

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
6909 Southwest Freeway, Houston
 - **Questions / Comments**



Environmental Protection in Texas

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

❑ Environmental Complaints



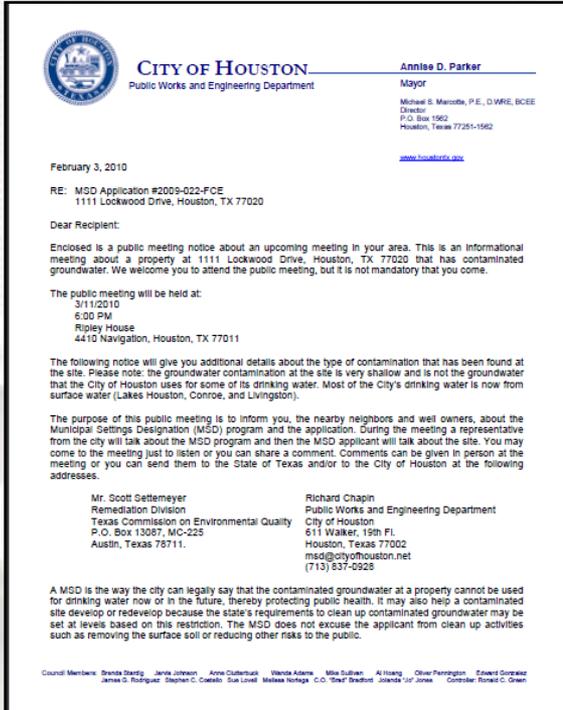
- ❑ By Phone: 1-888-777-3186
- ❑ Online: <http://www5.tceq.texas.gov/oce/complaints/>



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

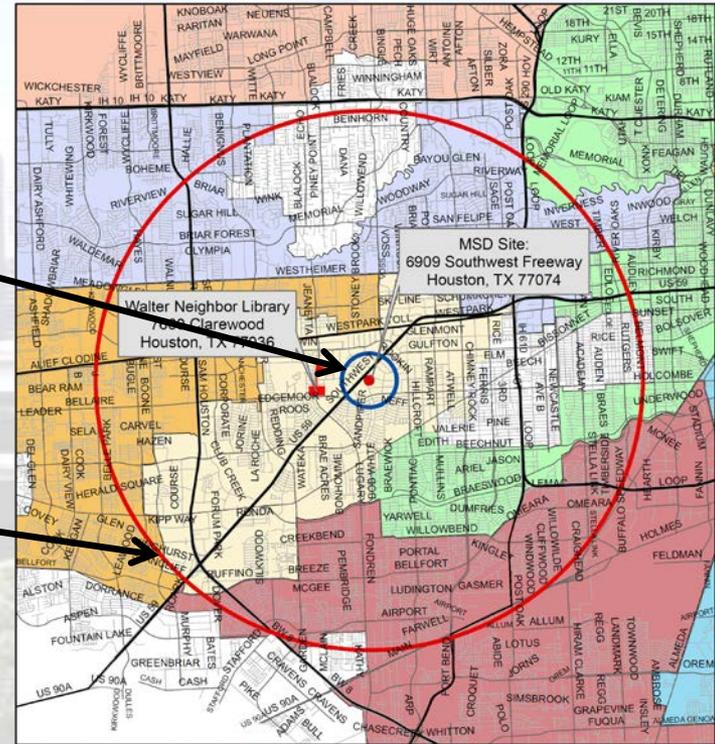


MSD Notice Letters



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)

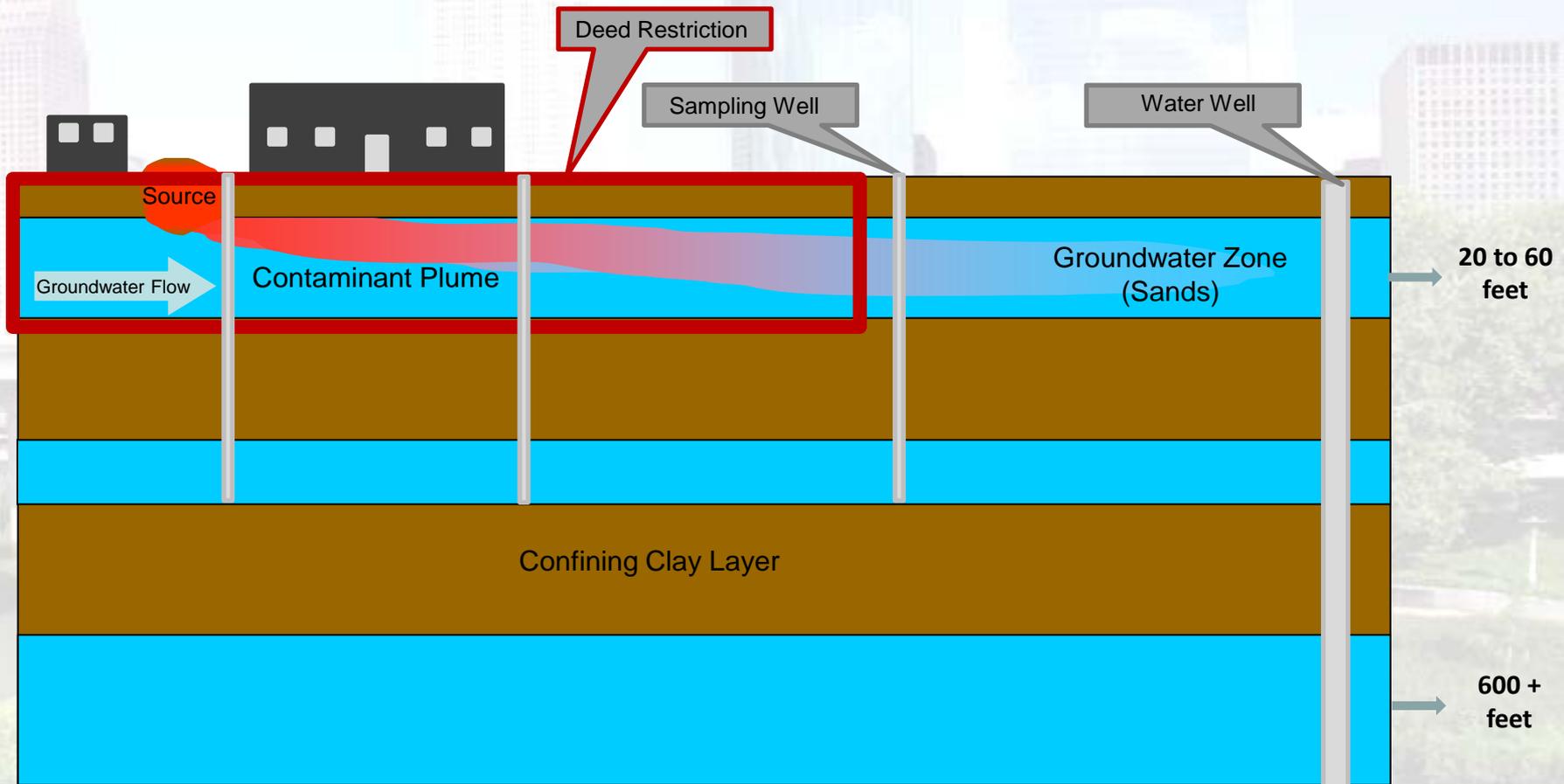


What an MSD is

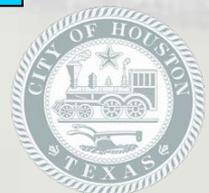
- **Voluntary** deed restriction to prevent the use of contaminated groundwater
 - No water wells on the subject property for drinking water purposes
 - A legally binding way to ensure the public is not exposed to contaminants



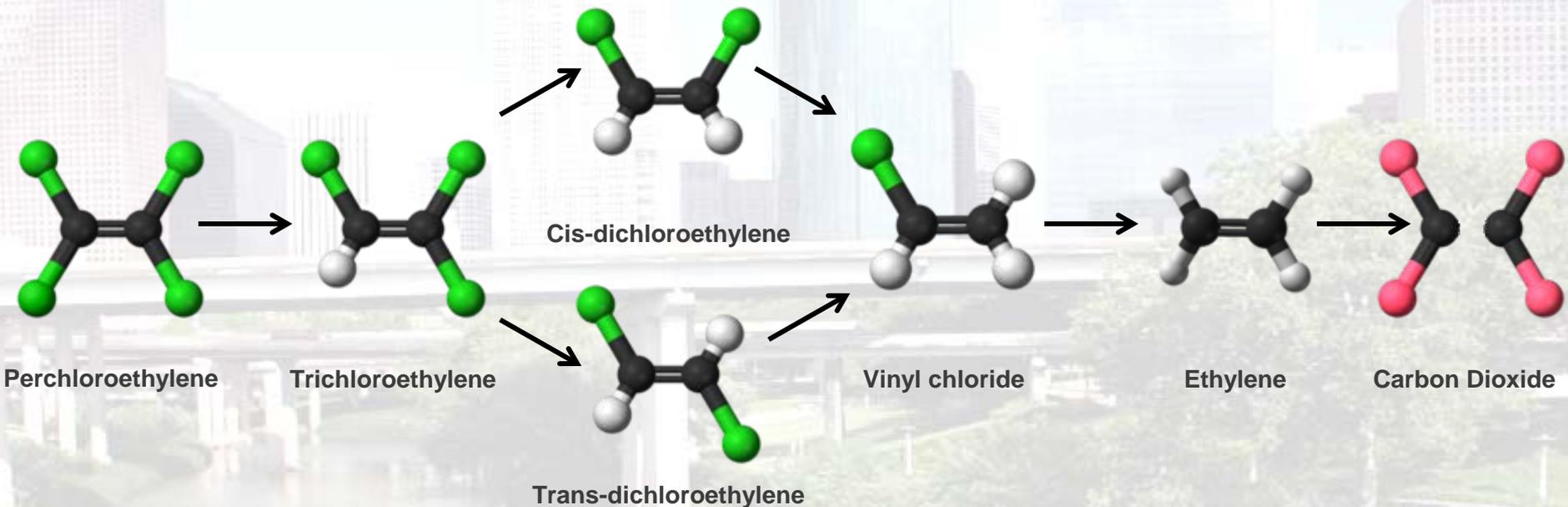
Groundwater Contamination



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.

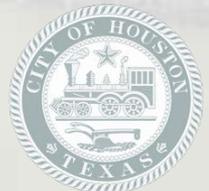
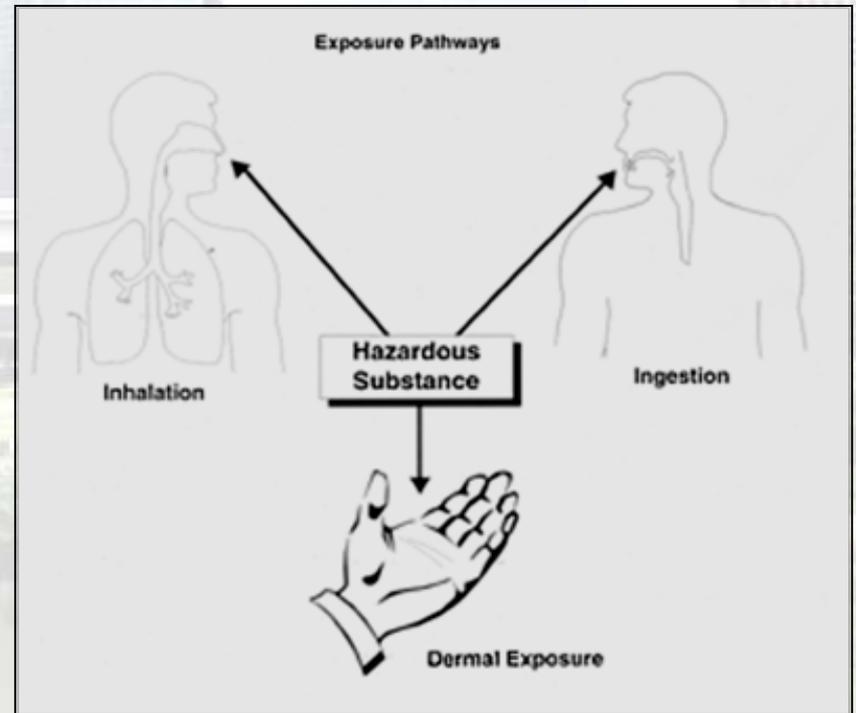


Municipal Setting Designations (MSDs)



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

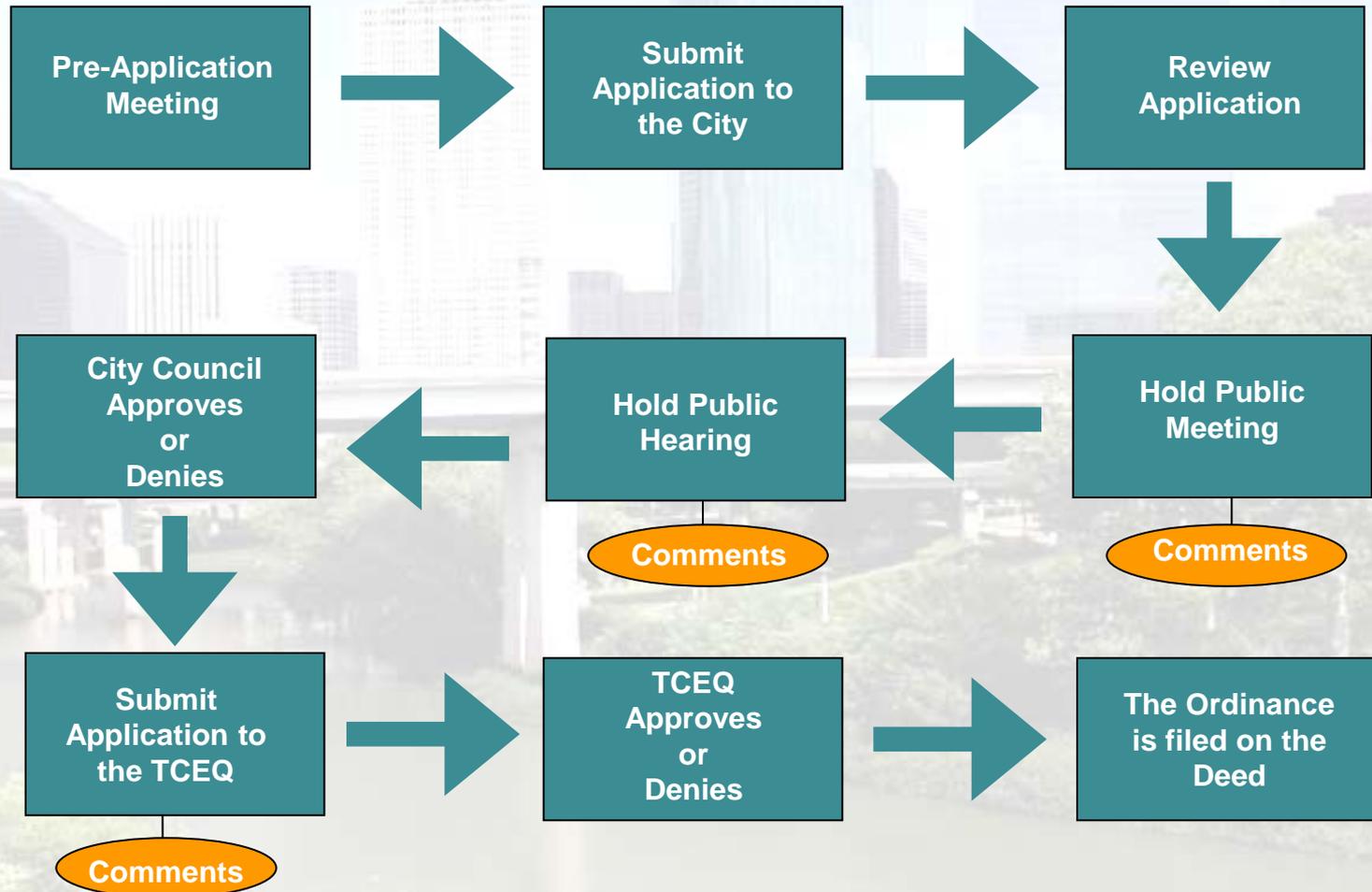


City's Requirements of the Applicant

- 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

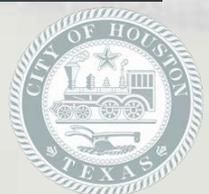


Steps in the Process

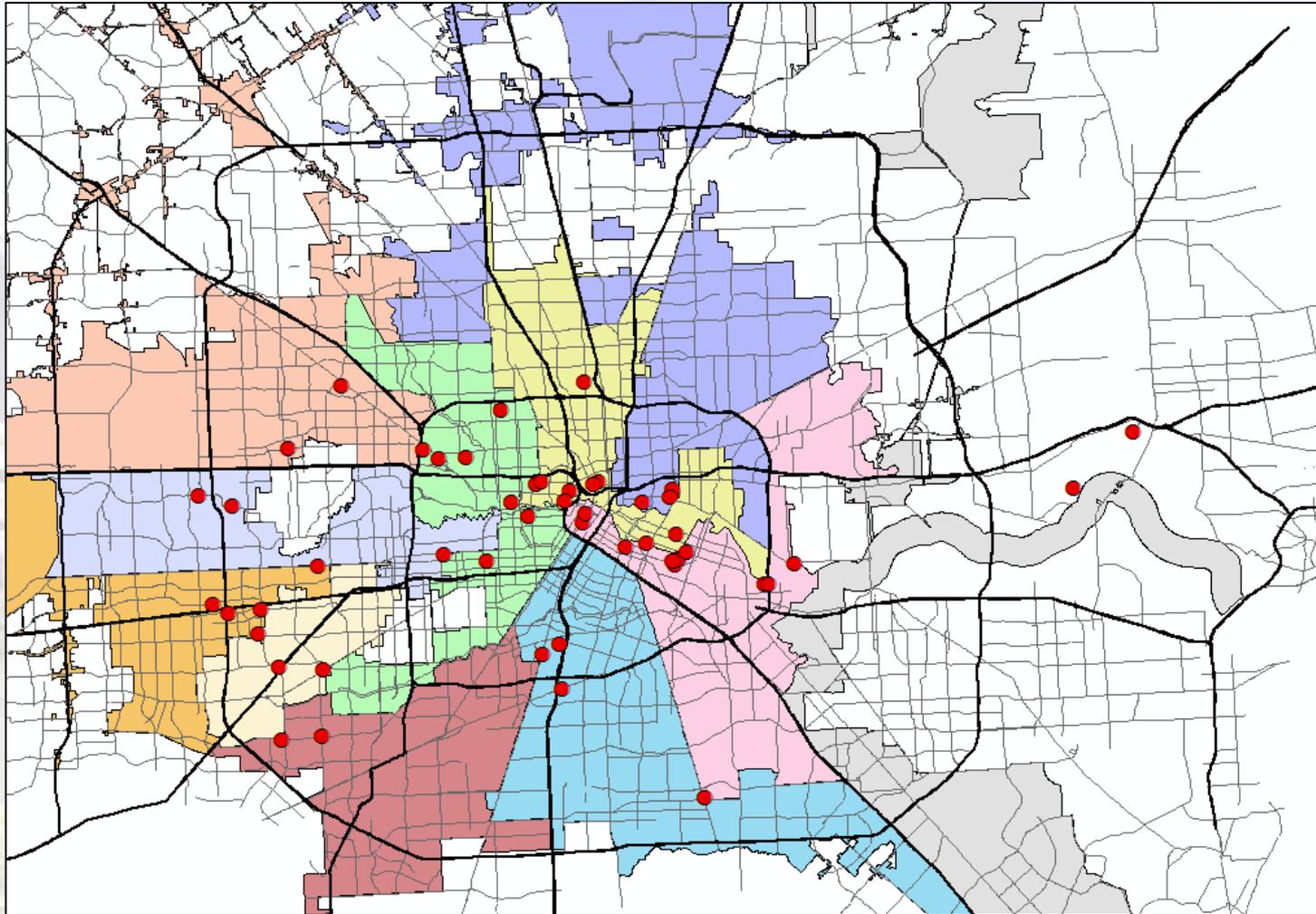


Why Support An MSD?

- 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

- Walter Neighborhood Library
 - 7660 Clarewood Drive
 - Reference Desk
- Also available online at:
www.houstonmsd.org
 - MSD in Review Page



Public Hearing

- Date: Tuesday, August 12, 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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Municipal Setting Designations (MSDs)





FORMER HALIBURTON GEOPHYSICAL SERVICE FACILITY (CARMAX)



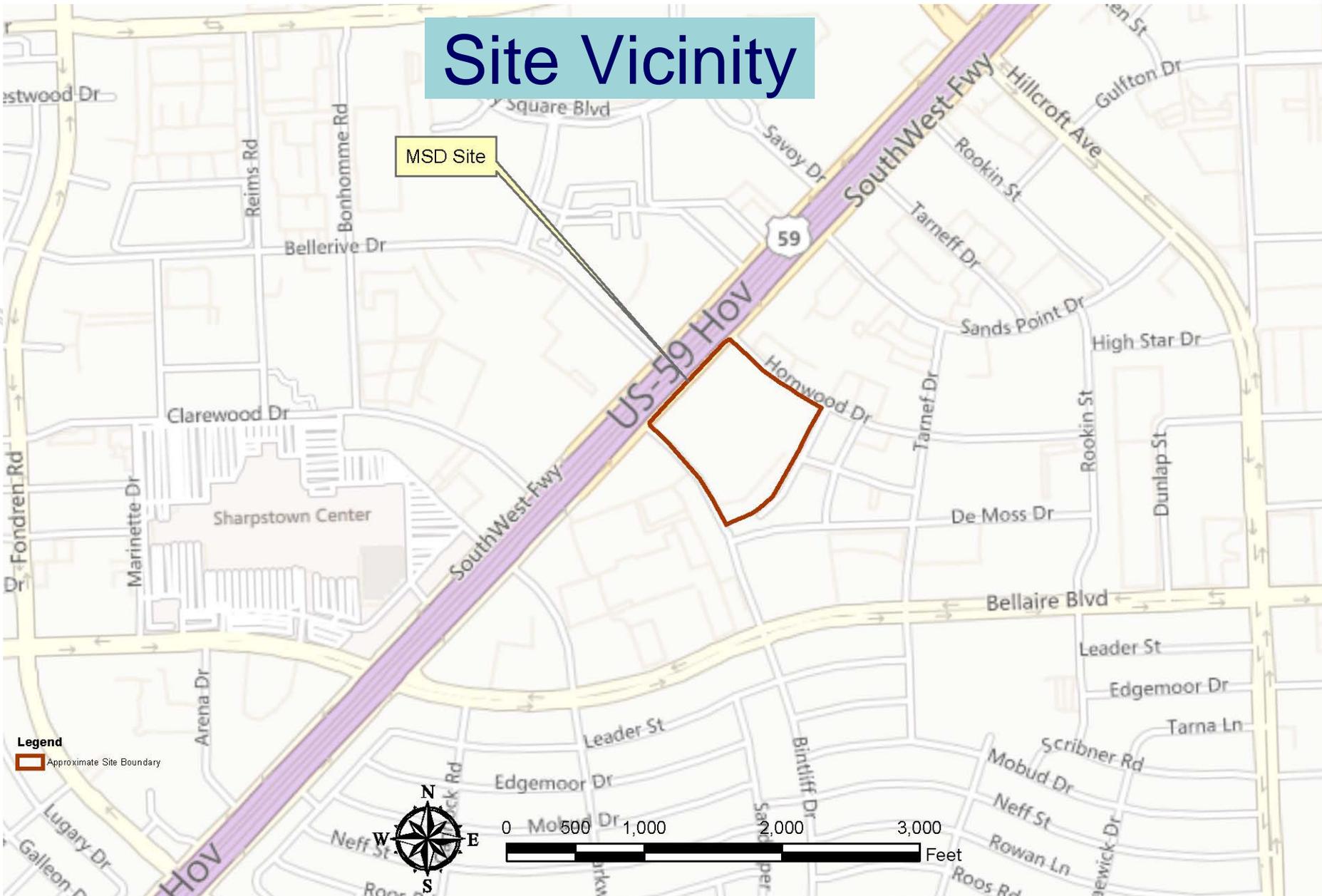
**6909 SOUTHWEST FREEWAY
HOUSTON, TEXAS**



**Applicant/Owner:
CARMAX AUTO
SUPERSTORES, INC.**

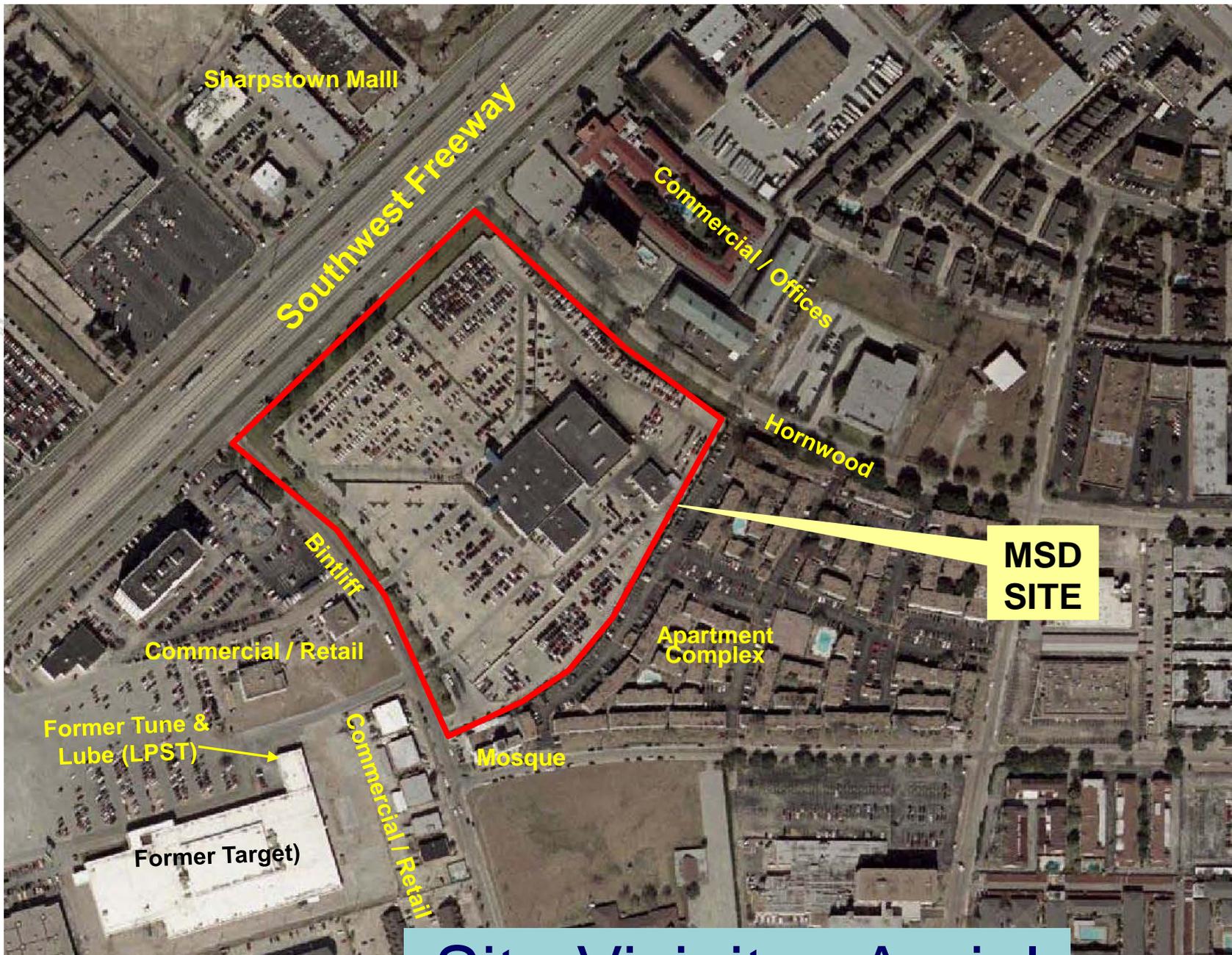
Site Vicinity

MSD Site



Legend
Approximate Site Boundary





Site Vicinity - Aerial

Site Characteristics

- Site comprised of approximately 20 acres.
- Historically, Haliburton Geophysical Services, a geophysical cable and tool assembly/manufacturer facility, operated onsite between 1961 and 1994.
- Carmax Auto Superstore, retail sale of pre-owned cars, was constructed onsite in 1997.
- The site is surrounded by commercial and retail development (north, east, and west of site) and residential development (south of site).
- Shallow onsite groundwater contamination discovered in 1994 and the site enrolled in TCEQ's Voluntary Cleanup Program (VCP) in 1997.



**POTENTIAL HISTORIC SOURCES
OF CONTAMINATION**

Investigated Potential Historic Sources of Contamination

- Onsite historical operations between 1961 and 1994 included geophysical cable assembly/manufacturing areas, wash bays, paint shop, plating shop, and vehicle maintenance shop inside Buildings D and E. Several metal storage sheds (hazardous waste, general storage, petroleum oils) were also located near Buildings D and E.
- **Onsite historical sources of contamination removed approximately 20 years ago. No known sources of groundwater contamination remain onsite.**
- A potential offsite source of contamination is the former Target Store Tune & Lube located west of the site across Bintliff Drive that operated between 1969 and 2006. This facility is a closed LPST site; however, several VOC concentrations remaining in the groundwater exceed ingestion PCLs.

On-site Investigation and Monitoring Activities

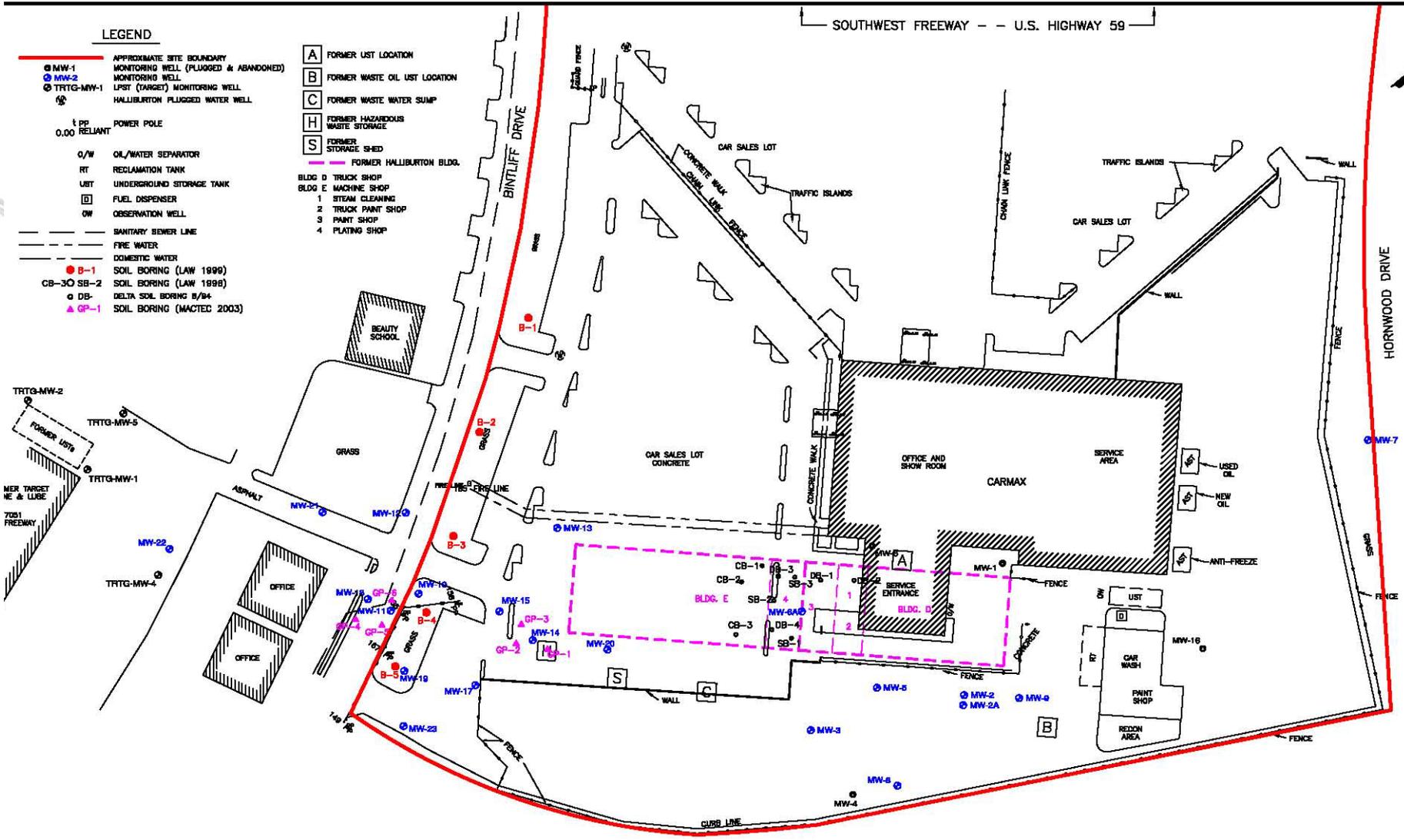
- 39 soil borings – 63 soil samples analyzed for VOCs
 - 25 soil samples analyzed for TPH and metals
- 23 groundwater monitor wells
- 15 years of groundwater monitoring – 270 groundwater samples
- Perched groundwater zone encountered between 14 and 20 feet below ground surface on the eastern portion of site.
- Shallow groundwater encountered between 26 and 30 feet below ground surface and the groundwater-bearing zone is between 25 and 30 feet thick.
- Groundwater plume is delineated on-site.
- Groundwater flow direction to the west-southwest.

Sample Locations

LEGEND

- MW-1 APPROXIMATE SITE BOUNDARY
- MW-2 MONITORING WELL (PLUGGED & ABANDONED)
- TRTG-MW-1 MONITORING WELL
- TRTG-MW-1 LPT (TARGET) MONITORING WELL
- HALLIBURTON PLUGGED WATER WELL
- PP POWER POLE
- 0.00 RELIANT
- Q/W OIL/WATER SEPARATOR
- RT RECLAMATION TANK
- UST UNDERGROUND STORAGE TANK
- F FUEL DISPENSER
- OW OBSERVATION WELL
- SANITARY SEWER LINE
- FIRE WATER
- DOMESTIC WATER
- B-1 SOIL BORING (LAW 1990)
- CB-3/0 SB-2 SOIL BORING (LAW 1998)
- DB- DELTA SOIL BORING B/B4
- ▲ GP-1 SOIL BORING (MACTEC 2003)

- A FORMER UST LOCATION
- B FORMER WASTE OIL UST LOCATION
- C FORMER WASTE WATER SUMP
- H FORMER HAZARDOUS WASTE STORAGE
- S FORMER STORAGE SHED
- FORMER HALLIBURTON BLDG.
- BLDG D TRUCK SHOP
- BLDG E MACHINE SHOP
- 1 STEAM CLEANING
- 2 TRUCK PAINT SHOP
- 3 PART SHOP
- 4 PLATING SHOP



Groundwater Flow Direction

LEGEND

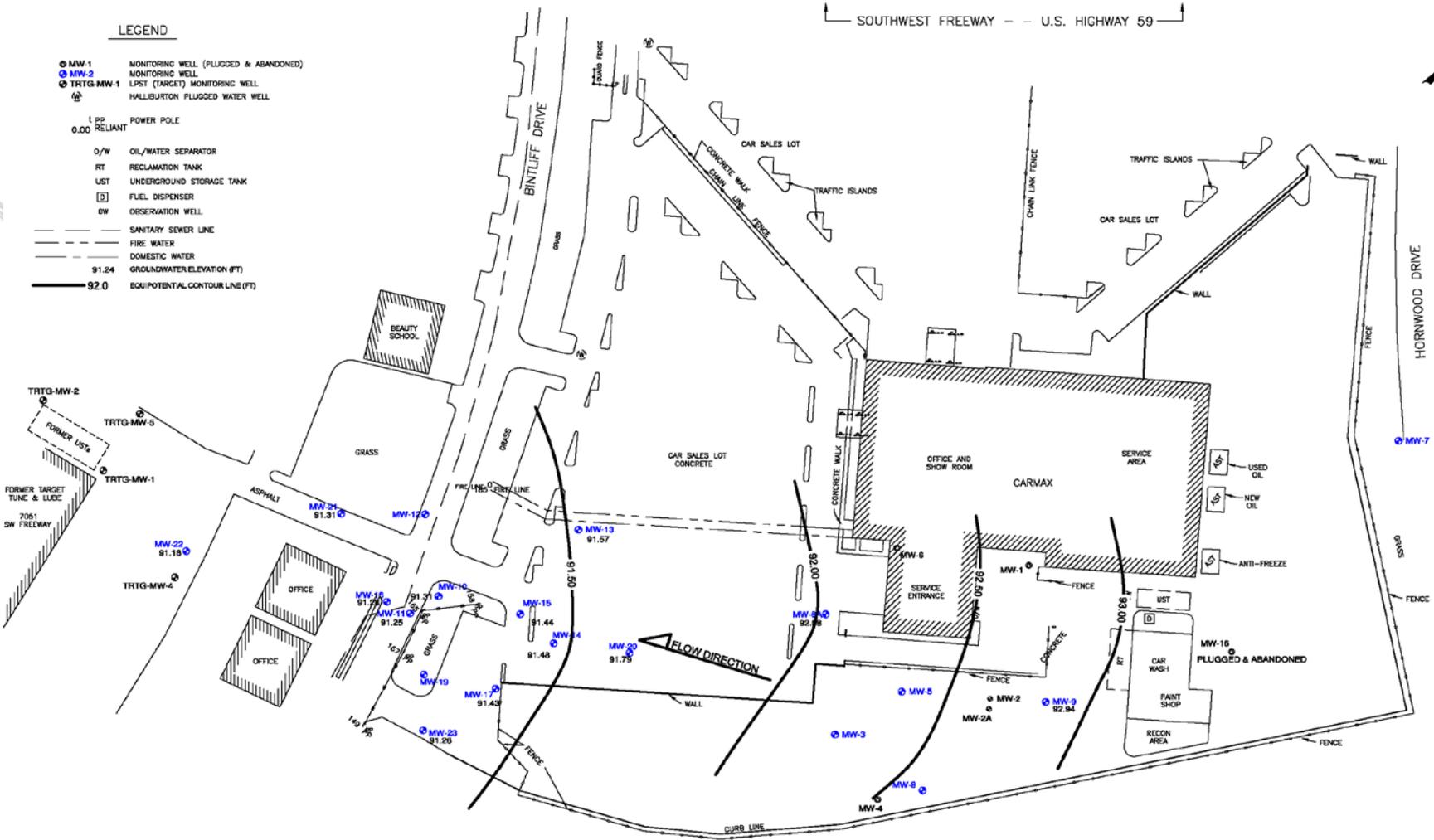
- MW-1 MONITORING WELL (PLUGGED & ABANDONED)
- MW-2 MONITORING WELL
- TRTG-MW-1 L1ST (TARGET) MONITORING WELL
- ⊕ HALLIBURTON PLUGGED WATER WELL

1 00 POWER POLE
0.00 RELIANT

- O/W OIL/WATER SEPARATOR
- RT RECLAMATION TANK
- UST UNDERGROUND STORAGE TANK
- FUEL DISPENSER
- ⊕ OBSERVATION WELL

- SANITARY SEWER LINE
- FIRE WATER
- DOMESTIC WATER
- 91.24 GROUNDWATER ELEVATION (FT)
- 92.0 EQUIPOTENTIAL CONTOUR LINE (FT)

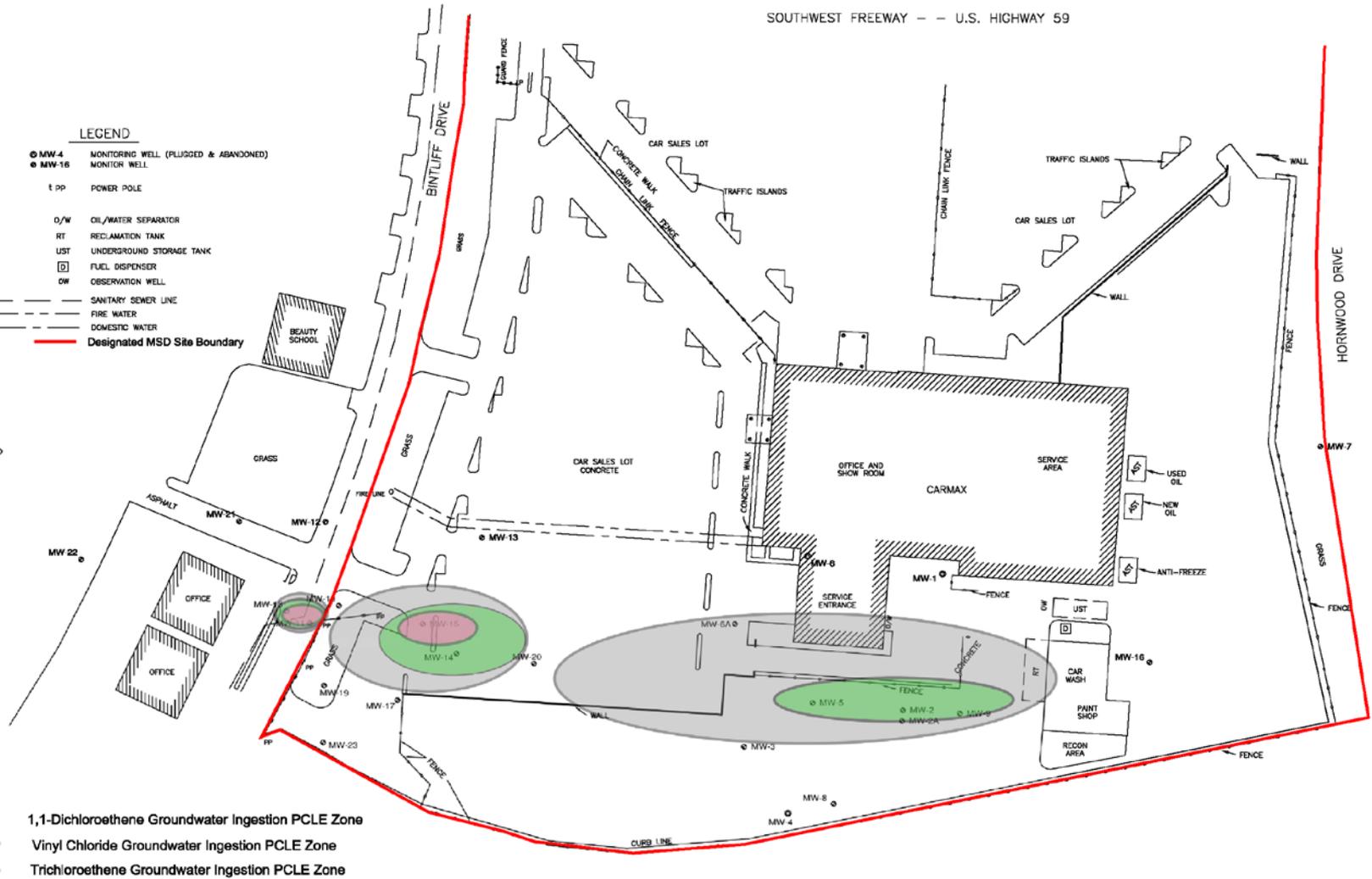
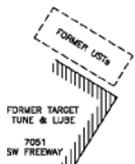
SOUTHWEST FREEWAY -- U.S. HIGHWAY 59





LEGEND

- ⊙ MW-4 MONITORING WELL (PLUGGED & ABANDONED)
- ⊙ MW-16 MONITOR WELL
- t PP POWER POLE
- O/W OIL/WATER SEPARATOR
- RT RECLAMATION TANK
- UST UNDERGROUND STORAGE TANK
- [D] FUEL DISPENSER
- OW OBSERVATION WELL
- SANITARY SEWER LINE
- FIRE WATER
- DOMESTIC WATER
- Designated MSD Site Boundary



- ⊙ 1,1-Dichloroethene Groundwater Ingestion PCLE Zone
- ⊙ Vinyl Chloride Groundwater Ingestion PCLE Zone
- ⊙ Trichloroethene Groundwater Ingestion PCLE Zone

Groundwater Plume from Historic On-Site Sources

Affected Groundwater at the Site

- Shallow water-bearing zone (~ 14 - 55 feet bgs) affected by Trichloroethene and associated degradation products:
 - Trichloroethene (TCE)
 - cis-1,2-Dichloroethene (c-1,2-DCE) – degradation product
 - 1,1-Dichloroethene (1,1-DCE)] – degradation product
 - Vinyl chloride (VC) – degradation product
- **Groundwater plume and contaminant concentrations are stable and/or decreasing**
- **Groundwater monitoring data documents natural attenuation (degradation) of the contaminants**
- Concentrations detected in the groundwater are **well below non-ingestion PCLs**
- A MSD will prohibit the use of groundwater that exceeds the ingestion PCLs

Summary

- **Historical sources of potential contamination have not been present on-site for 20 years**
- **Groundwater delineation is complete**
- **Groundwater chemicals of concern (COC) concentrations are stable and/or decreasing through natural attenuation**
- **Groundwater COC concentrations do not exceed non-ingestion Protective Concentration Levels (PCLs)**
- **A MSD will facilitate completion of cleanup activities at the site and future re-development**

Questions?

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