

Municipal Setting Designations



MSDs: Another tool for Houston

Jennifer Clancey
Program Manager



Municipal Setting Designations (MSDs)



Agenda

- City of Houston - Programmatic
 - What the MSD is
 - Who the MSD impacts
 - Steps in the MSD process
- MSD Applicant - Technical
 - Specific information on the site
21147 SH 249
 - **Questions / Comments**



Environmental Protection in Texas

- ❑ The State of Texas has jurisdiction for environmental protection
 - ❑ Texas Commission on Environmental Quality (TCEQ)

❑ Environmental Complaints



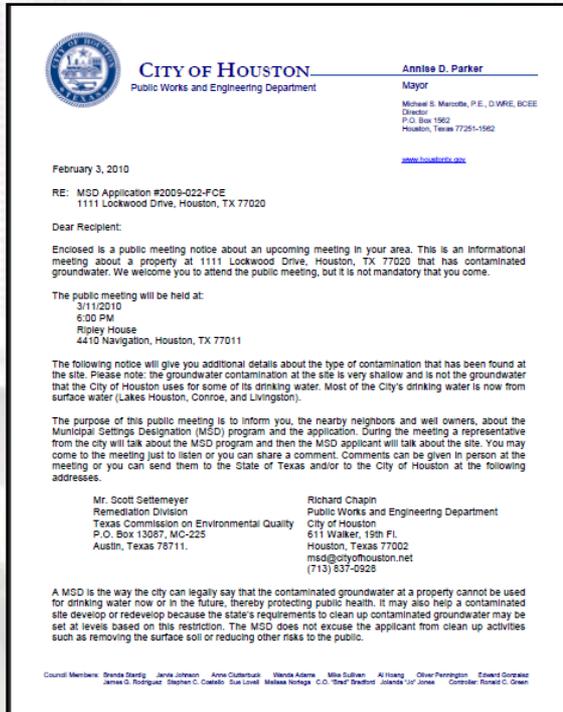
- ❑ By Phone: 1-888-777-3186
- ❑ Online: <http://www5.tceq.texas.gov/oce/complaints/>



- ❑ By Phone: 311
- ❑ Online: http://webintake.houstontx.gov/web_intake/Controller

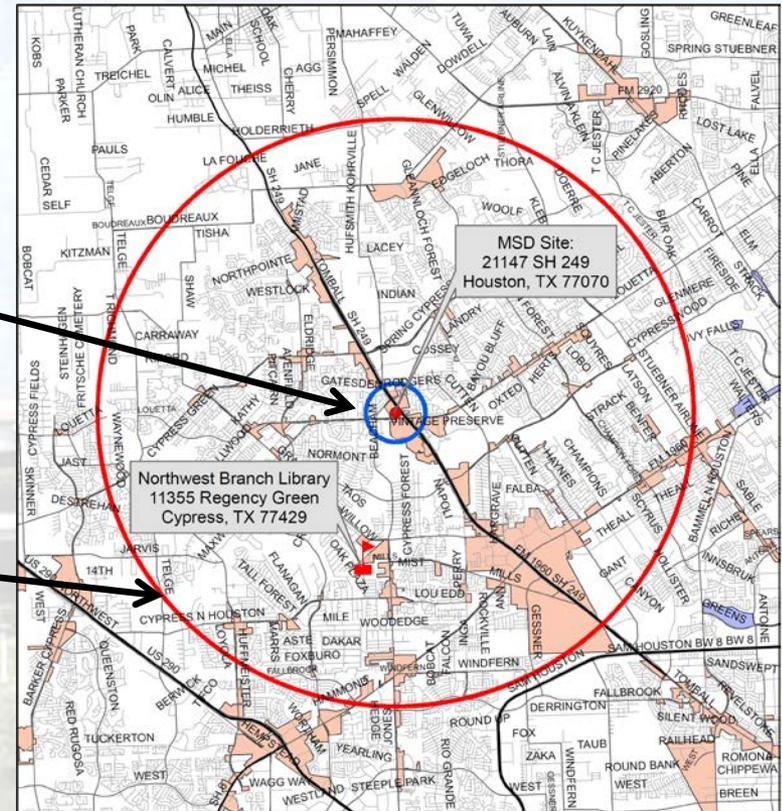


MSD Notice Letters



Property Owners
First-Class Mail
½-Mile Radius
City Requirement

Water Well Owners
Certified Mail
5-Mile Radius
State Requirement



If you received a notice through certified mail that means you have a water well according to the State's records



Municipal Setting Designations (MSDs)

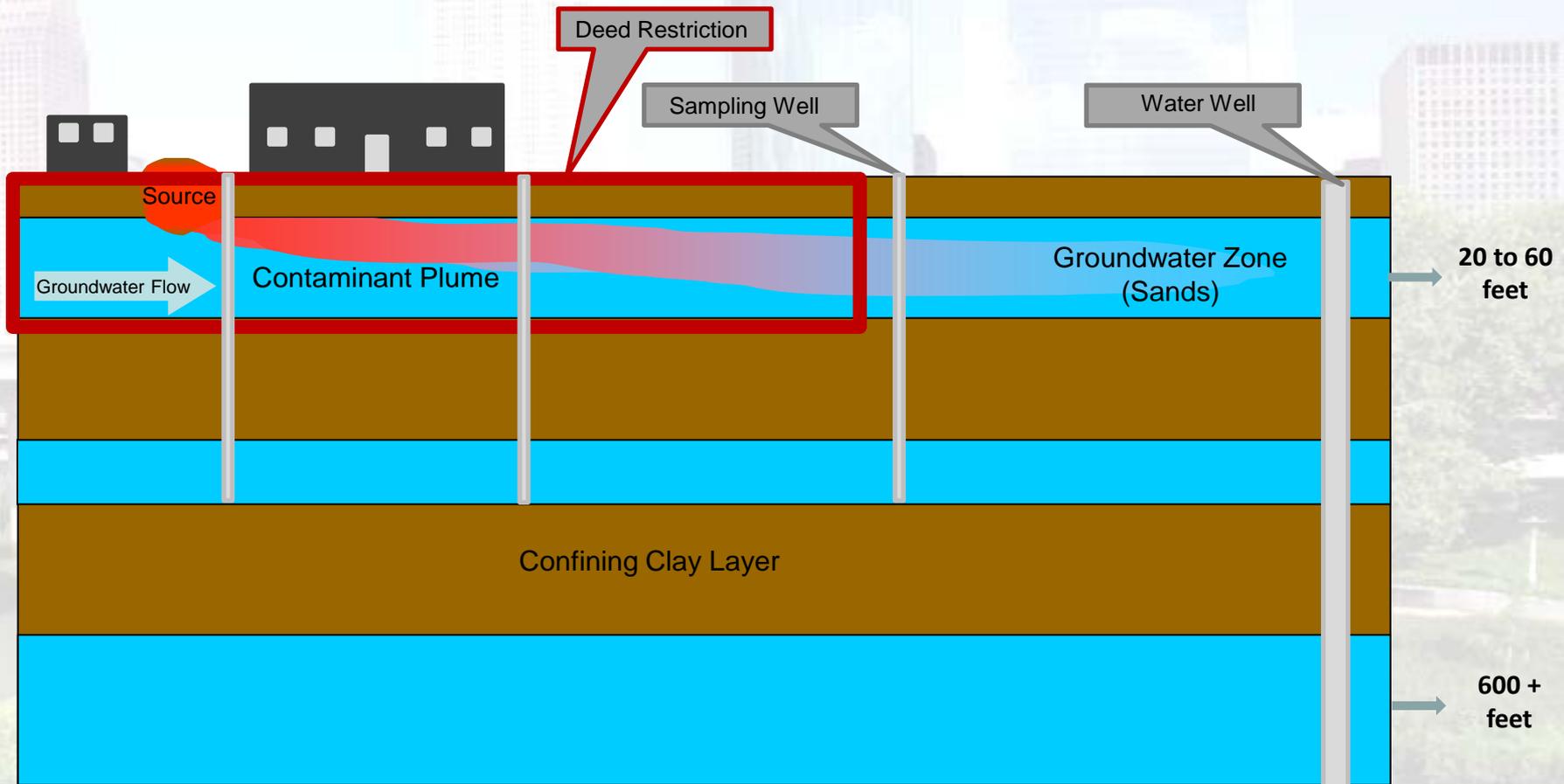


What an MSD is

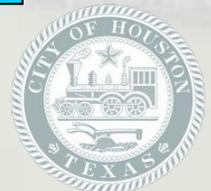
- **Voluntary** deed restriction to prevent the use of contaminated groundwater
 - No water wells on the subject property for drinking water purposes
 - A legally binding way to ensure the public is not exposed to contaminants



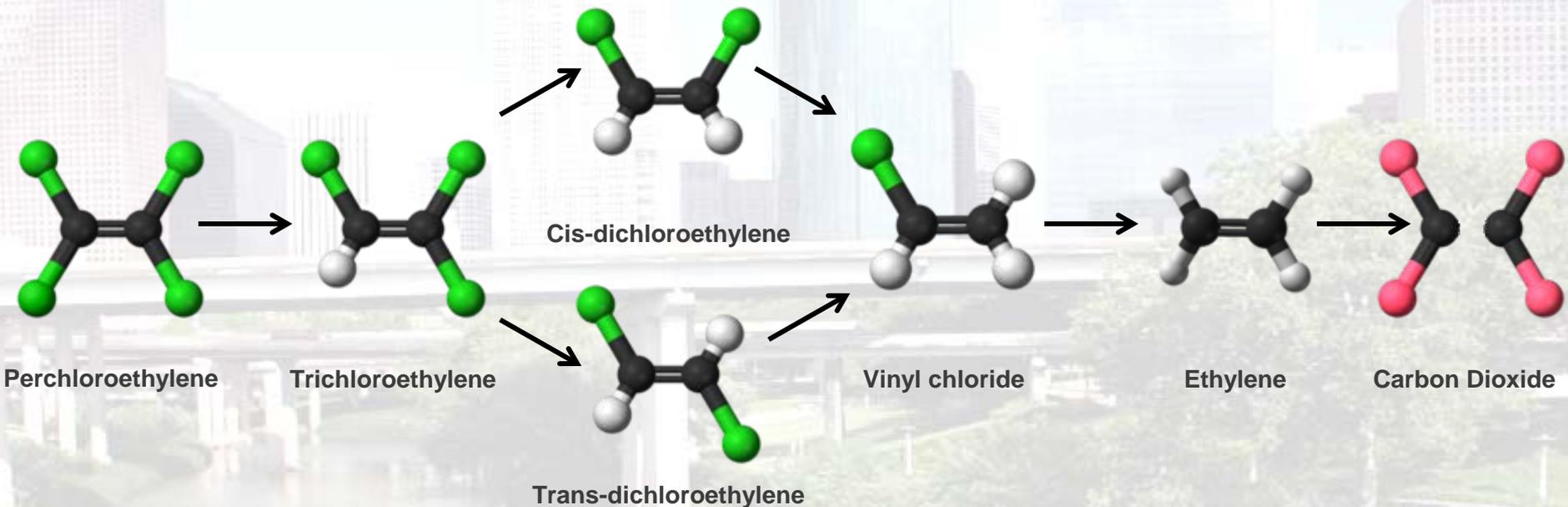
Groundwater Contamination



Please Note: Houston has shallow contaminated groundwater scattered across the City



Chemical Degradation



This process takes decades, but is found to be the most efficient strategy.

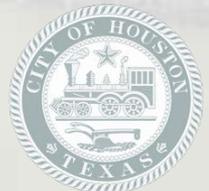
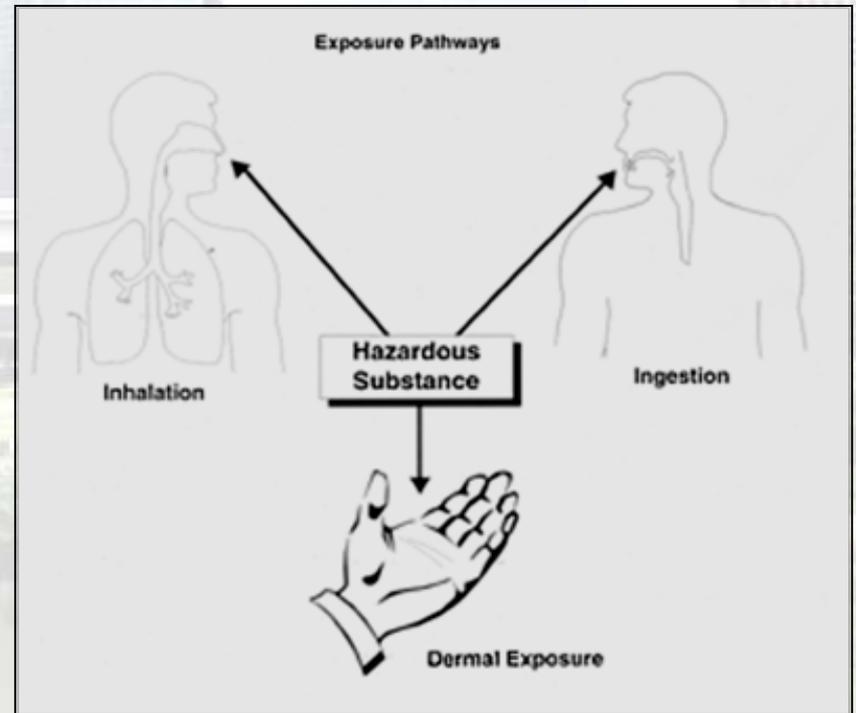


Municipal Setting Designations (MSDs)



Exposure Pathways

- Cleanup Programs are based on public exposure to contaminants and reducing public health risks
- Exposure Pathways
 - ~~Ingestion~~
 - Inhalation
 - Contact (dermal)
 - Soil
 - Groundwater to surface water
 - Ecological



Environmental Cleanup

- The MSD is only **one step** in the cleanup process
- An MSD does **NOT** excuse the applicant from reducing risks to the public
- Responsible Parties are always responsible



Who the MSD Impacts

- An MSD does not affect you!
 - 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

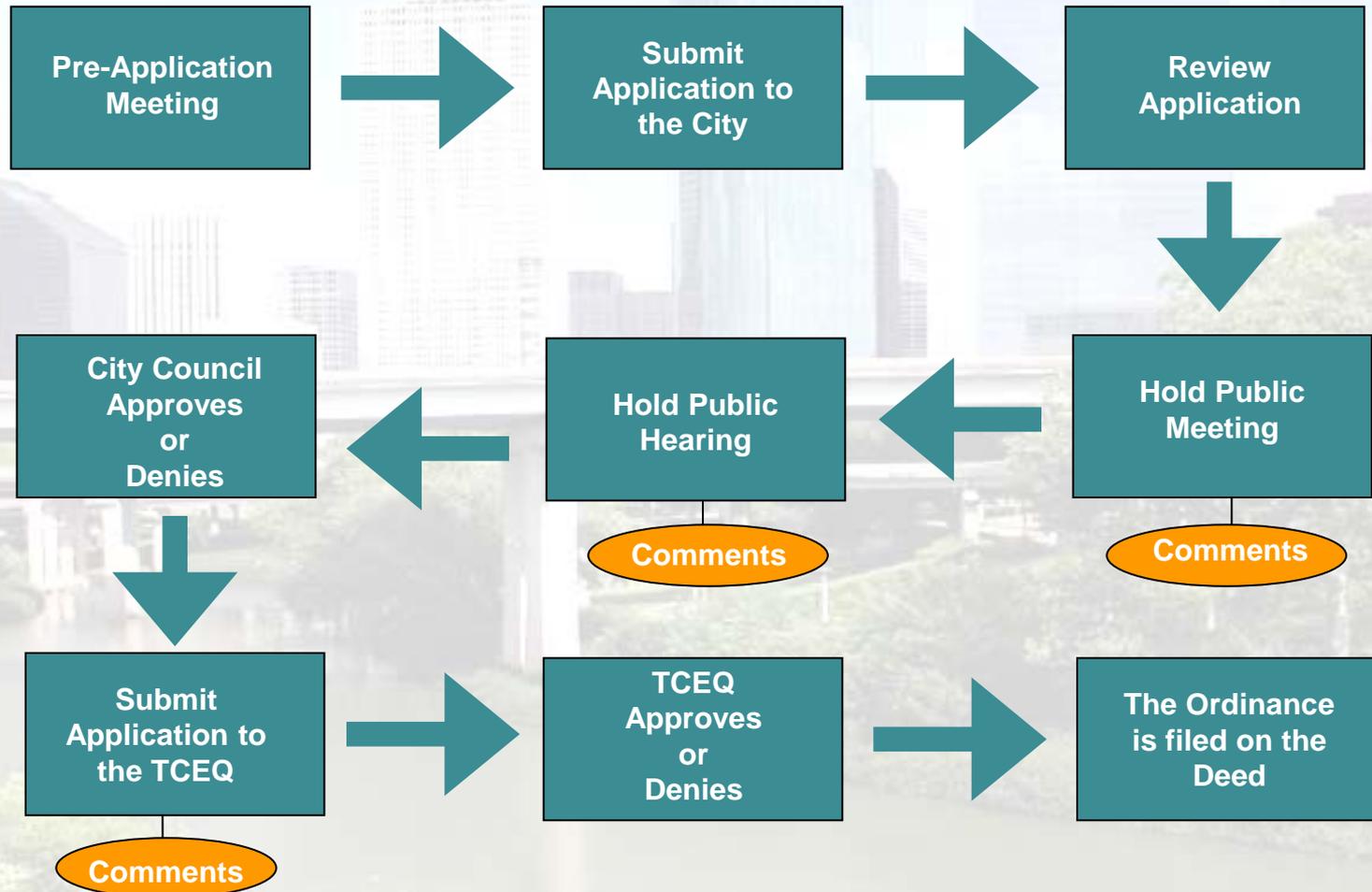


City's Requirements of the Applicant

- Enrollment in a State or Federal cleanup program
- Thorough investigation confirming that the groundwater plume is stable or decreasing, and delineated
- Source of contamination has been removed
- A **third party** Engineer (P.E.) or Geologist (P.G.) must certify application

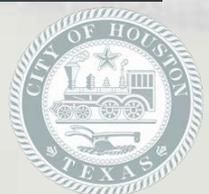


Steps in the Process

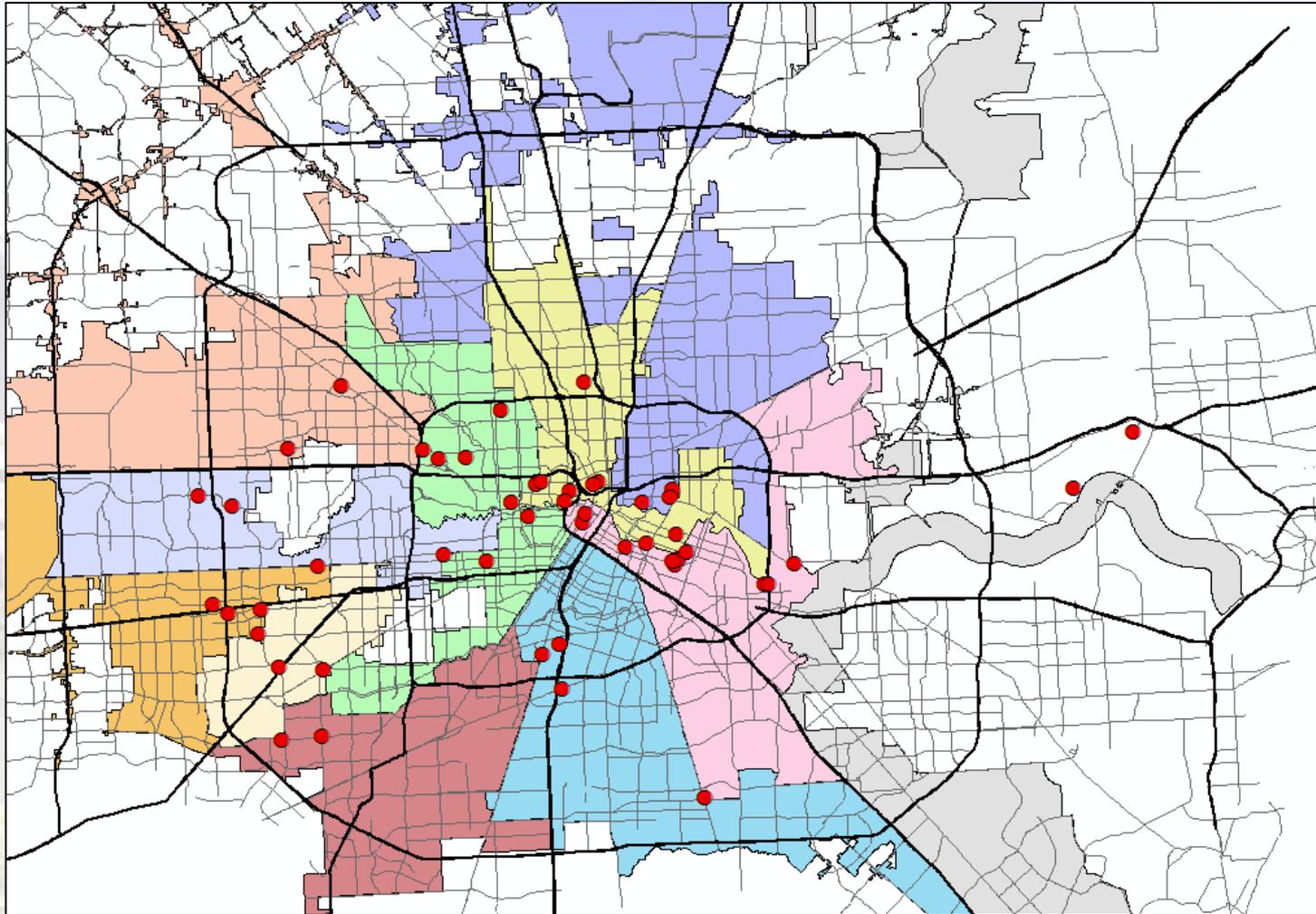


Why Support An MSD?

- Protects the public from consumption of contaminated groundwater
- Encourages clean-up of contaminated sites
- Promotes redevelopment of under-utilized properties



MSD Sites in Houston



Municipal Setting Designations (MSDs)



MSD Application Availability

- Northwest Branch Library
 - 11355 Regency Green
Cypress, TX
 - Reference Desk
- Also available online at:
www.houstonmsd.org
 - MSD in Review Page



Public Hearing

- Date: Tuesday, May 13, 2014
- Time: 10:00 AM
- Place: City Council Chamber (Committee Meeting)
Transportation, Technology, & Infrastructure
- 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.



Municipal Setting Designations (MSDs)



Contact Information

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(832) 394-9005



Municipal Setting Designations (MSDs)





Lakewood Forest Shopping Center

**21147 SH 249
Houston, Texas**

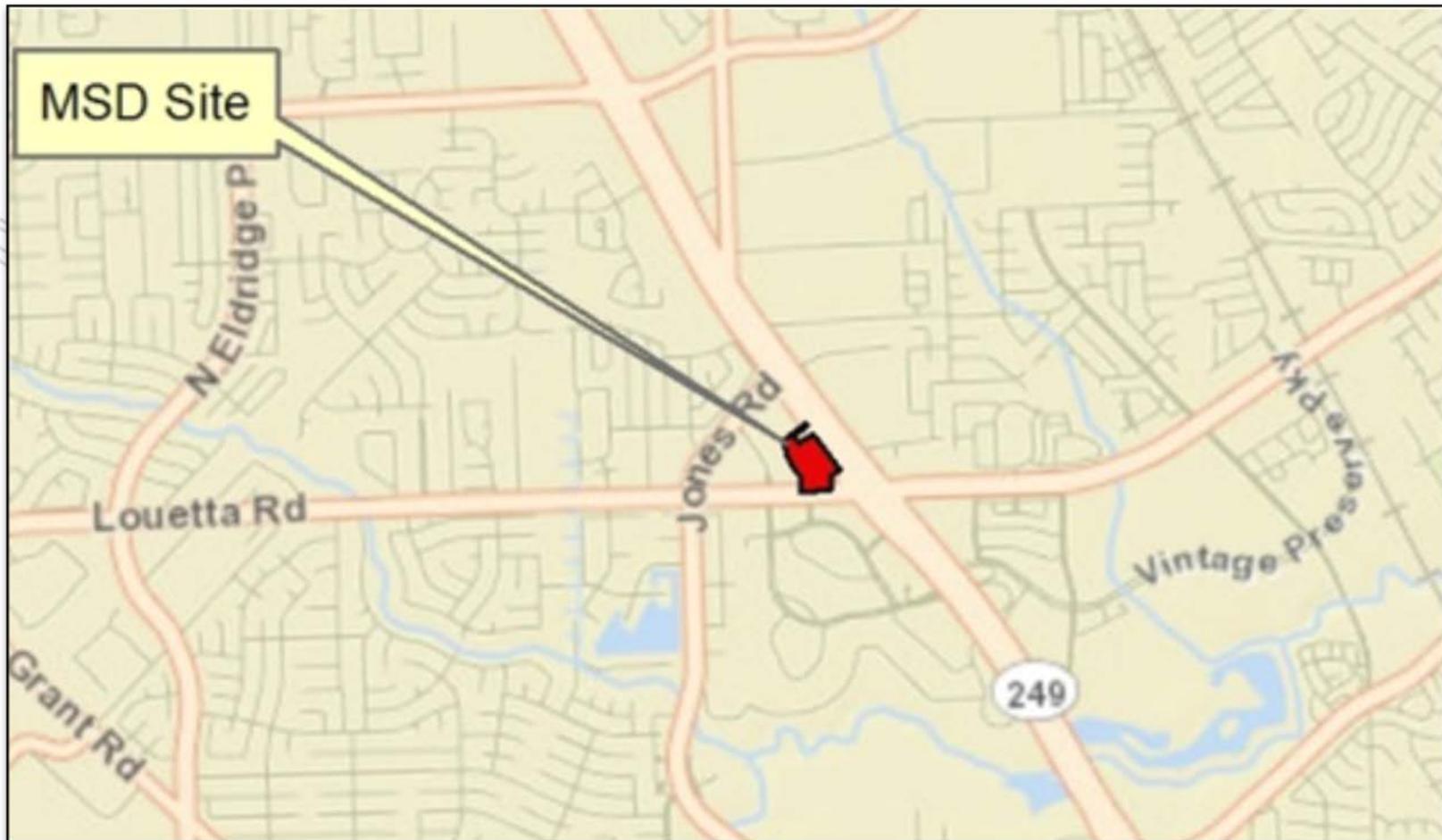


**Applicant/Owner:
ACF Lakewood II, LLC**



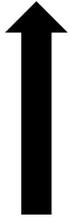
**Presenter/Consultant:
Edward W. James, P.G.
Terracon Consultants, Inc.
Houston, Texas
713-690-8989**

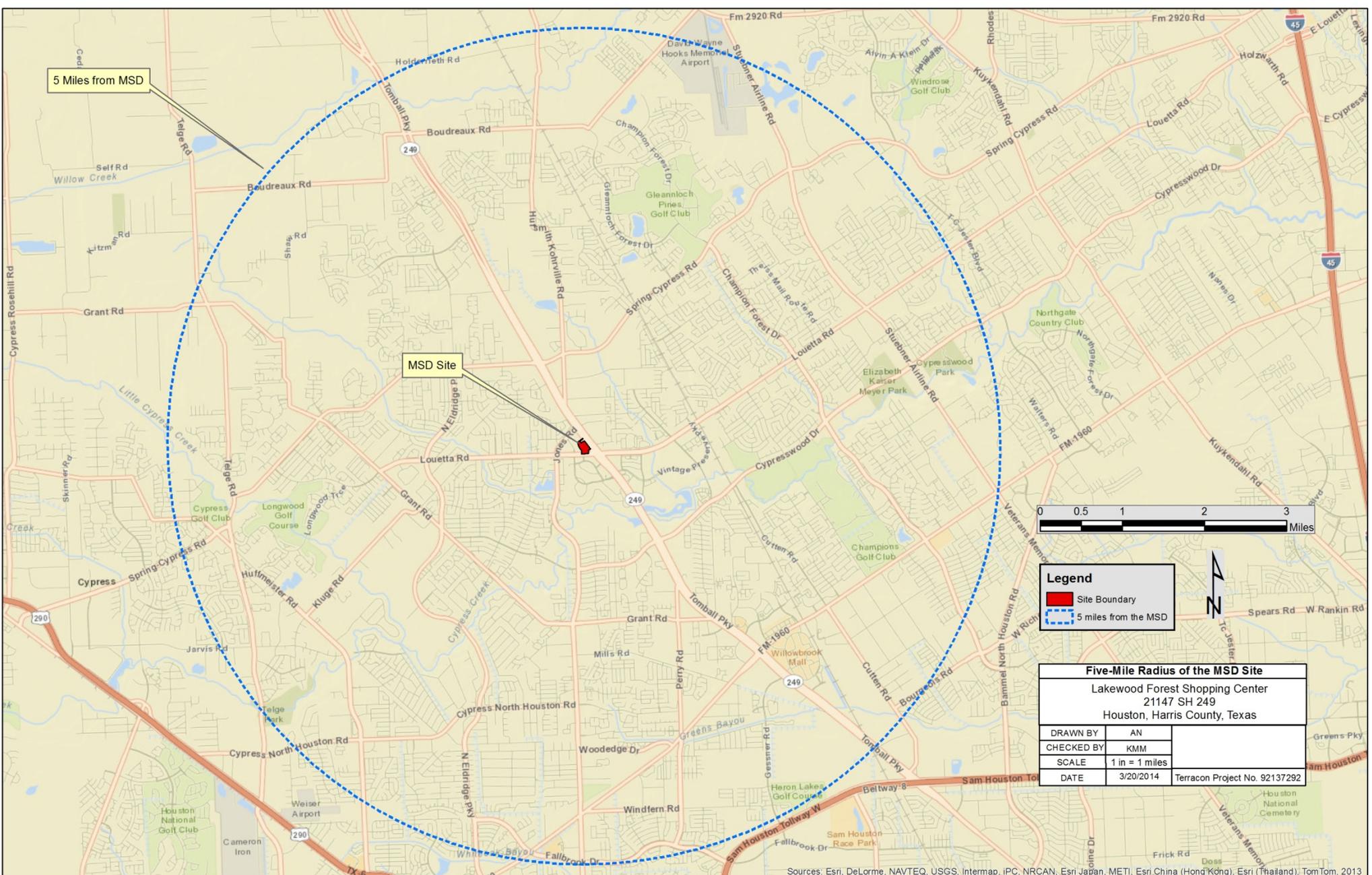
Site Vicinity Map: State Highway 249 and Louetta Road



Site

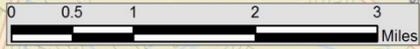
NORTH





5 Miles from MSD

MSD Site



Legend

- Site Boundary
- 5 miles from the MSD

Five-Mile Radius of the MSD Site			
Lakewood Forest Shopping Center 21147 SH 249 Houston, Harris County, Texas			
DRAWN BY	AN		
CHECKED BY	KMM		
SCALE	1 in = 1 miles		
DATE	3/20/2014	Terracon Project No.	92137292

Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



Present Site Characteristics

- **Lakewood Forest Shopping Center**
 - **Approximately 9.7 acres**
 - **Commercial property with approximately 95,000 square feet of retail space**
 - **Current leases include restaurants, clothing stores and personal service providers**

Present Site Characteristics (continued)

- **Adjacent to:**
 - **Shopping center to the north**
 - **Louetta Road to the south**
 - **SH 249 Frontage Road to the east**
 - **Hotels to the west**
 - **Surrounded by commercial properties**

Historic source of contamination

- **Historically, two dry cleaners operated on-site in the shopping center:**
 - **Classic Cleaners from 1986 to 1993**
Lakewood Cleaners from 1993 to 2001
 - **Source of PCE no longer exists: ceased with closure of Lakewood Cleaners in 2001**

Affected Groundwater

- **Groundwater contaminants:**
 - trichloroethene (TCE)
 - dichloroethene (DCE)
 - vinyl chloride
- **Groundwater contaminants are below non-ingestion PCLs**
- **Shallow groundwater (approximately 20 feet below ground surface) affected**
- **Deeper groundwater (approximately 50 feet below ground surface) not affected**

Applicant's Responsibility

- **MSD prevents the use of site groundwater**
- **Soil unaffected**
- **Plume is contained on-site and does not discharge to surface water**
- **Site Assessment and groundwater monitoring have been completed for 13 years.**

Investigation Activities

- **Site has been in the TCEQ Voluntary Cleanup Program (VCP) since 1999 – 13 years**
- **17 groundwater monitor wells from 1999 to 2008, 15 shallow (25-40 feet), 2 deep (60 feet)**
- **Groundwater flow direction consistently towards north**
- **Delineation completed with installation of northernmost monitor wells MW-14 and MW-15**

Investigation Activities (continued)

- **TCE, DCE and vinyl chloride not detected in monitor wells MW-14 or MW-15**
- **All detected concentrations in other monitor wells are below non-ingestion PCLs**
- **Affected groundwater limited to the shallow groundwater zone; groundwater collected from deeper wells not affected**

Delineated Groundwater Plume

NORTH



Investigation Results

- **Concentrations of chemicals of concern (COCs) in groundwater during 13 years of sampling have not exceeded non-ingestion PCLs**
- **Concentrations in source area wells are decreasing**
- **Concentrations in downgradient wells are decreasing**

Investigation Results (continued)

- **COCs in groundwater are degrading through natural attenuation: reductive dechlorination**
- **COCs in soil are below ingestion and non-ingestion PCLs**

Soil and Groundwater Sampling Points

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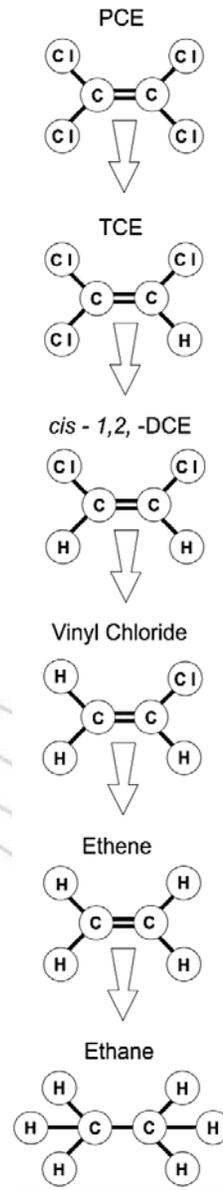
Subsurface Map

Groundwater Flow Direction

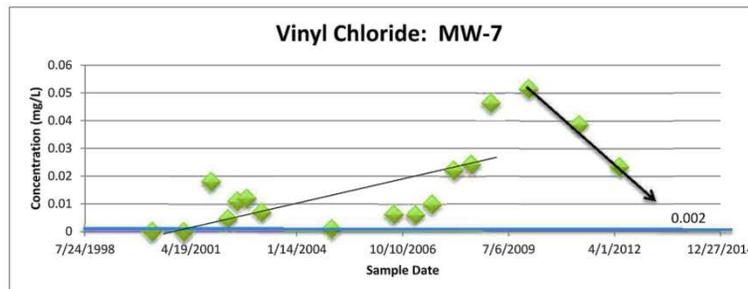
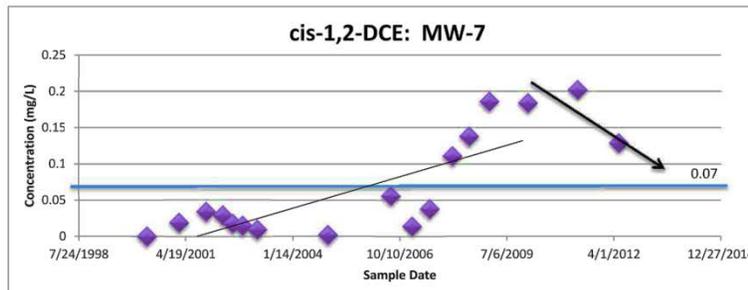
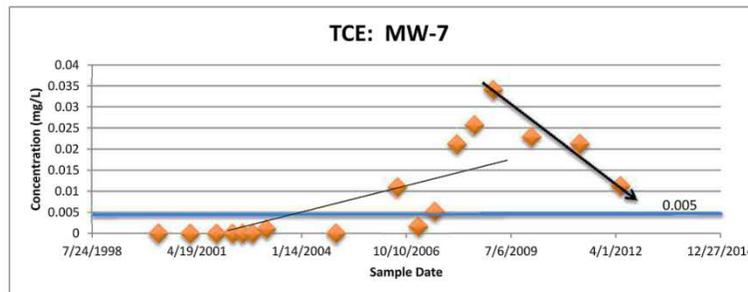
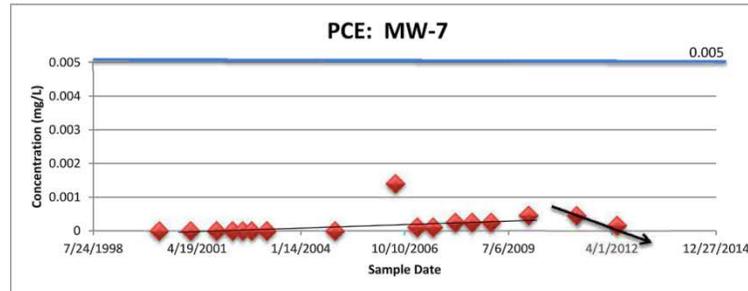
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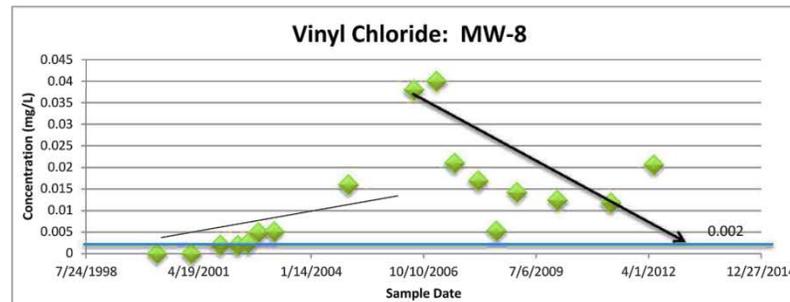
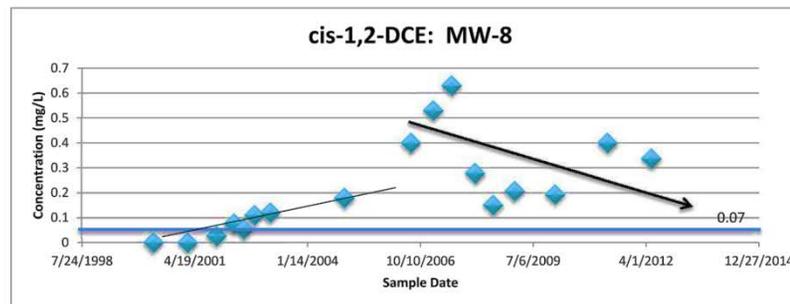
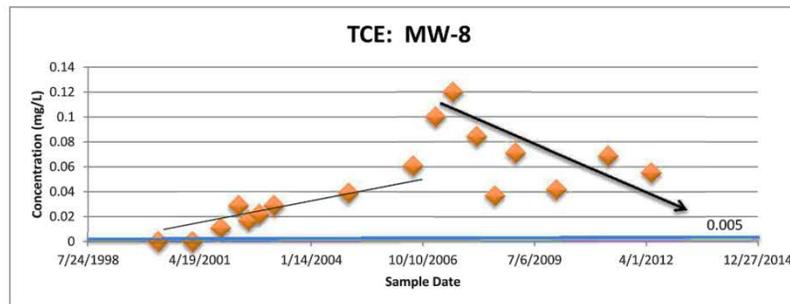
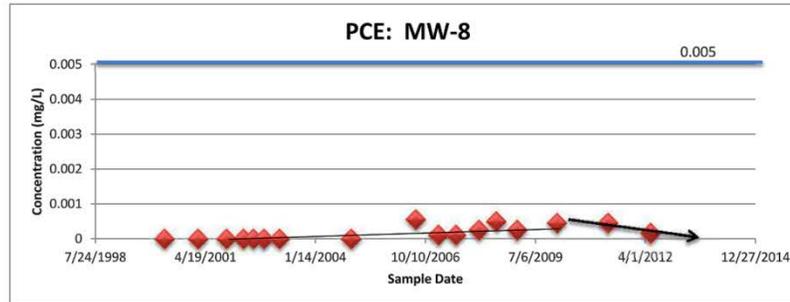
Reductive Dechlorination of PCE



Source Area



Source Area



Non-Ingestion Contact

- **Groundwater approximately 20 feet below grade, therefore, limited potential for dermal contact. If contacted, concentrations are protective.**
- **Groundwater does not discharge to surface water**
- **MSD will prohibit the use of on-site groundwater for ingestion**

Summary

- **TCEQ has been overseeing the site since 1999**
- **Site investigation and groundwater monitoring activities have been ongoing for 13 years**
- **Affected groundwater entirely contained on-site and limited to the shallow groundwater-bearing zone**

Summary (continued)

- **Concentrations of COCs are below non-ingestion PCLs**
- **Concentrations of COCs are decreasing through reductive dechlorination**
- **A Municipal Setting Designation will prohibit the use of on-site groundwater**

Questions?