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UP/Hughes Grade Separation

We Heard You

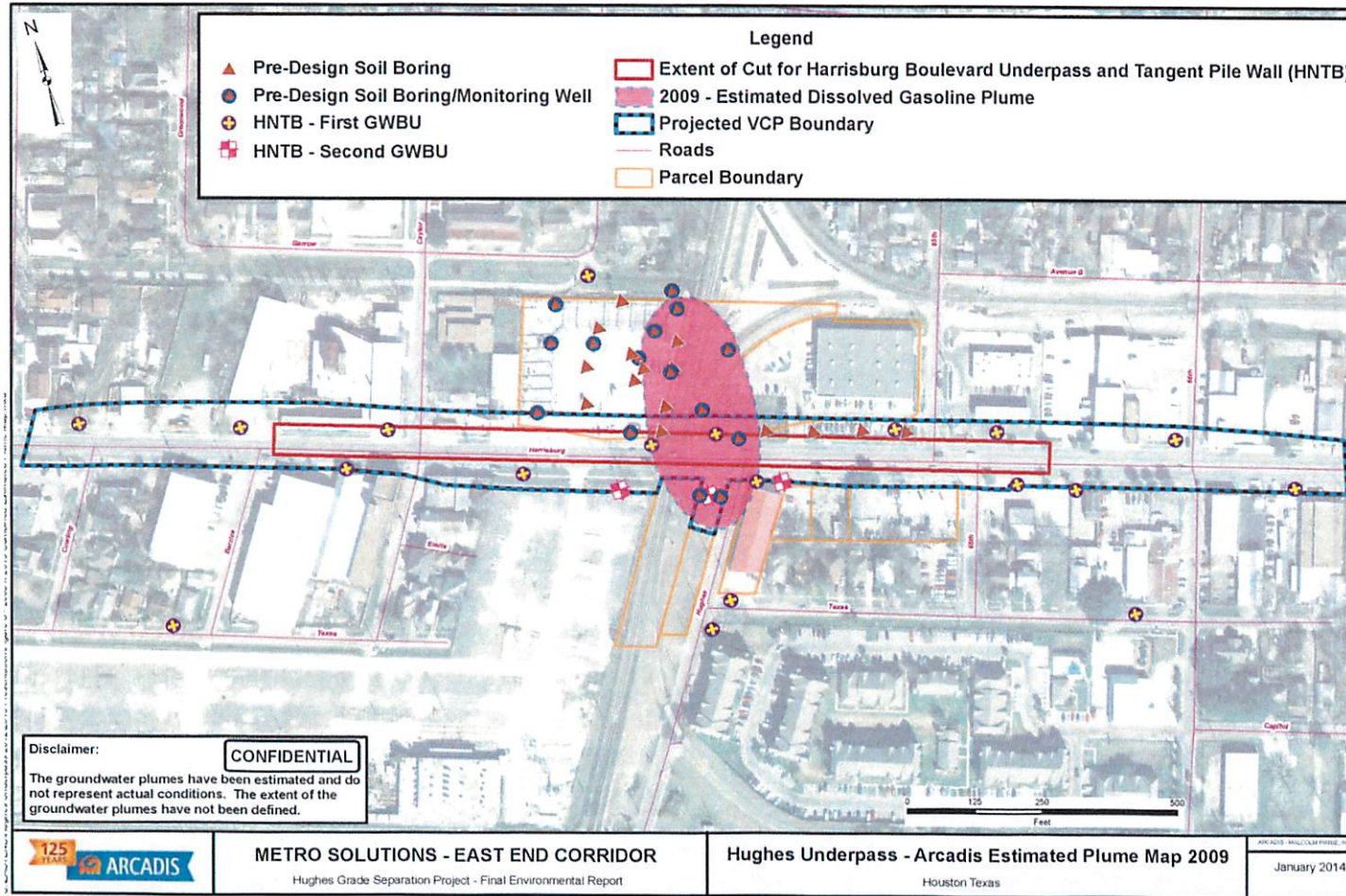
- In 2011, METRO and the City of Houston agreed to a plan to create an underpass at the Union Pacific/Hughes crossing for rail, cars and pedestrians (the all under plan)
- METRO has expended \$8.6M on redesign and moving utilities for the underpass
- We remain committed to connecting the light rail line to the Magnolia Transit Center
- Environmental issues have been discovered that make the original plan impractical and undesirable

How We Got Here

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- METRO knew there was some petroleum hydrocarbon contamination under the proposed construction site
- Estimated extent of contamination known in 2009:



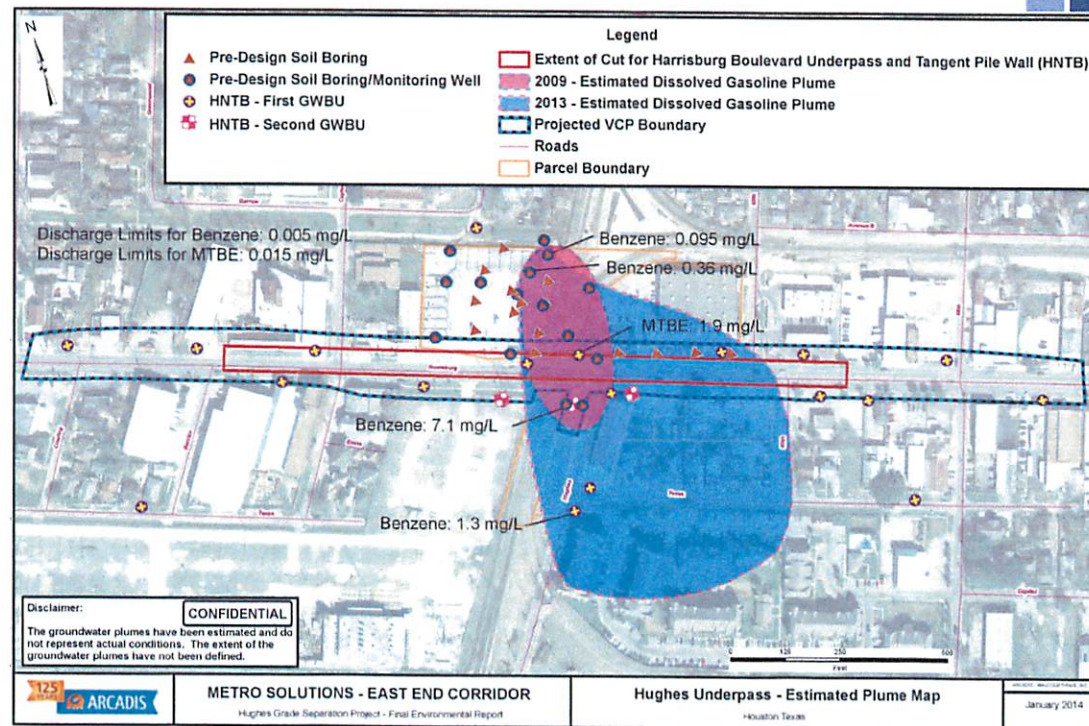
Where We Are Today

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Comparison of Estimated Extent of Contamination Known – 2009 to 2013

- As part of the necessary environmental due diligence, HNTB conducted environmental design investigations consisting of **38** additional borings revealing a larger plume
- Primary contaminants are Benzene and MTBE (Gasoline Constituents)
 - **Benzene (Carcinogen – Cancer Causing Agent)**
 - 1,400 times higher than construction discharge limits
 - **MTBE (Potential Carcinogen – Potential Cancer Causing Agent)**
 - 1,000 times higher than construction discharge limits



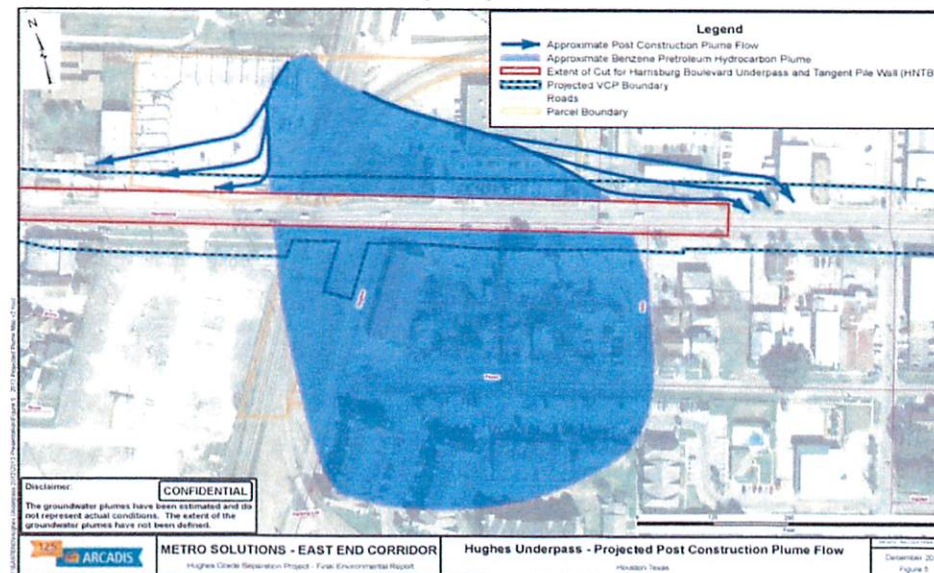
Where We Are Today

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Environmental Concerns With Underpass Construction Expanding Contamination

- Construction for the all under plan would cause removal of the contaminated soil in the ROW that would create a physical barrier to the portion of the plume on Harrisburg
- The barrier (underpass structure) would re-direct the groundwater causing the contamination to potentially expand to currently uncontaminated properties
- The expanded plume could devalue these properties



- During meetings regarding the Harrisburg Underpass, TCEQ has expressed concern with the re-direction of contaminated ground water and concern that the contaminated ground water could reach surface water because of an underpass drainage system

Risks

- Health risk
 - Primary contaminants Benzene and MTBE – cancer causing agents
 - Air-Pollution from the petroleum-based vapors is unavoidable
 - Actual or perceived effects to public and worker's health
 - Strong petroleum-based odors can impact businesses in and around construction zone
- Liabilities
 - Long term maintenance of underpass structure
 - Potential reduction of property values
 - Potential litigations
- Environmental field cost & liability
 - True cost and liability still unknown
 - Based on current estimation of plume that is known today, environmental cleanup of north side of Harrisburg only or cleanup of the north & south side:
 - » The estimated cost range is \$8.3M - \$16.2M
 - » The estimated cleanup timeframe is 5-10 years

City of Houston's Implementation of State Law on Contaminated Ground Water

- Multiple Setting Designation (MSD)
 - Engineer certifies stability of plume
 - Property owners as co-applicant on MSD places deed restriction regarding ground water usage
 - TCEQ issues and approves MSD
 - Ensures property owners do not drink water

Alternative Design

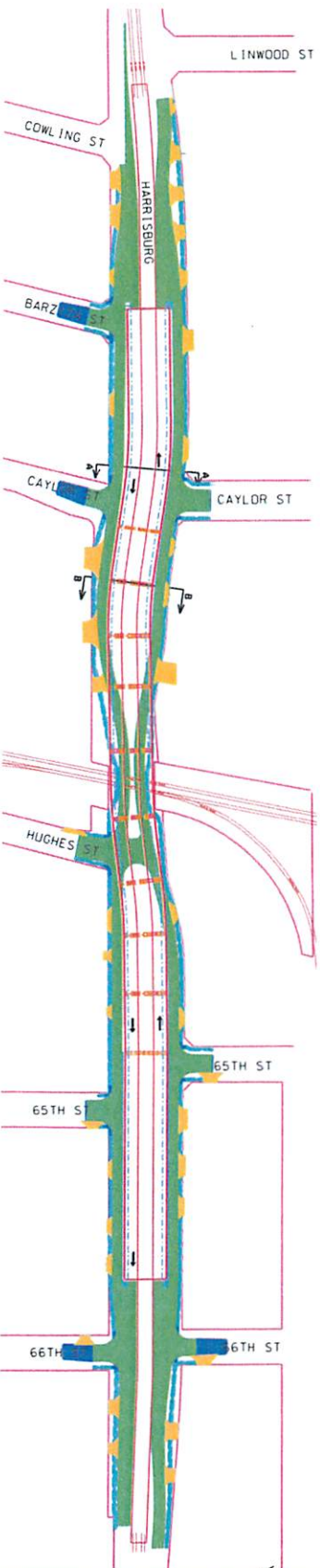
- To minimize disturbing the plume and creating new liability, but to preserve business access, METRO proposes LRT over with roadway both over and at-grade
 - LRT over
 - 16-foot traffic lane each direction over
 - 16-foot traffic lane each direction crossing railroad tracks
 - 5-foot sidewalk each direction over
 - 6-foot sidewalk each direction crossing railroad tracks
 - Estimated remaining cost to complete range of \$34M - \$37M

Alternative Design

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- LRT Over with Roadway Over & At-Grade



Alternative Design – Project Benefits

- Avoid new environmental liability
- Avoid additional construction delays
- Access to Businesses Maintained
 - Vehicular
 - Pedestrian
- Pedestrian & Aesthetics
 - Improved sidewalks
 - New way-finding signage
 - New landscaping
- Major Thoroughfare Plan
 - Existing: 2 traffic lanes
 - Proposed: 4 traffic lanes
 - 2 traffic lanes at grade
 - 2 traffic lanes grade separated
- Design will allow for a traffic signal at 66th Street when/if traffic volumes warrant

Averett & Bondan
(North Side)