Municipal Setting Designations

MSDs: Another tool for Houston

Richard Chapin
Sr. Project Manager

Jedediah Greenfield
Brownfields Program Manager

Agenda

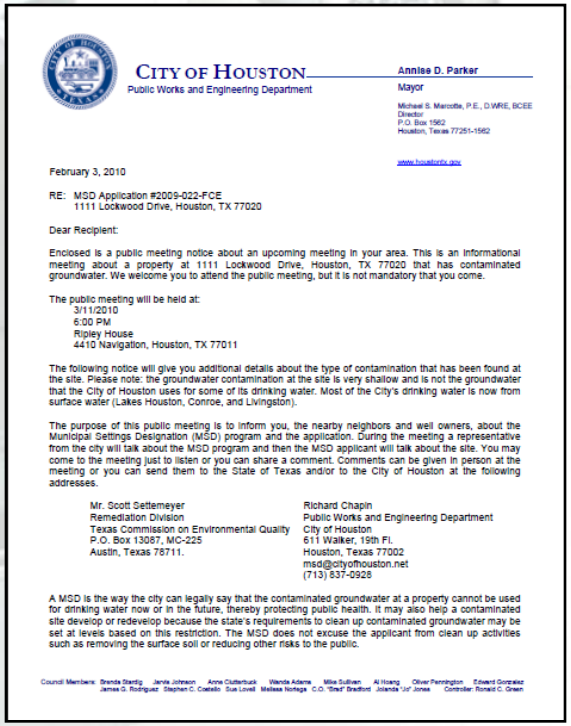
- City of Houston
  - Why we are here
  - Who the MSD impacts
  - What an MSD is
  - Why support an MSD
  - Steps in the MSD process
- MSD Applicant
  - Specific information on the site

    811 Main Street
- Public comment and questions

Why Are We Here

- Inform you about an MSD application amendment
  - Applicant: HCG Block 93, LLC
  - MSD #2011-033-MPL
- 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 Settemeyer
Remediation Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-225
Austin, Texas 78711.

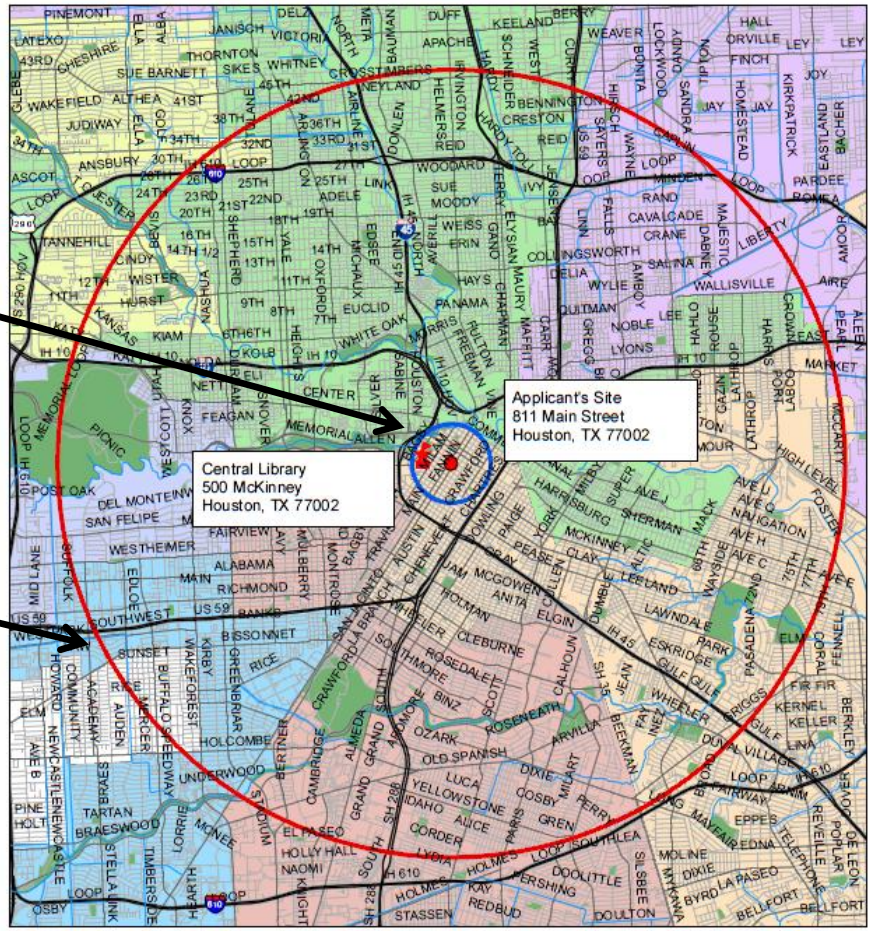
Richard Chapin
Public Works and Engineering Department
City of Houston
611 Walker, 19th Fl.
Houston, Texas 77002
msd@cityofhouston.net
(713) 837-0928

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. "Brett" Bradford, Jolanda "Jo" Jones, Controller: Ronald C. Green

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

Water Well Owners
Certified Mail
5-Mile Radius
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
    - Texas Commission on Environment Quality (TCEQ)
  - City process created in November 2007
    - Public Works & Engineering
- TCEQ cannot approve an MSD without the City Council's support

What an MSD is

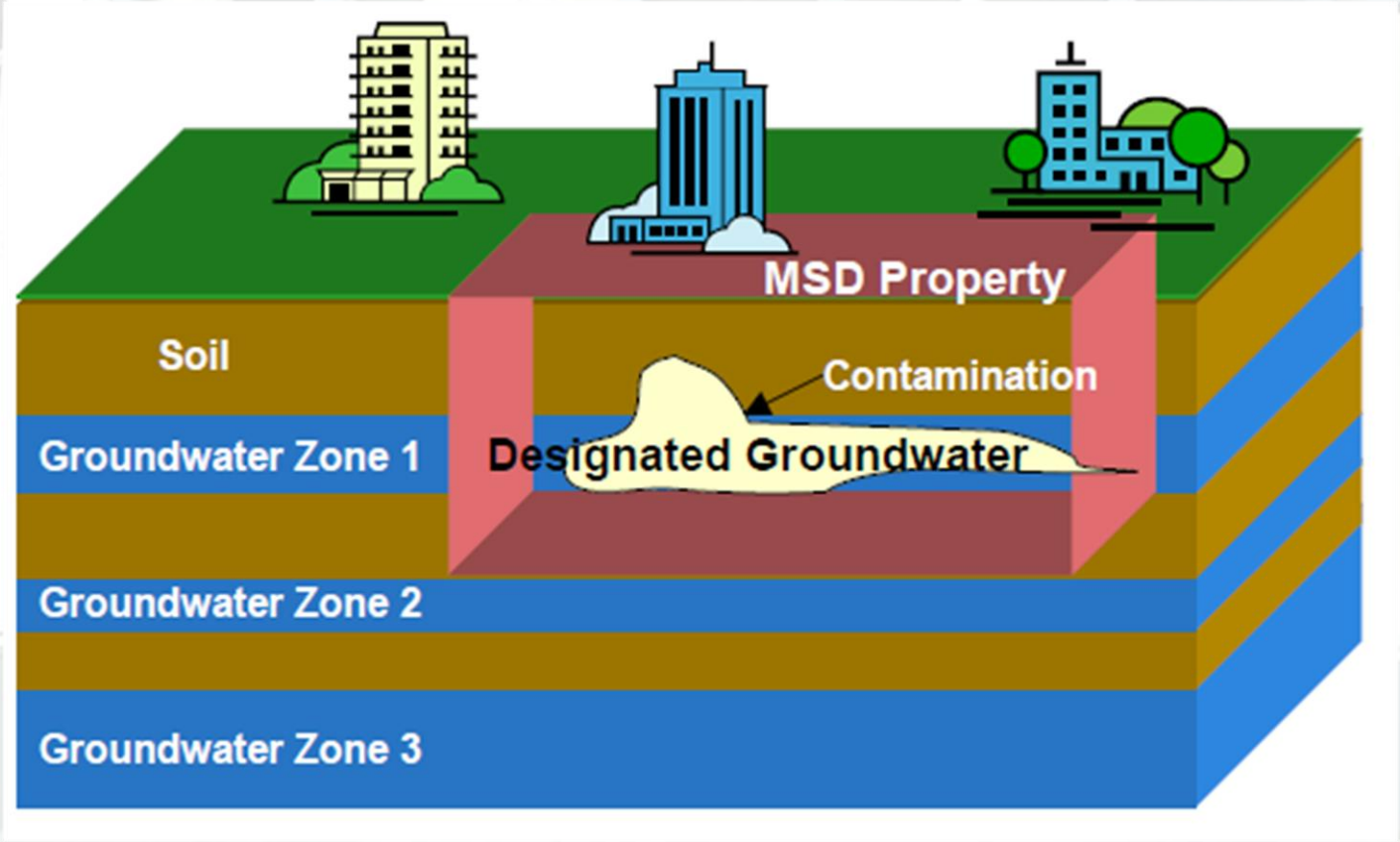
- Another tool to address groundwater contamination

- Houston has shallow groundwater contamination scattered across the city
  - Program considers 200 feet below the surface

City Water Supply

- Houston's drinking water comes from either deep aquifers (20%) or surface water (80%)
  - Nearest Public Water Well is over 1 mile away and is inactive
  - 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.

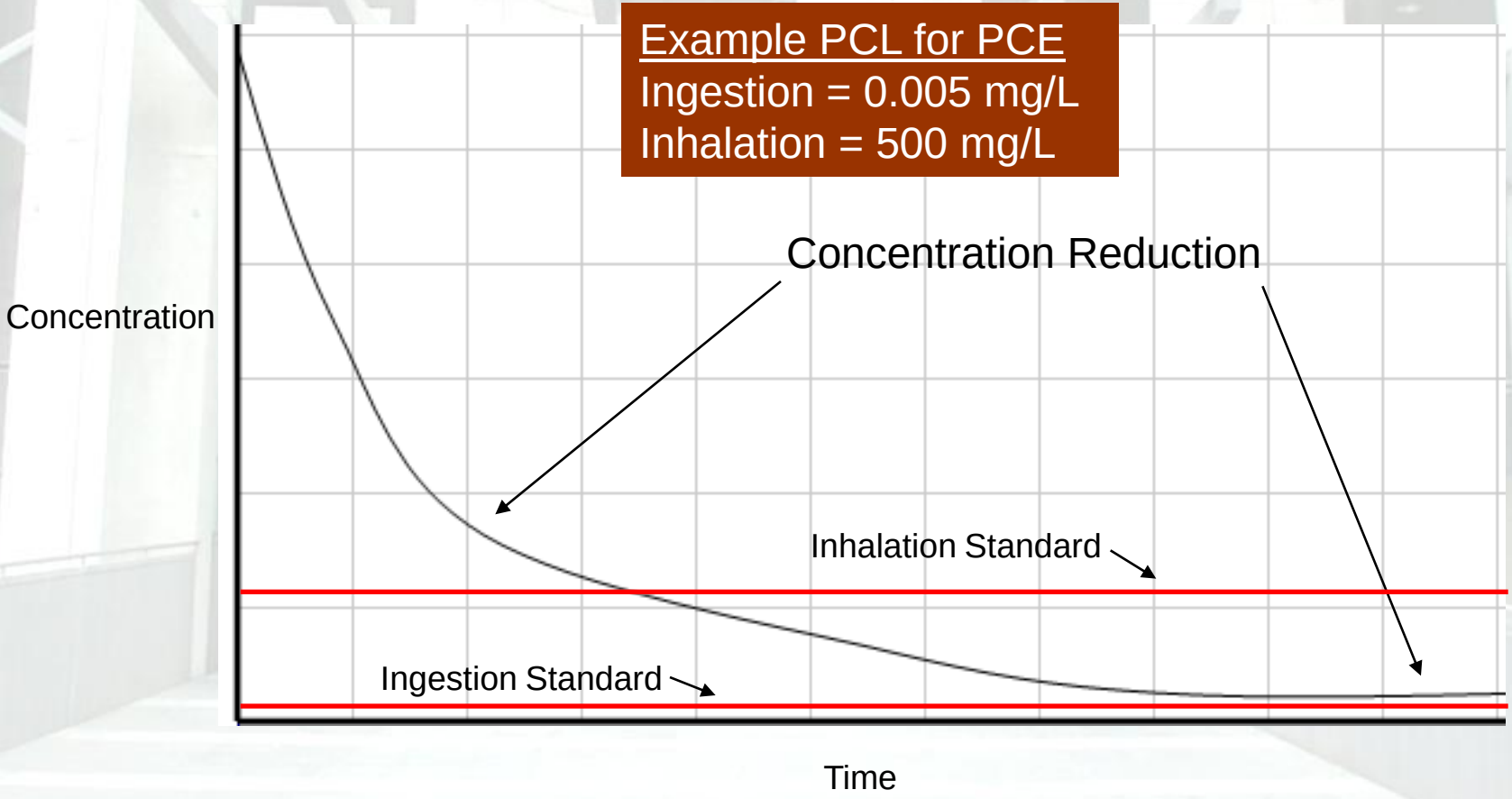
Drinking Water Supply Wells typically get water from 600 feet or deeper below the surface.

Problems of Traditional Remediation Methods

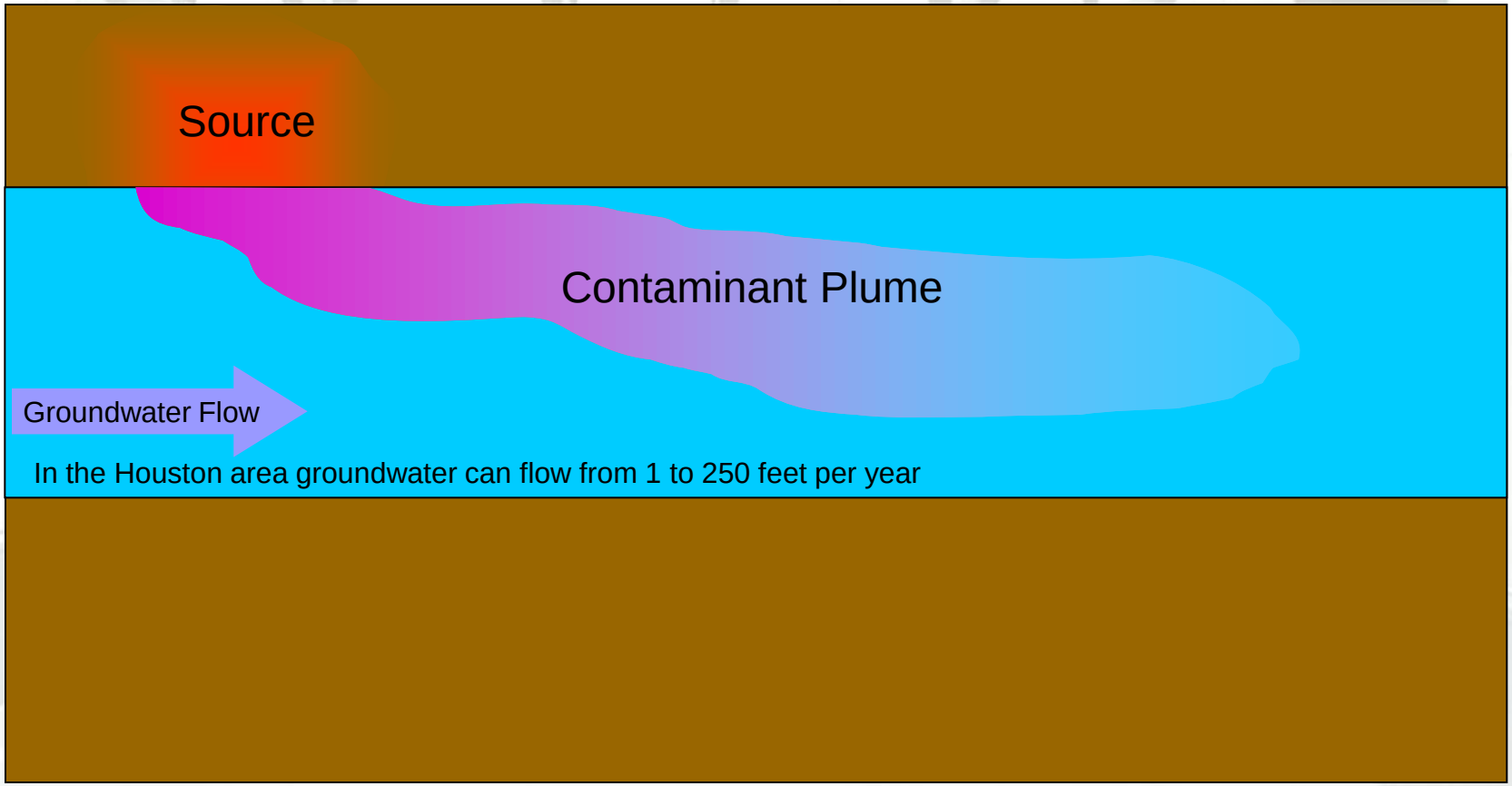
- Groundwater must be cleaned to drinking water standards even if:
  - There is no need or desire to use it, or
  - Water bearing zone is too silty, too salty, or low
  - producing

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

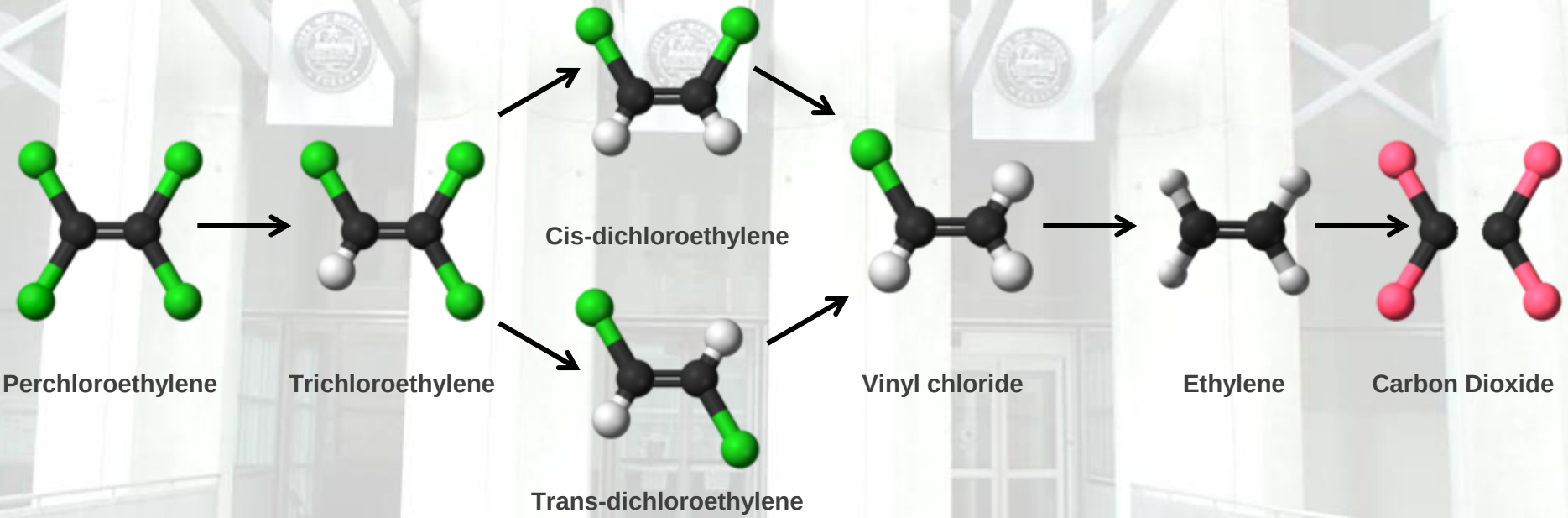
Groundwater Remediation



Contaminant Flow



Natural Attenuation



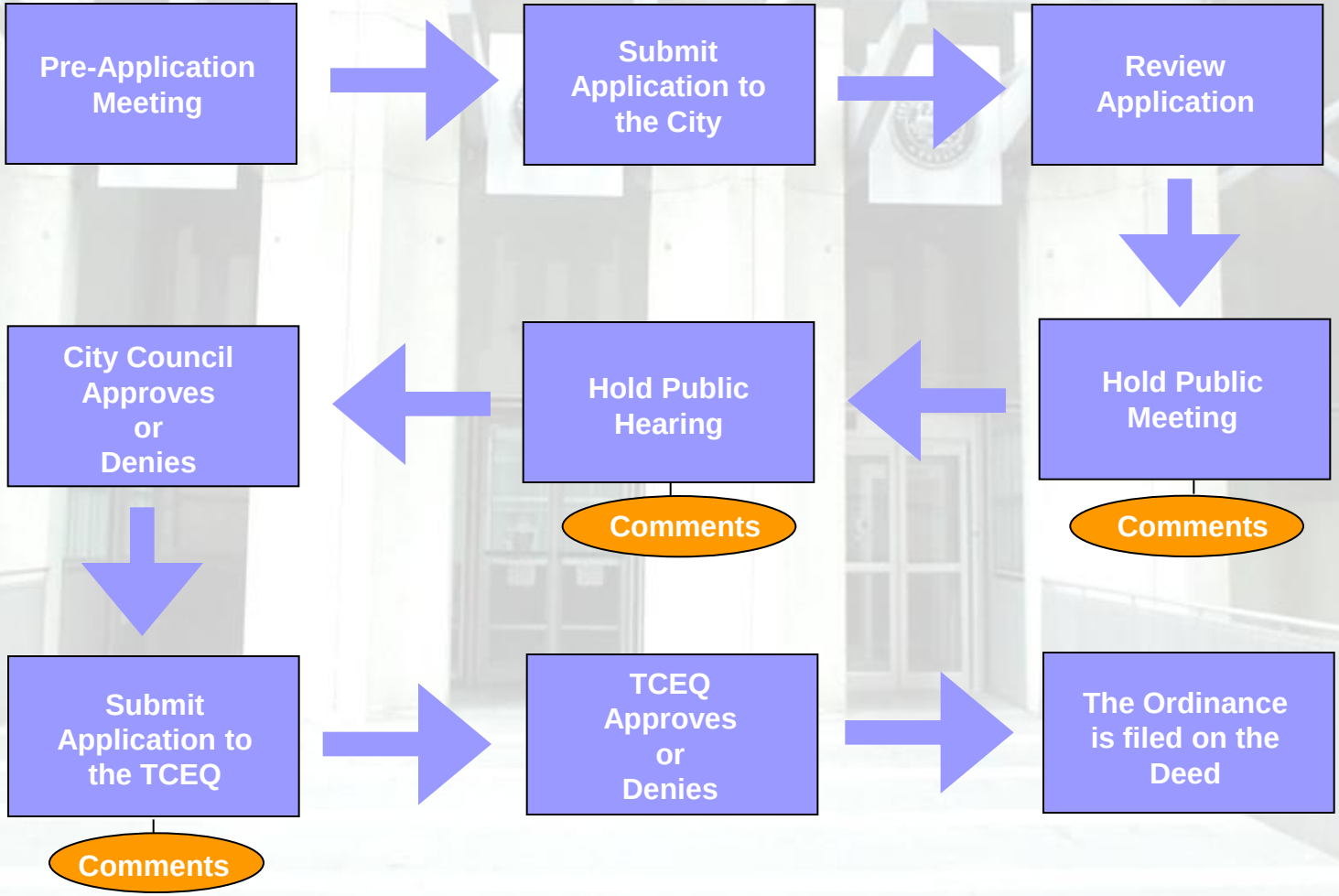
Applicant's Responsibility

- 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 cleanup 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.

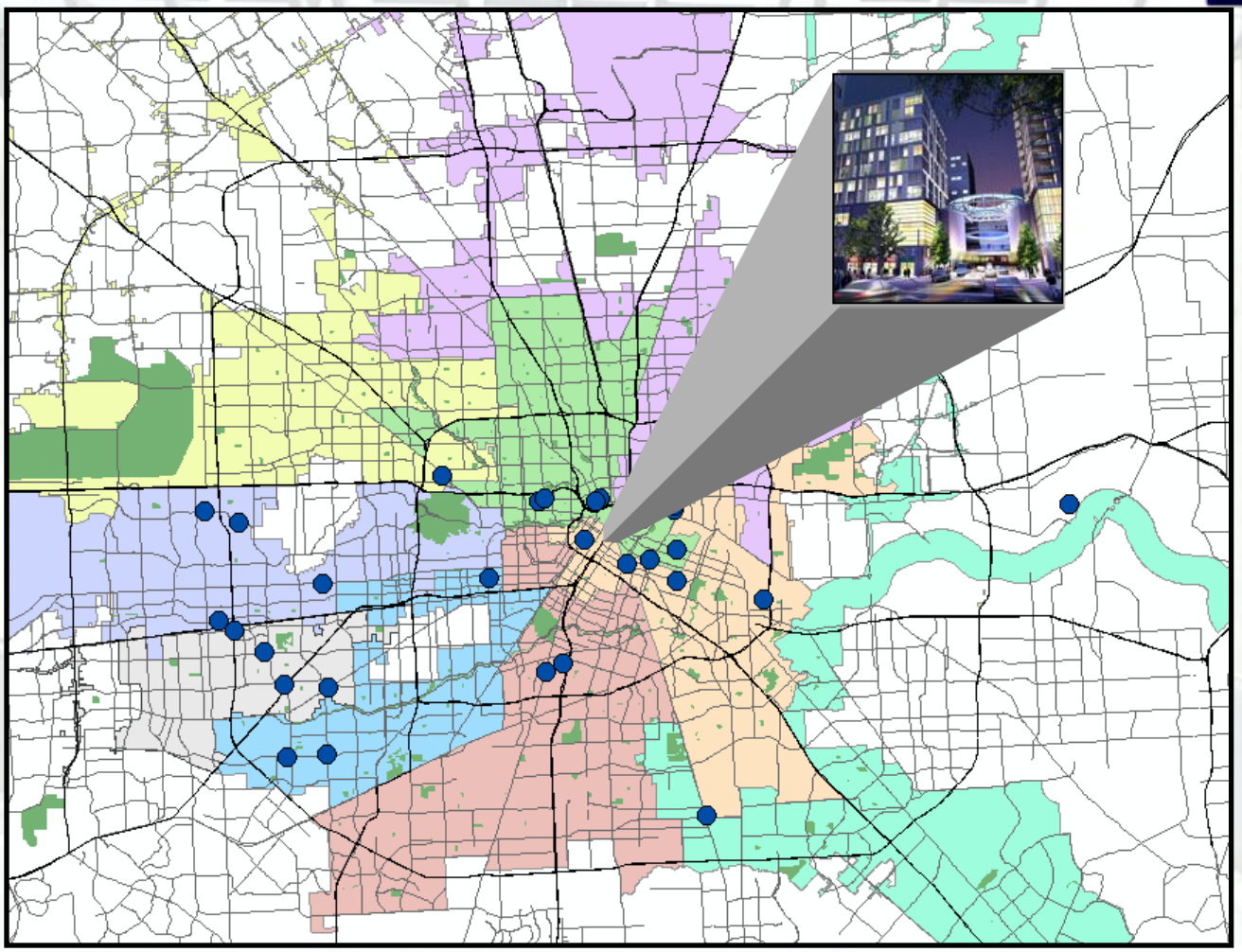
Steps in the Process



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

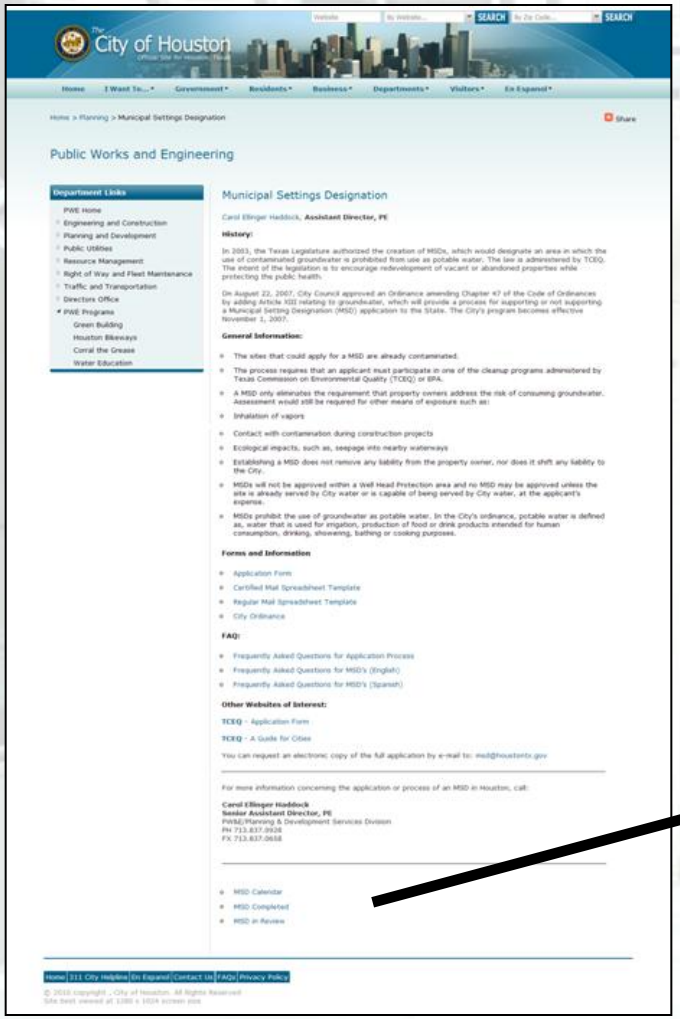
MSD Sites in Houston



MSD Application

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

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: April 21, 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 & **Jedediah Greenfield**

Senior Project Manager | **Brownfields Program Manager**

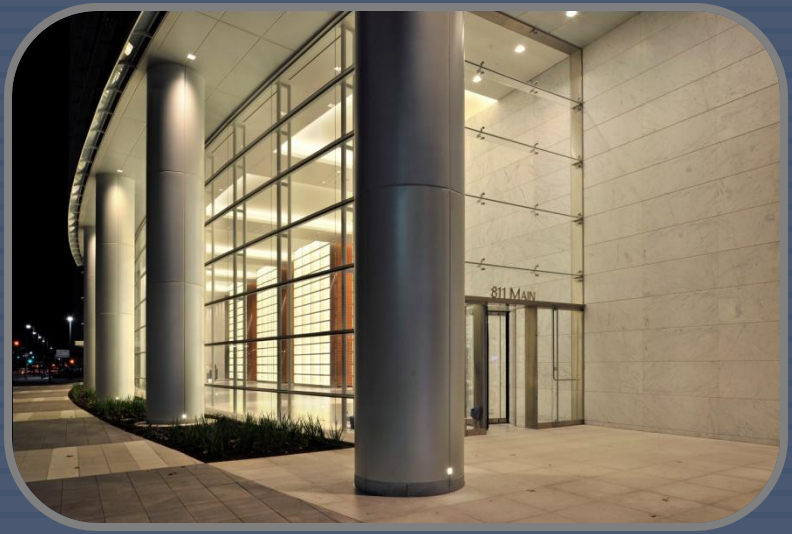
Public Works & Engineering
City of Houston,
611 Walker, 19th Floor
Houston, Texas 77002

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

HCG BLOCK 93 LLC
MAINPLACE
MSD NO. 2011-033-MPL
MARCH 30, 2011

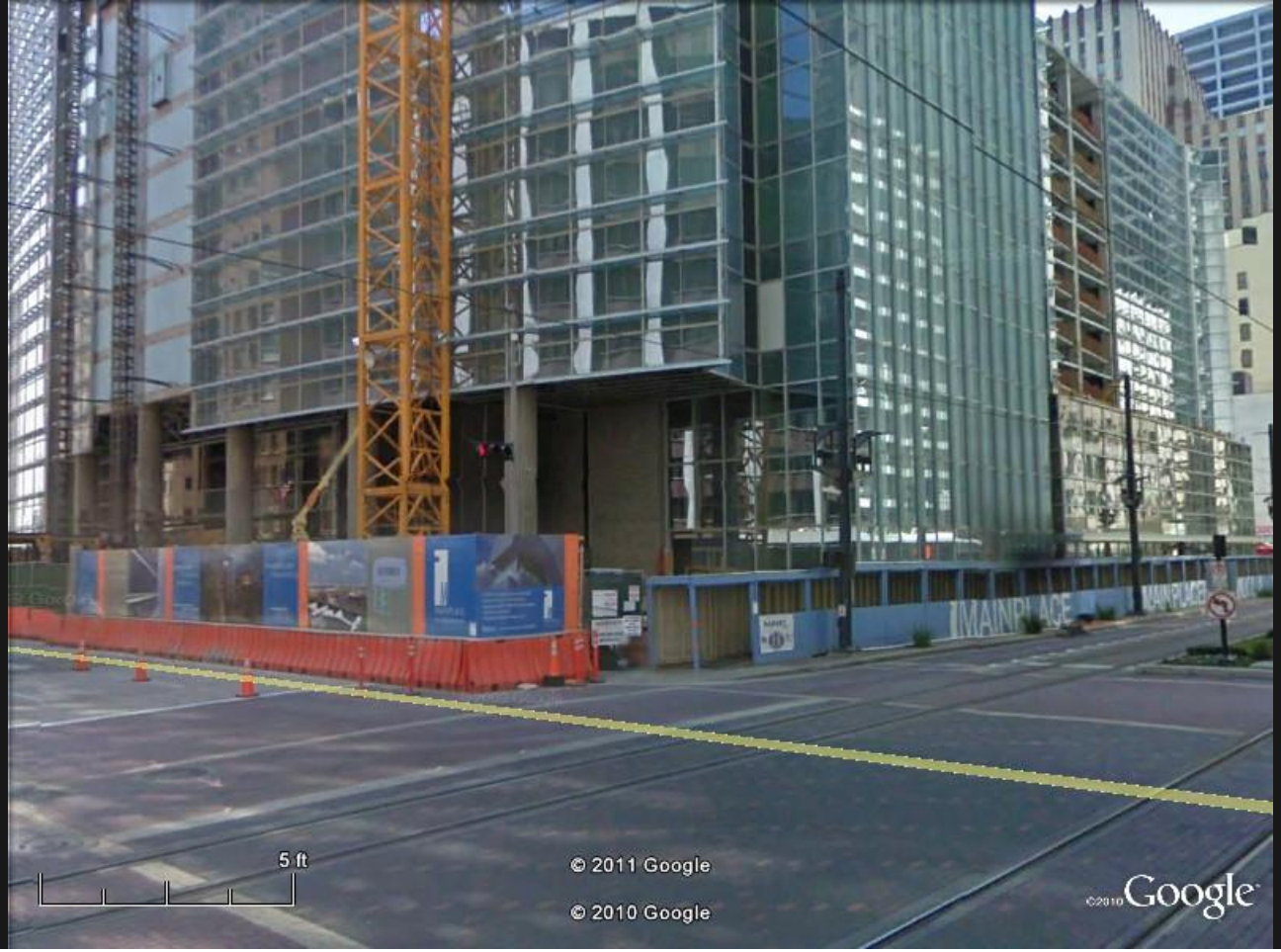


PRESENTED BY:
JASON BINFORD
ISAAC ABOULAFIA, P.E.

MEC^X, LP
3203 AUDLEY STREET
HOUSTON, TEXAS
713.585.7000

Location of MainPlace

- Located at 811 Main Street
- Situated in the Heart of the Central Business District
- Bounded by Main, Walker, Fannin and Rusk Streets

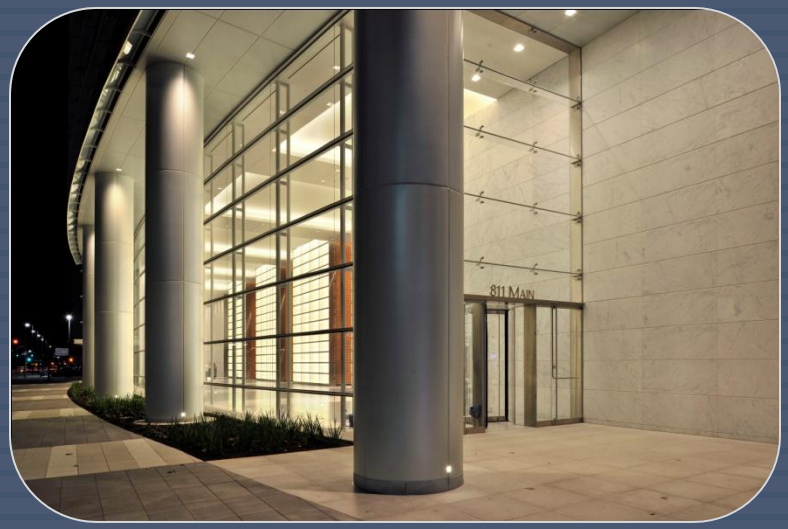


Location of MainPlace

- 1.1799 Acres of Land in Size
- Consists of the Northern, Western and Eastern Portions of City of Houston Block 93

Current Improvements

- Redeveloped to replace 5 blighted and abandoned structures
- Landmark Building
- LEED Platinum Certified



- Sustainable energy design

MainPlace

811 Main Street

Office Tower

46 Stories

972,000 ft^2

2011

CURRENT USE

- Construction of current improvements initiated 2008.
- Scheduled completion: Spring 2011

A: 805 Main St

Commercial

4 Stories

B: 1014 Rusk St

Commercial

2 Stories

C: 804 Fannin St

Hotel

12 Stories

D: 811 Main St

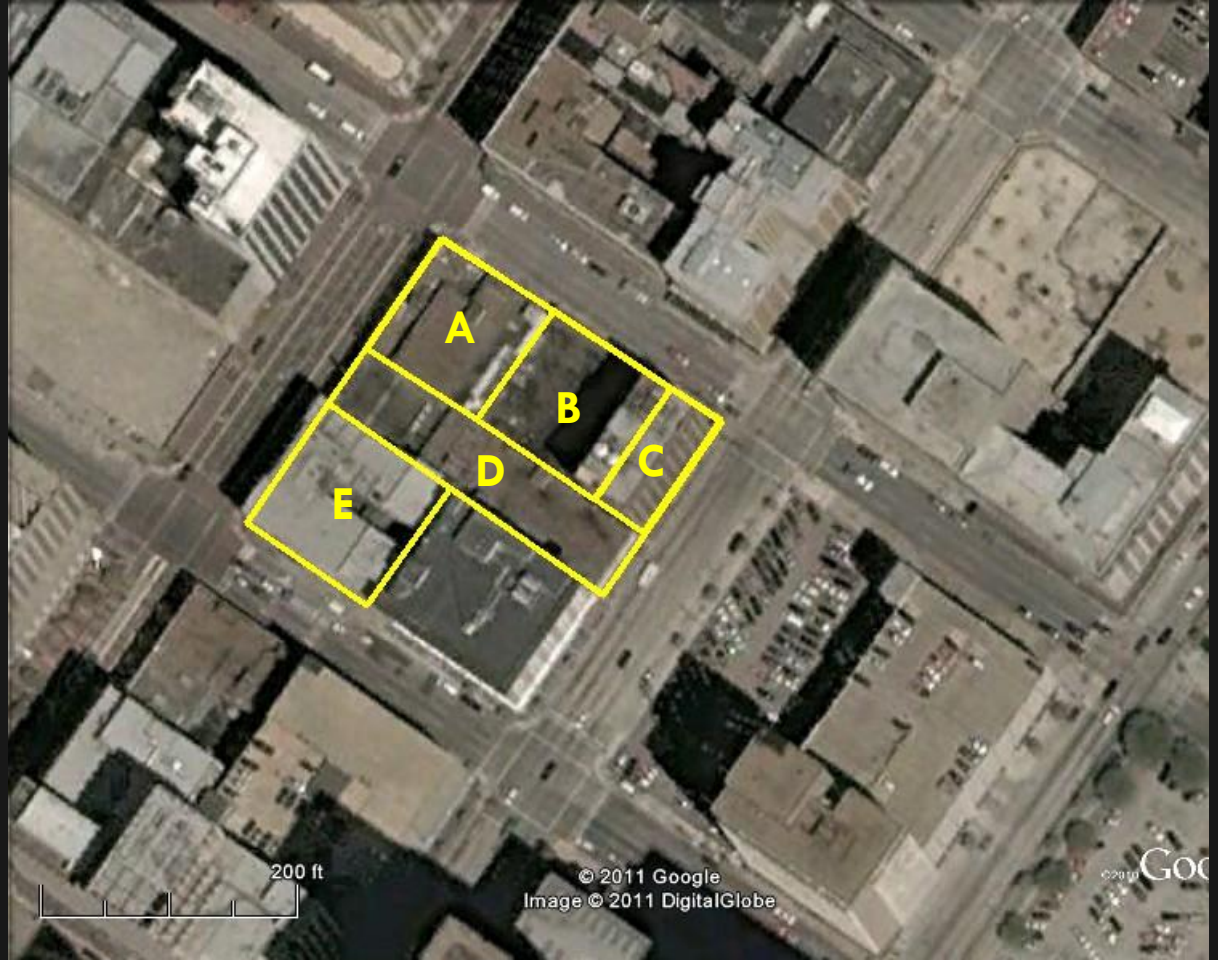
Department Store

5 Stories

E: 817 Main St

Office Building

5 Stories



2007

HISTORIC USE

- Developed in 1880s for residential and commercial purposes.
- Developed between 1912 and 1920 with five commercial use structures

B: 1014 Rusk St

Commercial

2 Stories

2007

HISTORIC USE

Uses of Environmental Concern

- 1930s - Savory Dry Cleaners.
- 1960s – Swift 1-Hour Dry Cleaners

C: 804 Fannin St

Hotel

12 Stories

2007

HISTORIC USE

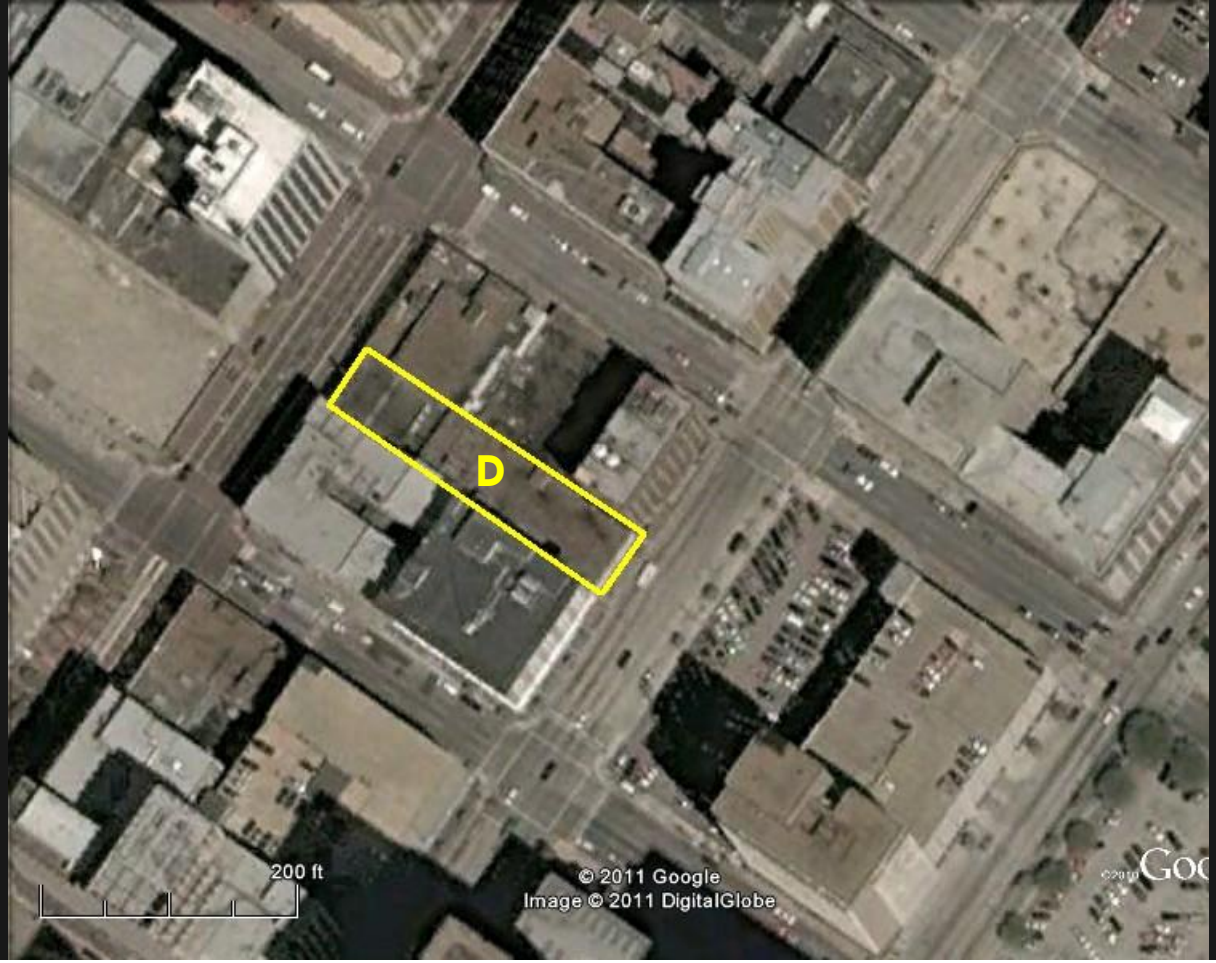
Uses of Environmental Concern

- 1920s –Heating Oil Storage Bunker

D: 811 Main St

Department Store

5 Stories



2007

HISTORIC USE

Uses of Environmental Concern

- 1920s – Houston Tire and Valve

Phase I ESA

2007

Conclusion:

A Phase II subsurface investigation is needed.

Environmental Investigations

- 2007 – Phase I Environmental Site Assessment

Phase I ESA
2007
Conclusion:
A Phase II subsurface investigation is needed.

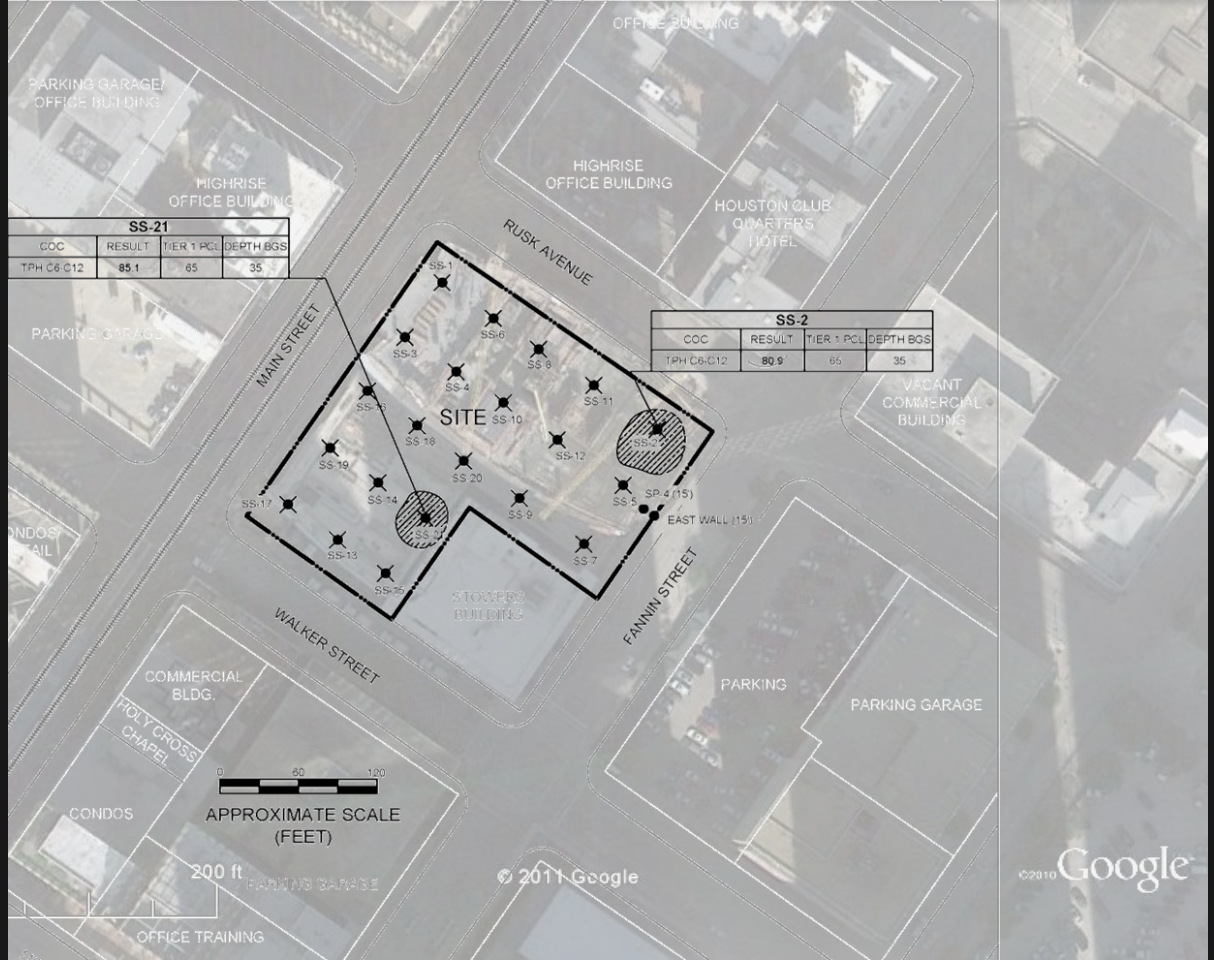
Phase II
June 2007-March 2008

Environmental Investigations

- 2007 – Phase I Environmental Site Assessment
- June 2007/March 2008 – Phase II Subsurface Investigation

Phase I ESA
2007
Conclusion:
A Phase II subsurface investigation is needed.

Phase II
June 2007-March 2008
21 Soil Borings



SS-21			
COC	RESULT	TIER 1 PCL	DEPTH BGS
TPH C6-C12	85.1	65	35

SS-2			
COC	RESULT	TIER 1 PCL	DEPTH BGS
TPH C6-C12	80.9	65	35

Soil Sampling Locations

- 2007 – Phase I Environmental Site Assessment
- June 2007/March 2008 – Phase II Subsurface Investigation

Phase I ESA

2007

Conclusion:

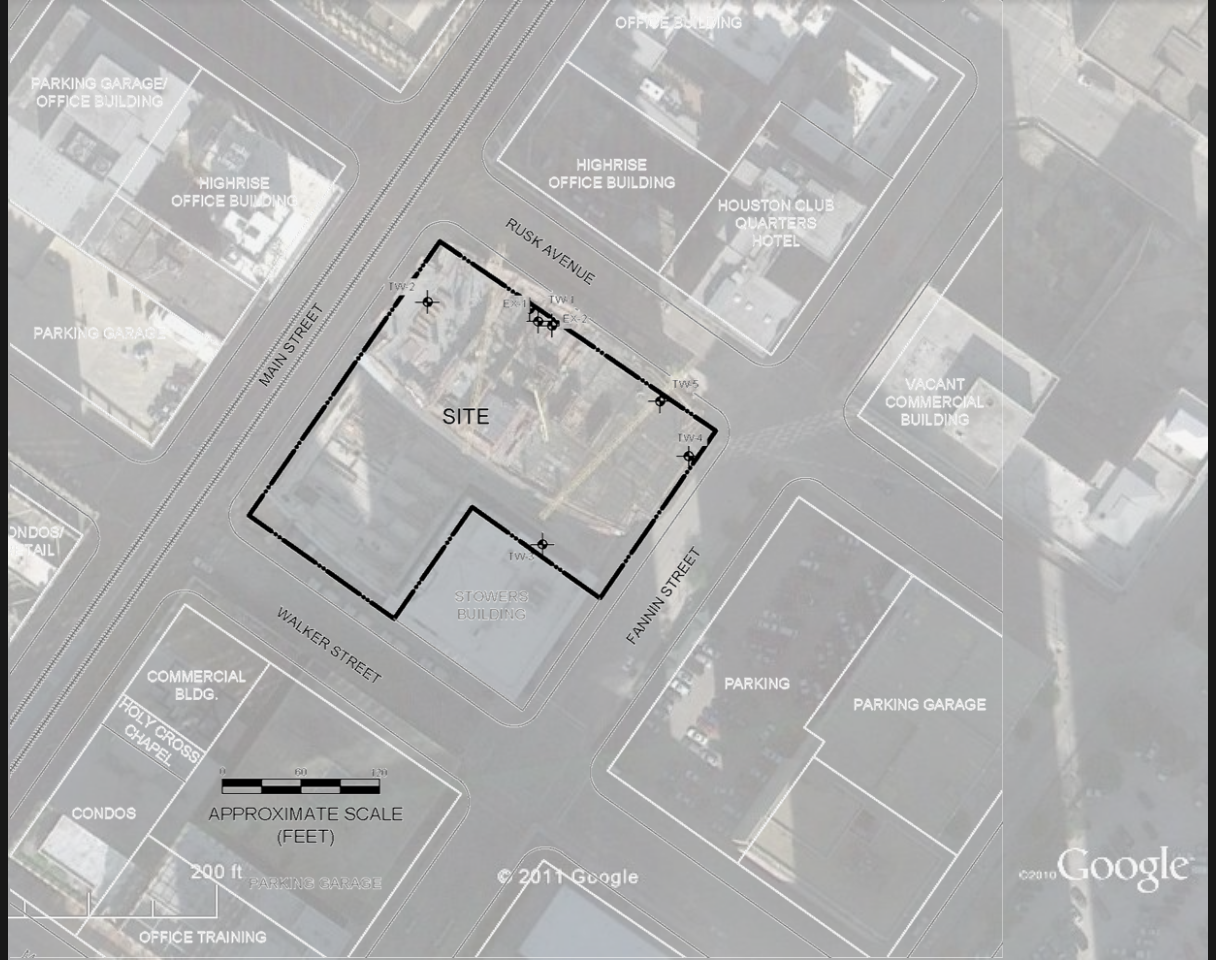
A Phase II subsurface investigation is needed.

Phase II

June 2007-March 2008

21 Soil Borings

5 Monitoring Wells



Groundwater Sampling Locations

- 2007 – Phase I Environmental Site Assessment
- June 2007/March 2008 – Phase II Subsurface Investigation
- 2008 – Enrolled in Texas Voluntary Cleanup Program (VCP 2159)

Chemicals Present in Environmental Media

- Chemicals documented in soil and groundwater at the Site are typical of many urban properties.
- Chemicals detected in groundwater above applicable assessment levels include:
  - Volatile Organic Compounds (VOCs)
    - Tetrachloroethene
    - Cis-1,2-dichloroethylene
    - Vinyl chloride
  - Total Petroleum Hydrocarbons
- Chemicals detected in soil above applicable assessment levels include:
  - Tetrachloroethene
  - Total Petroleum Hydrocarbons
  - Lead
- Operations associated with the source of these chemicals are no longer present at the Site.

Environmental Setting

- The impacted groundwater bearing unit is located from 37 to 40 feet below ground surface.
- The groundwater bearing zone is underlain by a clay unit that limits further vertical migration.
- Groundwater flow is to the north-northwest, toward Buffalo Bayou.
- Buffalo Bayou is located approximately 2,200-feet downgradient of the proposed MSD boundary.
- The horizontal delineation of groundwater has been investigated to the fullest extent practical given the complexity of restricted access due to the urban and heavily congested environment of the Central Business District.
- TCEQ VCP has concurred that no additional horizontal delineation is required due to development encumbrances.

TCEQ VCP
2008

Soil Excavation
2008

ISCO
2008, 2010

MSD
2011

Response Timeline

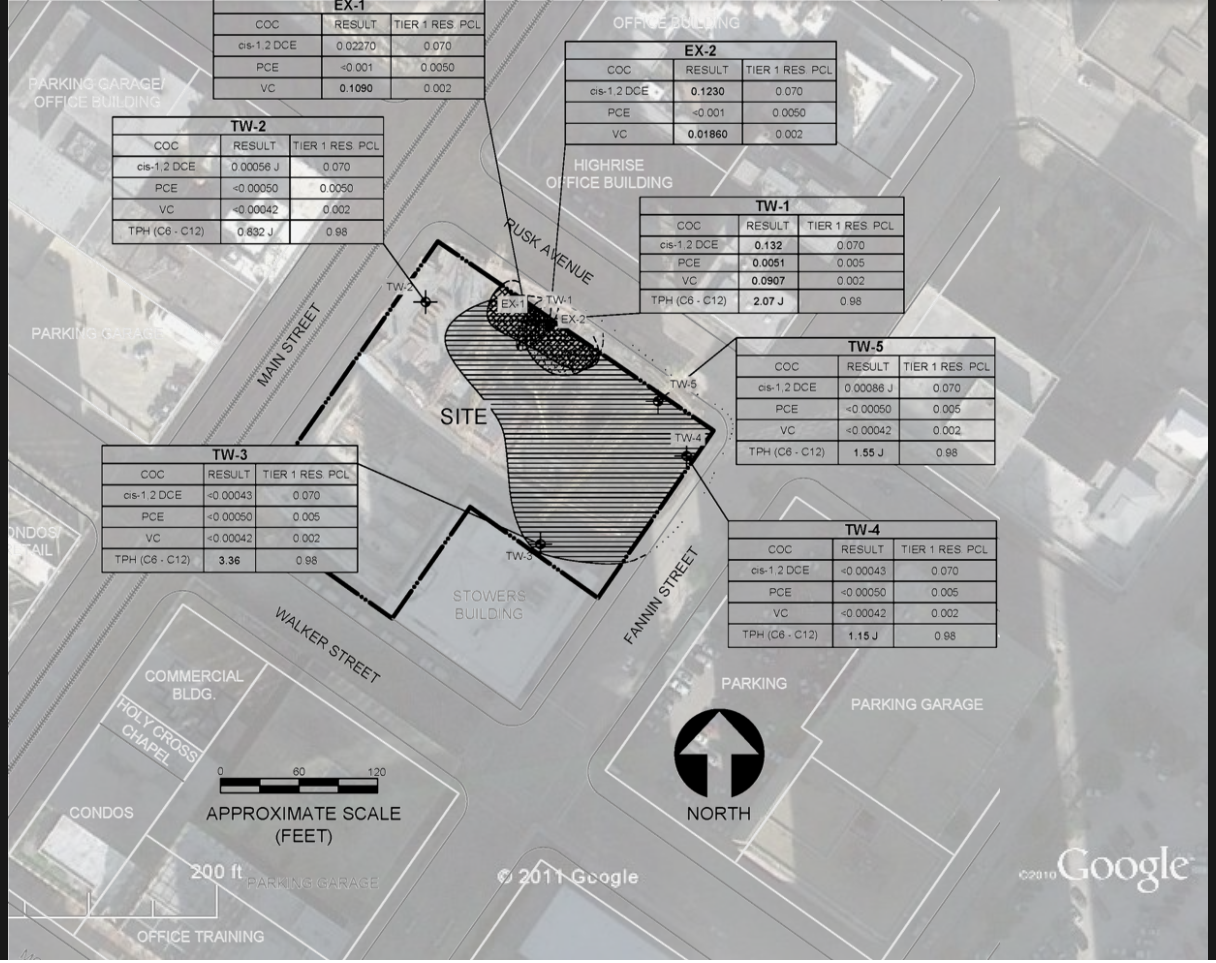
- Soils excavated to depths between 31 and 37 feet below grade
- Groundwater treated by In-Situ Chemical Oxidation (ISCO)
- Building foundation mat consisting of 9 feet of high density concrete poured on top of remaining soil

Actions

- Soil Removal
- Groundwater Treatment (ISCO)
- No Current Contributing Operations

Groundwater Plumes

- TPH
- DCE
- PCE
- VC



Groundwater Plume

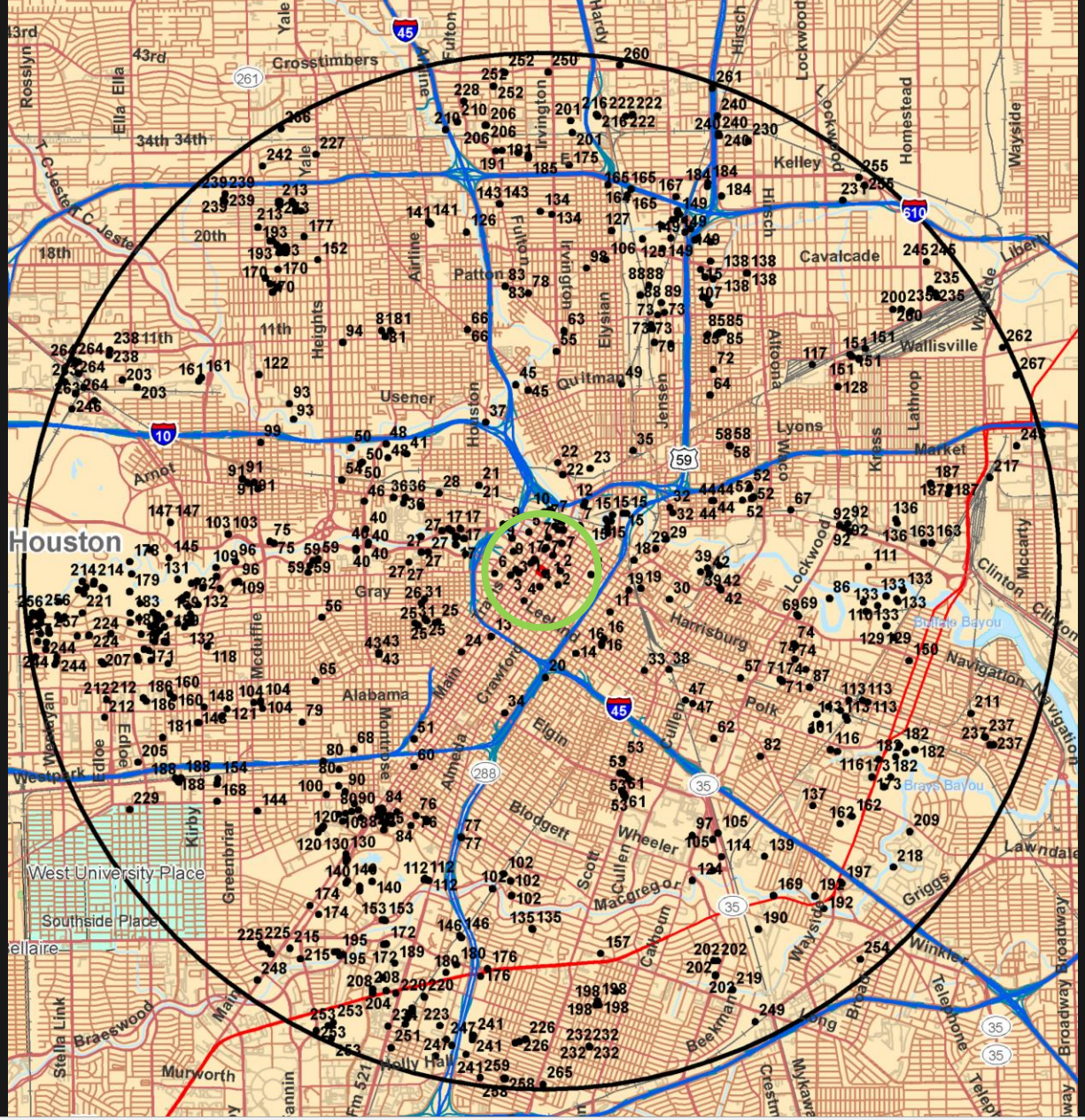
- Sampling data indicates stable concentrations.
- It is unlikely that the concentrations of chemicals in groundwater will increase, or that the plume will expand.

Potential for Exposure

- Affected groundwater is not accessible and is not a source of drinking water.
- A drinking water well will not be allowed within the MSD boundary which will include adjoining City of Houston Rights-of-Way.
- The MSD will be recorded in the City's utility database to notify workers when working on property to use proper protective equipment.
- No water well screened within the affected groundwater bearing zone is located near, or within, proximity to the Site.
- The closest City of Houston Public Supply Well is located 3.75 miles from the Site and is completed at a depth of 1,458 feet below ground.
- Chemicals remaining at the Site are not present in concentrations exceeding any regulatory limit for direct human contact or inhalation
- There is no known or suspected connection to chemicals present at the Site to any surface body of water.

Property Owners
(1/2 Mile Radius)

Water Wells
(5 Mile Radius)



Notifications

MECX

Closing Summary

- The groundwater plume has been delineated to the fullest extent practical and is stable.
- There are no current exposures to the chemicals.
- Sampling data indicates stable concentrations of chemicals in groundwater.
- Chemicals remaining at the Site are not present in concentrations exceeding any regulatory limit for direct human contact or inhalation.
- Historic operations which caused the releases of the chemicals at the Site are no longer present and are not planned in the future.
- Large quantities of soil, both affected and non-affected, have been removed.
- The building's foundation has effectively capped the remaining soil.
- The portions of the groundwater plume with the highest concentrations of VOCs has been treated by ISCO to reduce contamination.
- The MSD will prevent the installation of potable water wells at the Site and adjoining Rights-of-Way.

HCG BLOCK 93 LLC
MAINPLACE
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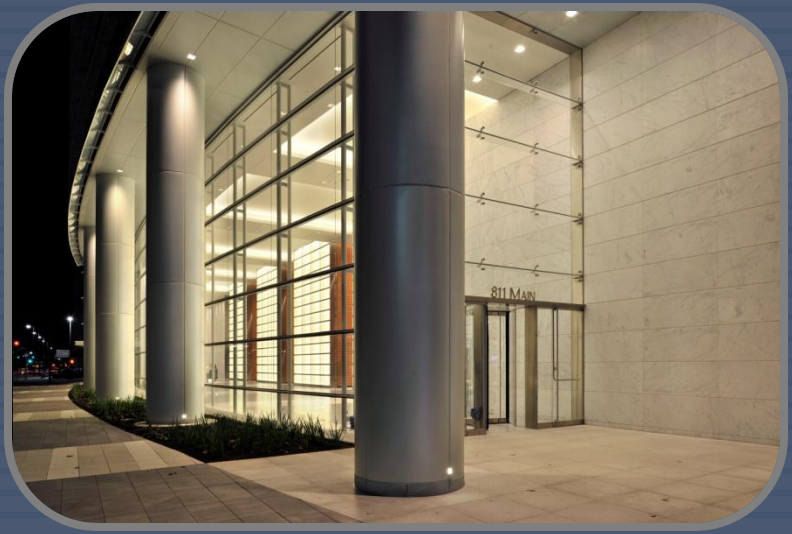

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