Municipal Setting Designations

MSDs: Another tool for Houston

Richard Chapin
Sr. Project Manager

Jedediah Greenfield
Environmental Analyst

Agenda

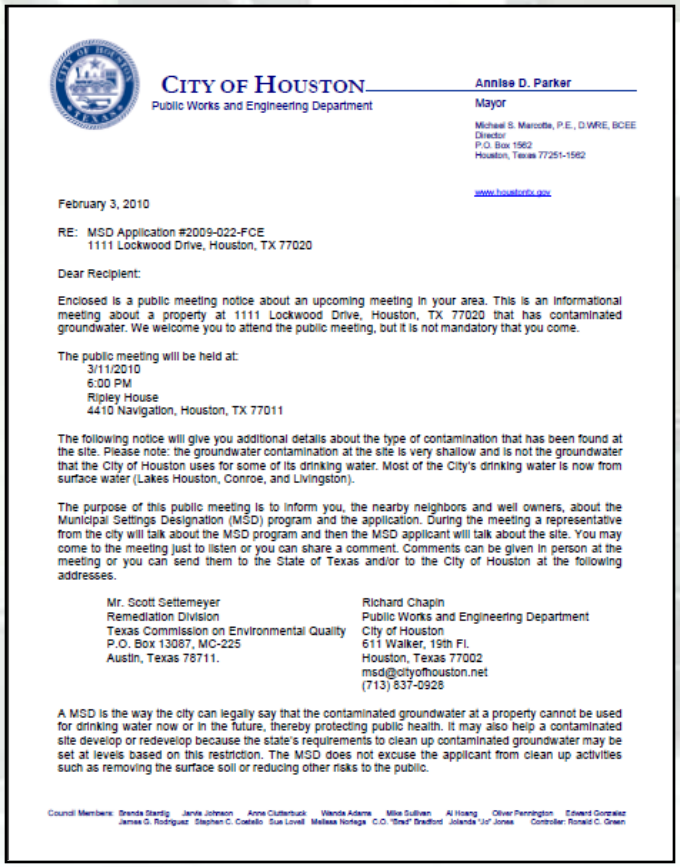
- City of Houston
  - Why we are here
  - Who the MSD impacts
  - What an MSD is
  - Why support an MSD
  - Steps in the MSD process
- MSD Applicant
  - Specific information on the site

    8901 Manchester Street
- Public comment and questions

Why Are We Here

- Inform you about an MSD application
  - Lone Star Terminal LLC
  - MSD #2010-029-LSR
- Explain what an MSD is and what it does for the applicant, the local community, and the City
- Receive public comments

MSD Notice Letters



CITY OF HOUSTON
Public Works and Engineering Department

Annise D. Parker
Mayor

Michael S. Marcotte, P.E., D.WRE, BCEE
Director
P.O. Box 1562
Houston, Texas 77251-1562

www.houstontx.gov

February 3, 2010

RE: MSD Application #2009-022-FCE
1111 Lockwood Drive, Houston, TX 77020

Dear Recipient:

Enclosed is a public meeting notice about an upcoming meeting in your area. This is an informational meeting about a property at 1111 Lockwood Drive, Houston, TX 77020 that has contaminated groundwater. We welcome you to attend the public meeting, but it is not mandatory that you come.

The public meeting will be held at:
3/11/2010
6:00 PM
Ripley House
4410 Navigation, Houston, TX 77011

The following notice will give you additional details about the type of contamination that has been found at the site. Please note: the groundwater contamination at the site is very shallow and is not the groundwater that the City of Houston uses for some of its drinking water. Most of the City's drinking water is now from surface water (Lakes Houston, Conroe, and Livingston).

The purpose of this public meeting is to inform you, the nearby neighbors and well owners, about the Municipal Settings Designation (MSD) program and the application. During the meeting a representative from the city will talk about the MSD program and then the MSD applicant will talk about the site. You may come to the meeting just to listen or you can share a comment. Comments can be given in person at the meeting or you can send them to the State of Texas and/or to the City of Houston at the following addresses.

Mr. Scott Setterneyer
Remediation Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-225
Austin, Texas 78711.

Richard Chapin
Public Works and Engineering Department
City of Houston
611 Walker, 19th Fl.
Houston, Texas 77002
msd@cityofhouston.net
(713) 837-0926

A MSD is the way the city can legally say that the contaminated groundwater at a property cannot be used for drinking water now or in the future, thereby protecting public health. It may also help a contaminated site develop or redevelop because the state's requirements to clean up contaminated groundwater may be set at levels based on this restriction. The MSD does not excuse the applicant from clean up activities such as removing the surface soil or reducing other risks to the public.

Council Members: Brenda Stardig Jarvis Johnson Anne Clutterbuck Wanda Adams Mike Sullivan Al Hoang Oliver Pennington Edward Gonzalez James G. Rodriguez Stephen C. Costello Sue Lovell Melissa Noriega C.O. "Brad" Bradford Jolanda "Jo" Jones Controller: Ronald C. Green

- 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

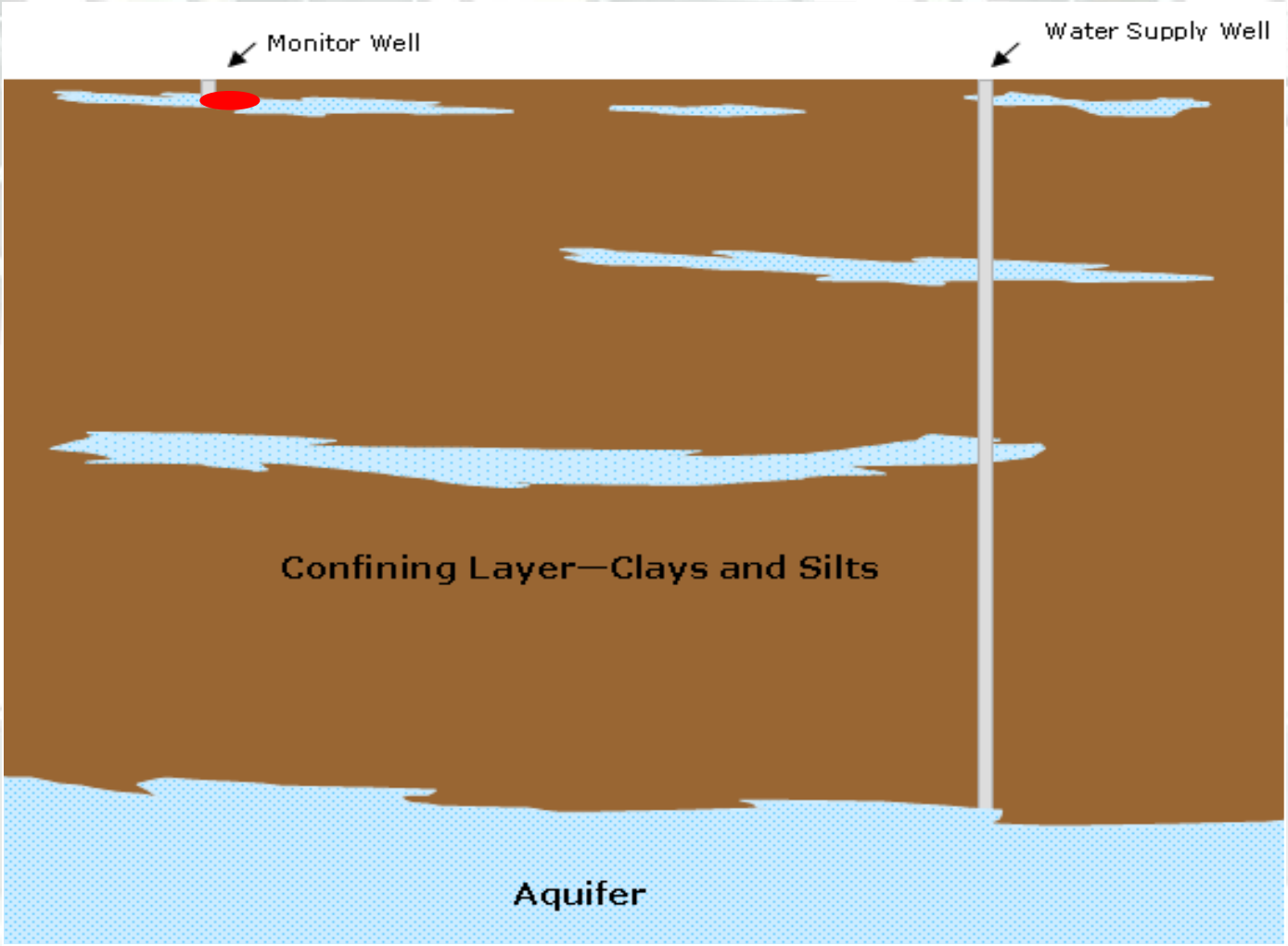
What an MSD is

- 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)
    - Well-04A
      - Over 1 mile away
      - Depth of 1,513 ft.
  - 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.

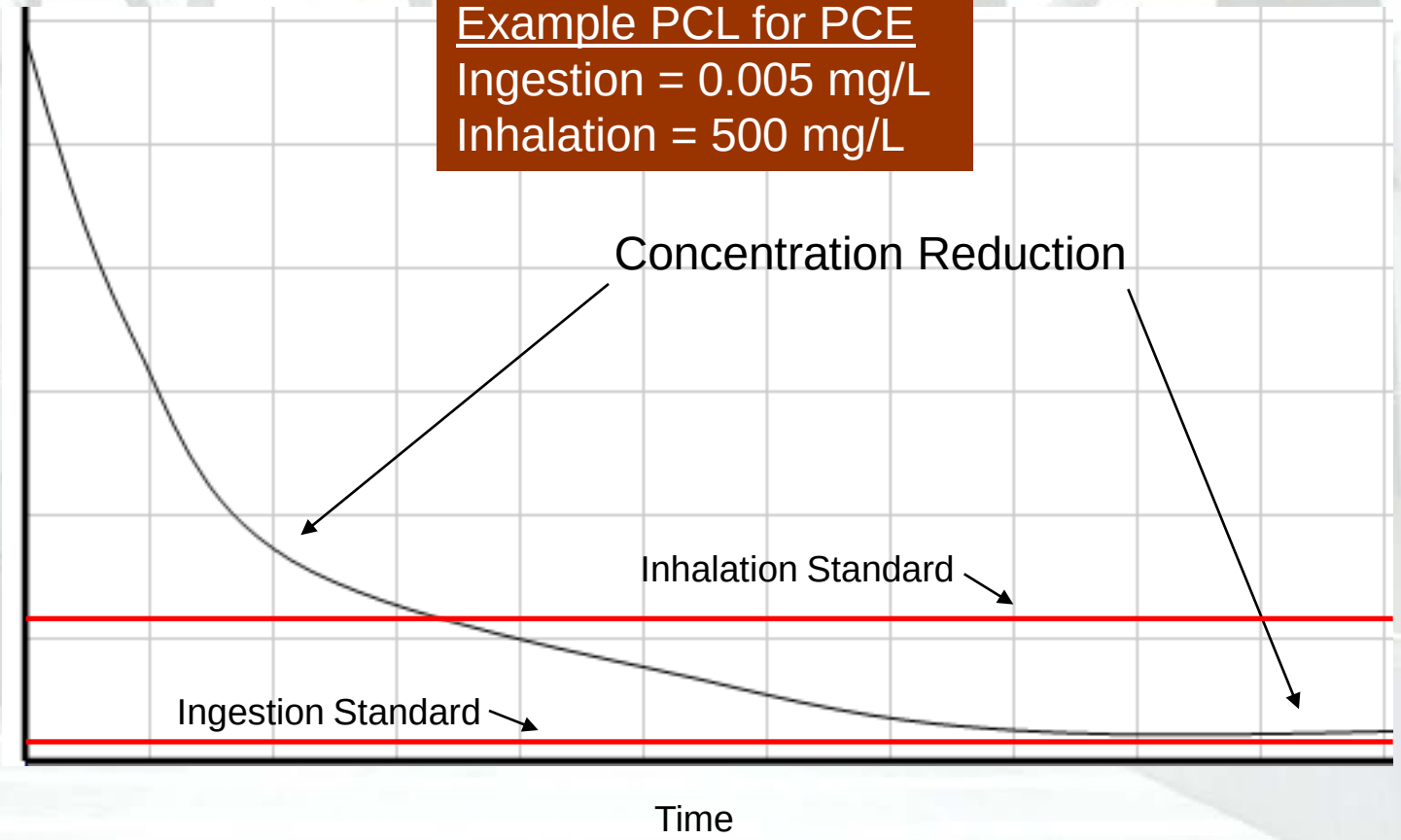
Drinking Water Supply Wells typically get water from 600 feet or deeper below the surface.

Problems of Traditional Remediation Methods

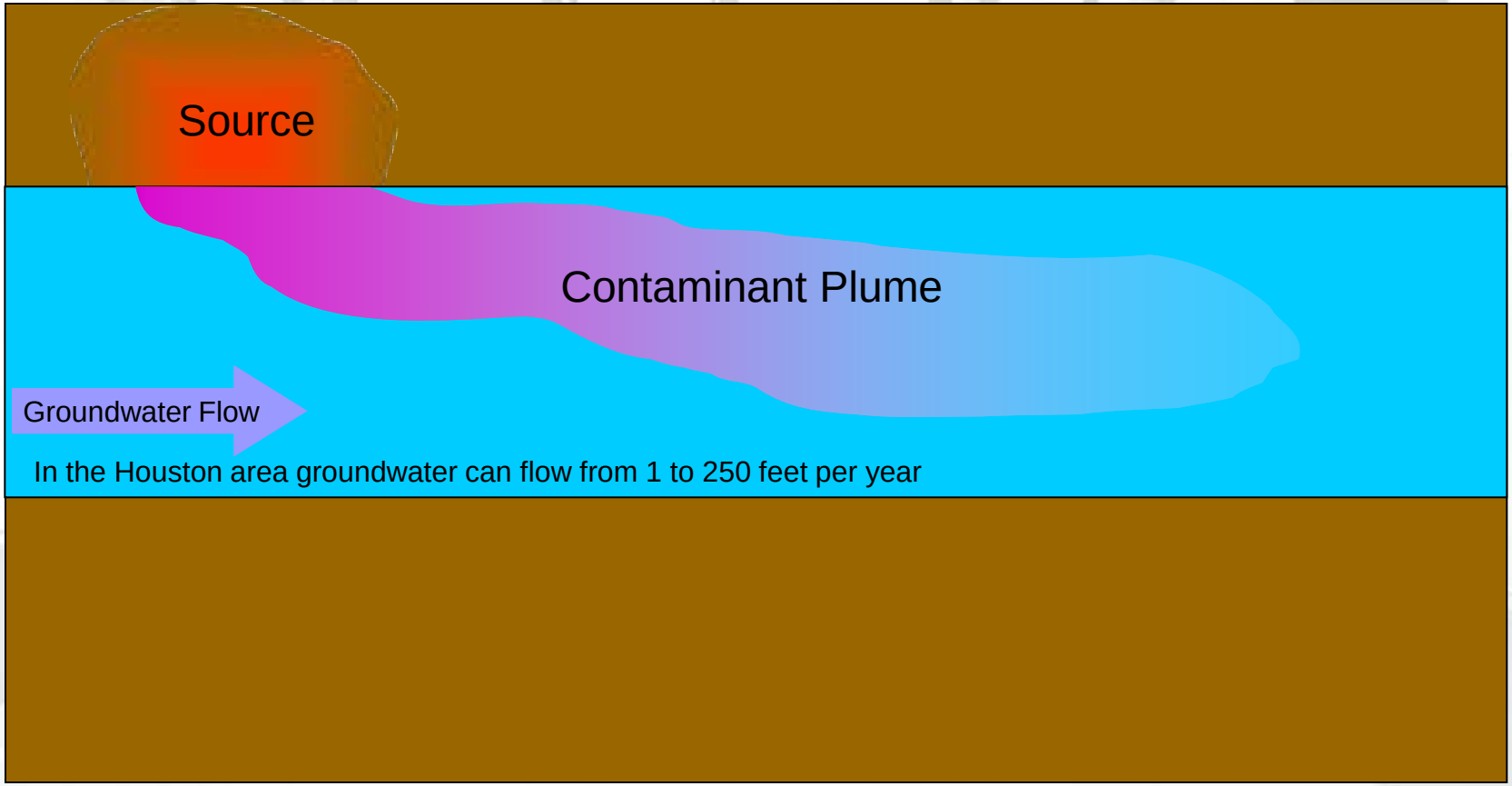
- Groundwater must be cleaned to drinking water standards even if:
  - There is no need or desire to use it, or
  - Water bearing zone is too silty, too salty, or low
  - producing

- Groundwater remediation to drinking water standards is inefficient, costly, and can take decades

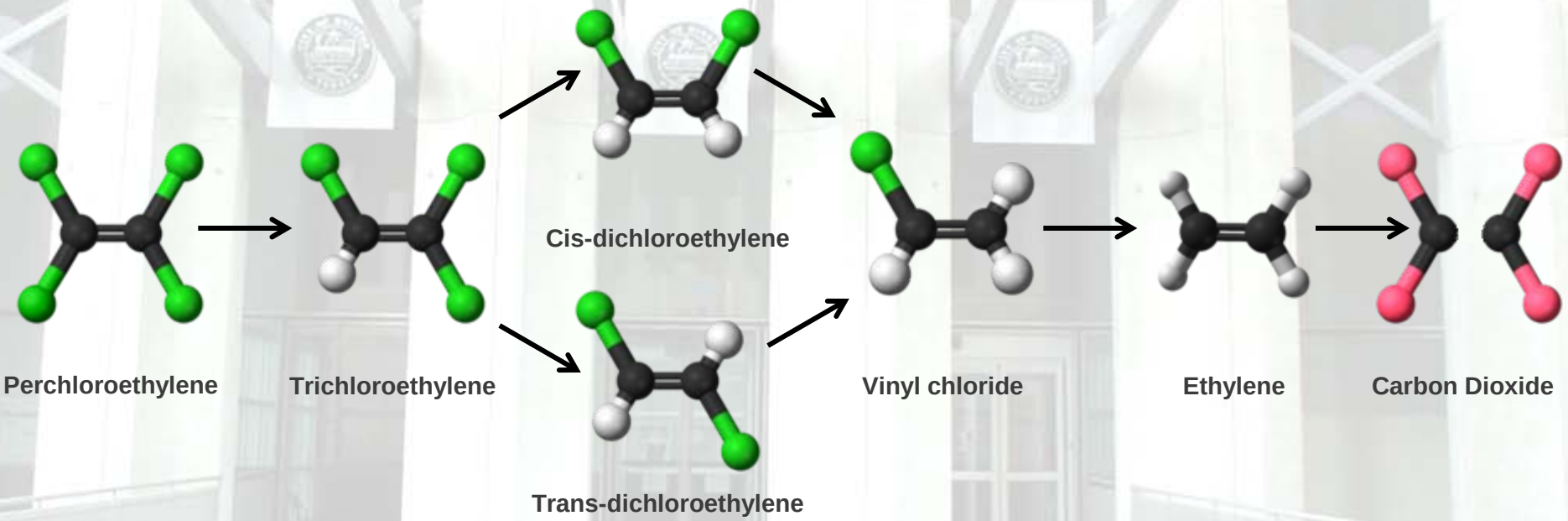
Groundwater Remediation



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

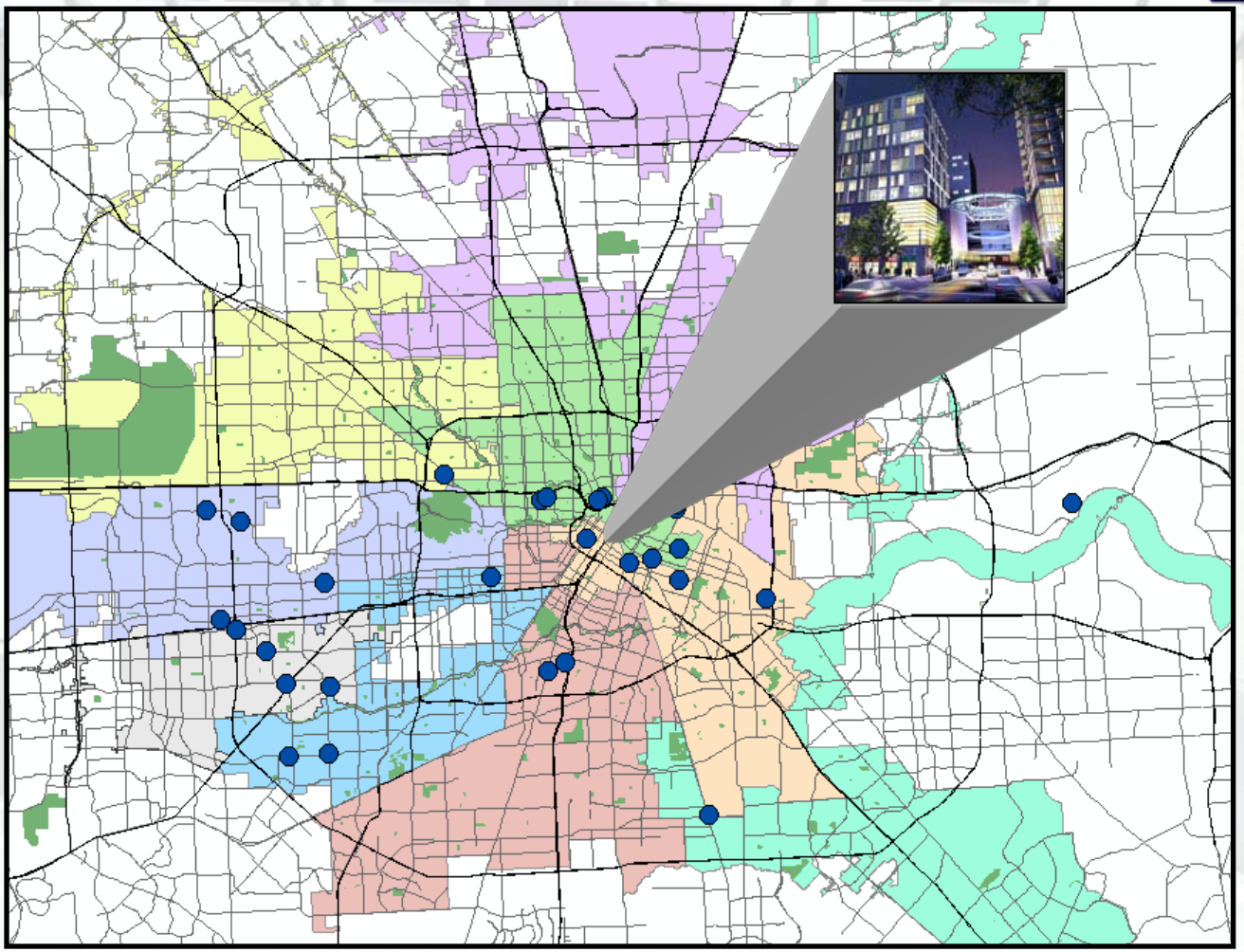
City's Requirements of the Applicant:

- 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.

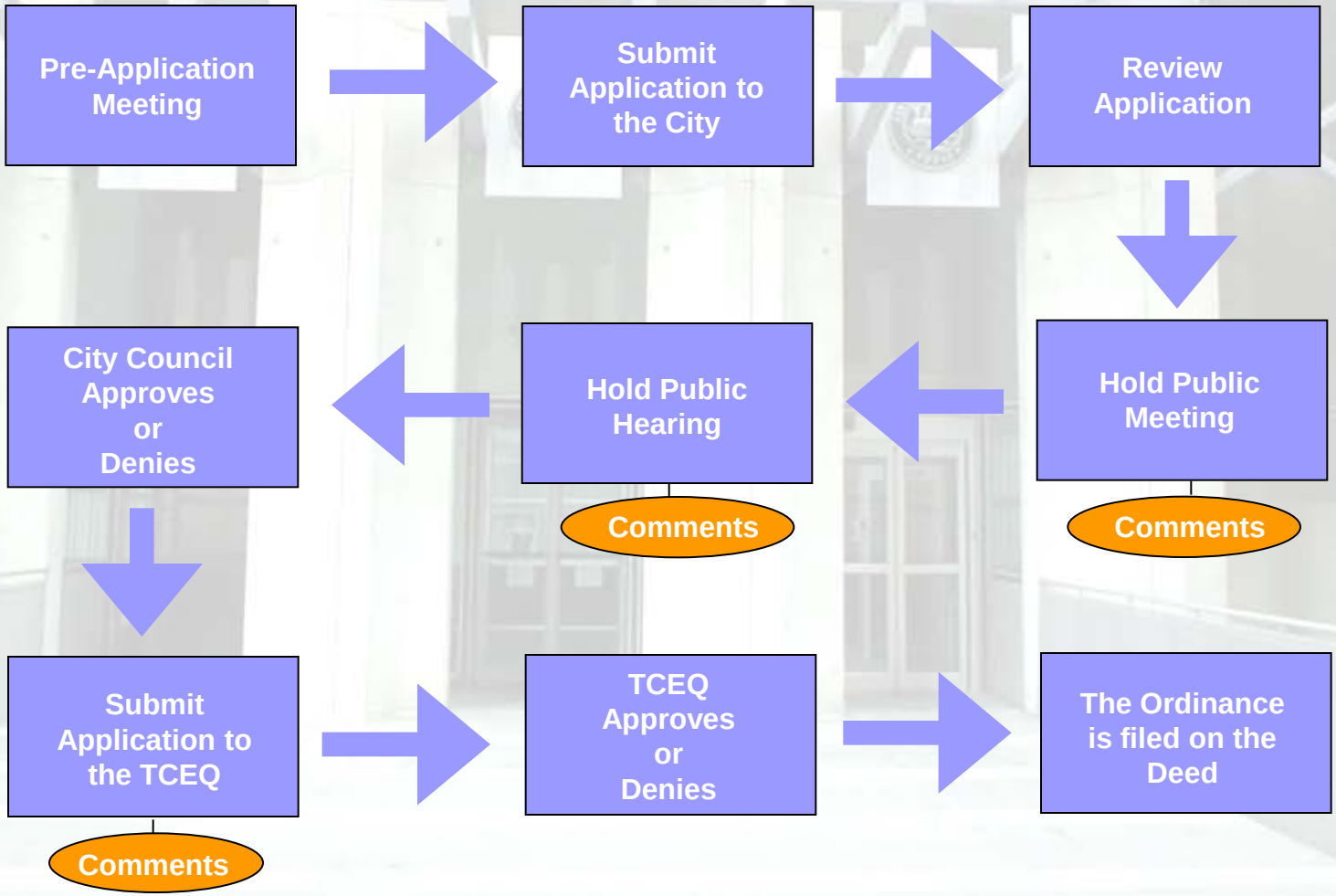
Why Support An MSD?

- 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



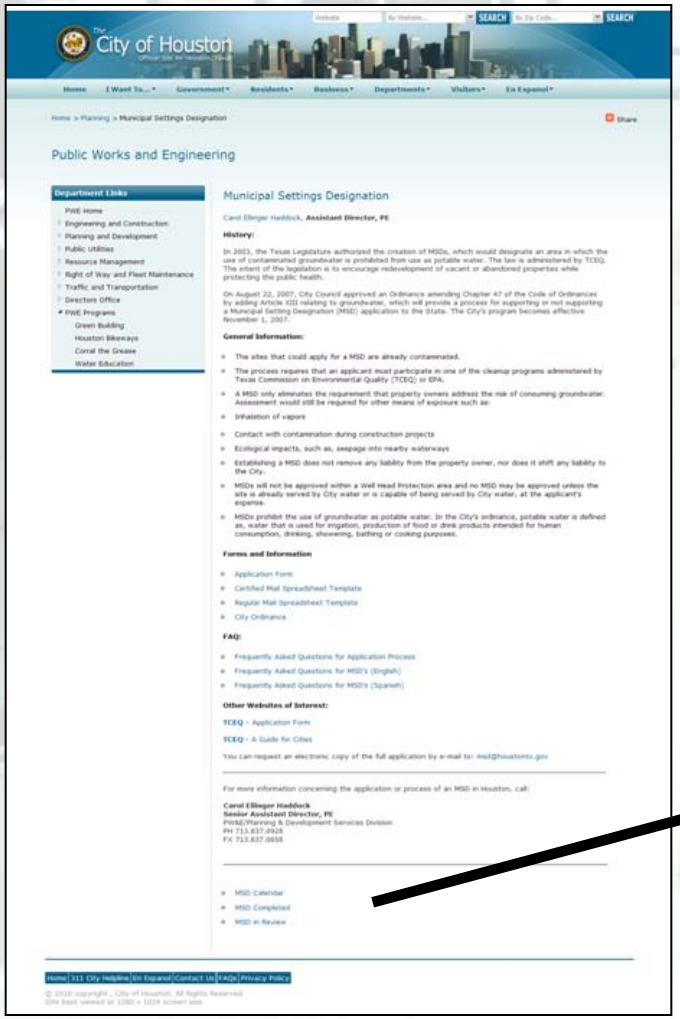
Steps in the Process



MSD Application

- Park Place Library
  Reference Desk
- 8145 Park Place
  Houston, TX 77017

The MSD Website



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

- MSD Calendar
- MSD Completed
- MSD in Review

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 Metting 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 , **Asistant 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: October 21, 2010
- 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 & **Jedediah Greenfield**

Senior Project Manager **Environmental Analyst**

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

msd@houstontx.gov
(832) 395-2699

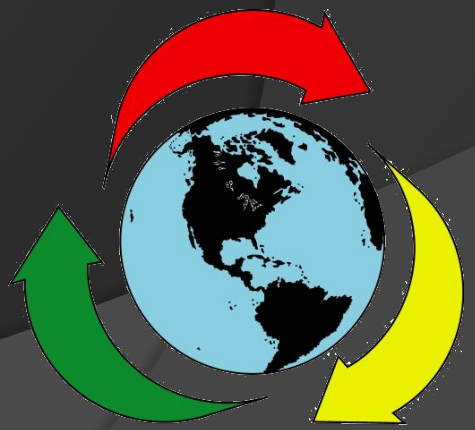
Contact Information

Scott Settemeyer
Remediation Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-225
Austin, Texas 78711
ssetteme@tceq.state.tx.us

LONE STAR TERMINAL, LLC
8901 MANCHESTER
MSD #2010-029-LSR

Presented By:

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



Current Development

- A portion of the property is used as a pipe lay-down yard.
- Two buildings on property (office/ warehouse).
- Property size = approximately 21 acres

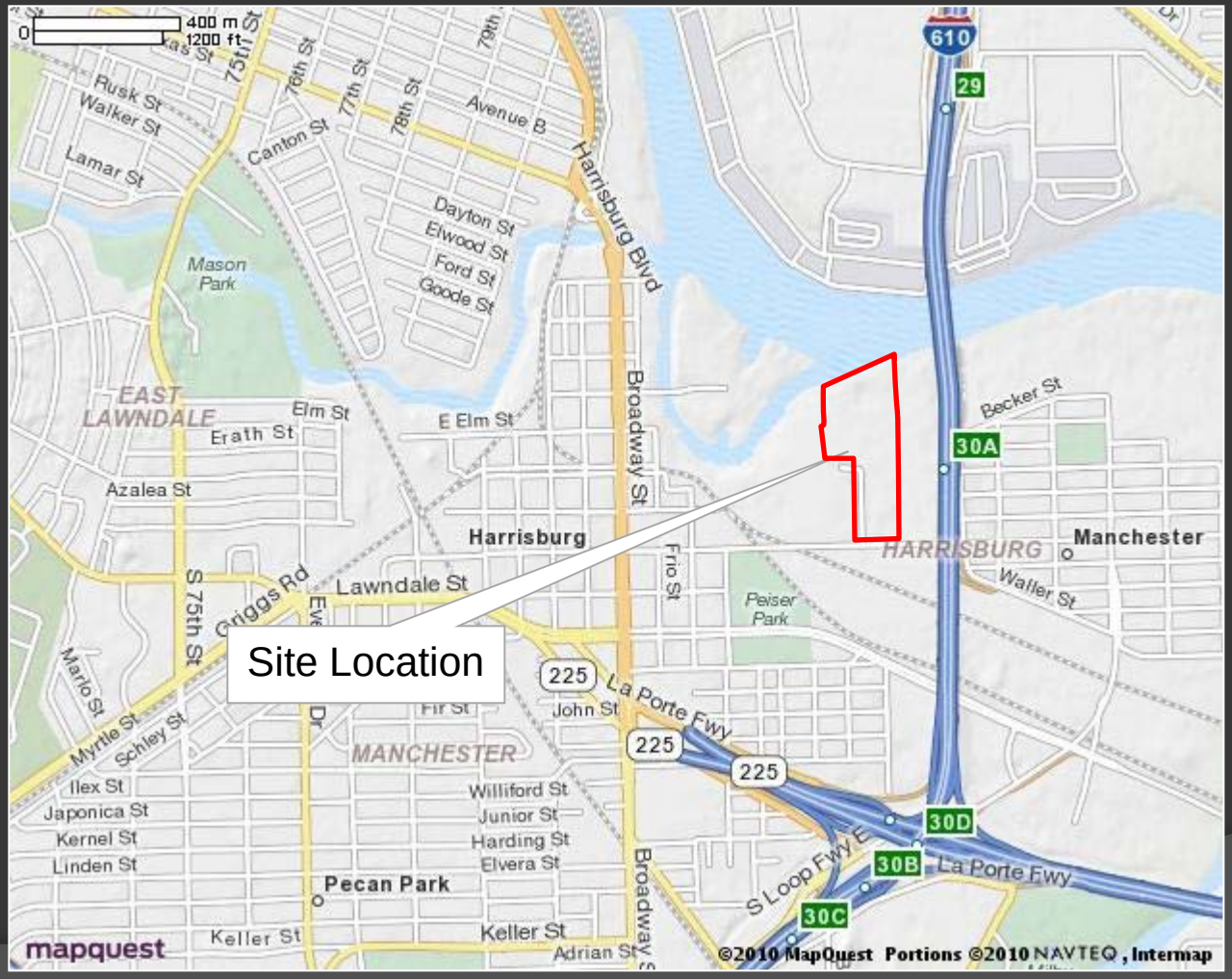
- Current tenants include:
  - Pipe yard
  - Green-waste recycling for City of Houston
  - Shipping/ freight

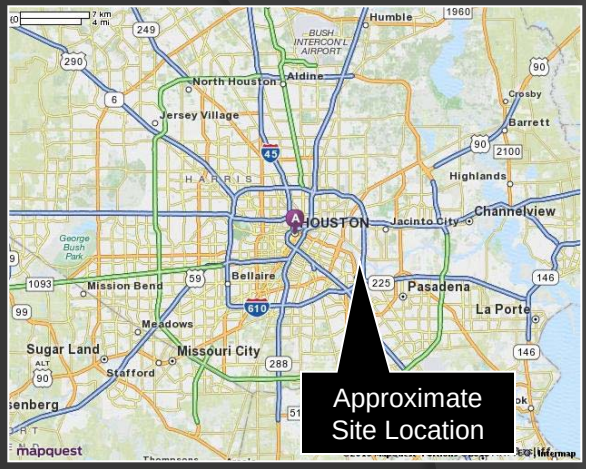
Environmental Setting

- During a preliminary environmental assessment of the property in 1989 it was discovered that historic operations had impacted soil and shallow groundwater by Lone Star Cement.
- The investigation focused on historical refinery operations which pre-dated the cement plant.
- The property was enrolled in the Texas Voluntary Cleanup Program in June 2007 and assigned VCP No. 2068.
- Investigations completed between 1989 and the present defined the horizontal and vertical extents of the contaminants in soil and groundwater.

Site History

- Oil refinery operations conducted on the property between 1918 and 1968.
- Lone Star Cement purchased property in 1968. Lone Star Cement operated at the facility until the late 1980s.
- Since then several additional industrial facilities operated on the site, including a trucking company, pipe storage yard, green waste recycler.





N

Proposed MSD Boundary

Proposed MSD Boundary

N

Lone Star Terminal

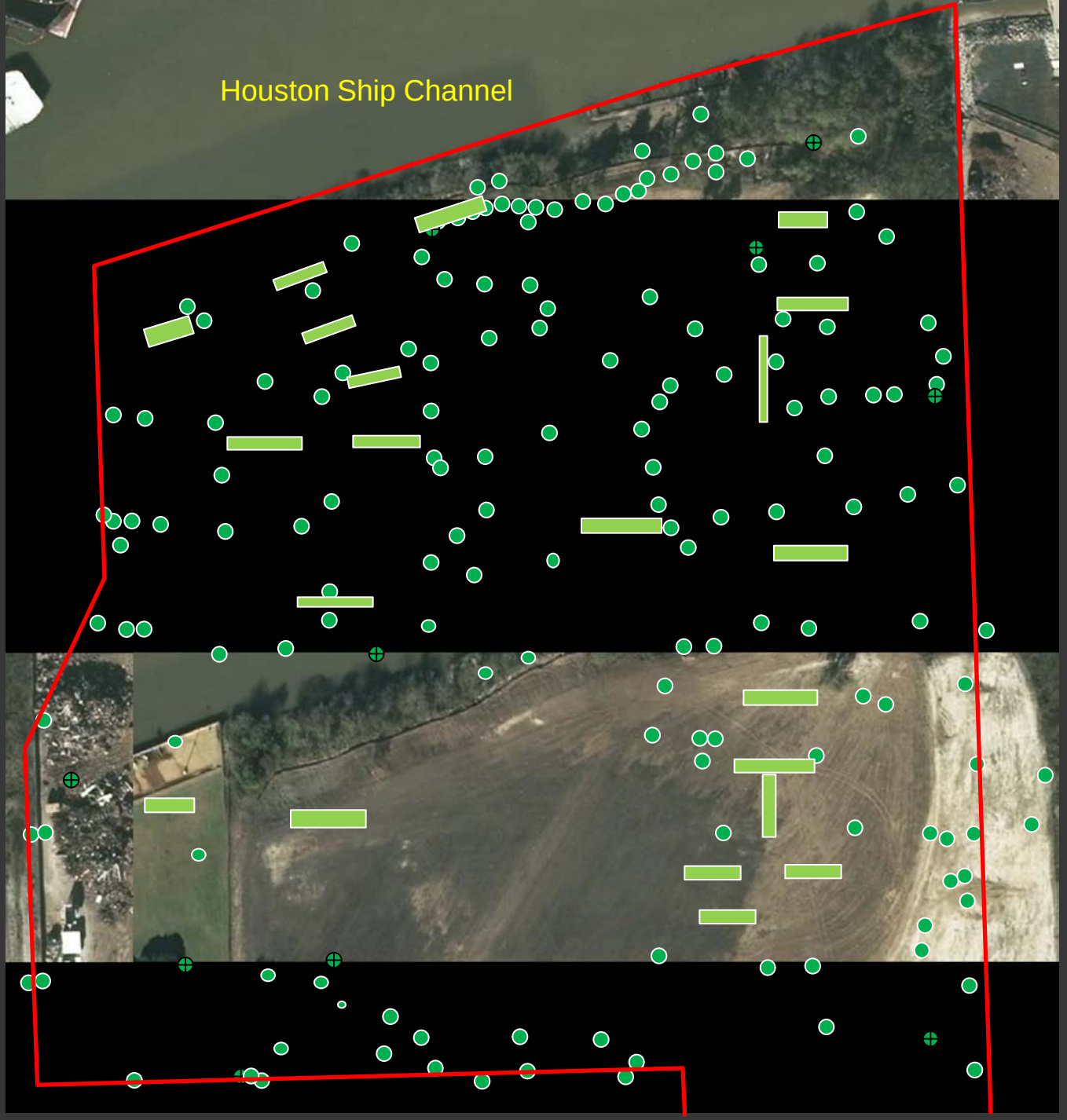
- Arsenic, Benzene and Total Petroleum Hydrocarbons (TPH) are the constituents identified in the shallow groundwater plume.
- Shallow groundwater bearing zone is approximately 9- to 15-feet below surface.
- Groundwater flow is north toward the Houston Ship Channel.

Investigation History

- A series of investigations have been conducted at the property to assess impacts from historic operations.
- Soil, groundwater, sediment and surface water samples have been collected as part of these investigations.
- The investigations originally included a series of shallow soil borings. Subsequent investigations were conducted by excavating small trenches. Over 50 shallow trenches and 50 shallow soil borings have been advanced to define the nature and extent of impacted soil.

Investigation History

- Between 1992 and 2009 a total of 19 permanent groundwater monitoring wells have been installed to delineate the groundwater bearing unit.
- After an oil spill on the Ship Channel, Lone Star conducted an investigation along the bank. Sediment and surface water samples were collected. Only impact was associated with the barge spill.

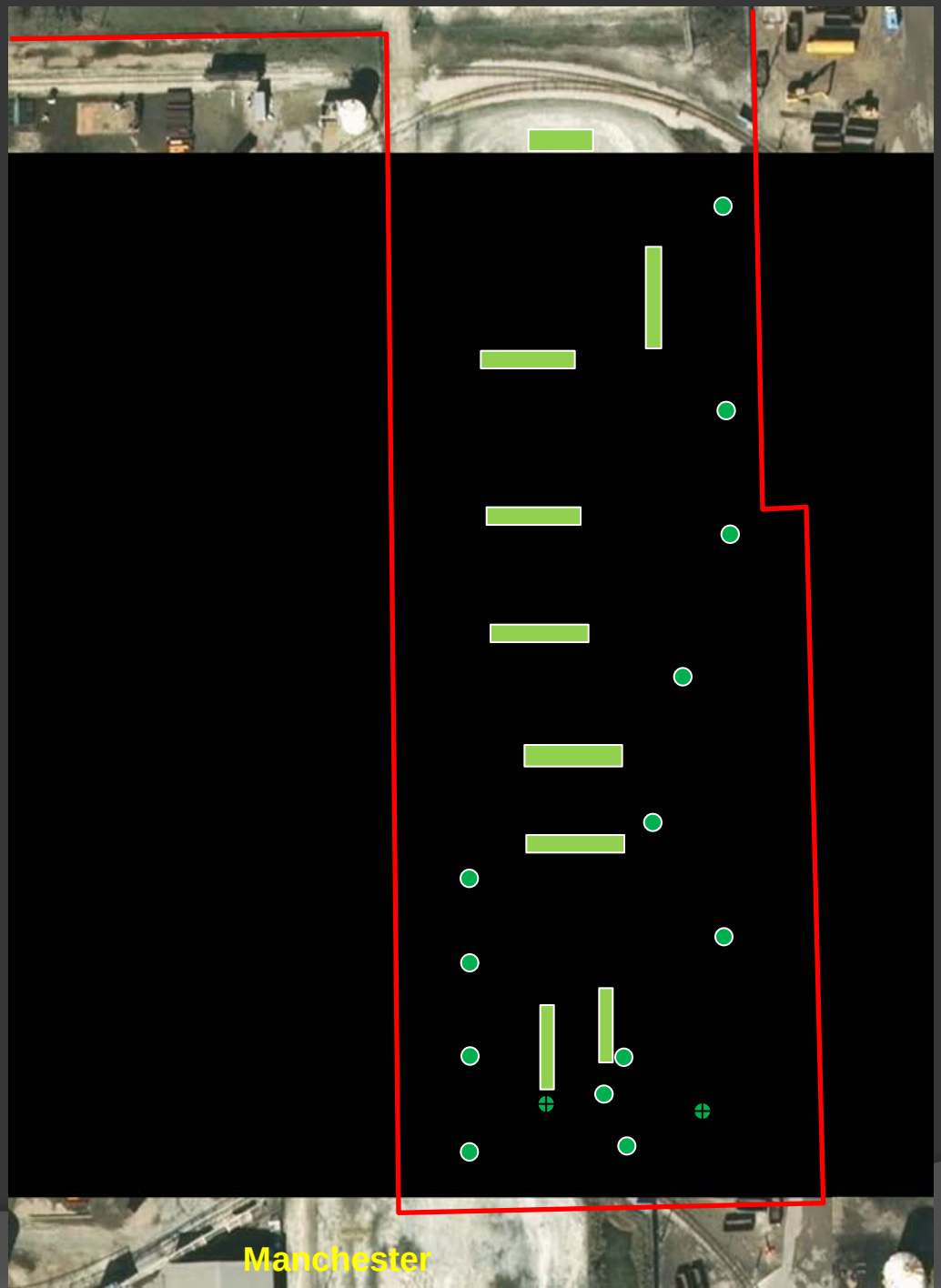


Soil Sample Locations on Northern portion of the property.

Sample Location

Trench Location

N



Soil Sample Locations on Southern portion of the property.

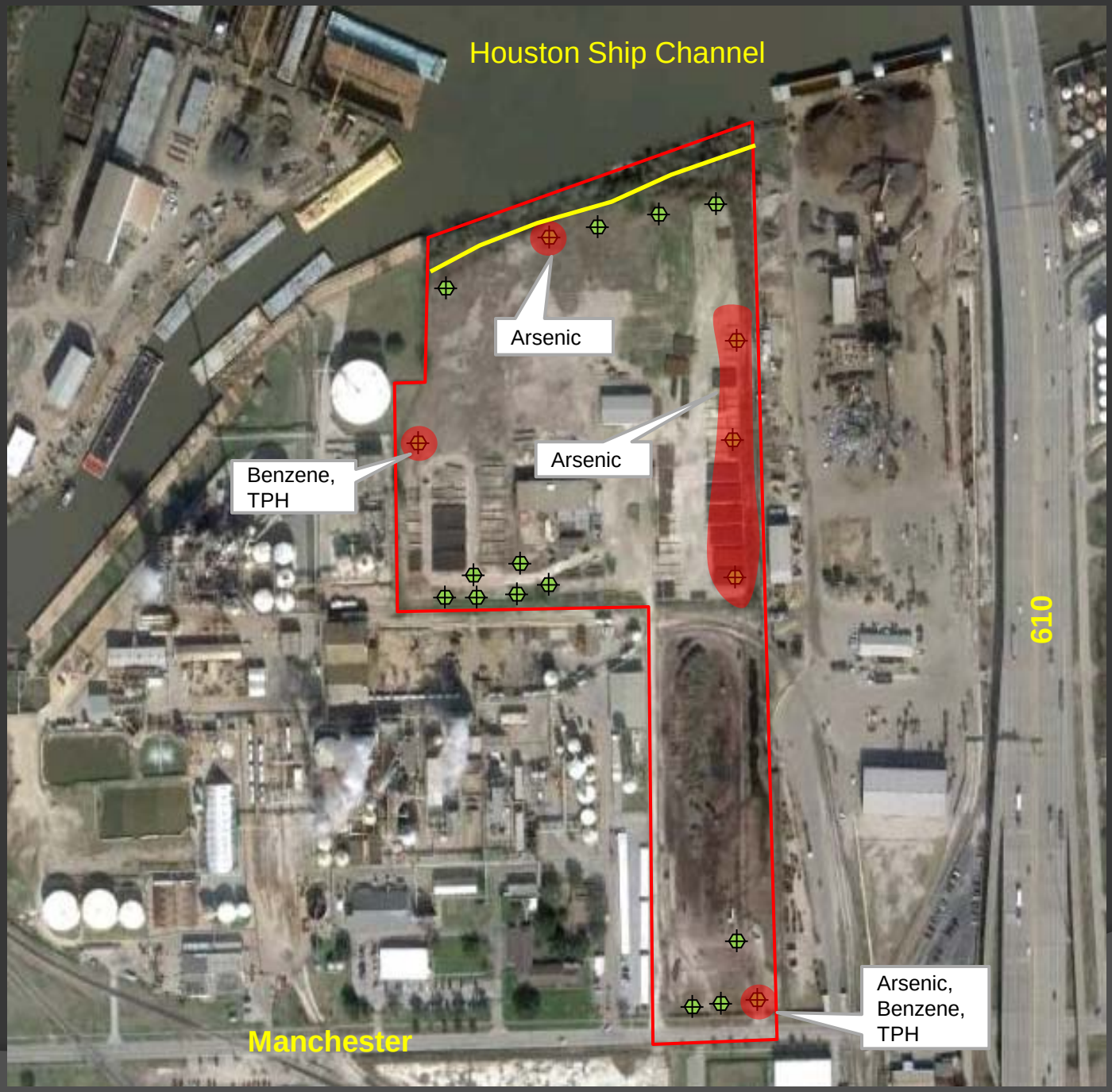
Sample Location

Trench Location

N

Investigation Results

- Areas of impacted soil have been fully delineated and excavated.
- Lone Star Terminal through Chickadee Environmental excavated, treated and replaced over 350,000 cubic yards of hydrocarbon impacted soil.
- A HPDE barrier was installed along the Ship Channel to prevent potential groundwater contamination from migrating into Ship Channel. Groundwater recovery trench was operated from late 1990s to 2005 to recover hydrocarbons.
- Groundwater samples collected from monitoring wells report arsenic, benzene and TPH at concentrations above action levels in four discrete areas on the subject property.

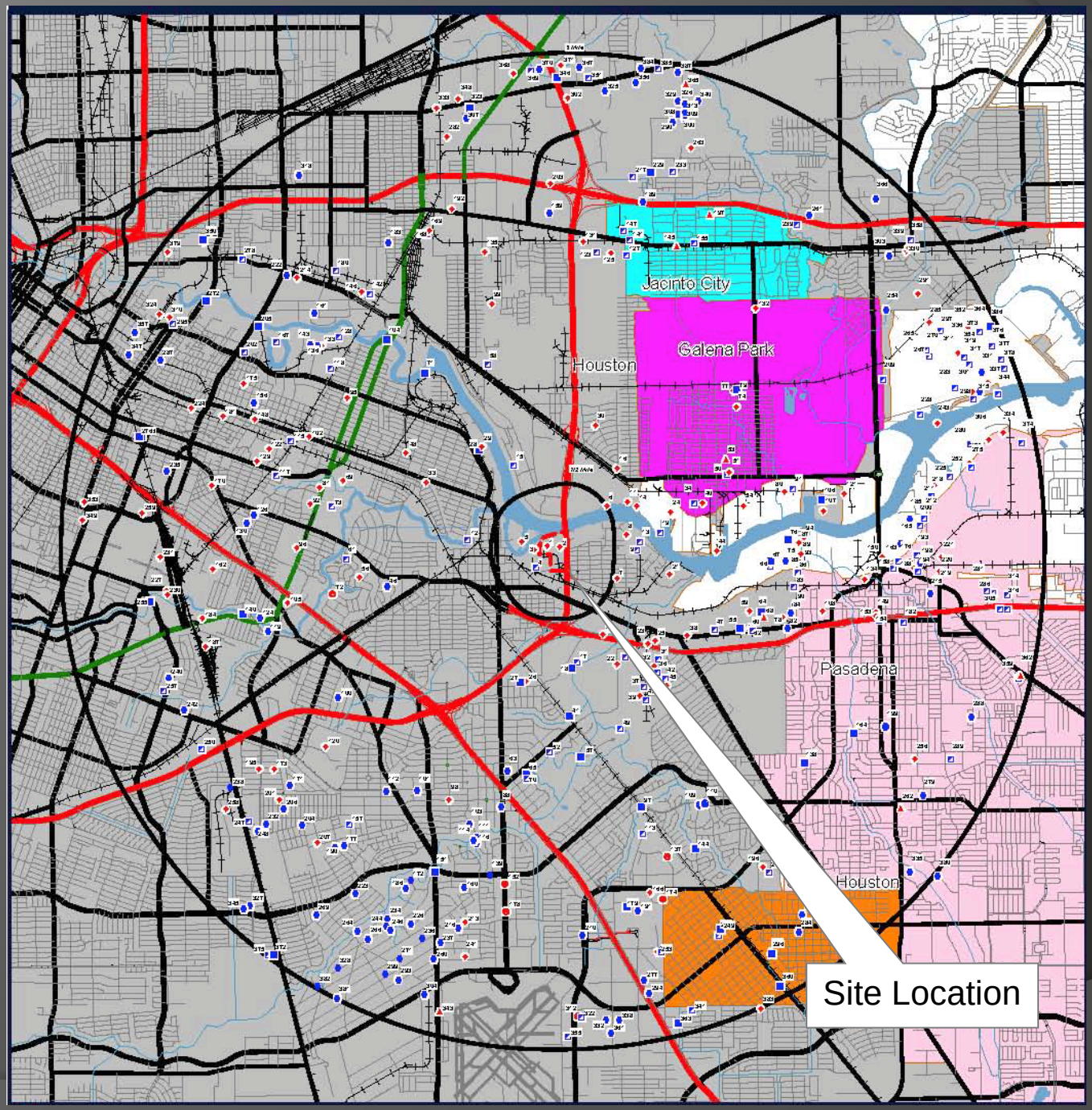

Houston Ship Channel
Arsenic
Arsenic
Benzene,
TPH
Arsenic,
Benzene,
TPH
610
Manchester
MSD Boundary
100-mL HDPE
Barrier Well
Monitoring Well
N

Remediation Efforts

- 2001 – installation of a 100-mL HDPE barrier wall along the entire northern property boundary, adjacent to the Houston Ship Channel.
- A groundwater collection system was in operation for a time at the property to treat the groundwater.
- 2007 – extensive soil excavation completed. 37 trenches measuring 3- to 8-ft wide x 30- to 50-ft long x 8- to 10-ft deep.
- Sludge and sediment from two onsite ponds were solidified and treated.
- Approximately 350,000 cubic yards of soil was excavated, treated and reused on site.

Protection from Affected Media

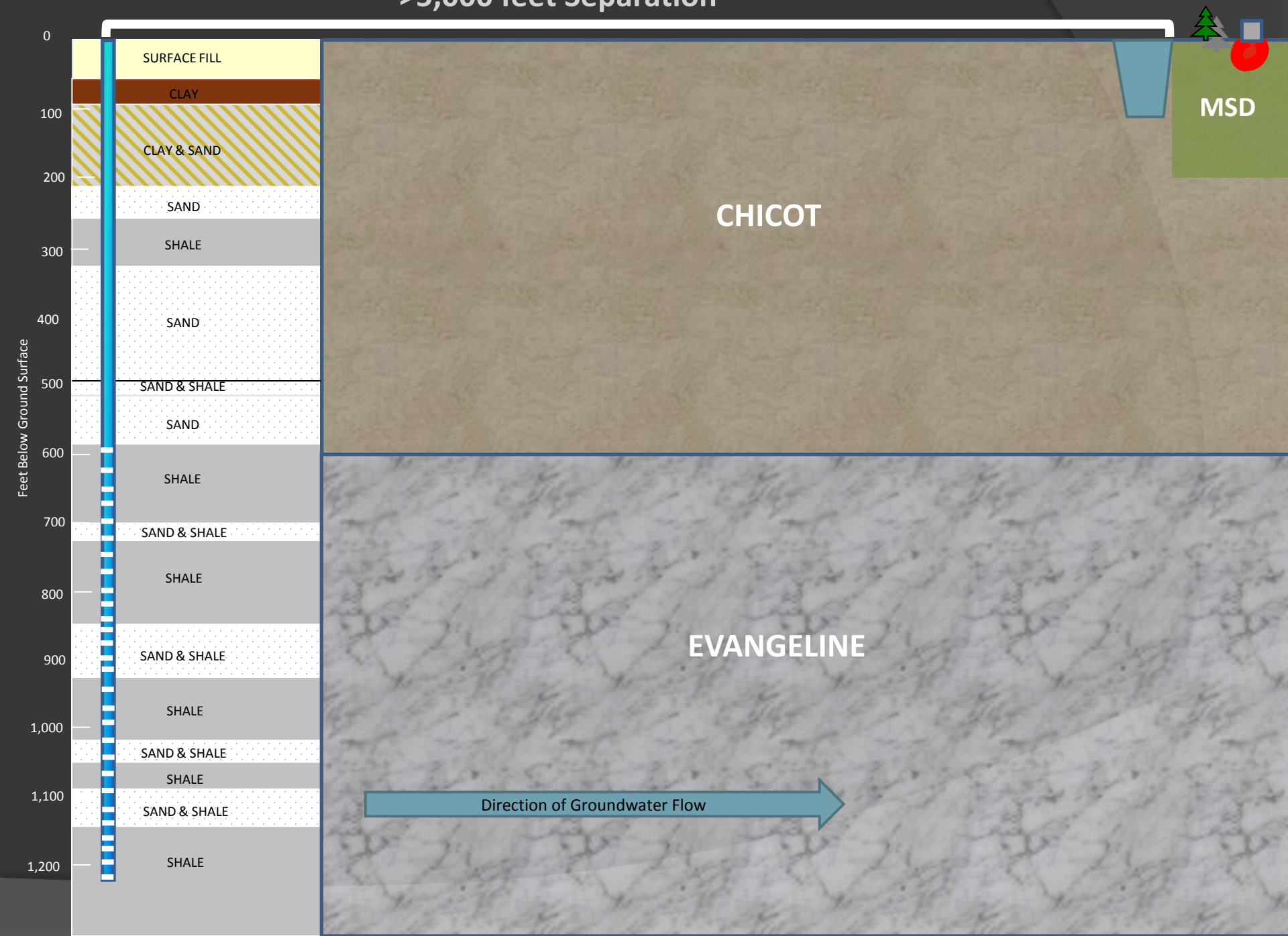
- Groundwater is not readily accessible.
- Affected groundwater is not a source of drinking water.
- No down gradient users of groundwater.
- Located in an industrial area. Will remain industrial for the foreseeable future.
- MSD will be placed in the City's Utility database to notify workers when working on property to use proper protective equipment.



The nearest domestic water well is located almost 2.4-miles west (cross gradient) and completed at depth greater than 500-ft below ground surface.

The nearest public water supply well is located greater than 1-mile northeast (cross gradient).

>5,000 feet Separation



Summary

- The constituents have been vertically and horizontally defined and are not spreading.
- The closest active public water supply well is greater than 1-mile away from the subject property in a cross gradient direction.
- The closest domestic well is located approximately 2.4-miles away from the subject property in a cross gradient direction.
- The nearest water well in a down gradient direction is greater than 3 miles from the subject property, across the Houston Ship Channel.