point is unknown

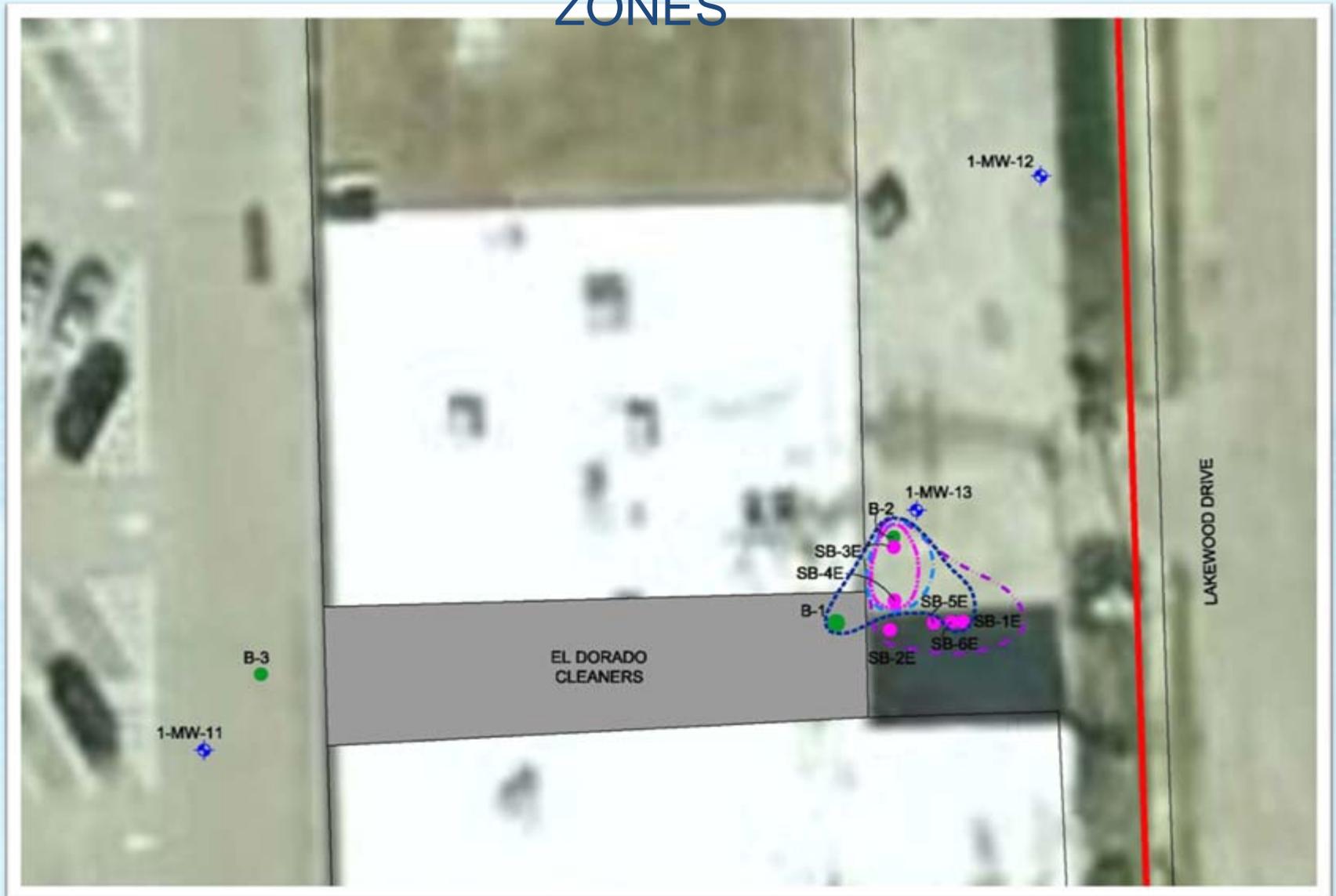
SITE ASSESSMENT - DRY CLEANERS

- Soil Assessment
 - El Dorado Cleaners
 - Installed 8 soil borings east of existing suite and collected 15 samples for laboratory analysis
 - Depths range from 5 to 25 ft-bgs
 - Former Your Valet Cleaners
 - Installed 15 soil borings north of former suite and collected 34 samples for laboratory analysis
 - Depths range from 10 to 25 ft-bgs

SITE ASSESSMENT - DRY CLEANERS

- Groundwater Assessment and Monitoring
 - El Dorado Cleaners
 - Installed 5 monitoring wells from 10 feet below ground surface (ft-bgs) to 30 feet ft-bgs (first groundwater-bearing unit (GWBU))
 - Former Your Valet Cleaners
 - Installed 10 monitoring wells to a depth of 30 ft-bgs (1st GWBU)
 - Installed 6 monitoring wells to a depth of 60 ft-bgs (2nd GWBU)
 - Installed 1 monitoring well to a depth of 100 ft-bgs (3rd GWBU)

EL DORADO CLEANERS - SOIL PROTECTIVE CONCENTRATION LEVEL EXCEEDANCE (PCLE) ZONES



SITE ASSESSMENT RESULTS - DRY CLEANERS

- Soil – El Dorado Cleaners
 - Soil is impacted with PCE and cis-1,2-DCE above PCLs that are protective of groundwater (i.e., likely to leach from soil to the groundwater)
 - Soil impacts by PCE and cis-1,2-DCE are not above PCLs for direct exposure to soil
 - Aerial extent of impacted soil is approximately 10 feet by 15 feet
 - Maximum depth of impacted soil is 28 ft-bgs
 - Surface is covered with concrete
- Groundwater Results - El Dorado Cleaners
 - Conducted 12 groundwater monitoring events since January 2007
 - Groundwater is not impacted with PCE or its degradation products
 - Groundwater flows northeast

SITE ASSESSMENT RESULTS - DRY CLEANERS

- Soil Results - Your Valet Cleaners
 - Soil is impacted with varying concentrations of PCE, TCE, cis-1,2-DCE, and VC from the surface to a depth of 20 ft-bgs
 - Soil impacts exceed PCLs for groundwater protection but do not exceed PCLs for direct exposure to soil
 - Surface is covered with asphalt
 - Aerial extent is approximately ___ feet by ___ feet

SITE ASSESSMENT RESULTS - DRY CLEANERS

- Groundwater Results – Your Valet Cleaners
 - Conducted 12 groundwater monitoring events since January 2007
 - Groundwater flows northeast
 - Groundwater in 1st and 2nd GWBU is impacted with PCE, TCE, cis-1,2-DCE, and vinyl chloride
 - 1st and 2nd GWBU plumes overlay one another
 - Aerial extent of the plume is approximately 1.2 acres
 - Plumes remain within property boundaries
 - Plumes are stable and decreasing in magnitude
 - No contaminants in groundwater from well installed to 100 ft-bgs (3rd GWBU)
 - Impacted groundwater is not used for drinking water, irrigation, or any other beneficial use

1ST GWBU PLUME – DRY CLEANERS



SITE ASSESSMENT– SERVICE STATION

- Soil Assessment
 - Collected and analyzed soil samples during installation of 6 monitoring wells
 - Installed 1 boring to a depth of 8 ft-bgs
- Groundwater Assessment and Monitoring
 - Installed 6 wells to a depth of 20 ft-bgs
 - Conducted 3 monitoring events since August 2006

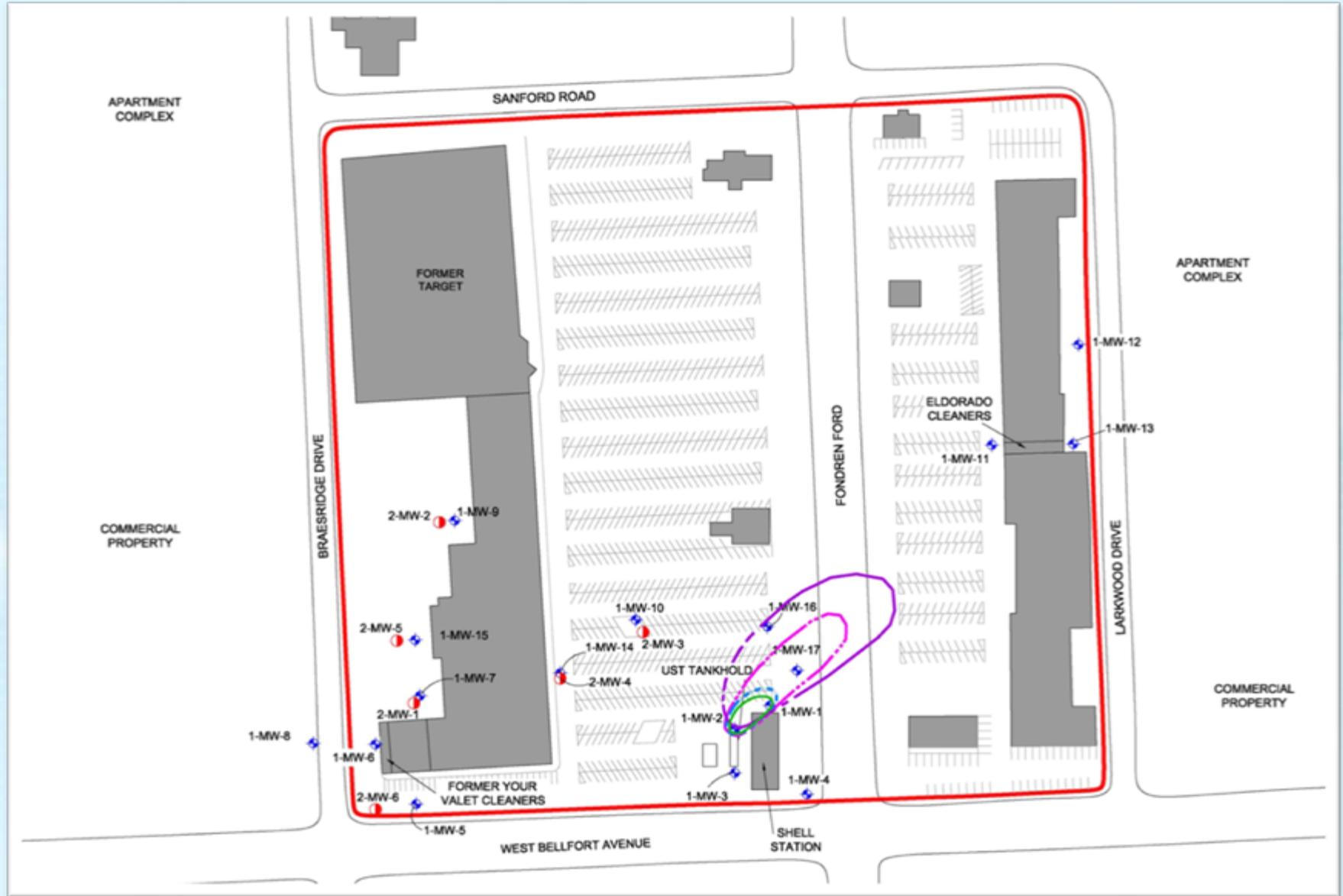
SITE ASSESSMENT RESULTS – SERVICE STATION

- Soil Analytical Results
 - Soil is impacted with BTEX / MTBE
 - Present in shallow surface soil near tankhold
 - Present at a depth of 25 ft-bgs
 - Site is covered by concrete pavement
- Groundwater Analytical Results
 - BTEX / MTBE detected in groundwater
 - Concentrations of BTEX / MTBE are stable or decreasing
 - Groundwater flow direction is north/northeast

SERVICE STATION - SOIL PCL ZONES



SERVICE STATION - 1ST GWBU PLUME



SUMMARY

- Fondren Southwest Shopping Center
 - Approximately 28.7 acres,
 - Includes Fondren Road right-of-way
- Soil and groundwater contamination from dry cleaning activities:
 - PCE, TCE, cis-1,2-DCE, vinyl chloride
- Soil and groundwater contamination from gasoline service station:
 - Benzene, toluene, ethylbenzene, and MTBE
- Soil and groundwater contamination stable and decreasing in magnitude

Fondren Southwest Shopping Center

Fondren Road at West Bellfort Avenue



SKA Consulting, L.P.

1515 Witte Road, Suite 150

Houston, Texas 77080

713.266.0996 Fax

713.266.6056 Main

www.skaconsulting.com

Chris Schulz

Project Manager

Mike Schultz, P.E.

Vice President/Partner