

Municipal Setting Designations



MSDs: Another tool for Houston

Richard Chapin
Sr. Project Manager

Jedediah Greenfield
Environmental Analyst

Municipal Setting Designations (MSDs)



Agenda

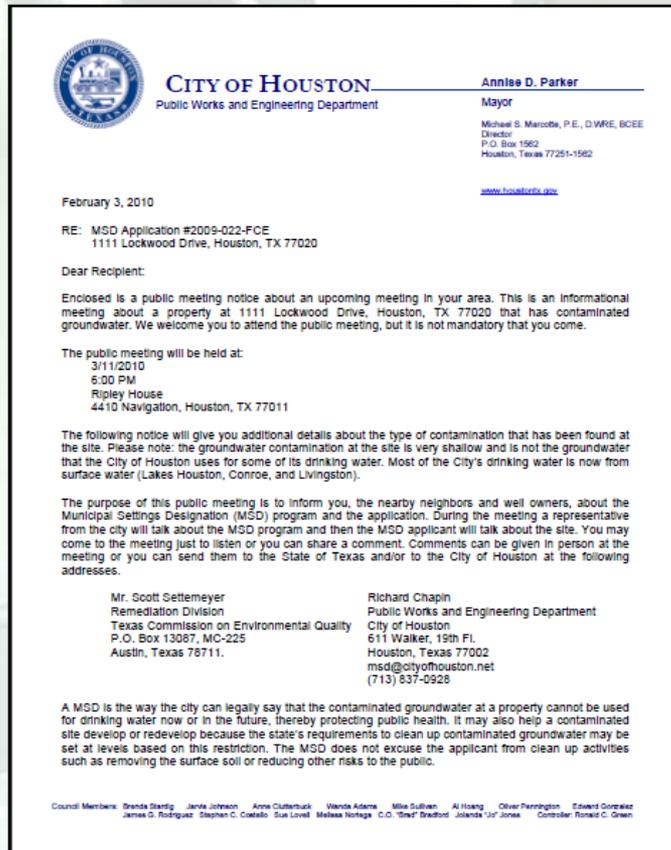
- City of Houston
 - Why we are here
 - Who the MSD impacts
 - What an MSD is
 - Why support an MSD
 - Steps in the MSD process
- MSD Applicant
 - Specific information on the site
800 Burnett Street
- Public comment and questions

Why Are We Here



- Inform you about an MSD application
 - METRO
 - MSD #2010-030-NRM
- 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
(City Requirement)
 - Water well owners
Certified Mail
5-Miles
(State Requirement)

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



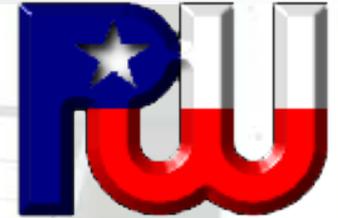
- Voluntary deed restriction to prevent the use of contaminated groundwater
 - State program created in 2003, administered by TCEQ
 - City process created in November 2007, administered by Public Works & Engineering
- TCEQ cannot approve an MSD without the City Council's support

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)

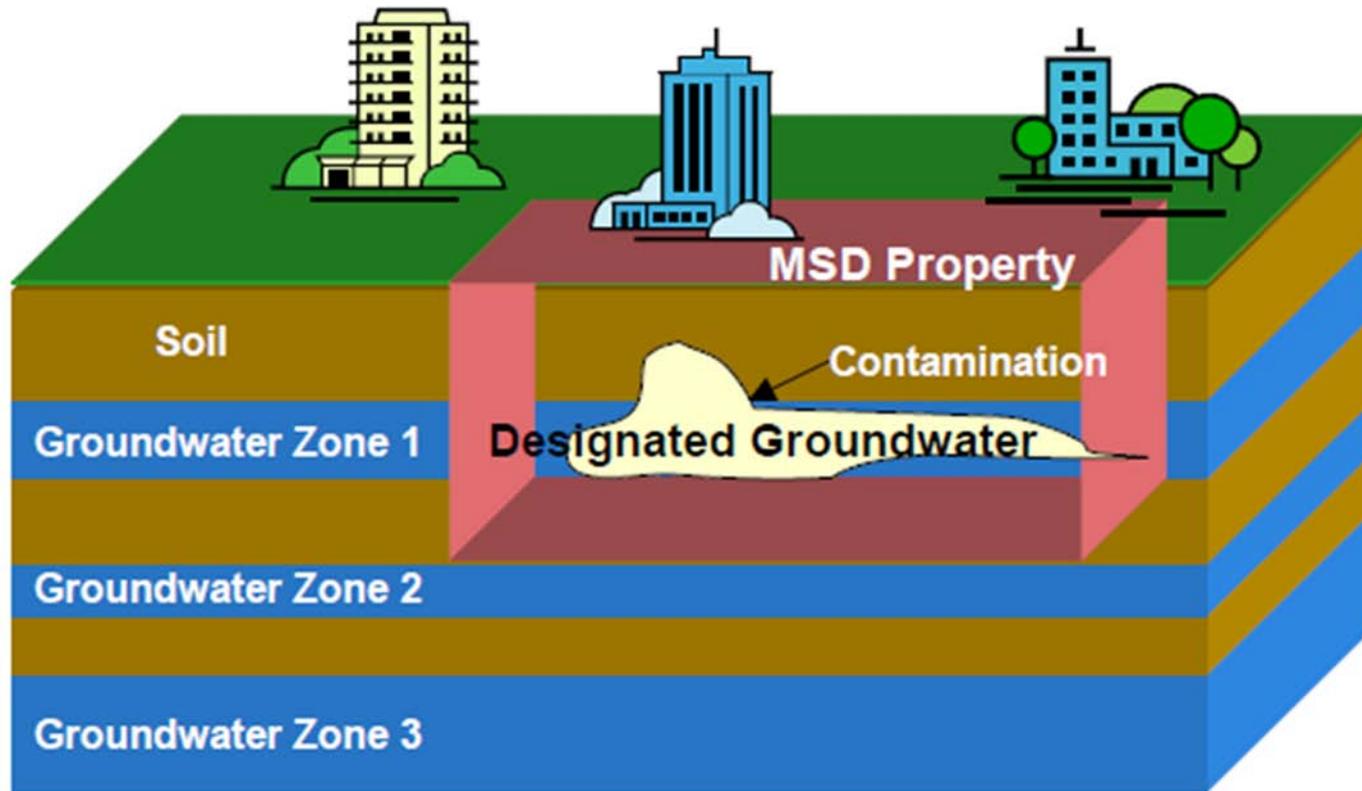
City Water Supply



- Houston's drinking water comes from either deep aquifers (20%) or surface water (80%)
 - Nearest public water supply well (treated)
 - Heights Well-07A
 - 3.4 Miles from site
 - Surface water supply
 - Lake Houston
 - Lake Conroe
 - Lake Livingston
 - Trinity River



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



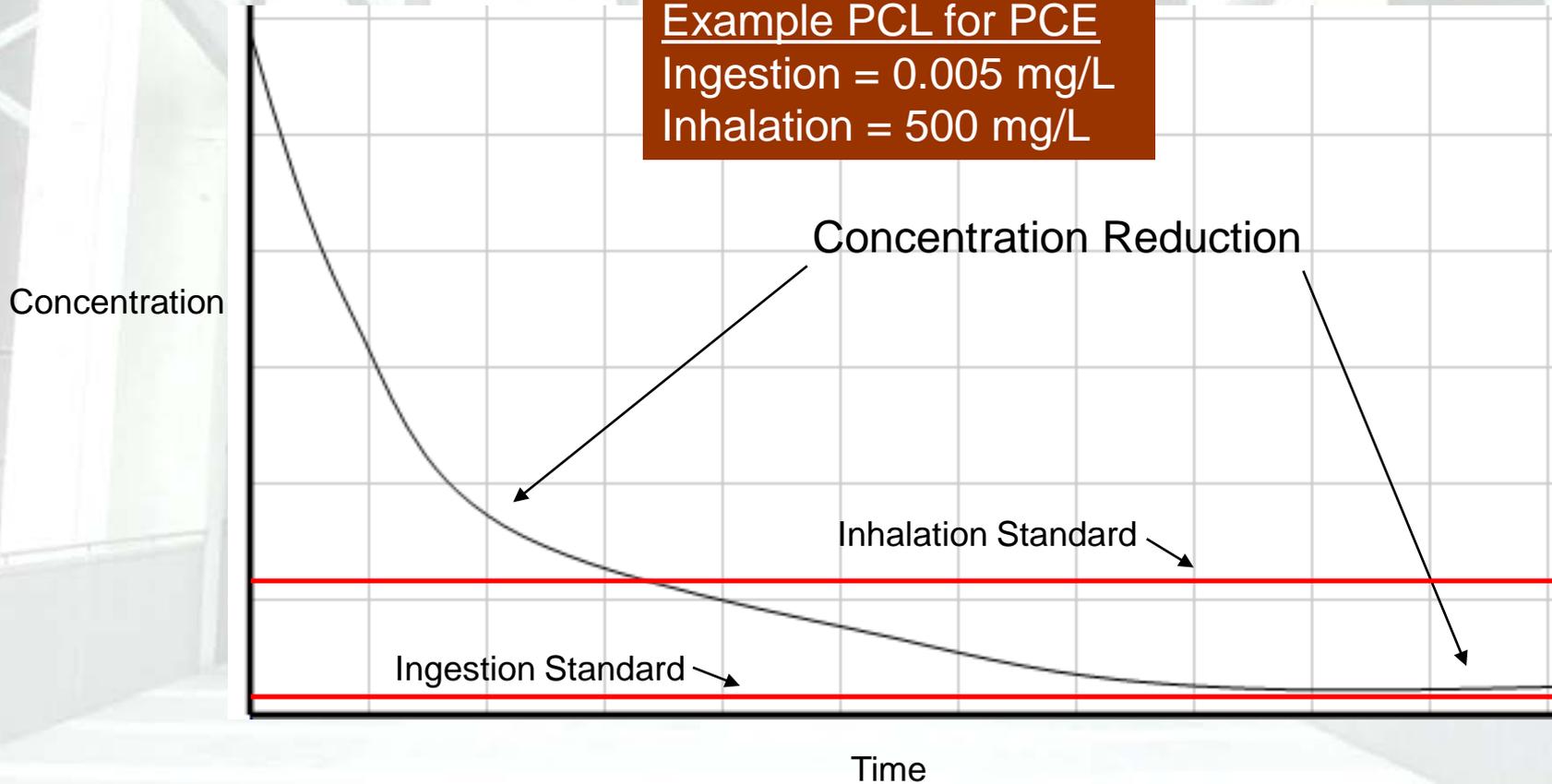
- Groundwater must be cleaned to drinking water standards even if:
 - There is no need or desire to use it, or
 - Water bearing zone is too silty, too salty, or low
 - producing
- Groundwater remediation to drinking water standards is inefficient, costly, and can take decades



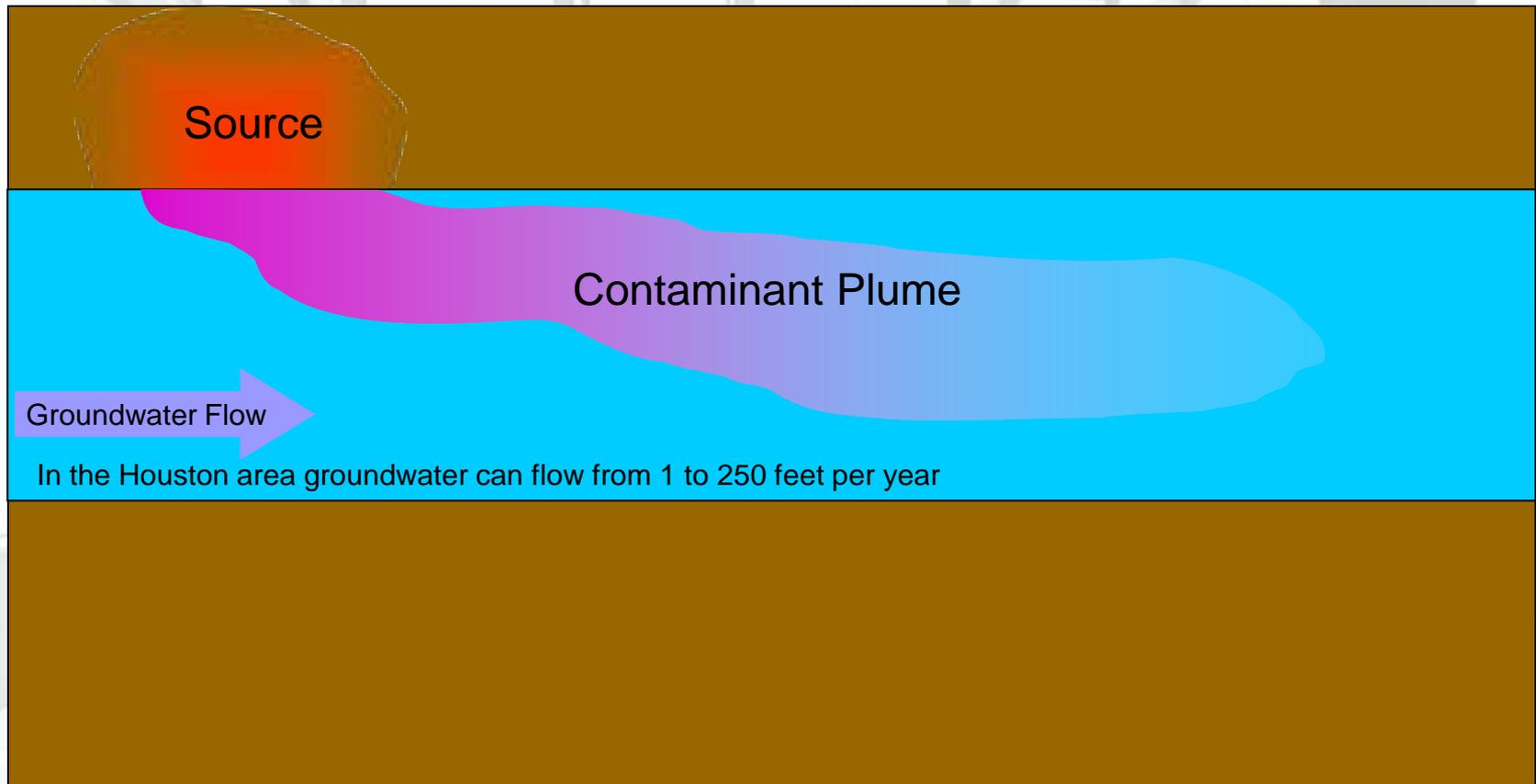
Groundwater Remediation



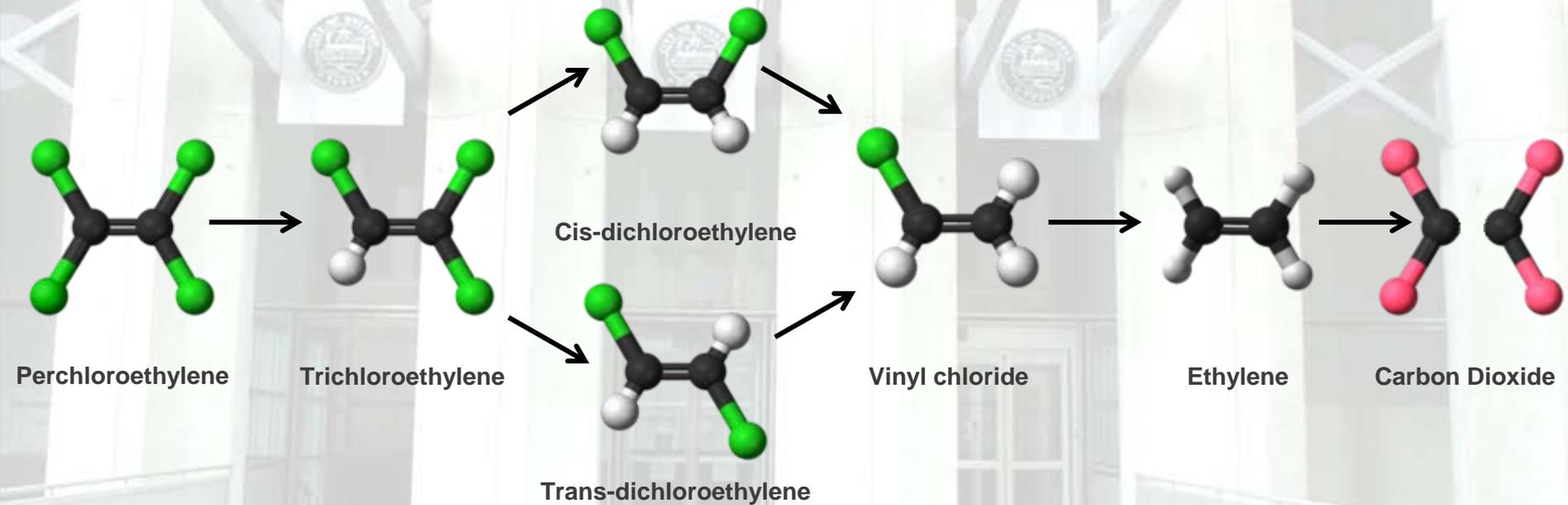
Example PCL for PCE
Ingestion = 0.005 mg/L
Inhalation = 500 mg/L



Contaminant Flow



Natural Attenuation



Applicant's Responsibility



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

City's Requirements of the Applicant:



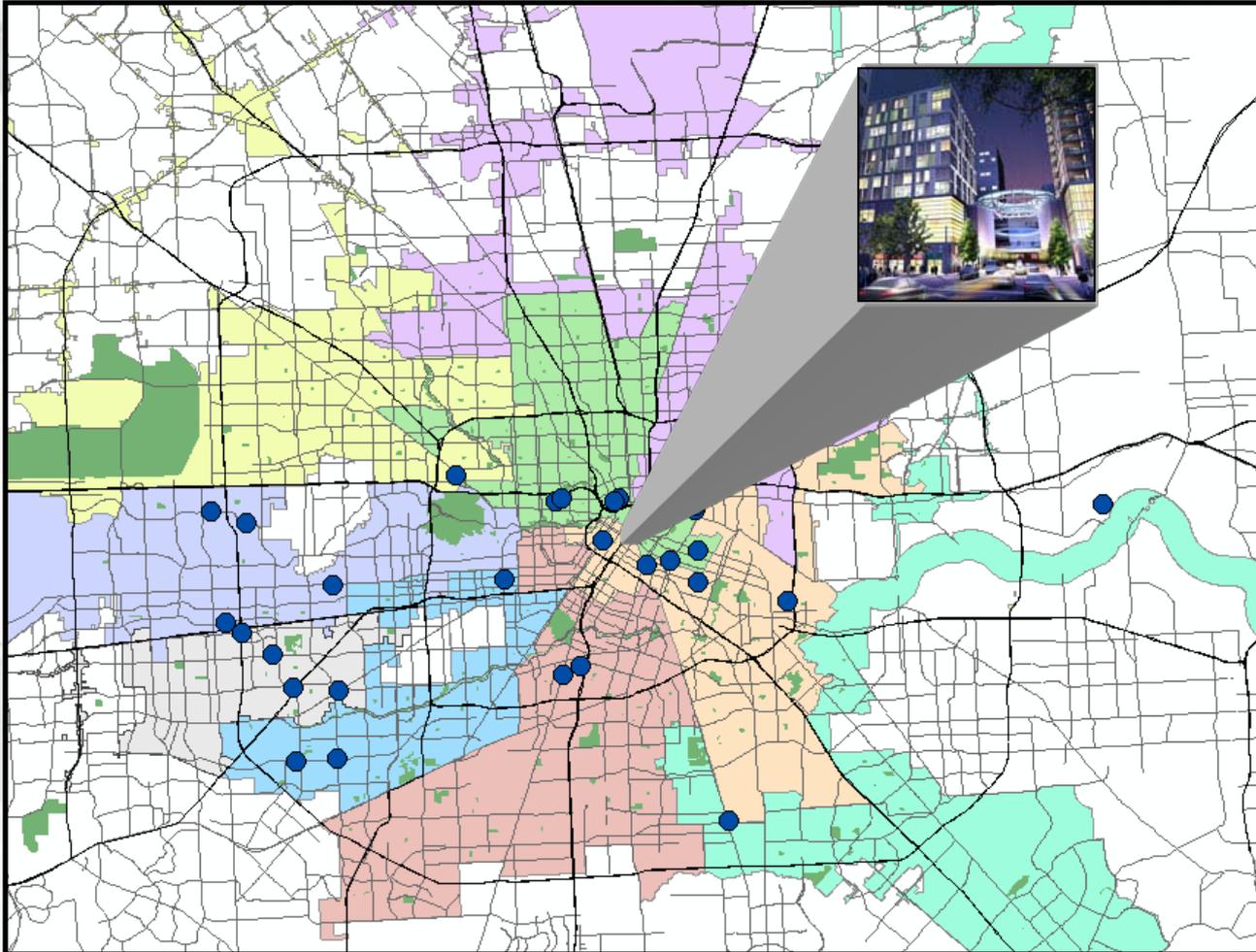
- Enrollment in a State or Federal clean-up program
- Thorough investigation
 - Data must show that the groundwater plume is stable or decreasing.
- A third party Professional Engineer (P.E.) or Professional Geologist (P.G.) must be willing to certify that the plume is stable or decreasing.

Why Support An MSD?



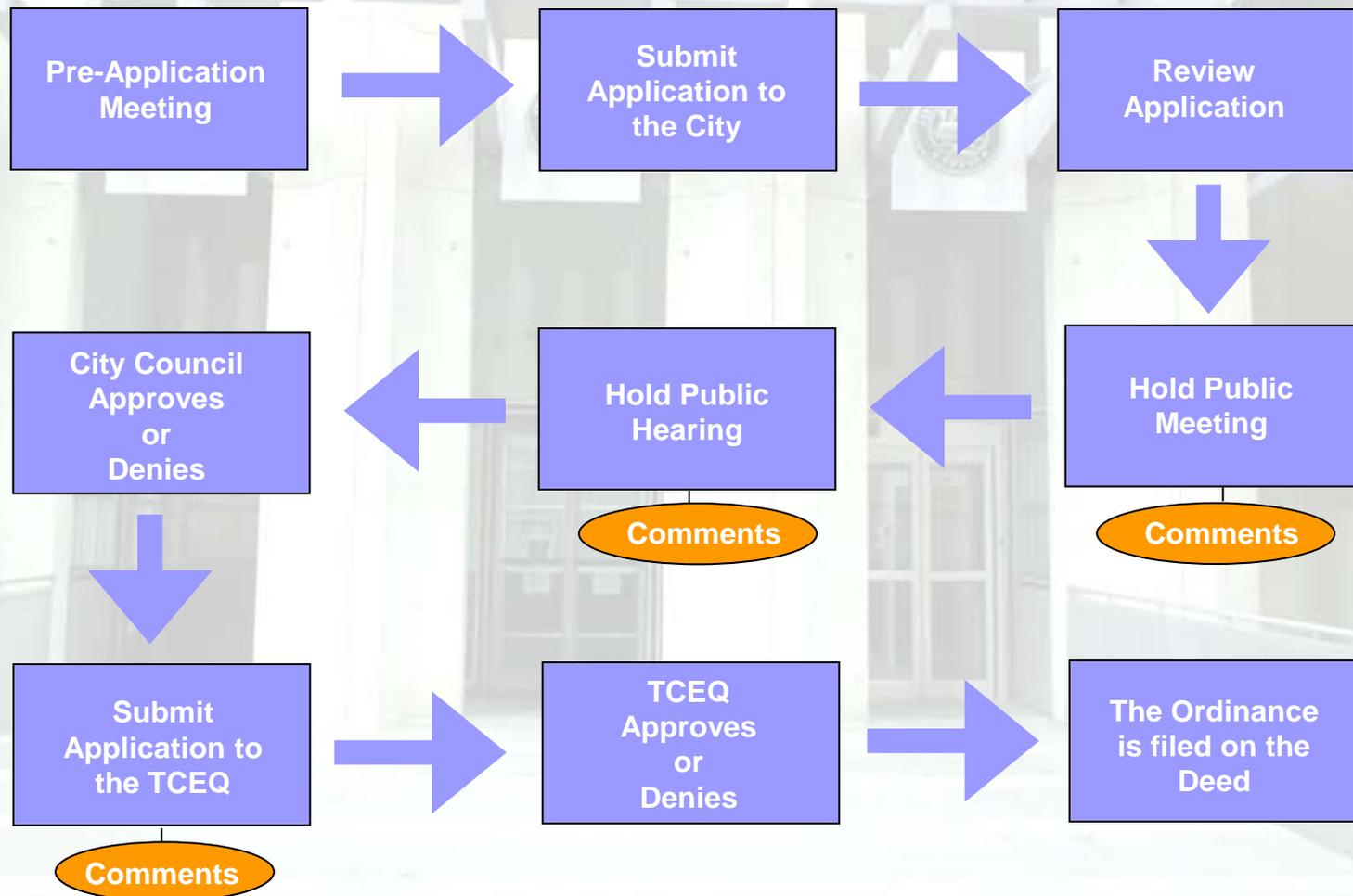
- Protects the public from consumption of shallow contaminated groundwater
- Encourages clean-up of contaminated sites through participation in a State or Federal program
- Promotes redevelopment of under-utilized properties

MSD Sites in Houston



Municipal Setting Designations (MSDs)

Steps in the Process



MSD Application



- Central Library reference desk
- 500 McKinney
Houston, TX 77002

The MSD Website



The screenshot shows the City of Houston website interface. At the top, there is a navigation bar with links for Home, Government, Residents, Business, Departments, Visitors, and En Español. Below this is a search bar and a main content area titled 'Public Works and Engineering'. On the left, there is a 'Departmental Links' sidebar with categories like Engineering and Construction, Planning and Development, Public Utilities, Resource Management, Right of Way and Fleet Maintenance, Traffic and Transportation, and Directors Office. The main content area is titled 'Municipal Settings Designation' and features a 'History' section, 'General Information' with a bulleted list of site requirements, and 'Fees and Information' with links to application forms. At the bottom, there is a 'FAQ' section and 'Other Websites of Interest' including TCEQ and a City Guide. A footer contains copyright information for the City of Houston.

www.houstonmsd.org

For more information concerning the application or process of an MSD in Houston, call:

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

- o [MSD Calendar](#)
- o [MSD Completed](#)
- o [MSD in Review](#)

Municipal Setting Designations (MSDs)

The MSD Website



MSD in Review

Carol Ellinger Haddock , Assistant Director, P.E.

MSD in Review

Differential Development – 1994, Ltd. #2008-012-DD (Lantern Lane Shopping Center Site)	
Executive Summary	
Full Application	
Hoerbiger Corp. of America Inc. and Morgan Advanced Materials and Tech. Inc. # 2009-016-Milby (Milby Street Site)	
Executive Summary	
Full Application	
Estate of Isadore and Esther Robinson # 2009-020-GMI (Former Gulf Metals Industries Landfill Site)	
Executive Summary	
Full Application	
Public Meeting Notice	
Public Meeting Presentation	
Silver Bishop Holdings, LP #2010-025-NOR (Navigation-Norwood Site)	
Executive Summary	
Full Application	
Public Meeting Notice	
Public Meeting Presentation	

MSD Calendar

Carol Ellinger Haddock , Assistant Director. P.E.

Municipal Settings Designations Calendar

Information on the latest meetings, conferences, and events.

Date	Time	Event
07/14/2010	9:00 AM	Public Hearing: FPA/PinPoint Mykawa, LLC. (MSD # 2009-020-GMI) City Hall Council Chambers, 2nd Floor, 901 Bagby, Houston, TX 77002
07/20/2010	6:00 PM	Public Meeting: Schlumberger Technology Corporation (MSD #2010-027-STC) Judson Robinson Jr. Community Center, 2020 Hermann Dr., Houston, TX 77004
08/03/2010	6:00 PM	Public Meeting: Differential Development - 1994, Ltd. (MSD #2008-012-DD) Tracey Gee Community Center, 3599 Westchase Dr., Houston, TX 77042
08/04/2010	9:00 AM	Public Hearing: BAE Systems Resolutions Corporation, Inc. (MSD #2010-026-FSS) City Hall Council Chambers, 2nd Floor, 901 Bagby, Houston, TX 77002
08/24/2010	6:00 PM	Public Meeting: Board of Regents of the University of Texas System (MSD #2010-028-ACD) Judson Robinson Jr. Community Center, 2020 Hermann Dr., Houston, TX 77004

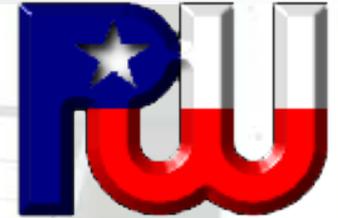
Public Hearing



- Date: February 17, 2011
- Time: 10:00 am
- Place: City Council Chamber (Committee Meeting)
Development and Regulatory Affairs
- Address: 901 Bagby, Second Floor
Houston, Texas 77002

Any person wishing to speak on this issue must arrive at least 15 min early and sign the speakers list located on the front desk.

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@houstontx.gov
(832) 395-2699

Municipal Setting Designations (MSDs)

Contact Information



Scott Settemeyer

Remediation Division

Texas Commission on Environmental Quality

P.O. Box 13087, MC-225

Austin, Texas 78711

ssetteme@tceq.state.tx.us



METROPOLITAN TRANSIT AUTHORITY OF HARRIS COUNTY (METRO)

NORTH ROUTE MSD NO. 1 MSD #2010-030-NRM

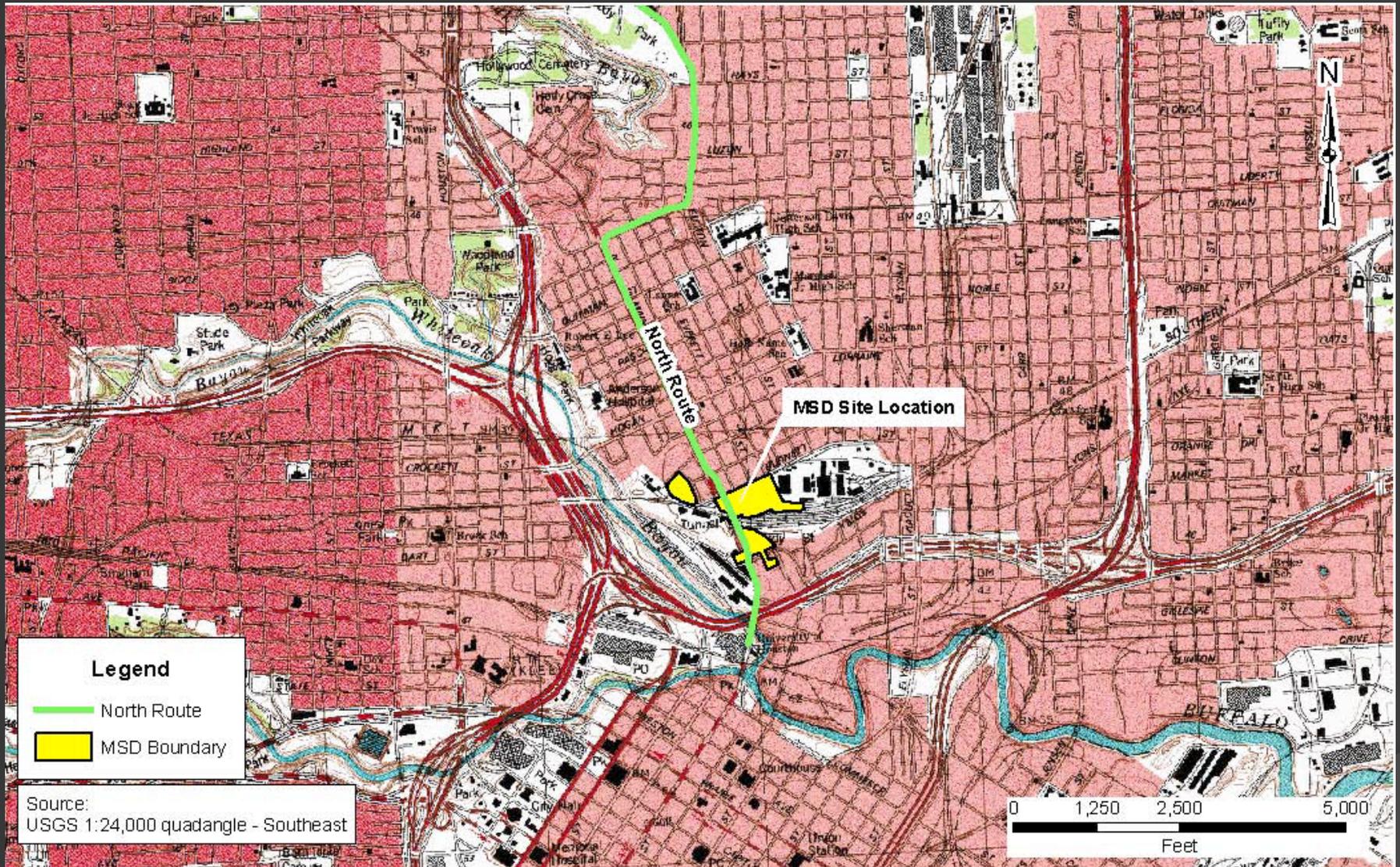
JANUARY 27, 2011



Presented By:

Michael F. Marcon, P.G.
InControl Technologies, Inc.
3845 FM 1960 West; Suite 195
Houston, Texas 77068
(281) 580-8892

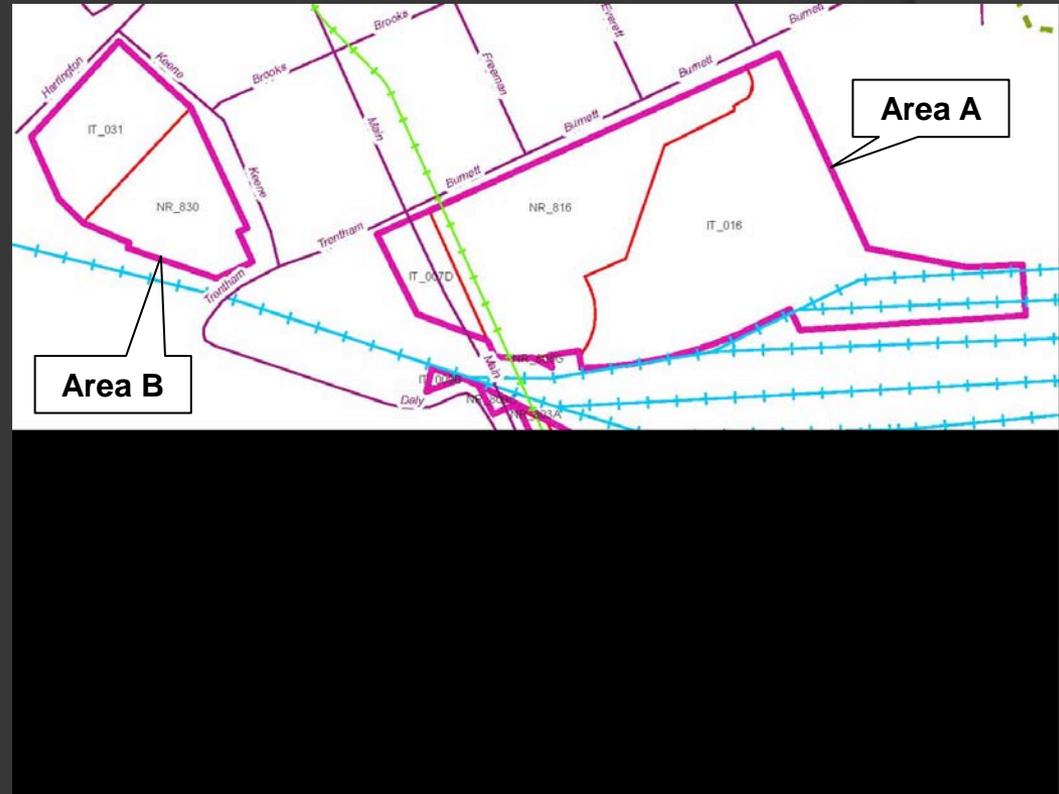




Location of North Route MSD No. 1

Current Development

- Subject property (North Route MSD No. 1) is subdivided into sixteen Parcels.
- Proposed MSD boundary will encompass approximately 16.4-acres of land near downtown
- All of the Parcels were previously developed with commercial or light industrial uses.



Site History

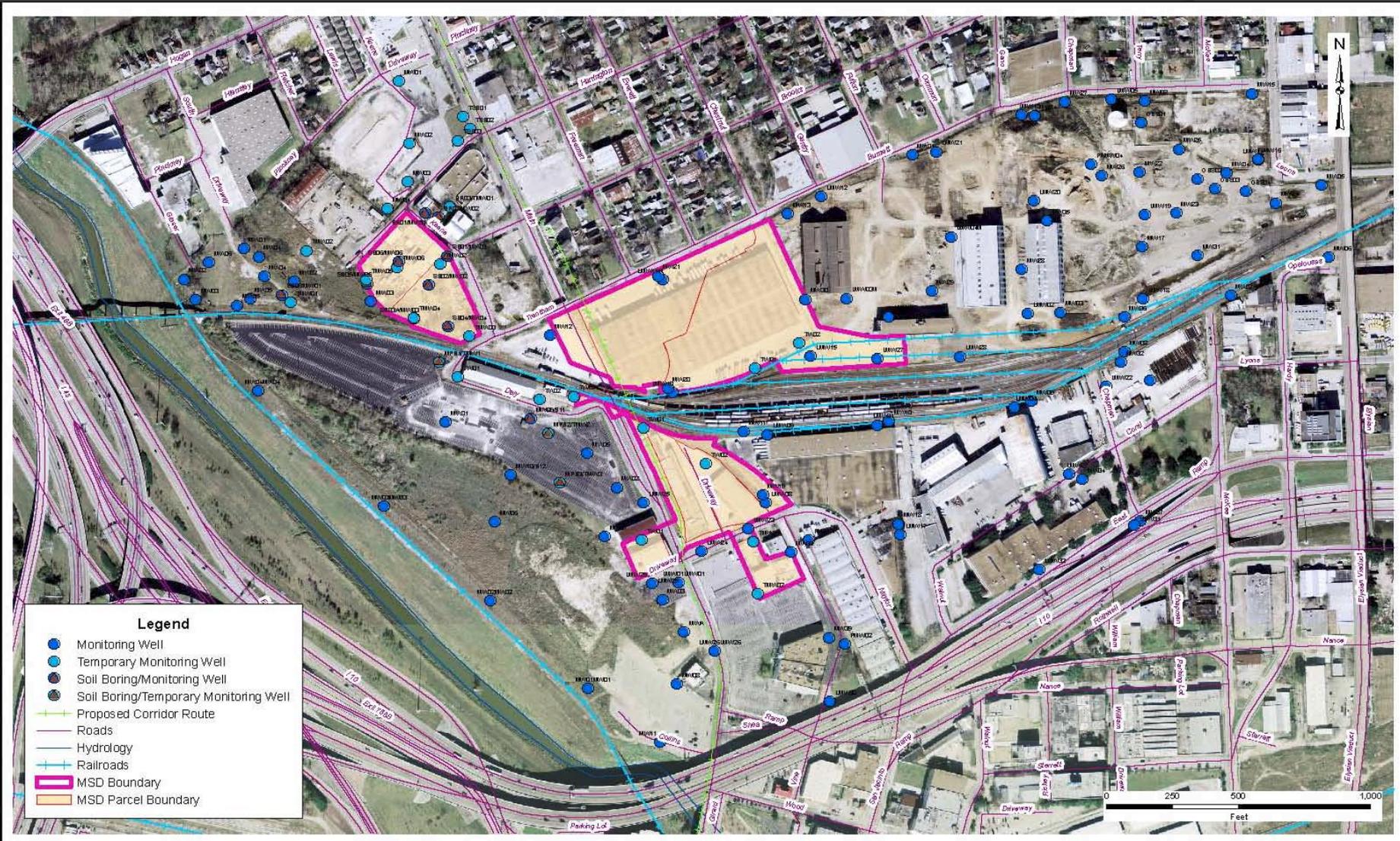
- Historic property uses include warehousing, bulk fuel terminal, and rail yard operations.
- Parcels within the proposed MSD boundary have been developed since the early 1900s.
 - Historically Area A has been used for rail yard operations and warehousing.
 - Historical land uses in Area B include residential, fuel terminal, warehousing, and auto repair/ sales.
 - Historical land uses in Area C include warehousing and light industrial.
- Hardy Rail Yards is located adjacent west to the subject property (west of Area A) and has been issued an MSD.



Environmental Setting

- There are two groundwater bearing units:
 - First shallow groundwater bearing zone is approximately 16- to 27- feet below surface.
 - Second shallow groundwater bearing zone is approximately 40- to 70-ft bgs.
- These groundwater bearing zones are underlain by a thick clay unit limiting further vertical migration.
- Groundwater flow is to the southwest, toward White Oak Bayou.
- White Oak Bayou is located approximately 680-ft down-gradient of proposed MSD boundary.





**Aerial of North Route MSD No. 1
With Environmental Sampling Locations**

North Route MSD

- As part of environmental due diligence, a Phase I ESA was conducted for each Parcel.
- A series of Phase II ESAs were conducted on selected Parcels based on conditions reported in the Phase I ESAs.
- These investigations have been conducted on each Parcel to assess impacts from historic operations.
- Soil and groundwater samples have been collected as part of these investigations.
- Several of the Parcels were enrolled in the Texas Voluntary Cleanup Program in January 2009 and assigned VCP No. 2246.

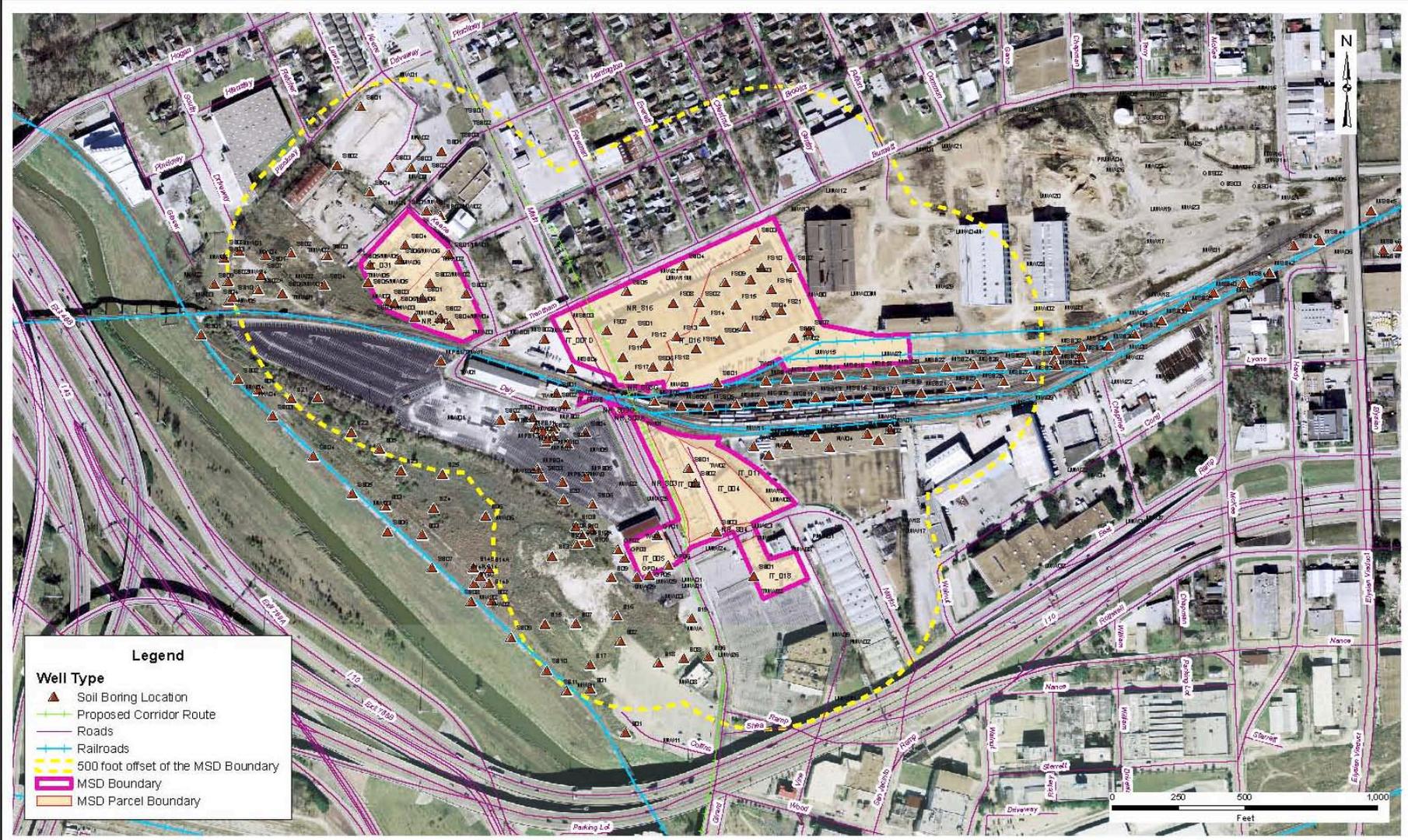


North Route MSD

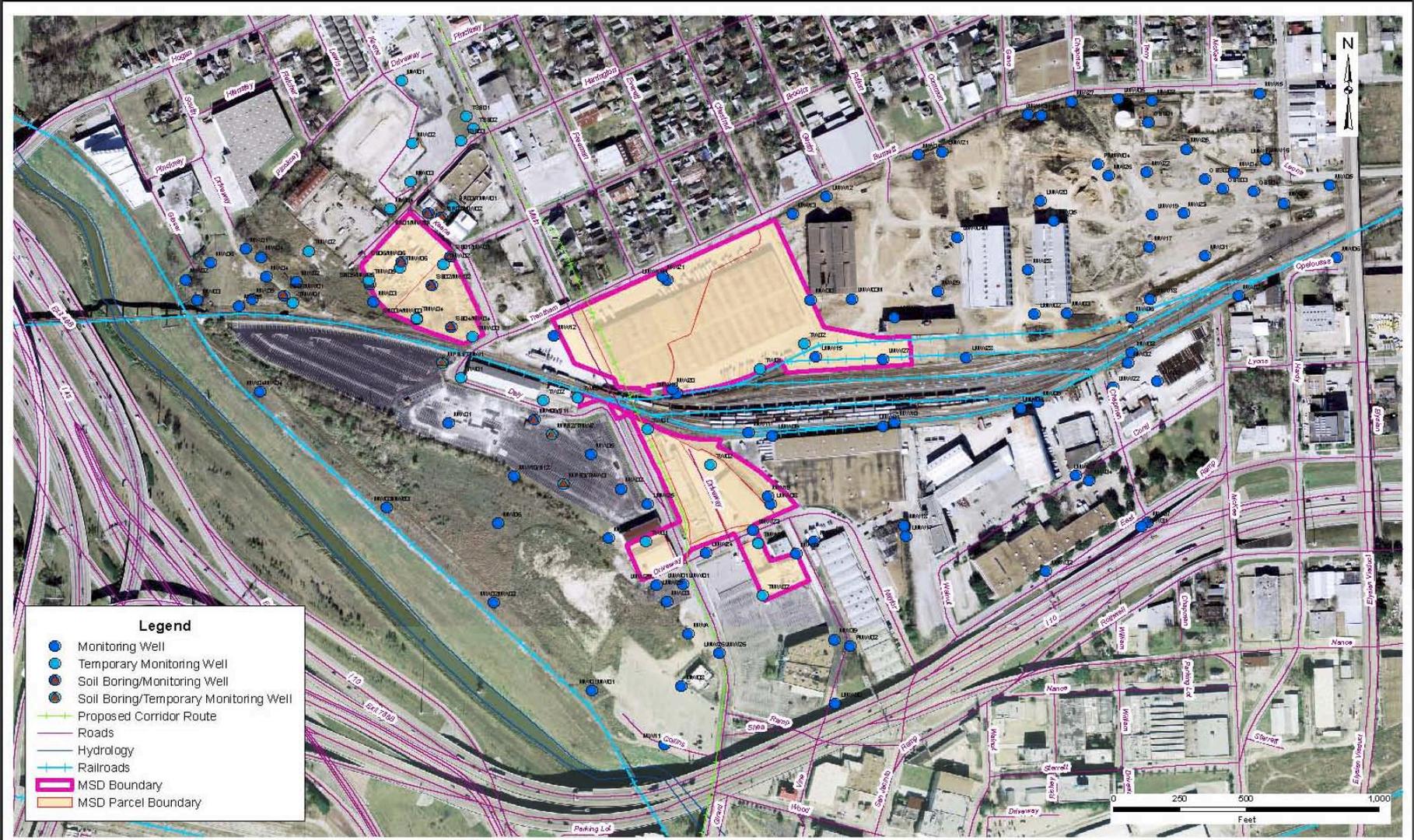
- Investigations completed between 1990 and the present defined the horizontal and vertical extents of the chemicals of concern in soil and groundwater.
- The primary Chemicals of Potential Concern in Groundwater are VOCs, SVOCs, RCRA metals, and Total Petroleum Hydrocarbons (TPH).
- Samples collected between MSD boundary and White Oak Bayou confirm surface water is not threatened by affected groundwater.



Soil Sample Locations



Groundwater Sample Locations

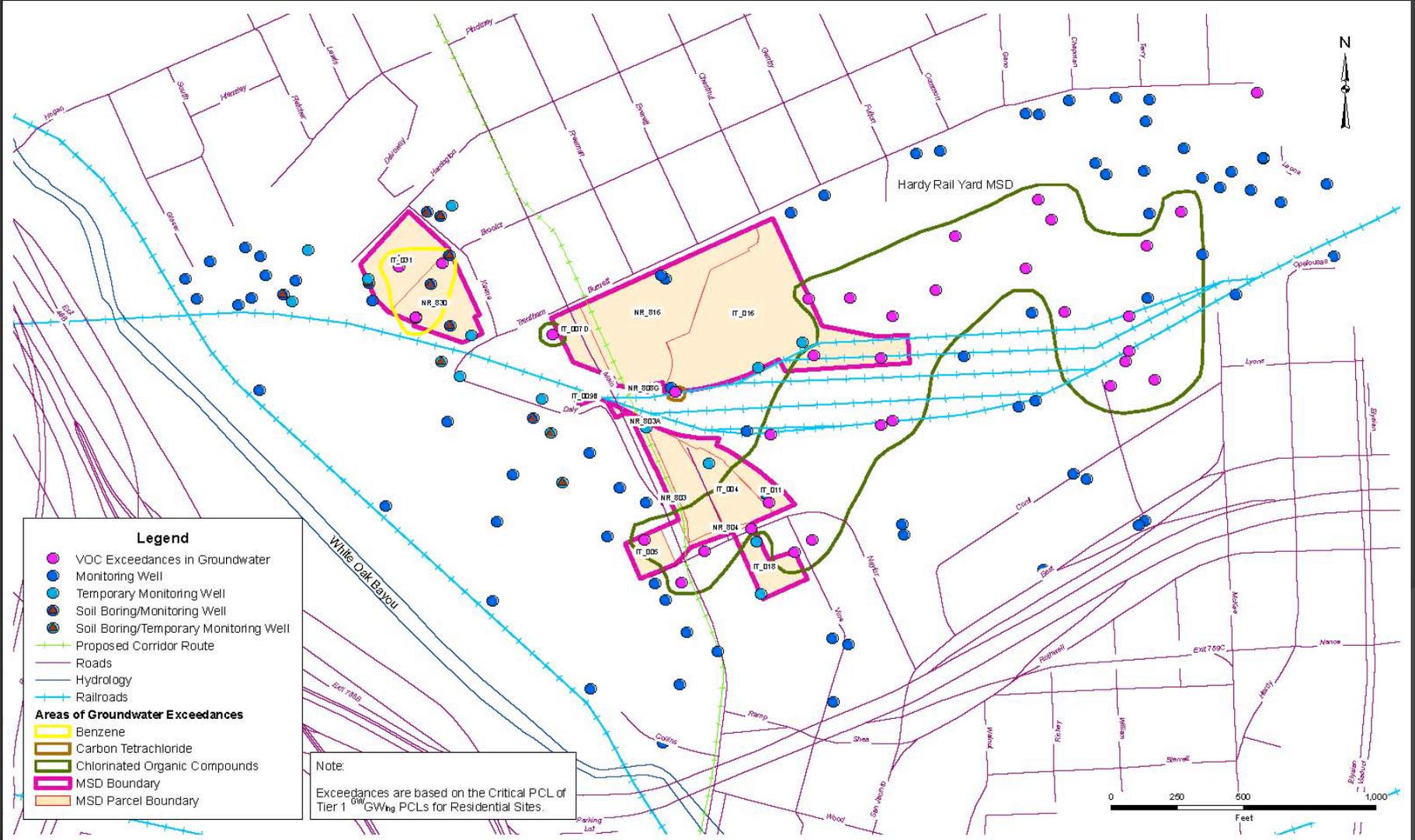


Investigation Results - VOCs

- Areas of affected soil have been fully delineated.
- Groundwater samples collected from monitoring wells had VOCs, SVOCs, RCRA metals and TPH at concentrations above regulatory levels.
- The VOC plume extends from the adjacent Hardy Rail Yard MSD site across the subject property.
- VOCs identified at concentrations greater than regulatory levels include PCE, TCE, cis-1,2-DCE, vinyl chloride, 1,1-DCE, benzene, and MTBE.



VOCs in Groundwater

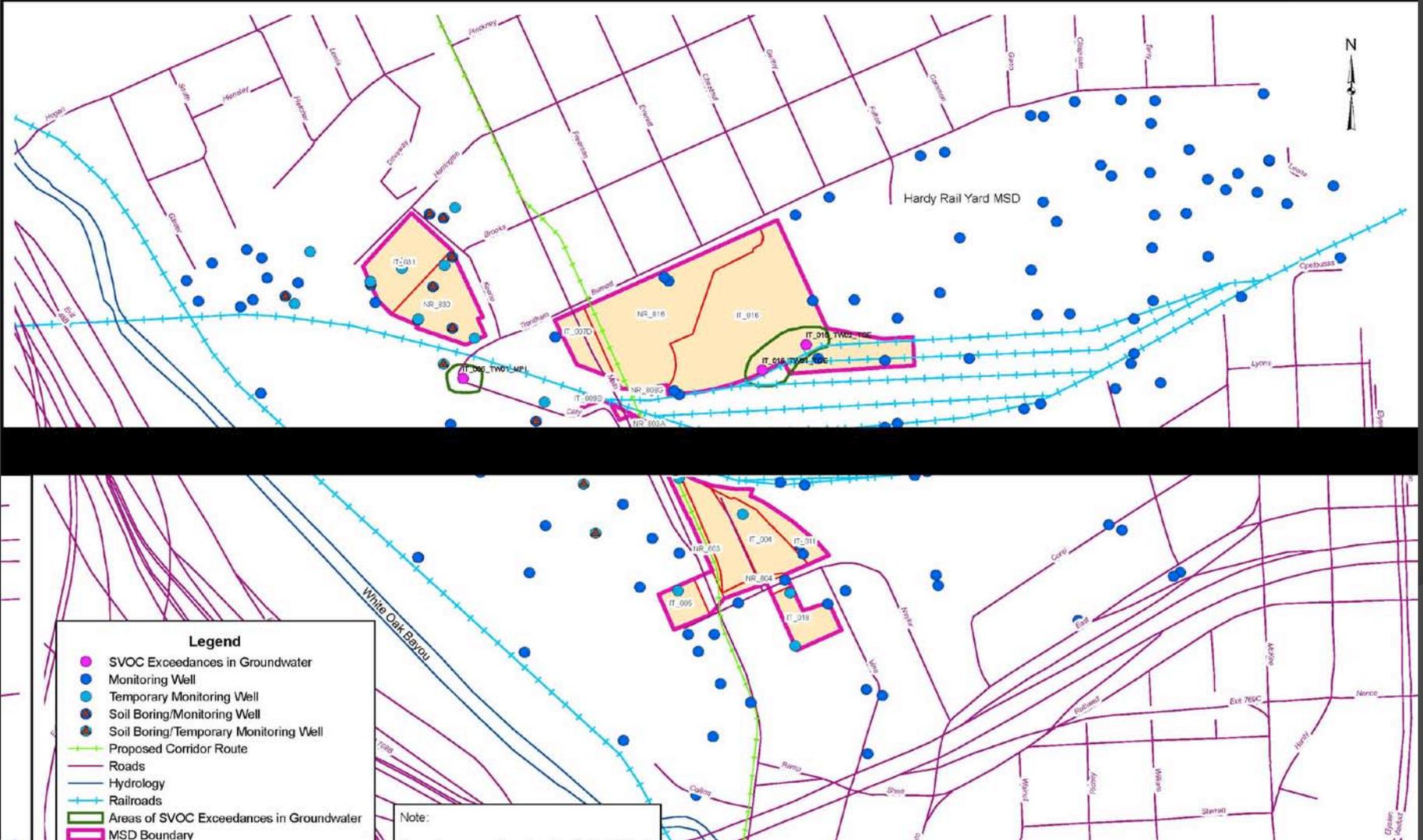


Investigation Results - SVOCs

- A SVOC plume is located on the southern portion of Parcel IT_016 and is mostly contained within the proposed MSD boundary.
- SVOCs identified at concentrations greater than regulatory levels include benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene



SVOCs in Groundwater



Investigation Results - Metals

- Two RCRA metals plumes identified within the proposed MSD boundary.
- One plume is located on the southern portion of Parcel IT_016 and extends off-site to the south.
- Second plume is located primarily on Parcel IT_031 and extends onto the northern corner of Parcel NR_830.
- RCRA metals identified at concentrations above regulatory levels are lead and arsenic.



RCRA Metals in Groundwater

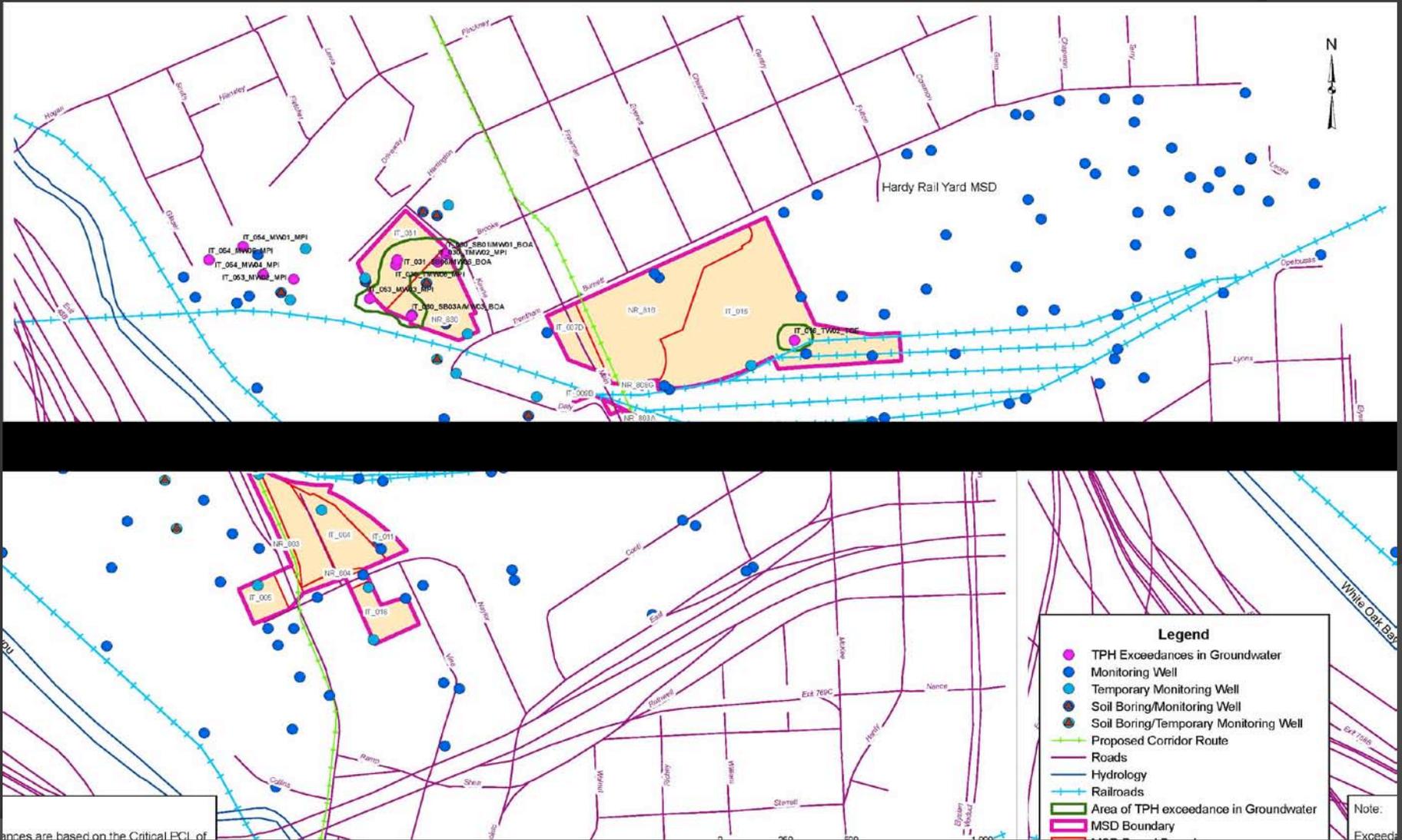


Investigation Results - TPH

- Two TPH plumes identified within the proposed MSD boundary.
- One plume is located on the southern portion of Parcel IT_016 and is contained within that Parcel.
- Second plume is located on Parcels IT_031 and NR_830.
- Both plumes are wholly contained within the proposed MSD boundary.



TPH in Groundwater



ances are based on the Critical ECL of

Note:
Exceed

Historical Remediation Efforts

- Source elimination - Removal of underground storage tanks (USTs) on various parcels.
 - Parcel IT_016 – one registered 10,000 gallon UST permanently removed in March 2010.
 - Parcels NR_830 and IT_031 – two 1,000-gallon, one 4,000-gallon, one 6,000-gallon, and one 8,000-gallon unregistered USTs were permanently removed from the Parcels during April 2010.
- Release Determination Reports (RDRs) were submitted to the TCEQ documenting the removal activities.
- No other remediation efforts have been completed to date.



Are You Exposed? – No

Why?

- First and foremost - Groundwater is not accessible and is not a source of potable or drinking water.
- There are no downgradient users of groundwater.
- Located in a primarily commercial area of Houston. While this area of Houston is currently under redevelopment, the most likely land use will remain commercial.
- Key benefit of MSD process is the MSD is placed in the City's utility database to notify workers when working on property to use proper protective equipment.
- The property owner within the MSD Boundary will not be allowed to install a water well for potable use.



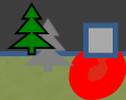


The nearest domestic water well is located almost 1-mile north (up gradient) and completed at depth of 450-ft below ground surface.

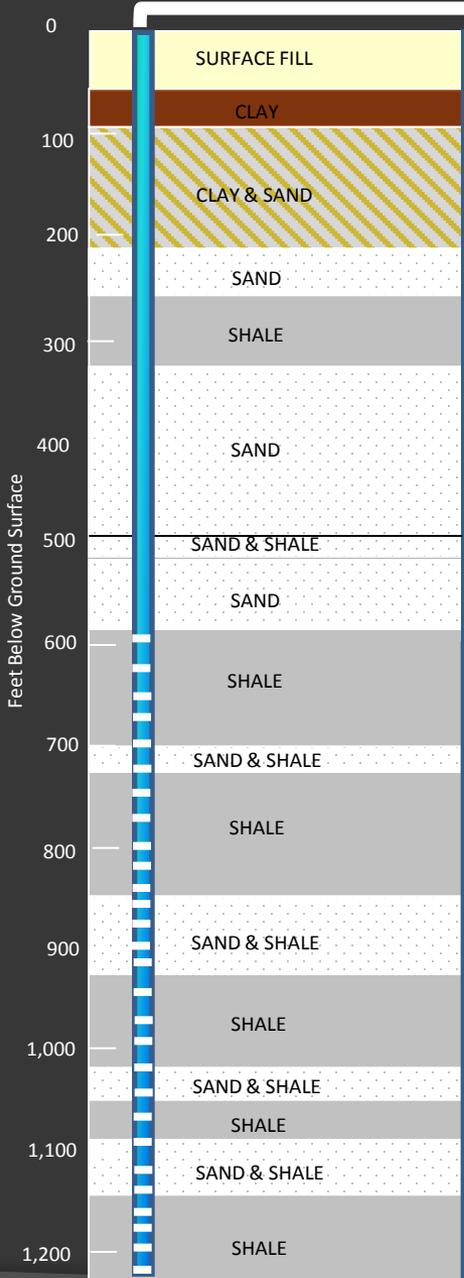
The nearest public water supply well is located approximately 1.02-miles southwest (cross gradient). Owned by City of Houston and completed at depth of greater than 2,000-ft below ground surface.



More than 5,000 feet Separation



MSD



Summary

- Affected groundwater has been vertically and horizontally delineated and is stable.
- The closest active public water supply well is greater than 1-mile away from the subject property, across White Oak Bayou.
- The closest domestic well is located approximately 1-mile away from the subject property in an up-gradient direction.
- No current exposure to the chemicals present in groundwater. The MSD will prevent the installation of potable water wells on the MSD properties.

