

Municipal Setting Designation Application Instructions

Pre-Application Meeting: While a pre-application meeting is not mandatory, it is strongly encouraged to discuss the specific details of the site. Please note: the City of Houston will not support a Municipal Settings Designation (MSD) application unless a Professional Geologist (P.G.) or Professional Engineer (P.E.) has certified that the groundwater plume is stable or decreasing, the source has been removed, and there is no contact of the contaminated groundwater to surface water.

Please contact Richard Chapin at (832) 395-2689, Richard.Chapin@houston.tx.gov, or Jedediah Greenfield at (832) 395-2695, Jedediah.Greenfield@houston.tx.gov to schedule a pre-application meeting.

Application Form: For the application to be complete please submit the following:

- 1) Two (2) hard copies of the application (The well logs are not necessary for the hard copies). Please separate the application appendices with divider sheets that are tabbed.
- 2) An electronic portable digital file (pdf) of the application including all supporting material
- 3) An electronic Excel file with mailing addresses for water well owners and property owners. (Templates can be found on the MSD website, www.houstonmsd.org)

The MSD application process is governed by Chapter 47, Article XIII of the City of Houston's Code of Ordinances (ordinance number 2007-959, and amended by ordinance number 2010-556). Failure to use this application form may result in denial of the application.

The application should be clear, complete, concise, correct, contain only relevant information and be organized to facilitate analysis. Supporting documentation should be submitted as a separate appendix to the application, as noted (Label "Appendix_ ") for each numbered item. You should also indicate by checking "Yes", "No", or "N/A" in response to the stated question.

Maps: All maps must be accurate and should be drawn to scale. The supporting information can be consolidated on fewer maps than are listed, provided the information is legible.

A professional surveyor registered with the Texas Board of Professional Surveying must certify that all property descriptions with metes and bounds are accurate.

Submittal: Submit the application form and all supporting information, along with an application fee of \$3,400.00 (payable to City of Houston) to the address below. Important Note: The applicant must also pay the cost of mailing notices, (approximately \$8.00 per certified mail and \$3.00 per first-class mail), and any applicable venue costs (costs vary by location).

Jedediah Greenfield
City of Houston MSD Program
Public Works and Engineering Department
611 Walker, 19th Floor
Houston, Texas 77002

CITY OF HOUSTON



**PUBLIC WORKS AND
ENGINEERING
PLANNING & DEVELOPMENT
DIVISION**

Application for Approval of Municipal Setting Designation

APPLICANT INFORMATION

Applicant's Name: _____

Individual Private Entity Public Entity Non-Profit Entity Other _____

Address: _____
(Street) (City) (State) (Zip)

Phone No.: _____ Fax No.: _____

Email: _____

Contact Information

Name of Contact: _____

Title: _____

Address: _____
(Street) (City) (State) (Zip)

Phone No.: _____ Fax No.: _____

Email: _____

SITE INFORMATION

Site Name: _____

Site Size: _____

Site Address: _____
(Street) (City) (State) (Zip)

(List all owners – additional sheet is attached, if needed)

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Additional Owner List
(Cont'd from pg. 2)

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

ITEM	YES	NO	N/A	COH Use Only
Executive Summary				
1. Provide a legal description of the boundaries of the designated property, including metes and bounds, and a copy of the deed for the property. <u>Label "Appendix A" –Cross Reference with TCEQ's # 3</u>				
2. A site map showing: <ul style="list-style-type: none"> a. The location of the designated property. b. The topography of the designated property as indicated on publicly available sources, which must note the watershed and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code. c. The detected area of groundwater contamination. d. The location of all soil sampling locations and all groundwater monitoring wells. e. Groundwater gradients, to the extent known, and direction of groundwater flow. f. The ingestion protective concentration level exceedence zone for each contaminant of concern, to the extent known. <u>Label "Appendix B" - Cross Reference with TCEQ's # 1, 2 & 4</u>				
3. A description of the current use, and, to the extent known, the anticipated use(s), of the designated property and properties within 500 feet of the boundary of the designated property. <u>Label "Appendix C"</u>				
4. For each contaminant of concern within the ingestion protective concentration level exceedence zone, to the extent known, provide the following: <ul style="list-style-type: none"> a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface. b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units. c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats or is soluble in water). <u>Label "Appendix D" - Cross Reference with TCEQ's # 5</u>				
5. For each contaminant of concern within the designated groundwater, to the extent known: <ul style="list-style-type: none"> a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface. b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units. c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats or is soluble in water). <u>Label "Appendix E" - Cross Reference with TCEQ's # 5</u>				

ITEM	YES	NO	N/A	COH Use Only
<p>6. A table displaying the following information for each contaminant of concern, to the extent known:</p> <ul style="list-style-type: none"> a. The maximum concentration level for soil and groundwater, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units. b. The critical protective concentration level without the municipal setting designation, highlighting any exceedences. <p><u>Label "Appendix F" - Cross Reference with TCEQ's # 5</u></p>				
<p>7. A statement as to whether the plume of contamination is stable, or contracting, with the basis for that statement. If this information is not known, a statement of why the information is not known should be attached.</p> <p><u>Label "Appendix G"</u></p>				
<p>8. A statement as to whether contamination on and off the designated property without a Municipal Setting Designation <u>exceeds</u> a residential assessment level as defined in the Texas Risk Reduction Program or analogous residential level set by EPA, if known, and the basis for that statement.</p> <p><u>Label "Appendix H"</u></p>				
<p>9. A statement as to whether contamination on and off the designated property with a Municipal Setting Designation <u>will exceed</u> a residential assessment level as defined in the Texas Risk Reduction Program or analogous residential level set by EPA, if known, and the basis for that statement.</p> <p><u>Label "Appendix I"</u></p>				
<p>10. Identification of the points of origin of the contamination and the persons responsible for the contamination, to the extent known.</p> <p><u>Label "Appendix J"</u></p>				
<p>11. Environmental regulatory actions, litigation, and plume identification.</p> <ul style="list-style-type: none"> a. A description of any environmental regulatory actions that have been taken within the past five years in connection with the designated property, to the extent known. b. A description of any litigation that has taken place within the past five years in connection with the designated property, to the extent known. c. A statement as to whether there are any other remediation activities by the applicant, or any other party or agency, which are not listed in the application. d. A statement as to which contamination plume and groundwater zone the applicant is including in the MSD. <p><u>Label "Appendix K"</u></p>				
<p>12. A listing of all existing state or EPA registrations, permits, and identification numbers that applies to the designated property.</p> <p><u>Label "Appendix L"</u></p>				

ITEM	YES	NO	N/A	COH Use Only
<p>13. A statement as to whether the designated property has been admitted to the Texas Voluntary Cleanup Program (section 361.601 of the Texas Health & Safety Code, as may be amended from time to time) or similar state or federal programs, and a description of the status of the designated property in the program.</p> <p style="text-align: center;"><u>Label "Appendix M"</u></p>				
<p>14. A summary of any environmental site assessment reports filed with TCEQ regarding any site investigations or response actions that are planned, ongoing or completed related to the designated property.</p> <p style="text-align: center;"><u>Label "Appendix N"</u></p>				
<p>15. A statement as to whether any public drinking water supply system exists that satisfies the requirements of Chapter 341 of the Texas Health and Safety Code and that supplies or is capable of supplying drinking water to the designated property and property within one-half mile of the designated property and the identity of each supply system.</p> <p style="text-align: center;"><u>Label "Appendix O" - Cross Reference with TCEQ's # 2, 1st bullet</u></p>				
<p>16. The name and address of each owner or operator of a water well registered or permitted by the state or the Houston-Galveston Subsidence District that is located within five miles of the boundary of the designated property, along with a map showing the location of each well and, to the extent known, a notation of whether each well is used for potable water.</p> <p style="text-align: center;"><u>Label "Appendix P" - Cross Reference with TCEQ's # 8 & 9</u></p>				
<p>17. The name and address of each retail public utility, as defined in section 13.002 of the Texas Water Code that owns or operates a groundwater supply well within five miles of the boundary of the designated property.</p> <p style="text-align: center;"><u>Label "Appendix Q" - Cross Reference with TCEQ's # 7, 3rd bullet</u></p>				
<p>18. A listing of each municipality, other than the city of Houston, with a corporate limit within one-half mile of the boundary of the designated property.</p> <p style="text-align: center;"><u>Label "Appendix R" - Cross Reference with TCEQ's # 7, 2nd bullet</u></p>				
<p>19. A listing of each municipality, other than the city of Houston, that owns or operates a groundwater supply well within five miles of the boundary of the designated property.</p> <p style="text-align: center;"><u>Label "Appendix S" - Cross Reference with TCEQ's # 7, 4th bullet</u></p>				
<p>20. A listing of owners of real property within 2,500 ft. of the boundary of the designated property as indicated by the most recent appraisal district records.</p> <p style="text-align: center;"><u>Label "Appendix T"</u></p>				

ITEM	YES	NO	N/A	COH Use Only
<p>21. The following statement signed and sealed by a licensed professional engineer or licensed professional geoscientist authorized to practice in the State of Texas with expertise in environmental remediation: ‘To the best of my knowledge and belief, based upon a review of all public and private records and other information sources available to me in the exercise of due diligence, the opinions stated and conclusions made in this application are supported by such information, and the technical and scientific information submitted with the application is true, accurate and complete. Based on such review, the contaminants of concern from sources on the designated property or migrating from or through the designated property more likely than not do exceed or do not exceed a non-ingestion protective concentration level on property beyond the boundaries of the designated property’</p> <p style="text-align: center;"><u>Label “Appendix U”</u></p>				
<p>22. If the licensed professional engineer or licensed professional geoscientist determines that contaminants of concern from sources on the designated property are migrating from or through the designated property more likely than not do exceed a non-ingestion protective concentration level on property beyond the boundary of the designated property, then the applicant must:</p> <ol style="list-style-type: none"> a. Specify the name and address of the owner of each property. b. Send a copy of the application to the owner of the property with the notice of the public meeting. c. Provide documentation that the designated property has been included in a state or federal program that requires that the entire non-ingestion protective concentration level exceedance zone be addressed to the satisfaction of the agency administering the program, along with documentation of the estimated time period in which it is to be addressed. An example of such a program is the Texas Voluntary Cleanup Program (section 361.501 of the Texas Health and Safety Code, as may be amended from time to time). d. Provide documentation upon completion of the state or federal program showing that the non-ingestion protective concentration level exceedances have been addressed to the satisfaction of the agency administering the program. <p style="text-align: center;"><u>Label “Appendix V”</u></p>				
<p>23. The following statement certified by the applicant and any authorized representatives of the applicant(s) listed in the application: ‘I certify under penalty of law that this application and all attachments were prepared under my direction or supervision in a manner designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violation’.</p> <p style="text-align: center;"><u>Label “Appendix W”</u></p>				
<p>24. A copy of the TCEQ application, if it has been filed, excluding attachments. <u>Label “Appendix X”</u></p>				

ITEM	YES	NO	N/A	COH Use Only
25. The signature of the applicant and proof that the applicant has the legal authority to restrict the use of groundwater on the designated property. <u>Label "Appendix Y"</u>				
26. An application processing fee of \$3,400.00 payable to "City of Houston". <u>Label "Appendix Z"</u>				
27. If the plume extends beyond the limits of this application's MSD boundary, list the owners of the additional property beneath which the plume(s) extend(s), and a summary of interactions with those property owners about the plume(s) and this MSD application. <u>Label "Appendix AA"</u>				
28. A CD (or other devise) containing the pdf file of the application, Excel spreadsheet of water well owners and property owners for mailing, and a Word document of the metes and bounds. <u>Label "Appendix BB"</u>				
29. A statement as to the history of the site, <u>255 character</u> maximum, including spaces. (This statement will be used on documents given to City Council when they consider the ordinance of support.) <u>Label "Appendix CC"</u>				
30. A statement as to the remediation efforts of the site, <u>255 character</u> maximum, includes spaces. (This statement will be used on documents given to City Council when they consider the ordinance of support.) <u>Label "Appendix DD"</u>				
31. A statement describing the groundwater plume(s), <u>255 character</u> maximum, including spaces. (This statement will be used on documents given to City Council when they consider the ordinance of support.) <u>Label "Appendix EE"</u>				

CITY OF HOUSTON



**PUBLIC WORKS AND
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DIVISION**

EXECUTIVE SUMMARY

The designated property (also referred to as the “Site”) is located in Houston, Harris County, Texas. The property address is 8945 Manchester Street, Houston, Texas 77012. The Site is bordered to the north by the Houston Ship Channel (HSC), a navigable waterway operated and regulated by the Port of Houston Authority (PHA); to the east by the Interstate Highway 610 right-of-way that consists of a multi-lane bridge crossing the HSC; and to the south by Manchester Street. The Site owners recently purchased the property to the west (8901 Manchester Street); which was formerly leased for wood and brush chipping operations (Angelina Fuels, LLC.) and an equipment laydown and storage (Lone Star Terminal LLC). The Site was developed in 1913 by Lone Star Cement and operated as a cement manufacturing facility until the late 1980s. The Lone Star Cement facility was razed in the early 1990s. Texas Port Recycling, LP (TPR) purchased the property in 2006 and currently operates a metals recycling facility on the property. There have been numerous industrial operations to the south, east, and west of the Site since the early 1900’s including chemical manufacturers, oil refineries, automotive repair facilities, a service station, and manufacturing facilities.

Attachments A through EE include figures, tables and laboratory analytical results from historical Site investigations. Previous environmental investigation activities at the Site have identified chemicals of concern (COCs) in the soils and groundwater above the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) residential protective concentration levels (PCLs). Non-aqueous phase liquid (NAPL) has historically been detected in monitoring well PP-3 (Figure B-3) at a thickness of approximately 0.17 feet; however, the NAPL appears to be localized and has not been identified in other wells. Based on environmental sampling, the groundwater COC plumes appear to be stable. The COC affected groundwater is encountered, on average, 15 feet below ground surface (ft-bgs) across the Site (except immediately adjacent to the HSC) and flows to the northeast. Based on historical groundwater level measurements, the groundwater gradient beneath the site is relatively flat on the southern portion of the property and steepens to the north toward the HSC.

CITY OF HOUSTON



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DIVISION

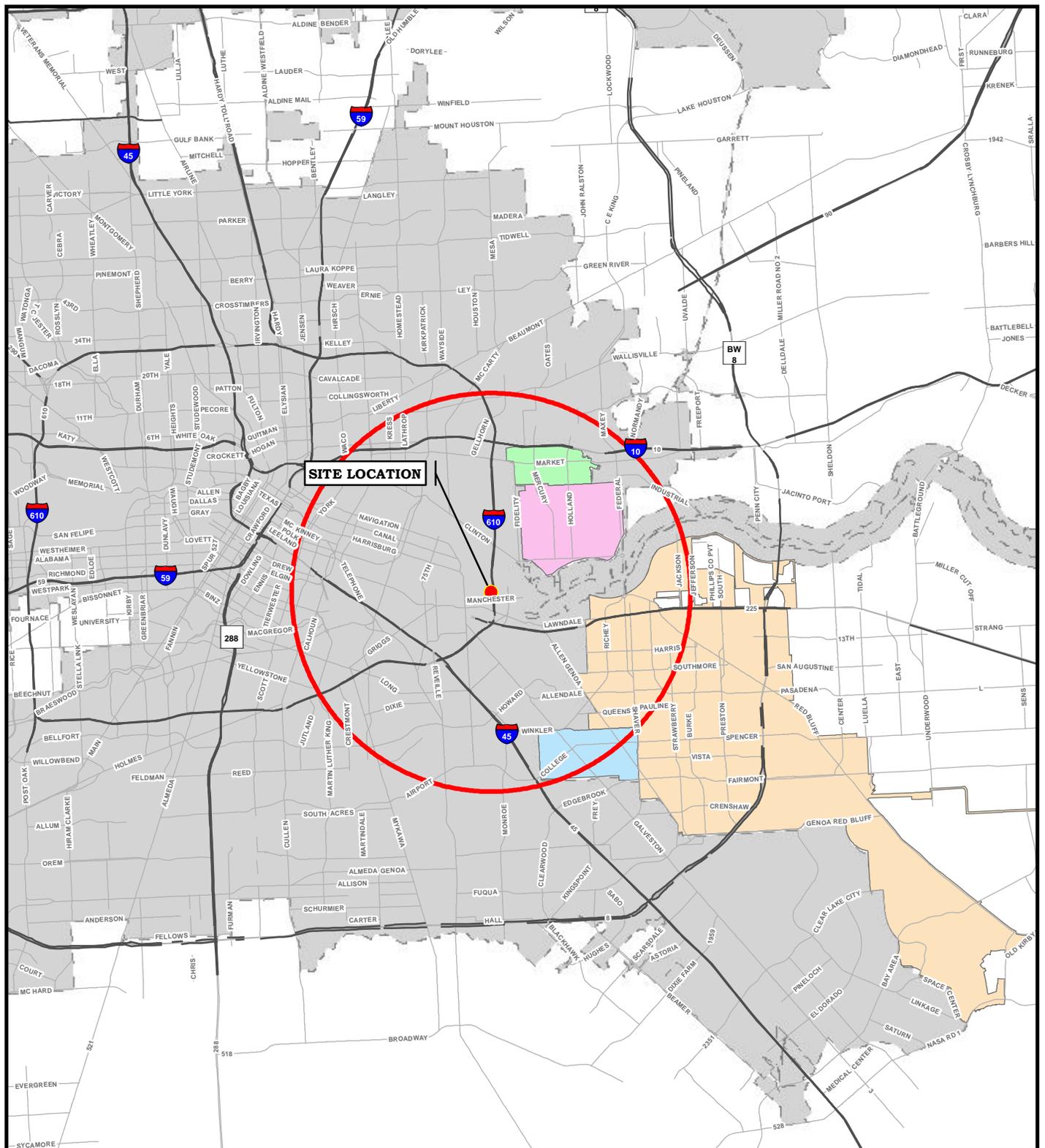
EXECUTIVE SUMMARY (cont.)

There are no COCs detected in the shallow GWBU above the TRRP non-ingestion PCLs. The COCs detected in the shallow groundwater-bearing unit (GWBU) identified above TCEQ Tier 1 TRRP residential assessment levels (RALs) include benzene, ethylbenzene, xylenes, methylene chloride, lead, benzo (a) pyrene and total petroleum hydrocarbons (TPH). The extent of groundwater impacts has been delineated vertically and horizontally. Environmental investigations have shown that the TRRP PCL exceedance (PCLE) zones are stable and/or decreasing in size. Based on field observations, soil and groundwater analytical results from on-Site monitoring well MW-19, and sediment and surface water analytical results from recent environmental investigations conducted on the HSC adjacent to the Site, there are no impacts to HSC sediments or surface water.

The COCs detected in soils above TCEQ TRRP non-ingestion PCLs include TPH. The COCs detected in the Site soils above TCEQ Tier 1 TRRP ingestion PCLs include BTEX, methylene chloride, arsenic, 1-methylnaphthalene, 2-methylnaphthalene, TPH and benzo (a) pyrene. Non-ingestion PCL exceedances of TPH in surface soil will be addressed under future remedial action, such as excavation or engineered barriers.

A receptor survey indicated that no hospitals, nursing homes, churches, schools, or recreational areas are present within 500 feet of the Site; however, several private residences are located east of Interstate Highway 610, hydraulically crossgradient from the Site. Except for the HSC, no ecological receptors exist within 500 feet of the Site. Based on soil and groundwater analytical testing results collected from monitoring well MW-19 which is located adjacent to the HSC, there are no impacts to HSC surface water.

There are no municipalities within a ½-mile radius of the property other than the City of Houston. In addition to the City of Houston, Jacinto City, the City of Galena Park, the City of Pasadena and the City of South Houston are located within a 5-mile radius of the site. Eight registered water wells are located within one-half mile of the site. The wells range in depth from 301 ft-bgs to 1,301 ft-bgs, and the shallowest documented screened interval is from 276 to 296 ft-bgs. Six wells are listed as industrial wells and two wells are listed as unused or destroyed. There are no private water wells located within one-half mile of the site.



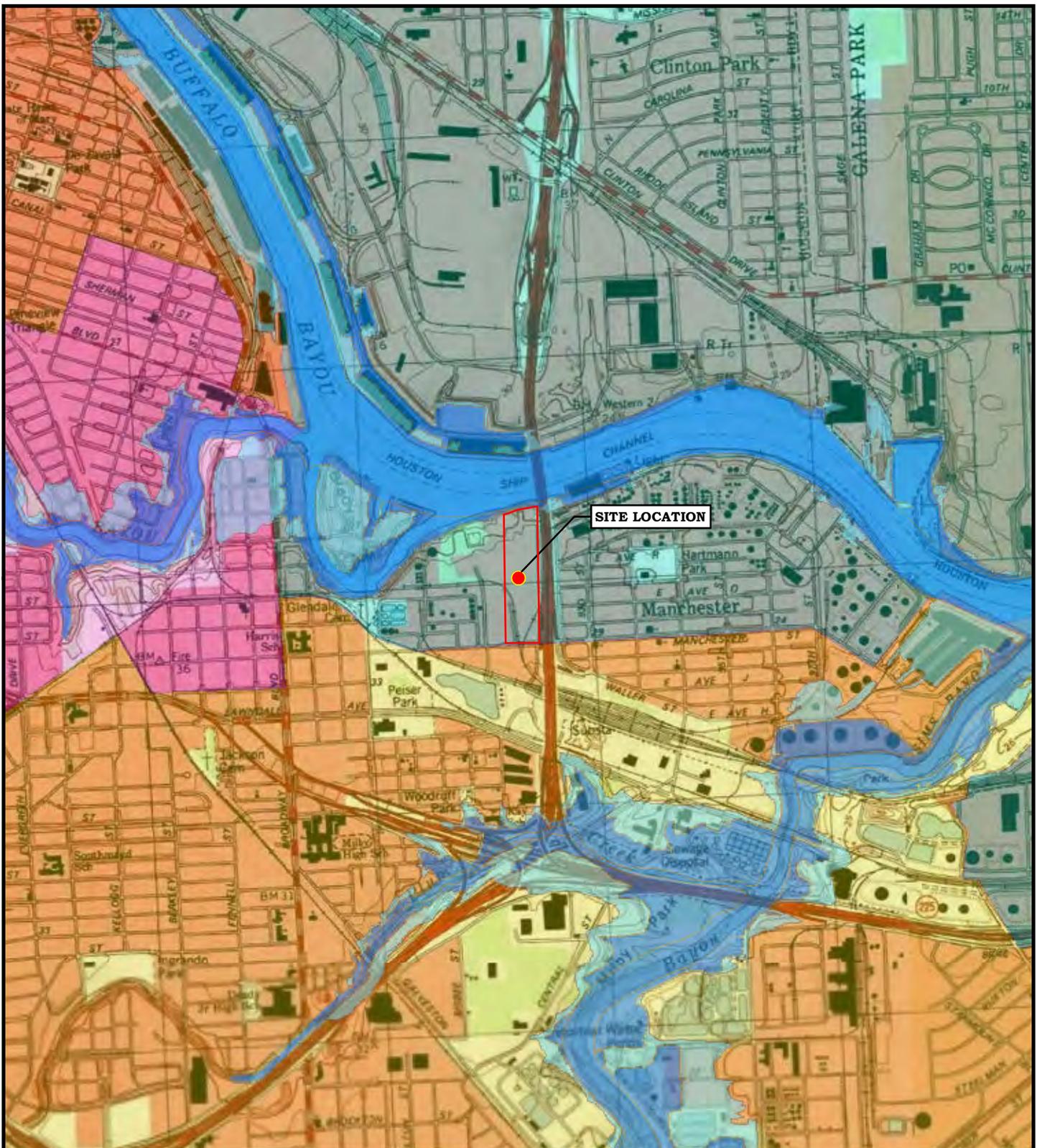
LEGEND

- SITE LOCATION
- 5 MILE RADIUS
- CITY OF JACINTO CITY
- CITY OF PASADENA
- CITY OF SOUTH HOUSTON
- CITY OF HOUSTON



FIGURE B-1
 SITE LOCATION MAP
 MUNICIPAL SETTING DESIGNATION
 THE DAVID J. JOSEPH COMPANY
 TEXAS PORT RECYCLING
 8945 MANCHESTER STREET
 HOUSTON, HARRIS COUNTY, TEXAS

DATE AUG. 2011	PROJECT NO 05336.108.001.0090	SCALE AS SHOWN
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LEGEND

- SITE LOCATION
- FLOOD PLAIN DATA**
- 100 YEAR FLOOD PLAIN
- 500 YEAR FLOOD PLAIN
- WATERSHED**
- BRAYS BAYOU
- BUFFALO BAYOU
- SAN JACINTO RIVER
- SIMS BAYOU



FIGURE B-2
TOPOGRAPHY AND WATERSHED MAP
MUNICIPAL SETTING DESIGNATION
THE DAVID J. JOSEPH COMPANY
TEXAS PORT RECYCLING
8945 MANCHESTER STREET
HOUSTON, HARRIS COUNTY, TEXAS

DATE MAR. 2011	PROJECT NO 13752.001.006.0003	SCALE AS SHOWN
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SOURCE: USGS, FEMA/TSRP, HARRIS COUNTY ENGINEERING DIV.

HOUSTON SHIP CHANNEL

CONCRETE

SHREDDED METAL PILE

SCRAP METAL PILE

SCRAP METAL SHREDDER

SCRAP METAL PILES

SCRAP METAL PILE

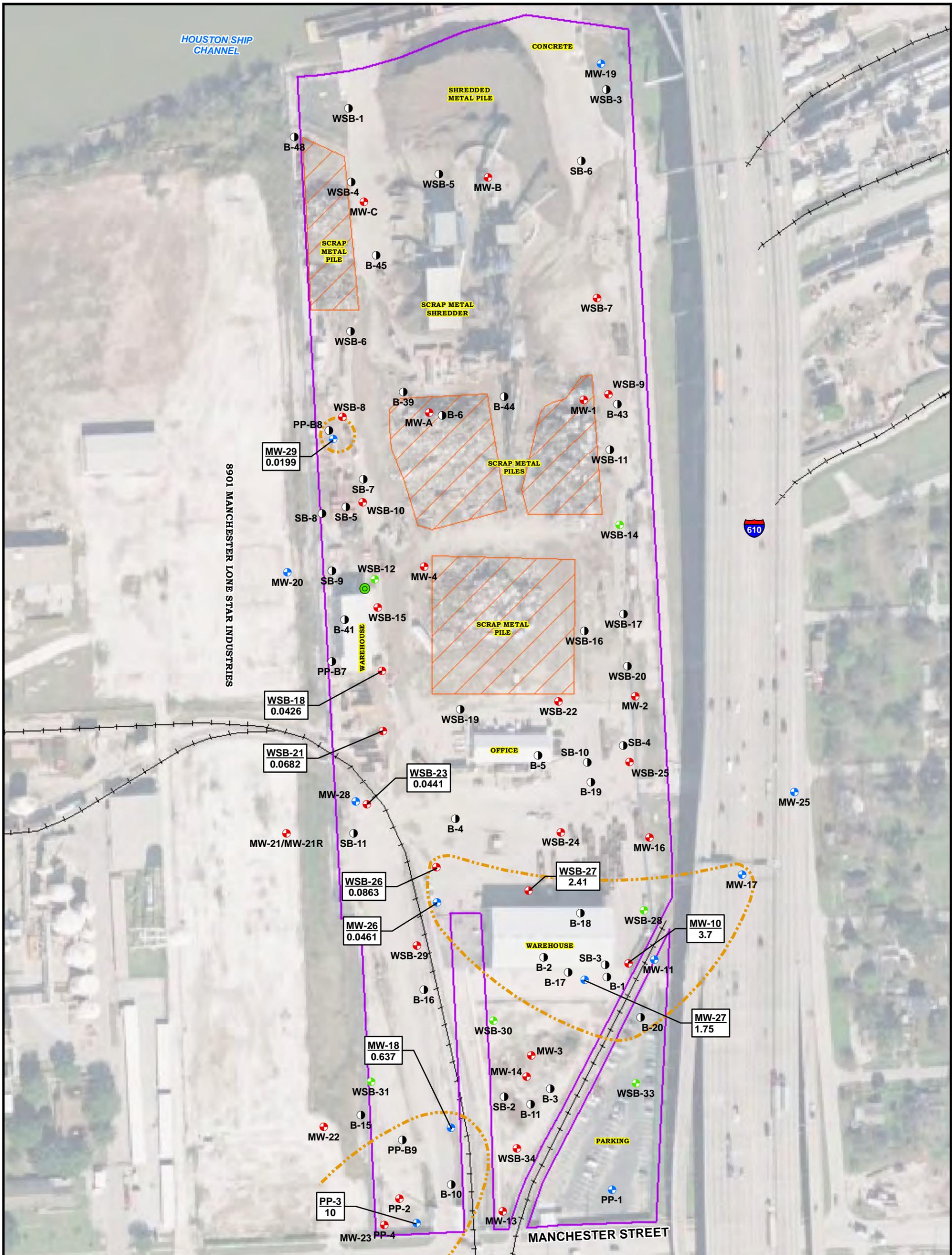
OFFICE

WAREHOUSE

PARKING

8901 MANCHESTER LONE STAR INDUSTRIES

MANCHESTER STREET



Legend

- BORING LOCATION
- MONITOR WELL
- ABANDONED
- TEMPORARY WELL
- SANITARY SEWER MANHOLE
- 2010 PCLE ZONE - BENZENE
- EXTENT OF SCRAP METAL PILE
- PROPERTY BOUNDARY



FIGURE B-3
 BENZENE GROUNDWATER PCLE MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

NOTES:
 (1) CONCENTRATIONS SHOWN IN mg/L
 (2) BENZENE PCL = 0.005 mg/L
 PCL - TIER 1 RESIDENTIAL GROUNDWATER
 PROTECTIVE CONCENTRATION LEVELS FOR THE GROUNDWATER INGESTION PATHWAY (^{GW}GW_{ing}).

DATE MAY 2011	PROJECT NO 13752.001.005.0001	SCALE AS SHOWN
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HOUSTON SHIP CHANNEL

CONCRETE

SHREDDED METAL PILE

SCRAP METAL PILE

SCRAP METAL SHREDDER

SCRAP METAL PILES

SCRAP METAL PILE

WAREHOUSE

PARKING

8901 MANCHESTER LONE STAR INDUSTRIES

MANCHESTER STREET



MW-29
C12-C28: 1.09

WSB-10
C6-C12: 15.5
C12-C28: 25.8
C28-C35: 2.29 J

WSB-18
C6-C12: 2.93

WSB-21
C6-C12: 4.21

MW-28
C6-C12: 3.79
C12-C28: 1.30

WSB-23
C6-C12: 10.5

WSB-24
C6-C12: 5.11

WSB-22
C6-C12: 2.17 J

WSB-25
C6-C12: 1.43 J

WSB-27
C6-C12: 21.4

WSB-28
C6-C12: 22.9
C28-C35: 1.02 J

WSB-26
C6-C12: 7.57

MW-26
C6-C12: 9.75

WSB-29
C6-C12: 5.13

MW-27
C6-C12: 3.81

MW-18
C6-C12: 7.64
C12-C28: 13.5

LEGEND

- BORING LOCATION
- MONITOR WELL
- ABANDONED
- TEMPORARY WELL
- SANITARY SEWER MANHOLE

- 2010 PCLE ZONE - TPH
- EXTENT OF SCRAP METAL PILE
- PROPERTY BOUNDARY

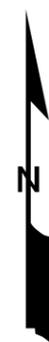
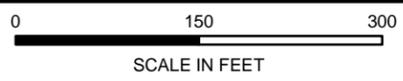
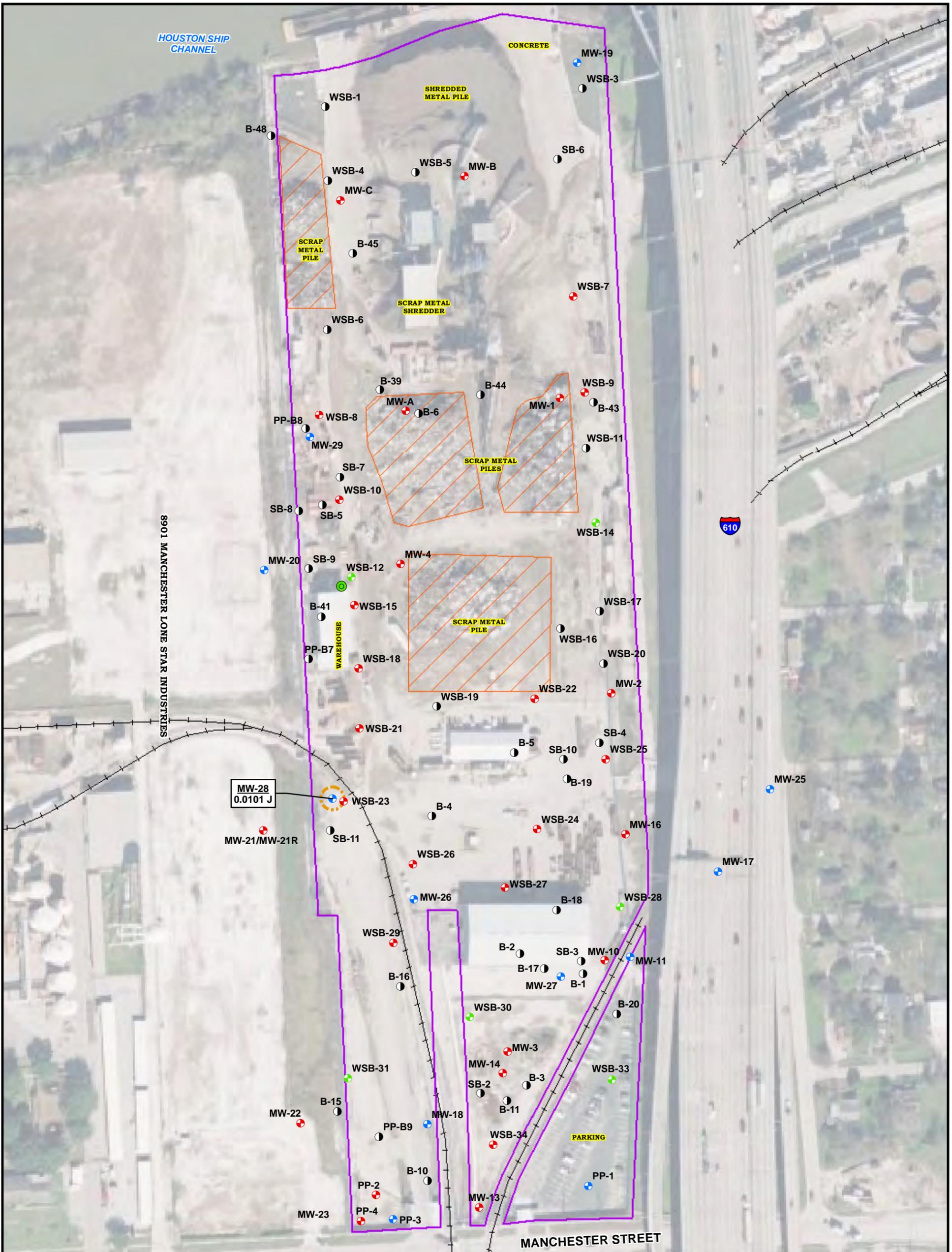


FIGURE B-4
 TPH GROUNDWATER PCLE MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE JUNE 2011	PROJECT NO 13752.001.005.0001	SCALE AS SHOWN
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NOTES:
 (1) CONCENTRATIONS SHOWN IN mg/L
 (2) TPH PCL = 0.98 mg/L
 PCL - TIER 1 RESIDENTIAL GROUNDWATER
 PROTECTIVE CONCENTRATION LEVELS FOR THE GROUNDWATER INGESTION PATHWAY (G^WGW_{ing}).



LEGEND

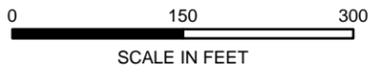
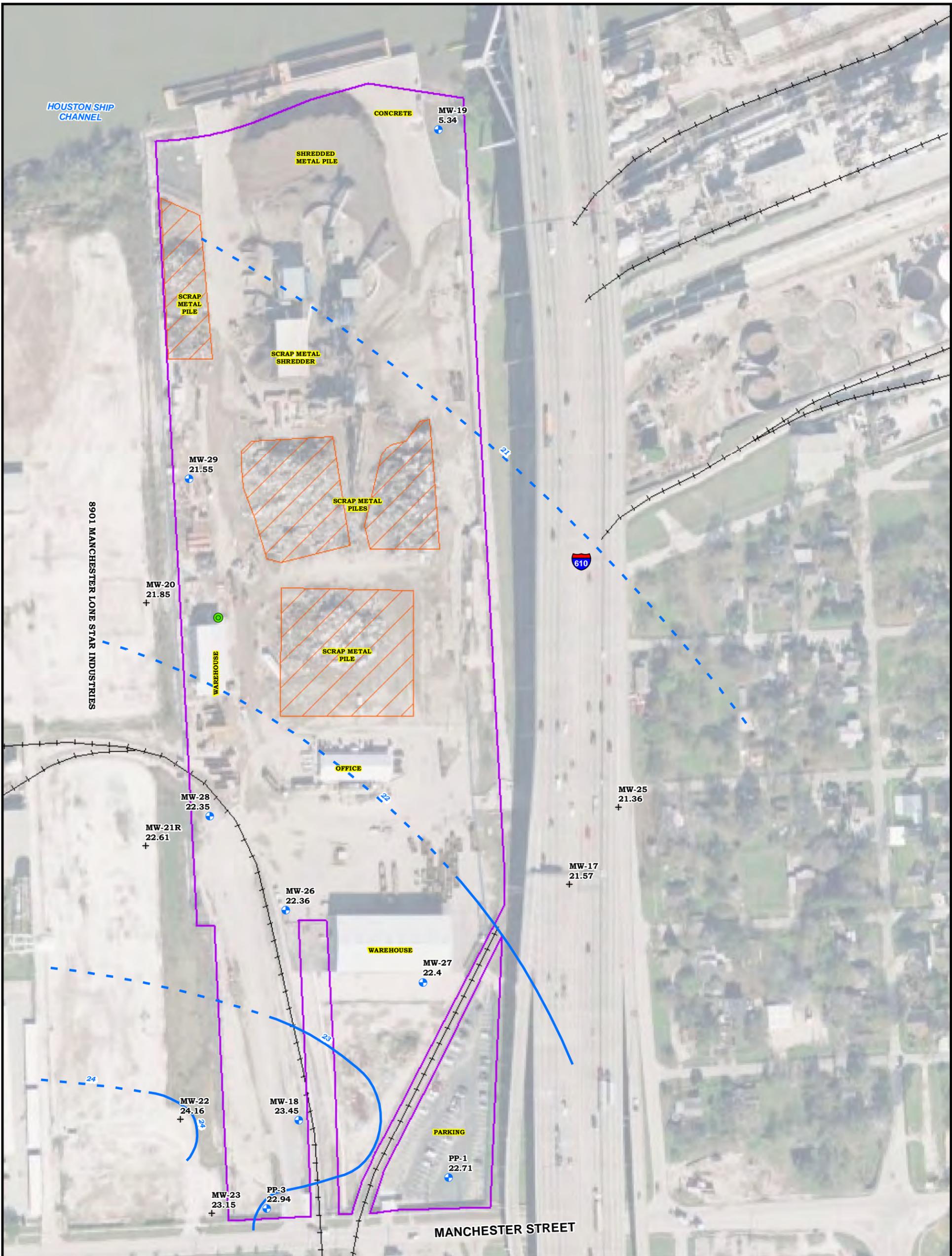
- BORING LOCATION
- MONITOR WELL
- ABANDONED
- TEMPORARY WELL
- SANITARY SEWER MANHOLE
- 2010 PCLE ZONE - METHYLENE CHLORIDE
- ▨ EXTENT OF SCRAP METAL PILE
- ▭ PROPERTY BOUNDARY

NOTES:
 (1) CONCENTRATIONS SHOWN IN mg/L
 (2) METHYLENE CHLORIDE PCL = 0.005 mg/L
 PCL - TIER 1 RESIDENTIAL GROUNDWATER
 PROTECTIVE CONCENTRATION LEVELS FOR THE GROUNDWATER INGESTION PATHWAY (GW_{ing}).



FIGURE B-5
 METHYLENE CHLORIDE
 GROUNDWATER PCLE MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE JUNE 2011	PROJECT NO 13752.001.005.0001	SCALE AS SHOWN
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LEGEND

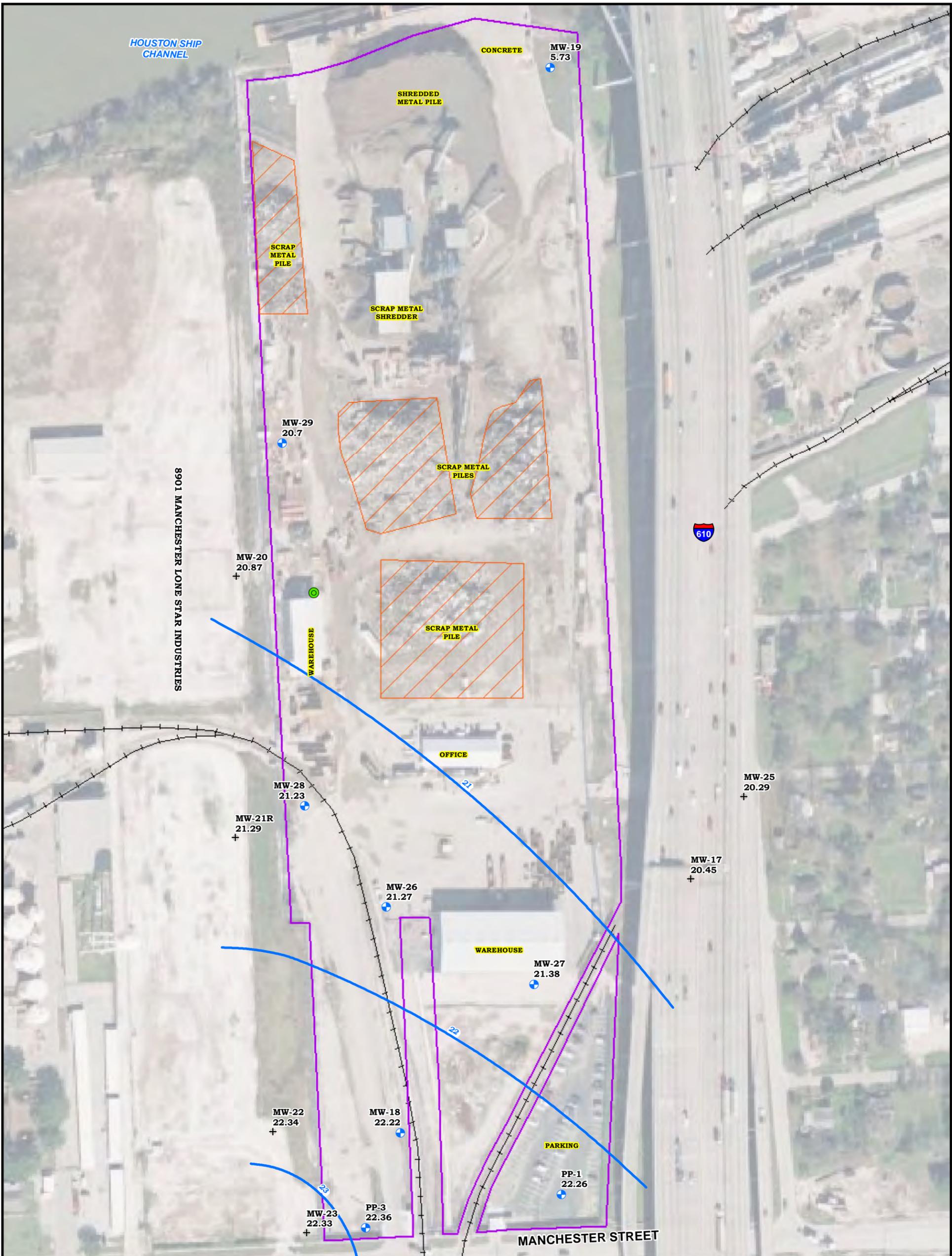
- SANITARY SEWER MANHOLE
- + MONITOR WELL
- + OFF-SITE MONITORING WELLS
- GROUNDWATER CONTOUR
- - - INFERRED GROUNDWATER CONTOUR
- EXTENT OF SCRAP METAL PILE
- PROPERTY BOUNDARY

NOTES:
 (1) GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL
 (2) GROUNDWATER ELEVATION CONTOUR INTERVAL = 1 FOOT



FIGURE B6-a
 JANUARY 2010 POTENTIOMETRIC MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE JAN 2011	PROJECT NO 13752.001.006.0003	SCALE AS SHOWN
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LEGEND

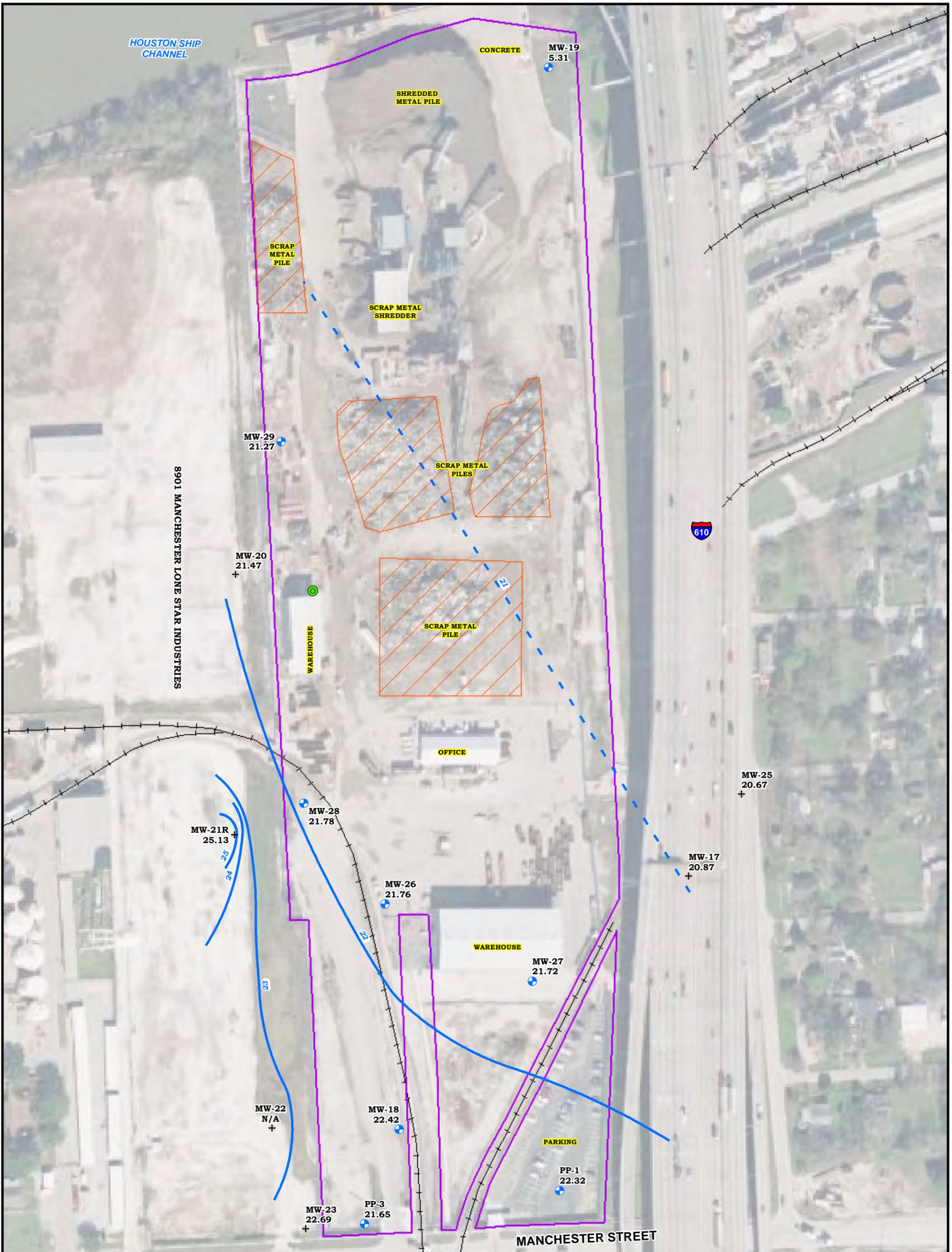
- SANITARY SEWER MANHOLE
- MONITOR WELL
- +
- OFF-SITE MONITORING WELLS
- GROUNDWATER CONTOURS
- EXTENT OF SCRAP METAL PILE
- PROPERTY BOUNDARY

NOTES:
 (1) GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL
 (2) GROUNDWATER ELEVATION CONTOUR INTERVAL = 1 FOOT



FIGURE B6-b
 APRIL 2010 POTENTIOMETRIC MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE JAN 2011	PROJECT NO 13752.001.006.0003	SCALE AS SHOWN
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LEGEND

- SANITARY SEWER MANHOLE
- + MONITOR WELL
- + OFF-SITE MONITORING WELLS
- GROUNDWATER CONTOUR
- - INFERRED GROUNDWATER CONTOUR

- EXTENT OF SCRAP METAL PILE
- PROPERTY BOUNDARY

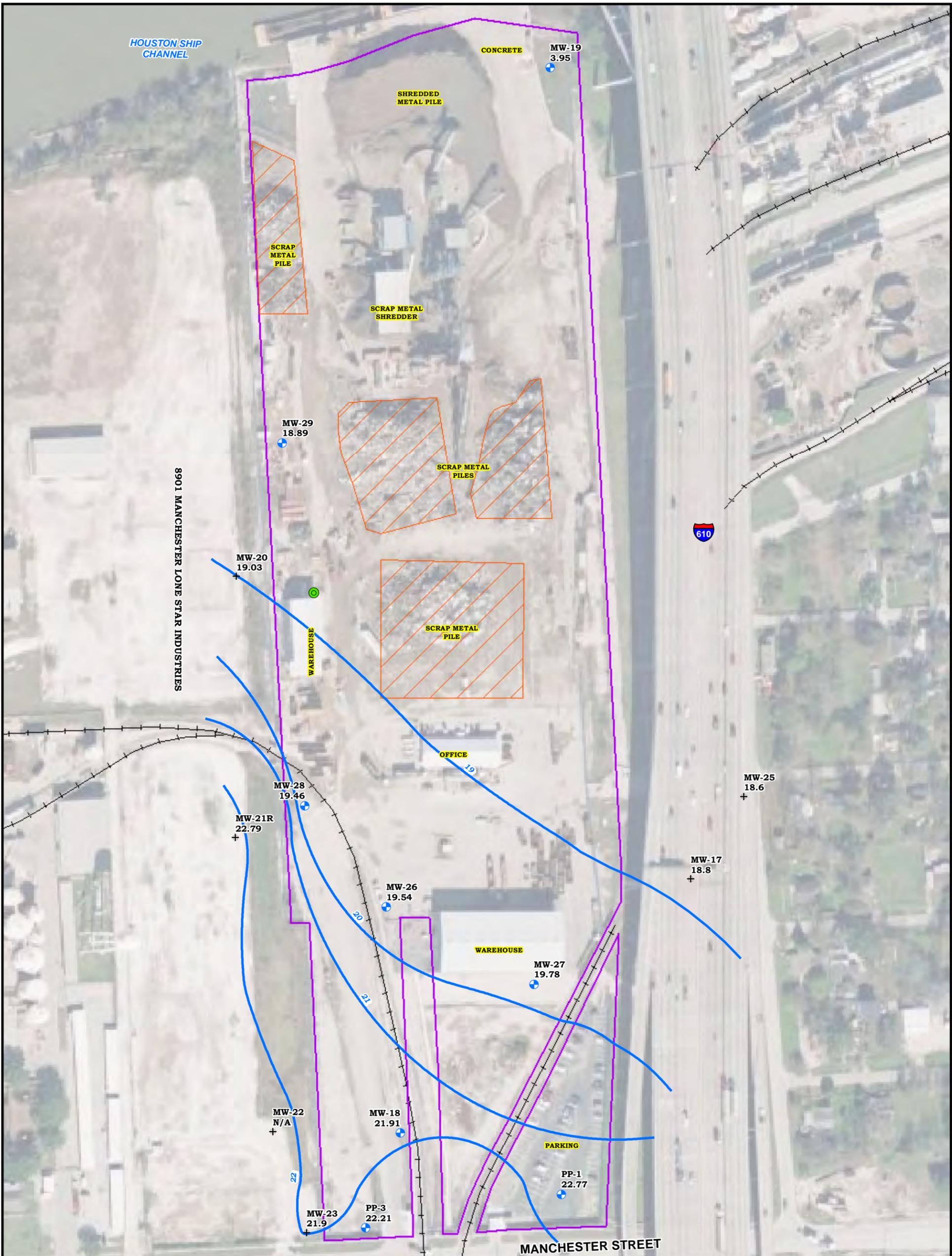


NOTES:
 (1) GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL
 (2) GROUNDWATER ELEVATION CONTOUR INTERVAL = 1 FOOT
 (3) N/A INDICATES NOT SAMPLED



FIGURE B6-c
 AUGUST 2010 POTENTIOMETRIC MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE JAN 2011	PROJECT NO 13752.001.006.0003	SCALE AS SHOWN
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LEGEND

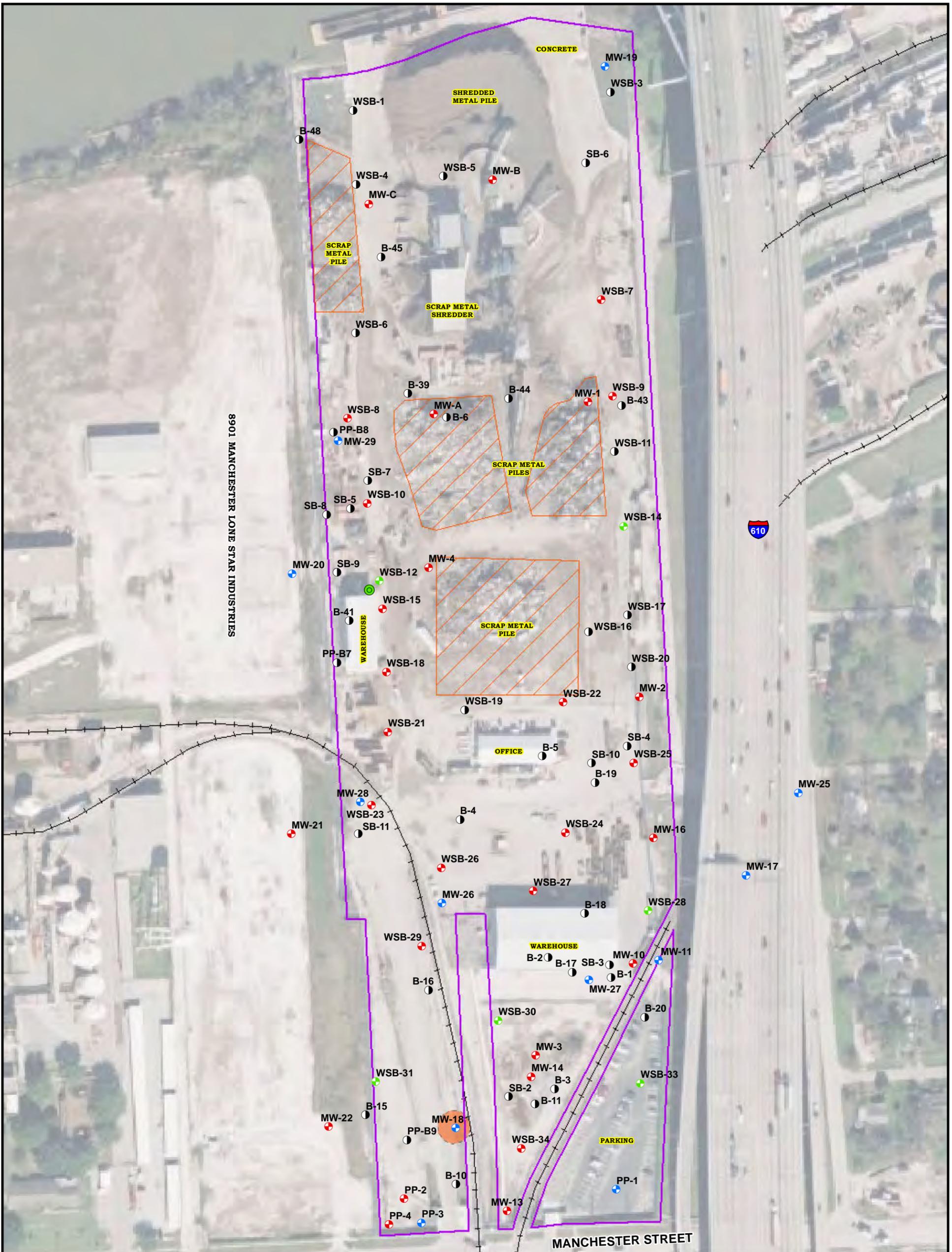
- SANITARY SEWER MANHOLE
- + MONITOR WELL
- + OFF-SITE MONITORING WELLS
- GROUNDWATER CONTOUR
- EXTENT OF SCRAP METAL PILE
- PROPERTY BOUNDARY

NOTES:
 (1) GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL
 (2) GROUNDWATER ELEVATION CONTOUR INTERVAL = 1 FOOT
 (3) N/A INDICATES NOT SAMPLED



FIGURE B6-d
 NOVEMBER 2010 POTENTIOMETRIC MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE JAN 2011	PROJECT NO 13752.001.006.0003	SCALE AS SHOWN
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0 150 300
SCALE IN FEET

LEGEND

●	BORING LOCATION	▨	EXTENT OF SCRAP METAL PILE
●	MONITOR WELL	▭	PROPERTY BOUNDARY
●	ABANDONED	▨	RESIDENTIAL ASSESSMENT LEVEL
●	TEMPORARY WELL	▨	TPH - 13,000 mg/kg
●	SANITARY SEWER MANHOLE		

NOTES:
 (1) BORING LOCATIONS AND SURVEYED MONITORING WELLS FROM THE FOLLOWING:
 (LAW 1993, LIVE OAK 1997 - 1999, HBC TERRACON 2004 - 2005, WESTON 2006 - 2008)
 (2) WSB - WESTON SOIL BORING (JULY 2008)

BOUNDARY SOURCE: PROPERTY BOUNDARY (HCAD)

FIGURE B-7
 SURFACE SOIL TPH
 PCLE MAP
 TEXAS PORT PROPERTIES
 8945 MANCHESTER ST
 HOUSTON, HARRIS COUNTY, TEXAS

DATE	PROJECT NO	SCALE
JUNE 2011	13752.001.005.0001	AS SHOWN