

# Municipal Setting Designations



MSDs: Another tool for Houston

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Environmental Analyst

**Municipal Setting Designations (MSDs)**



# Agenda

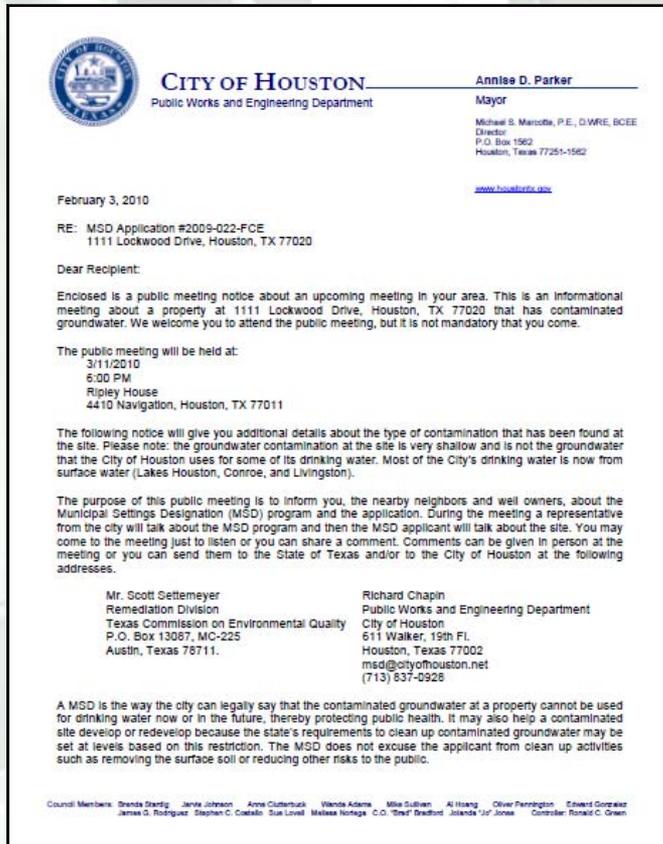
- City of Houston
  - Why we are here
  - Who the MSD impacts
  - What an MSD is
  - Why support an MSD
  - Steps in the MSD process
- MSD Applicant
  - Specific information on the site  
7405 Almeda Road
- Public comment and questions

# Why Are We Here



- Inform you about an MSD application
  - Board of Regents of the UT System
  - MSD #2010-028-ACD
- 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  
1/2-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



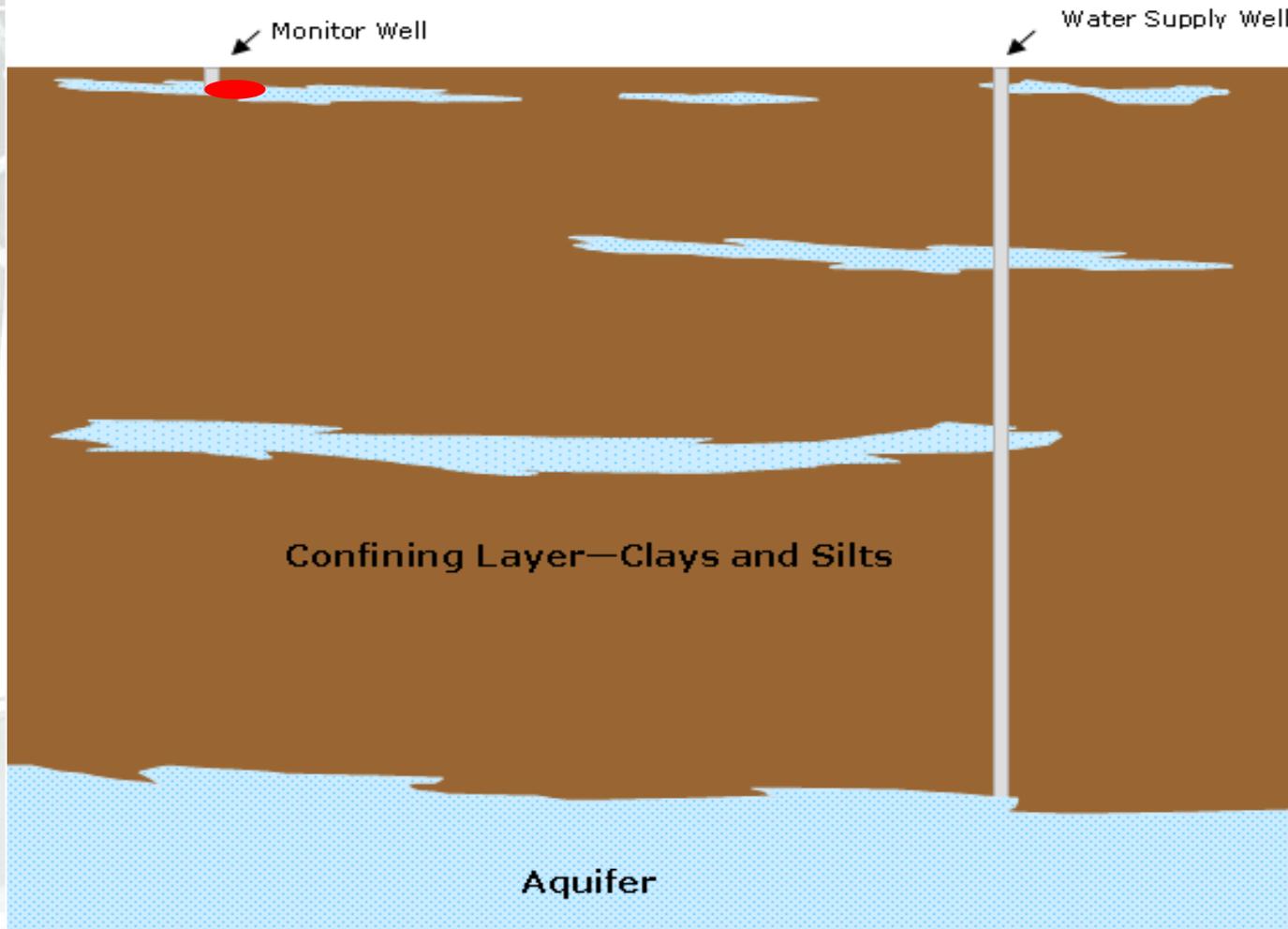
- An alternative method to address groundwater contamination
- Houston has shallow groundwater contamination scattered across the city
- This program only considers very shallow contamination (up to 200' below the surface)

# City Water Supply



- Houston's drinking water comes from either deep aquifers (20%) or surface water (80%)
  - Nearest public water supply well (treated)
    - South End (Well 13)
      - Distance is over 1½ miles
      - Depth is 1787 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

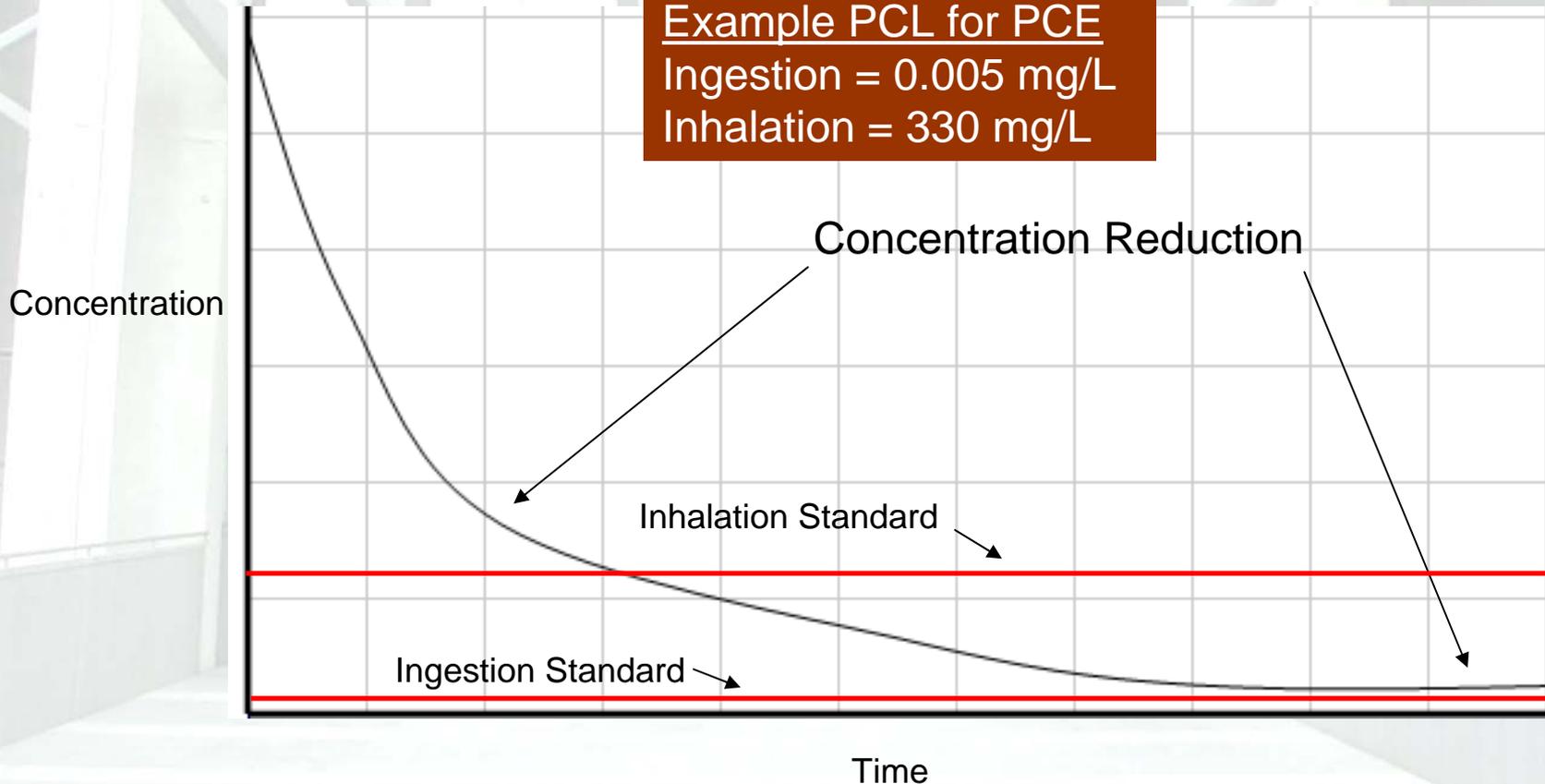


- Groundwater must be cleaned to drinking water standards even if:
  - There is no need or desire to use it, or
  - Water bearing zone is too silty, too salty, or low producing
- Groundwater remediation to drinking water standards is inefficient, costly, and can take decades

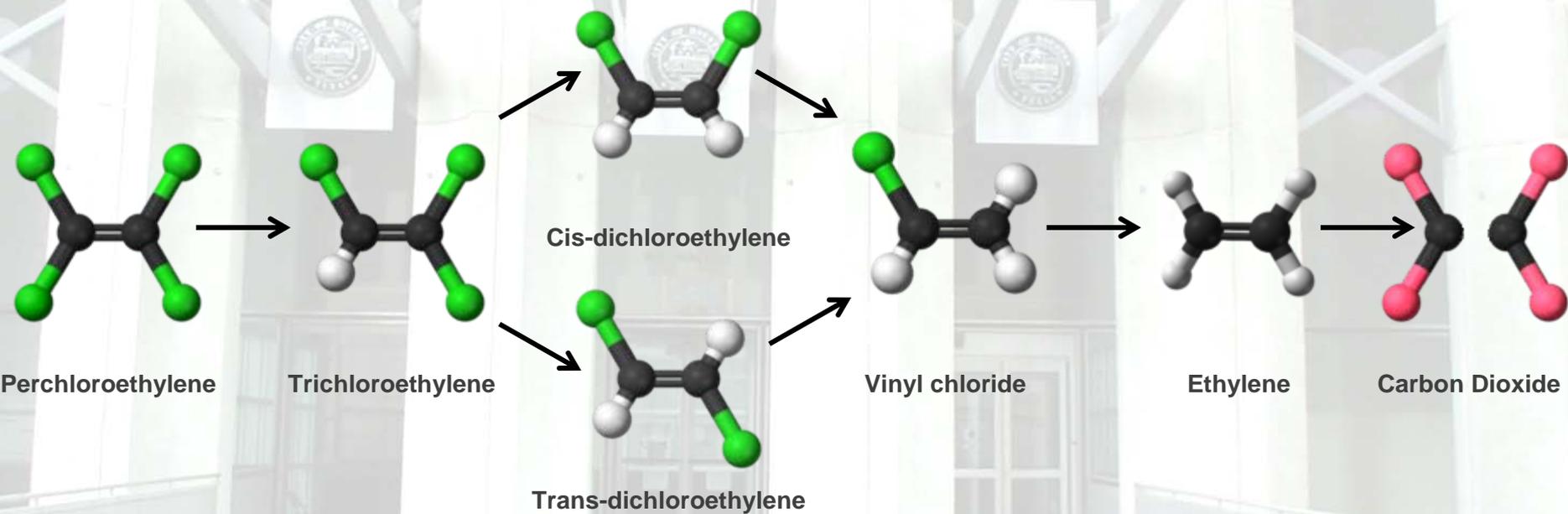
# Groundwater Remediation



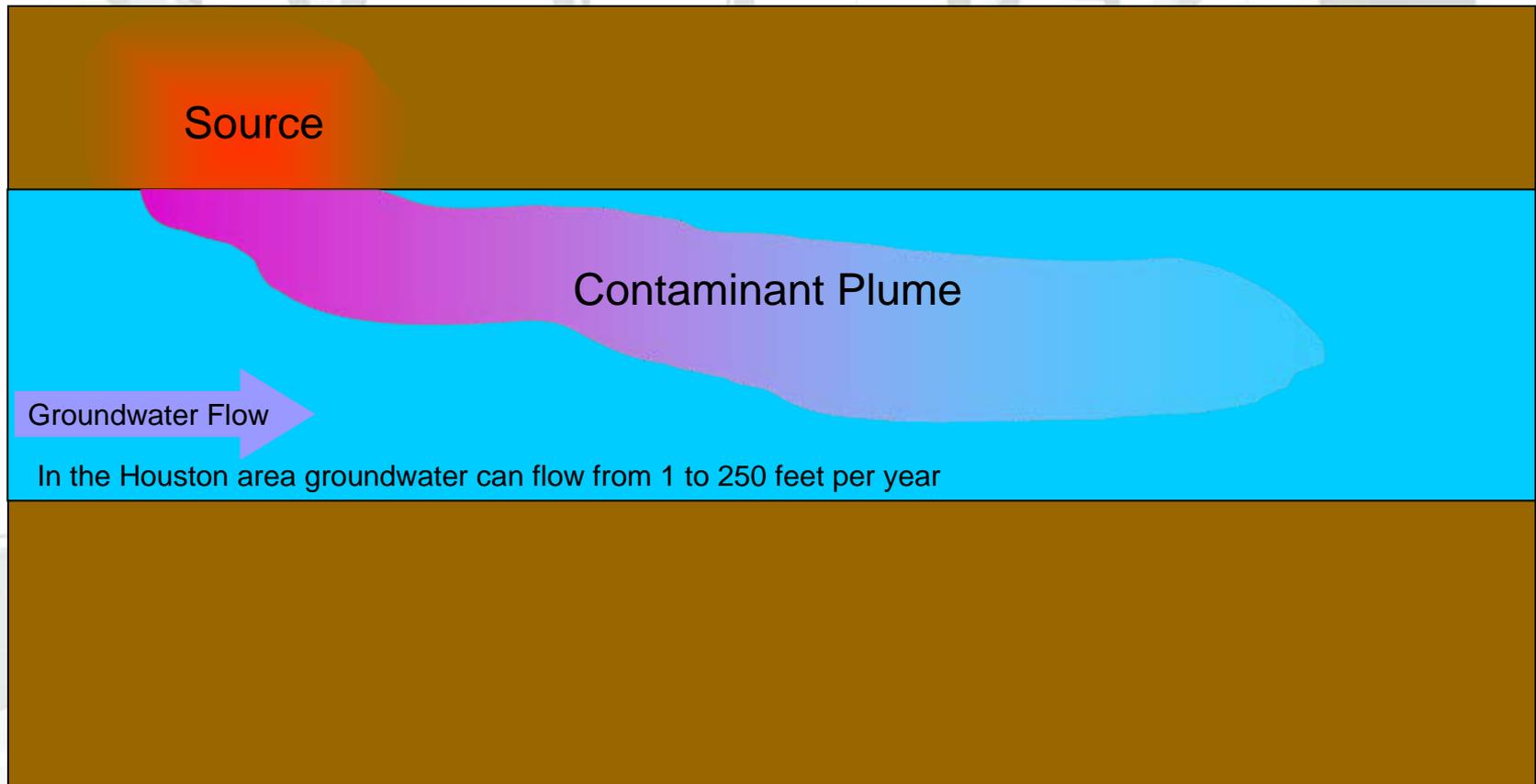
Example PCL for PCE  
Ingestion = 0.005 mg/L  
Inhalation = 330 mg/L



# Natural Attenuation



# Contaminant Flow



# 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:



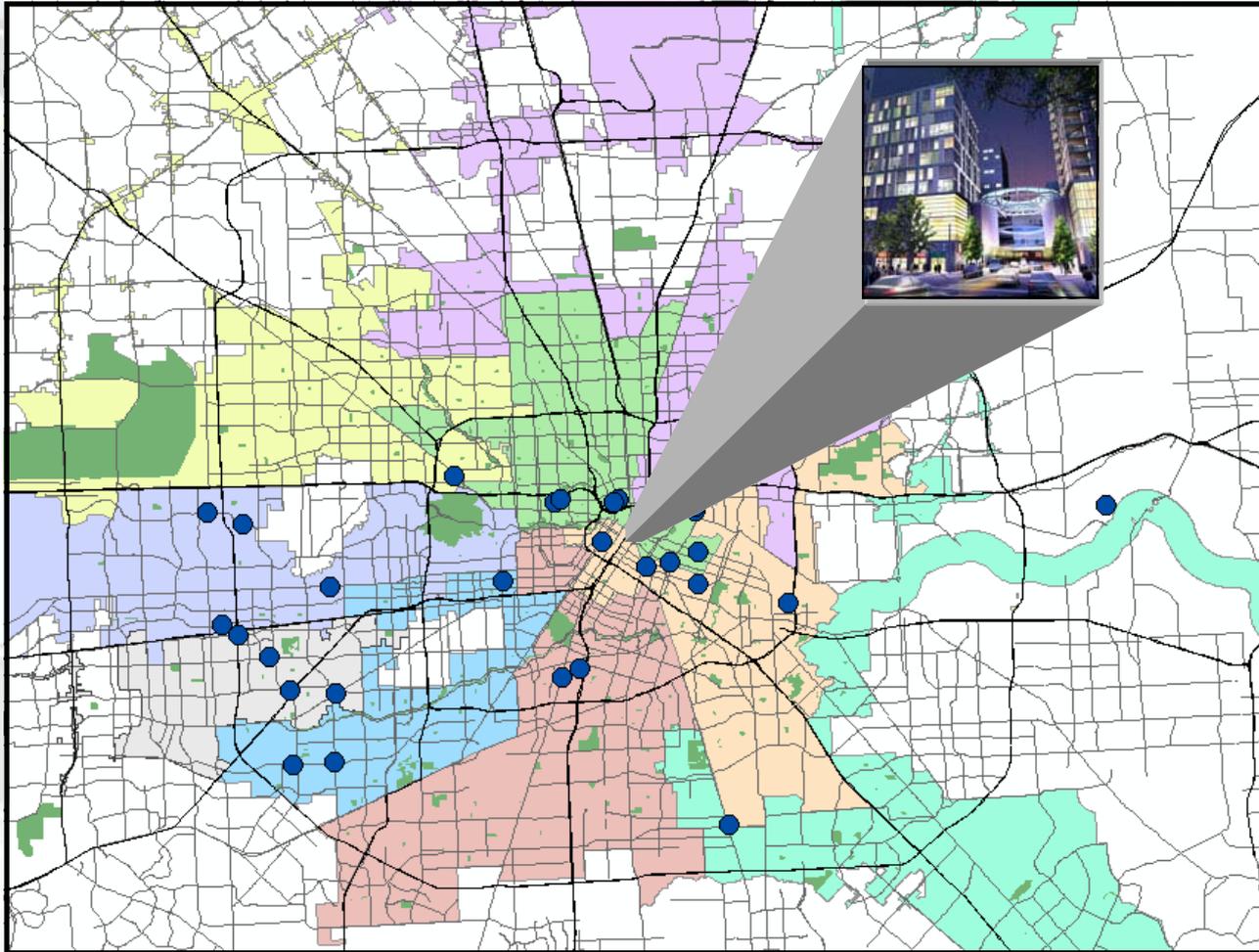
- Site must already be in a State or Federal clean up program
- Site must have been thoroughly investigated
- Data must show that the groundwater plume is stable or diminishing.
- A Professional Engineer (P.E.) or Professional Geologist (P.G.) must be willing to certify that the plume is stable or contracting.

# Why Support An MSD?



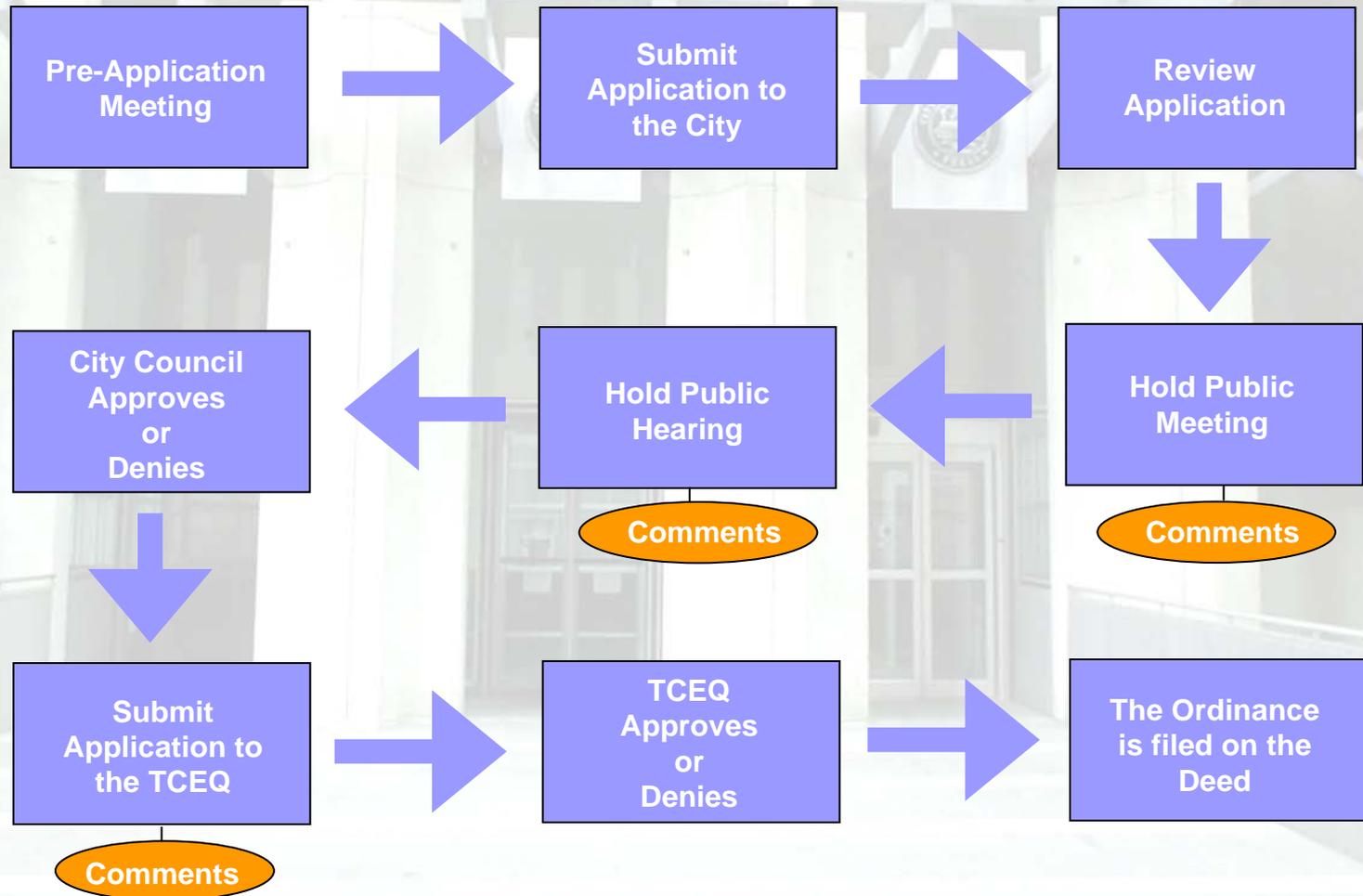
- Protects the public from consumption of shallow contaminated groundwater
- Encourages clean-up of contaminated sites through participation in a State or Federal program
- Promotes redevelopment of under-utilized properties

# MSD Sites in Houston



Municipal Setting Designations (MSDs)

# Steps in the Process



# MSD Application



- Smith Library  
reference desk
- 3624 Scott Street  
Houston, TX 77004

# The MSD Website



The screenshot shows the City of Houston website interface. At the top, there is a navigation bar with links for Home, I Want To..., Government, Services, Residenc, Departments, Visitors, and En Engagem. Below this is a breadcrumb trail: Home > Planning > Municipal Settings Designation. The main content area is titled 'Public Works and Engineering' and 'Municipal Settings Designation'. It includes a 'Department 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 various programs. The main text provides a history of the program, starting with its creation in 2003 and its approval by City Council in 2007. It also lists general information, such as which sites can apply, the application process, and the requirements for approval. At the bottom, there are links for 'Forms and Information' and 'FAQ', along with contact information for Carol Ellinger Haddock, Senior Assistant Director, PE.

[www.houstonmsd.org](http://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: September 16, 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



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&

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**Public Works & Engineering**  
**City of Houston,**  
**611 Walker, 19<sup>th</sup> Floor**  
**Houston, Texas 77002**



**[msd@houstontx.gov](mailto: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](mailto:ssetteme@tceq.state.tx.us)



# ALMEDA CENTRAL DEVELOPMENT MSD

7405 Almeda Road

Board of Regents of the University of Texas System

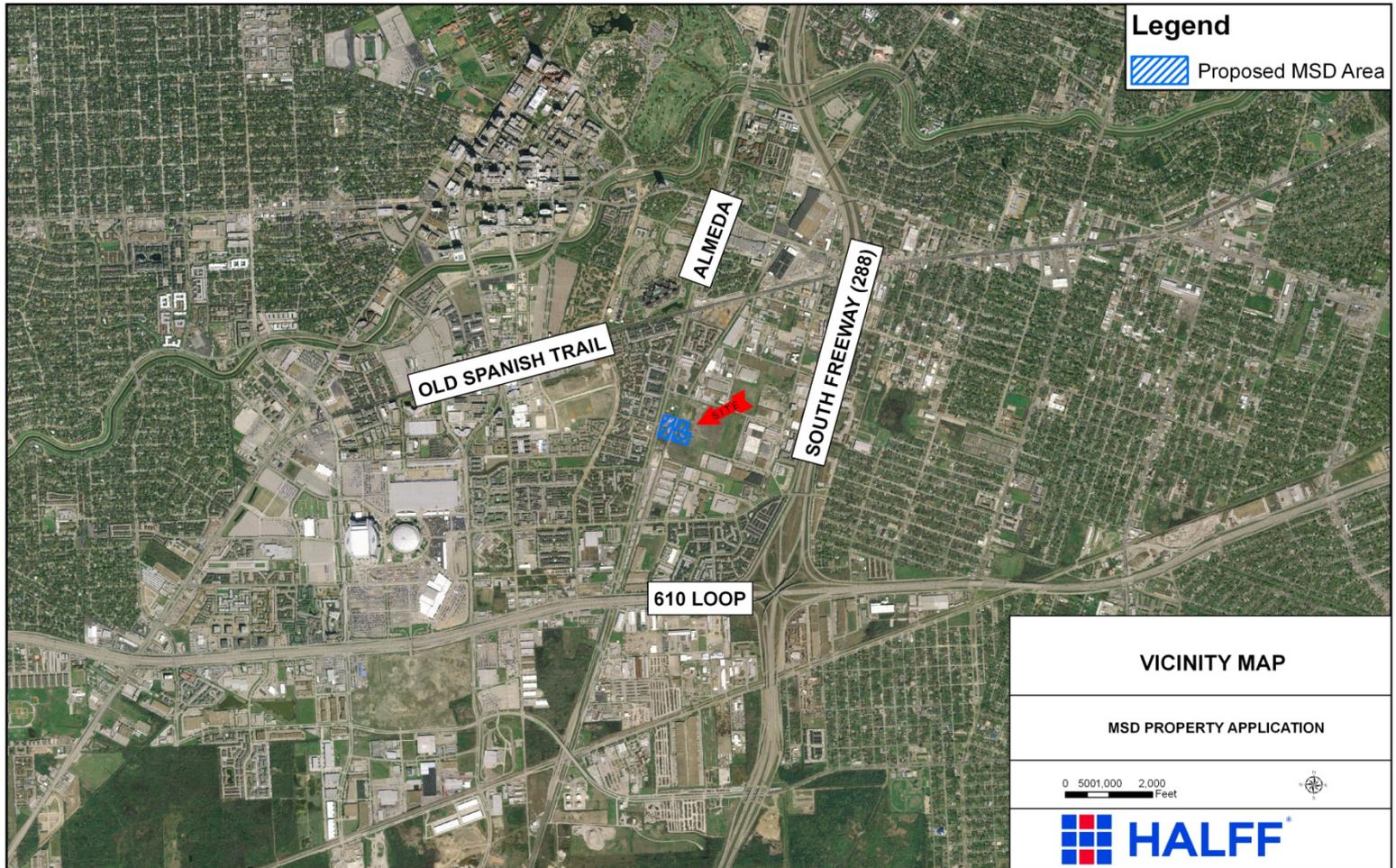
Presenter:  
Kent Belaïre, P.G  
Halff Associates, Inc.  
214-346-6200  
kbelaire@halff.com



# ALMEDA CENTRAL DEVELOPMENT

- ▶ UT System bought Almeda properties in 2007 & 2008 for future campus development
  - ▶ Designated property 5.5 acre site consisting of
    - Former truck yard, solvent facility, and warehouse
    - Portion of a 28 acre undeveloped tract
  - ▶ Entered Voluntary Cleanup Program (TCEQ VCP No. 2076) in 2007 and (TCEQ VCP 2137) in 2008
  - ▶ Located northwest of Highway 288 and I-610 and southeast of Medical Center
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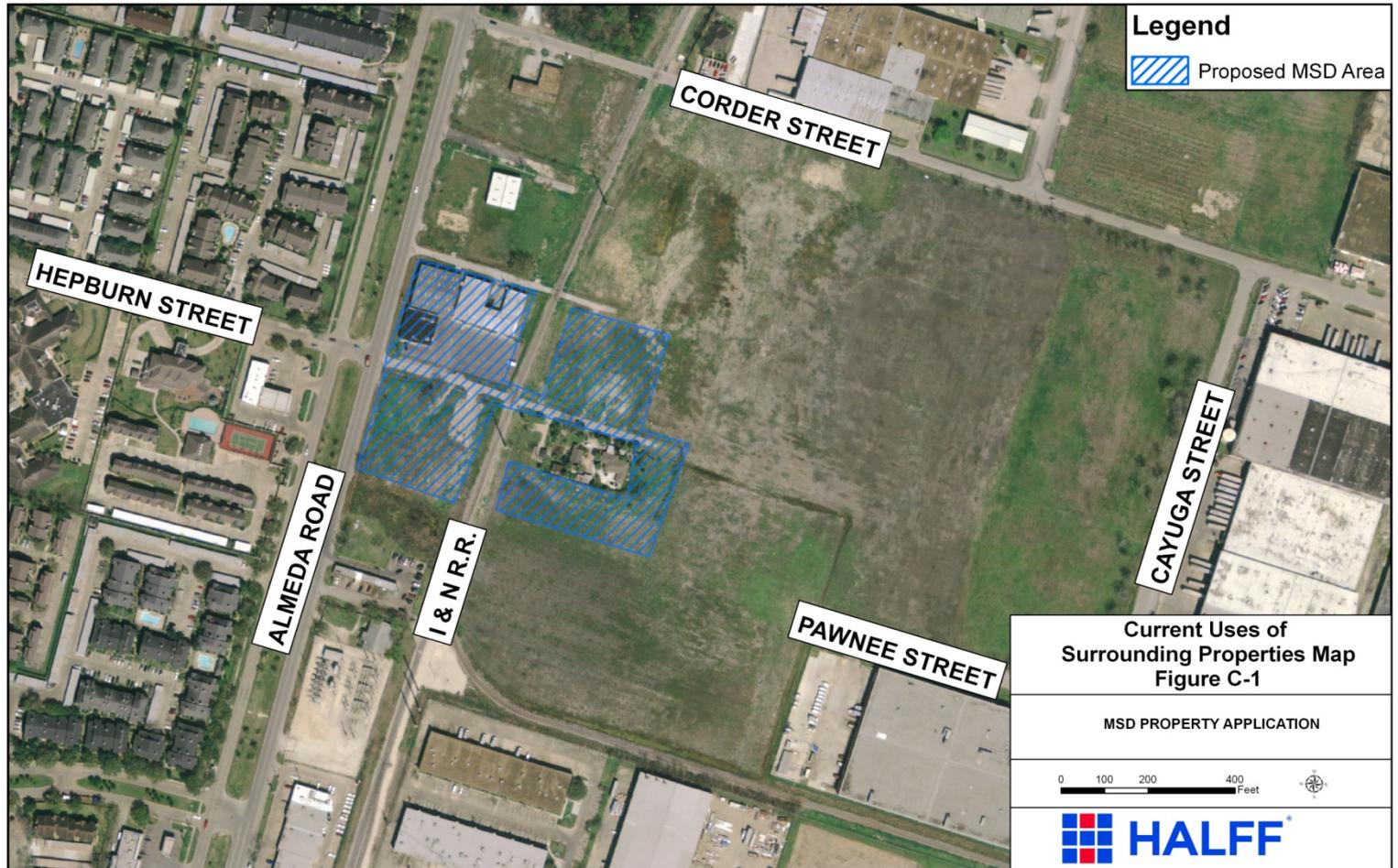
# Site Vicinity



# Benefit to Public

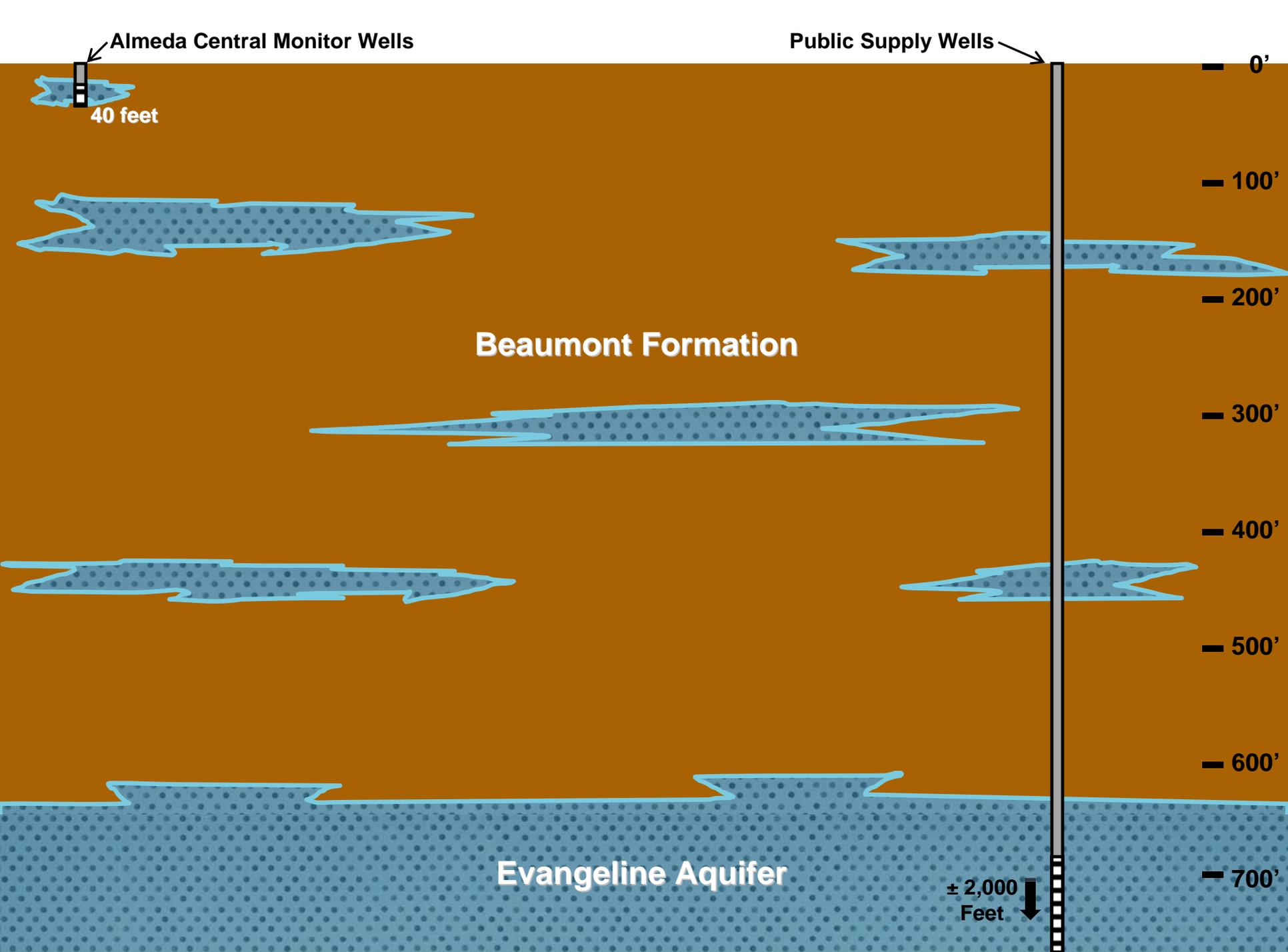
- ▶ An MSD for the Alameda Central Site will benefit the local community
  - An MSD will minimize risk by restricting the use of the property's affected shallow groundwater
  - The development of the site as a campus will create local jobs
  - The development will contribute to the expansion of Medical Center facilities and renewal of the area

# MSD Map



# Site Conditions

- ▶ Groundwater has been impacted by prior owner's historical use of chlorinated solvents (VOCs) and motor fuels
    - The shallow groundwater does not pose a health risk and is not used as a water source in the area
    - The shallow impacts are separated from deeper groundwater zones that might be used for drinking water by several hundred feet of impermeable material
    - Data indicate that the shallow groundwater impacts are stable or contracting in size
  - ▶ No impacts to surface and subsurface soil found that exceed regulatory standards
- 



# Site Before

- ▶ Historical Sources of Contamination by Prior Owners
  - Spills and leaks from above ground storage tanks
  - Chemical handling and storage
  - Underground storage tank fueling systems



# Site Now

- ▶ ±28 Acre Tract is currently vacant. Temporary use as construction staging area
- ▶ 2.43 Acre 7405 Alameda is currently vacant. Above grade improvements demolished



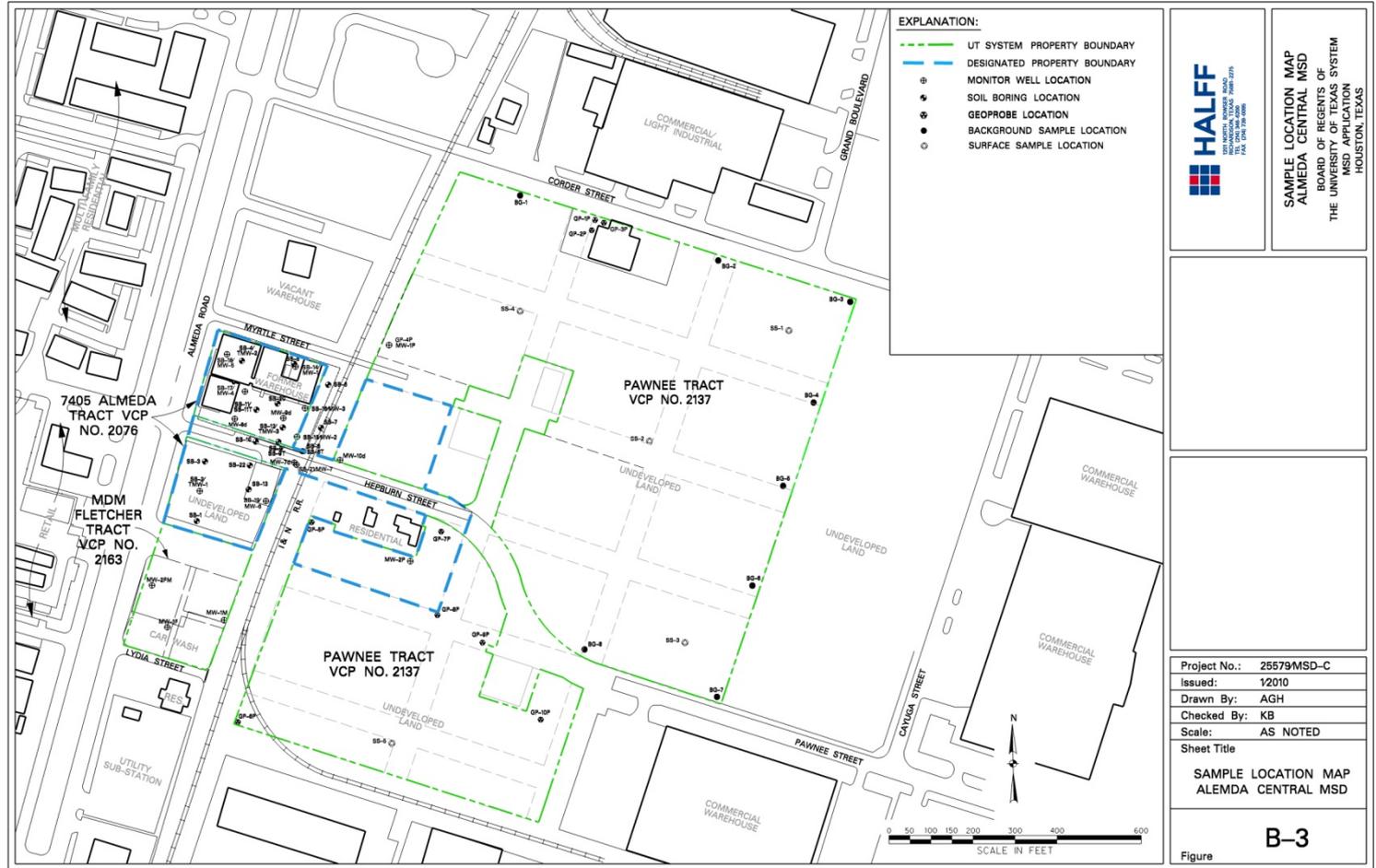
# Historic Investigations

- ▶ Historic Phase I and Phase II Environmental Site Assessments
  - ▶ Affected Property Assessment Reports (January 2009 and February 2010)
  - ▶ APAR Addendum (August 2010)
- 

# Investigation Activities

- ▶ June 2001 Phase I and Phase II ESA 7405 Alameda
- ▶ June 2002 Phase II Soil and Groundwater Investigation 7405 Alameda
- ▶ February 2007 Phase I ESA 7405 Alameda and ±28 Acre Tract
- ▶ March 2007 Phase II ESA 7405 Alameda
- ▶ May 2007 Site Characterization 7405 Alameda
- ▶ October 2007 Horizontal and Vertical delineation of affected soil and groundwater 7405 Alameda
- ▶ April 2008 APAR 7405 Alameda
- ▶ October–November 2008 Soil and Groundwater Investigation ± 28 Acre Tract
- ▶ October 2008 Groundwater monitoring program initiated
- ▶ January 2009 APAR ± 28 Acre Tract
- ▶ September 2009 Additional Site Investigation ± 28 Acre Tract
- ▶ February 2010 APAR Addendum for ±28 Acre Tract

# Soil Boring and Monitor Well Location Map



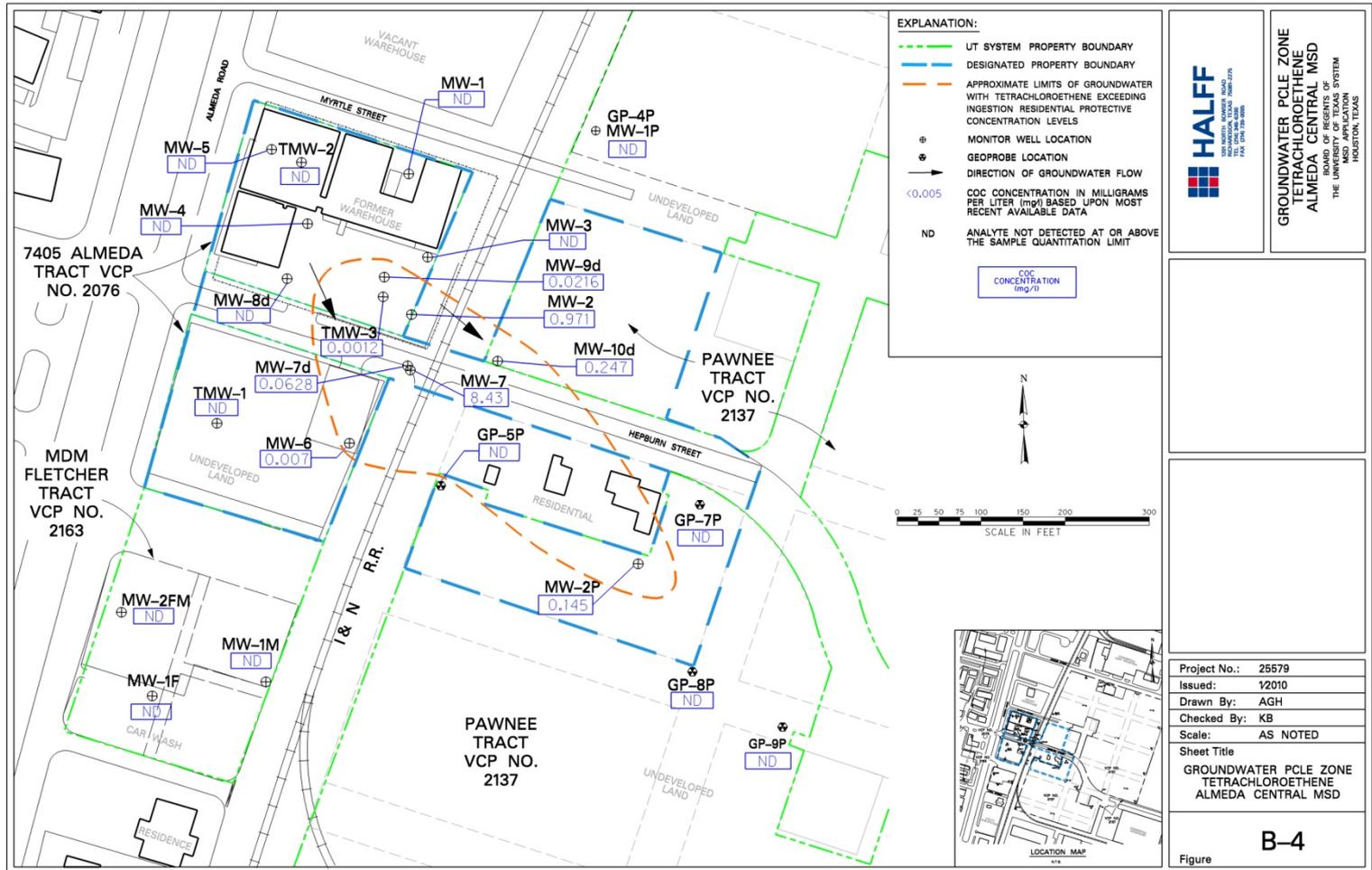
# Remediation Efforts

- ▶ 7405 Alameda entered into VCP in 2007 and ±28 Acre Tract entered into VCP in 2008
  - ▶ Site investigation activities have been on-going for several years
  - ▶ 2 diesel underground storage tanks removed
  - ▶ Fuel and chemical underground and above ground storage tanks removed in 2002 by prior owners
- 

# Remediation Efforts

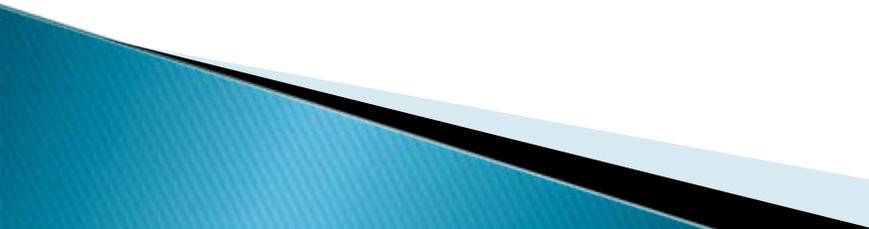
- ▶ 39 soil borings installed during site investigation
  - ▶ 9 temporary groundwater sample points and 13 groundwater monitor wells installed to delineate affected groundwater
  - ▶ 13 groundwater monitor wells sampled periodically since 2007
  - ▶ Over 70 soil samples and 50 groundwater samples analyzed
  - ▶ 3 years of data indicate area of affected groundwater is stable
- 

# Groundwater PCLE Zone – PCE



# Remediation Efforts

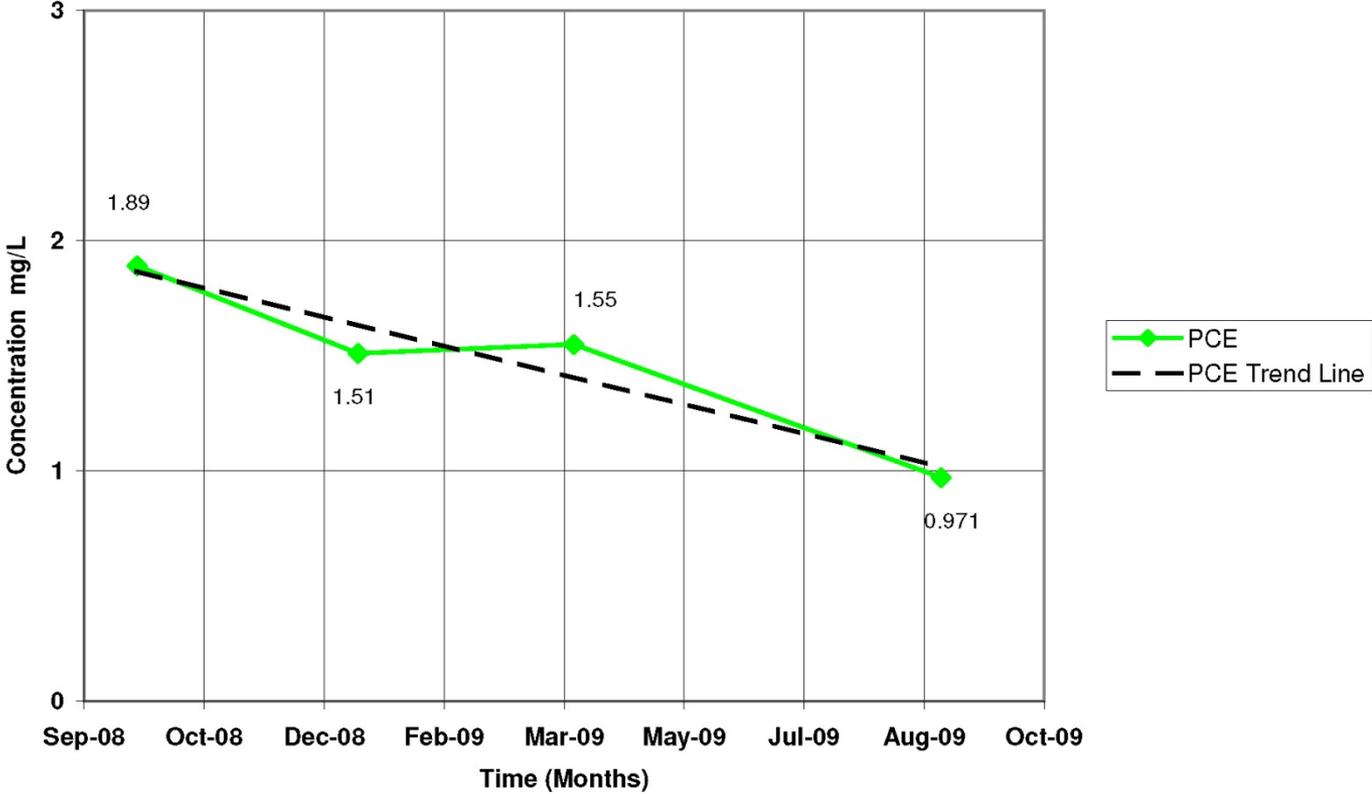
## ▶ Soil

- Site impacted by historic releases associated with former use as solvent facility and fueling operations
  - Primary source (chemical use, chemical storage tanks, and fueling systems) have been removed
  - Soil has been thoroughly investigated (39 soil borings installed and 70+ samples collected for analysis)
  - No concentrations identified in surface or subsurface soil above regulatory standards for residential and/or commercial use with an MSD
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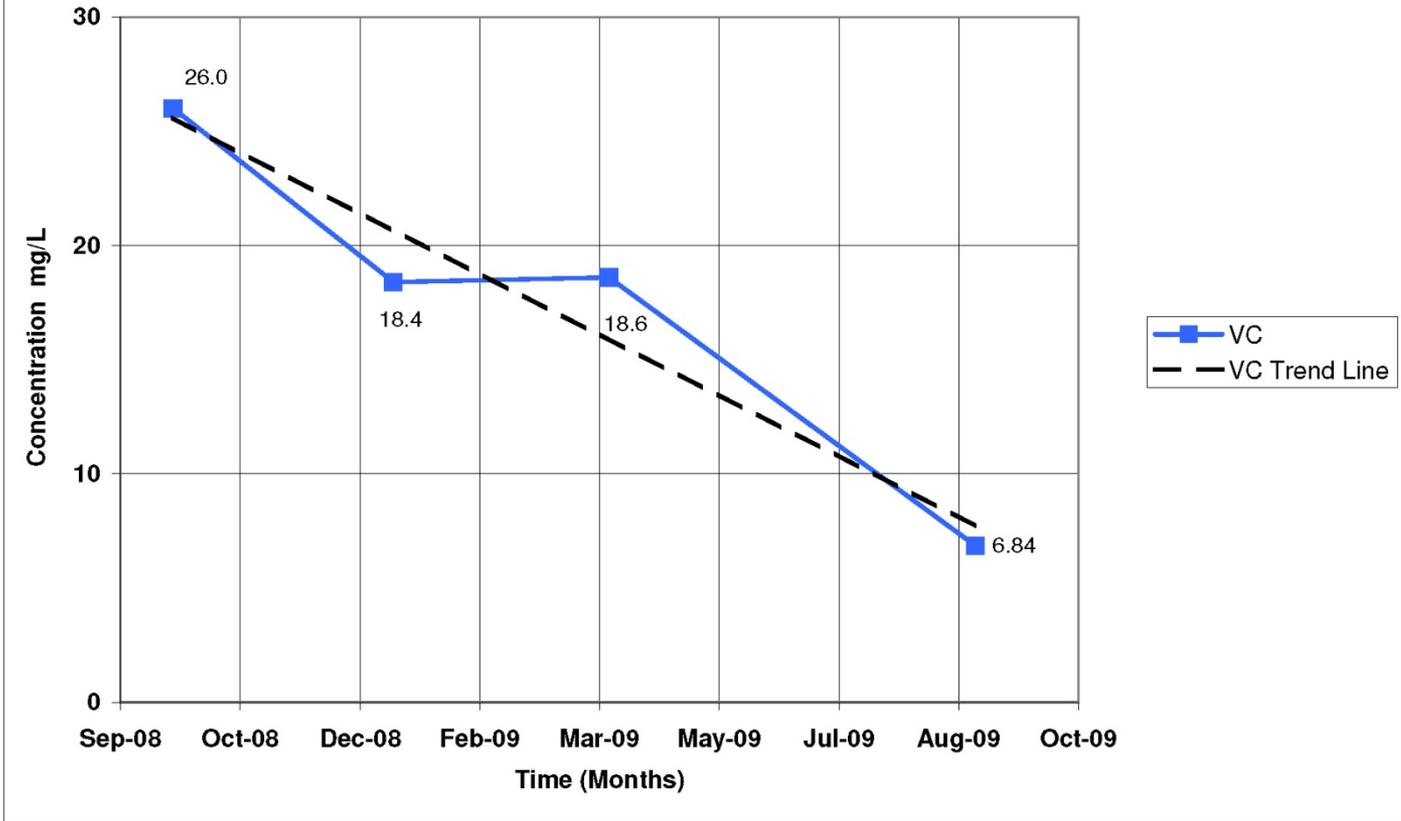
# Remediation Efforts

- ▶ Groundwater
    - Full extent of impacted groundwater investigated
    - 13 permanent monitor wells and 9 temporary wells installed
    - Monitor wells have been sampled periodically since 2007
    - Data indicate concentrations in groundwater are stable or decreasing
    - Evidence of active natural attenuation of volatile compounds identified at site
- 

### PCE Concentration Versus Time MW-2



**VC Concentration Versus Time MW-2**



# SUMMARY

- ▶ Site Investigation and limits of affected soil and groundwater determined
  - ▶ Groundwater plume is stable in aerial extent or decreasing
  - ▶ Natural attenuation of volatile compounds appears active
  - ▶ MSD is protective of public health and the environment
  - ▶ Alameda Central property will be suitable for residential and/or commercial land use
- 