

## Executive Summary

---

SKA Consulting, L.P. (SKA), on behalf of Ella W. 12<sup>th</sup>, Ltd., has prepared this Municipal Setting Designation (MSD) Application for approximately 4.57 acres of commercially-developed land and 1.13 acres of two city-owned streets (West 12<sup>th</sup> Street and Ella Boulevard), collectively identified as the “designated property,” located northwest of the intersection of West 12<sup>th</sup> Street and Ella Boulevard in Houston, Harris County, Texas. The designated property is situated approximately 4.25 miles northwest of downtown Houston and is bordered by Grovewood Lane to the north, by residential properties to the west, Ella Boulevard followed by residential properties to the east, and West 12<sup>th</sup> Street followed by National Bronze and Metals (2929 West 12<sup>th</sup> Street) to the south.

No municipalities, other than the City of Houston, have corporate limits within one-half mile of the boundary of the designated property. In addition, public drinking water is currently available to the designated property and properties located within a one-half mile radius surrounding the designated property by the City of Houston public water supply system.

The designated property is currently developed with two different land uses:

- Commercial land (identified as 2902 West 12<sup>th</sup> Street, 1247 Ella Boulevard and 1321 Ella Boulevard, approximately 4.57 acres (according to the site survey), and
- Public streets and rights-of-way (West 12<sup>th</sup> Street and Ella Boulevard, approximately 1.13 acres).

Properties in the vicinity of the designated property are predominantly mixed commercial, industrial, and residential. The proposed future use of the designated property is residential and publicly-owned streets and rights-of-way (West 12<sup>th</sup> Street and Ella Boulevard).

According to records obtained from the Texas Commission on Environmental Quality (TCEQ), the Harris-Galveston Subsidence District, and GeoSearch, Inc., approximately 991 registered/permitted water wells are reportedly located within a 5-mile radius of the designated property. Of these, 5 water wells are reportedly located within a 0.5-mile radius of the designated property. Two water wells are reportedly located to the southwest (approximately 690 feet), 2 water wells are located to the south (ranging from 2,430 feet to 2,480 feet), and 1 water well is located to the west (approximately 2,640 feet) from the designated property.

Of the two water wells located approximately 690 feet to the southwest, one was reportedly drilled in 1988 for Texas Bolt Company. This water well was completed at 305 feet below the ground surface (ft-bgs), was cemented from 90 ft-bgs to 290 ft-bgs, and is screened from 292 to 304 ft-bgs. Due to its distance from the designated property and the depth of the screened interval, it is highly unlikely that this well is affected by contaminants present in the soil or groundwater on the designated property. The other water well located approximately 690 feet to

## Executive Summary

---

SKA Consulting, L.P. (SKA), on behalf of Ella W. 12<sup>th</sup>, Ltd., has prepared this Municipal Setting Designation (MSD) Application for approximately 4.5700 acres of commercially-developed land and 1.130 acres of two city-owned streets (West 12<sup>th</sup> Street and Ella Boulevard), collectively identified as the “designated property,” located northwest of the intersection of West 12<sup>th</sup> Street and Ella Boulevard in Houston, Harris County, Texas. The designated property is situated approximately 4.25 miles northwest of downtown Houston and is bordered by Grovewood Lane to the north, by residential properties to the west, Ella Boulevard followed by residential properties to the east, and West 12<sup>th</sup> Street followed by National Bronze and Metals (2929 West 12<sup>th</sup> Street) to the south.

No municipalities, other than the City of Houston, have corporate limits within one-half mile of the boundary of the designated property. In addition, public drinking water is currently available to the designated property and properties located within a one-half mile radius surrounding the designated property by the City of Houston public water supply system.

The designated property is currently developed with two different land uses:

- Commercial land (identified as 2902 West 12<sup>th</sup> Street, 1247 Ella Boulevard and 1321 Ella Boulevard, approximately 4.5700 acres (according to the site survey), and
- Public streets and rights-of-way (West 12<sup>th</sup> Street and Ella Boulevard, approximately 1.130 acres).

Properties in the vicinity of the designated property are predominantly mixed commercial, industrial, and residential. The proposed future use of the designated property is residential and publicly-owned streets and rights-of-way (West 12<sup>th</sup> Street and Ella Boulevard).

According to records obtained from the Texas Commission on Environmental Quality (TCEQ), the Harris-Galveston Subsidence District, and GeoSearch, Inc., approximately 991 registered/permitted water wells are reportedly located within a 5-mile radius of the designated property. Of these, 5 water wells are reportedly located within a 0.5-mile radius of the designated property. Two water wells are reportedly located to the southwest (approximately 690 feet), 2 water wells are located to the south (ranging from 2,430 feet to 2,480 feet), and 1 water well is located to the west (approximately 2,640 feet) from the designated property.

Of the two water wells located approximately 690 feet to the southwest, one was reportedly drilled in 1988 for Texas Bolt Company. This water well was completed at 305 feet below the ground surface (ft-bgs), was cemented from 90 ft-bgs to 290 ft-bgs, and is screened from 292 to 304 ft-bgs. Due to its distance from the designated property and the depth of the screened interval, it is highly unlikely that this well is affected by contaminants present in the soil or groundwater on the designated property. The other water well located approximately 690 feet to

the southwest was reportedly drilled in 1962 for Production Die Casting Company. This water well was completed at 310 feet below the ground surface (ft-bgs); however, the screened interval was not reported. As groundwater flow at the designated property is to the east-southeast., it is highly unlikely that these water wells are affected by contaminants present in the soil or groundwater on the designated property.

The water well located approximately 2,430 feet to the south was reportedly drilled in 1974 for Automation Products, Inc. This water well was completed at 287 ft-bgs, was cemented from 209 ft-bgs to 264 ft-bgs, and is screened from 277 to 287 ft-bgs. Due to its distance from the designated property and the depth of the screened interval, it is highly unlikely that the water well is affected by contaminants present in the soil or groundwater on the designated property.

The water well located approximately 2,480 feet to the south was reportedly drilled in 1971 for Superior Concrete Accessories. This water well was completed to 480 ft-bgs and is reported as plugged.

The water well located approximately 2,640 feet to the west was reportedly drilled in 1969 for General Electric Company. The well was completed at 533 ft-bgs, was cemented from 0 ft-bgs to 433 ft-bgs, and was screened from 450 ft-bgs to 470 ft-bgs and 513 ft-bgs to 533 ft-bgs. The well is reported as plugged.

Of the 991 registered/permitted water wells reportedly located within 5 miles of the designated property, approximately 17 are reportedly owned or operated by a retail public utility (RPU). In addition, 3 of the 17 water wells reportedly located within 5 miles of the designated property are reportedly owned by municipalities or institutions other than the City of Houston. The other municipalities or institutions are the City of West University Place and Memorial Villages Water Authority.

Presently, approximately 4.570 acres of the designated property (not including the publically owned streets and rights-of-way) are enrolled in the Texas Commission on Environmental Quality (TCEQ) Voluntary Cleanup Program (VCP) as VCP ID No. 2053.

The results of the soil assessment activities performed to date on the designated property have identified detectable concentrations of several metals, total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs). Concentrations of arsenic, barium, cadmium, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and methylene chloride have exceeded the Texas Risk Reduction Program (TRRP) Tier 1 residential soil-to-groundwater ingestion ( $^{GW}Soil_{Ing}$ ) protective concentration levels (PCLs). Methylene chloride is a common lab contaminant and is not considered a chemical of concern (COC) on the designated property. Maximum concentrations of lead, mercury, selenium, and silver were above Tier 1 residential  $^{GW}Soil_{Ing}$  PCLs, but were below calculated Tier 2 residential  $^{GW}Soil_{Ing}$  PCLs. Maximum concentrations of arsenic, barium, and cadmium were above both

their Tier 1 residential <sup>GW</sup>Soil<sub>ing</sub> PCLs and their calculated Tier 2 residential <sup>GW</sup>Soil<sub>ing</sub> PCLs. None of the surface soil detections exceed the TRRP Tier 1 non-ingestion PCLs (total soil combined [<sup>Tot</sup>Soil<sub>Comb</sub>] or soil vapor inhalation [<sup>Air</sup>Soil<sub>inh-v</sub>]); except for one detection of arsenic. None of the subsurface soil detections exceed the TRRP Tier 1 <sup>Tot</sup>Soil<sub>Comb</sub> or <sup>Air</sup>Soil<sub>inh-v</sub>. TPH concentrations did not exceed the calculated mixture specific Tier residential PCLs for ingestion and non-ingestion surface and subsurface soil pathways.

The uppermost groundwater bearing unit (GWBU) at the designated property is encountered at approximately 24 feet below ground surface (ft-bgs). The static depth to groundwater has ranged from 13 to 20.5 ft-bgs over time.

The results of the groundwater assessment activities performed to date have identified detectable concentrations of several VOCs, metals, and TPH. However, recent laboratory analytical results indicate that only PCE, TCE, cis-1,2-DCE, vinyl chloride (VC), and arsenic exceed their respective TRRP Tier 1 residential groundwater ingestion (<sup>GW</sup>GW<sub>ing</sub>) PCLs. The source areas of the groundwater impacts at the designated property are likely from the historic manufacturing activities by Koenig/King Winch conducted within Building B, located in the center of the designated property. The groundwater PCL exceedance (PCLE) zones appear to be located in the vicinity of monitoring wells MW-6, MW-9, MW-10, and MW-14 located on the eastern portion of the designated property. None of the groundwater detections exceed the TRRP Tier 1 groundwater non-ingestion PCLs (groundwater vapor inhalation [<sup>Air</sup>GW<sub>inh-v</sub>]).

The following Items "A" through "Z" provide the requested documentation corresponding to the Items in the attached City of Houston MSD Application checklist. Supporting documentation for certain Items are attached and included with the Item's corresponding Appendix.

## **Appendix A – Legal Property Description**

---

A legal description, including metes and bounds, and a copy of the deed for three tracts of commercially-developed land, privately owned by Ella W. 12<sup>th</sup>, Ltd. at 2902 West 12<sup>th</sup> Street, 1321 Ella Boulevard and 1247 Ella Boulevard, totaling approximately 4.57 acres is included in ***Appendix A***.

Return TO KIRBY TITLE, LLC  
5110 BUFFALO SPEEDWAY  
SUITE 202  
HOUSTON, TX 77005

GF 7071

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED

20070275944  
05/07/2007 RP2 \$36.00

STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS THAT:

COUNTY OF HARRIS §

1300 ELLA, LTD., a Texas limited partnership (hereinafter called "Grantor"), for and in consideration for the sum of Ten and No/100 Dollars (\$10.00) cash and other good and valuable considerations to it in hand paid by ELLA W. 12<sup>TH</sup>, LTD., a Texas limited partnership (hereinafter called "Grantee"), whose address is 1520 Oliver Street, Houston, Texas 77007, the receipt and sufficiency of which are hereby acknowledged and confessed, has GRANTED, BARGAINED, SOLD and CONVEYED, and by these presents does GRANT, BARGAIN, SELL and CONVEY unto Grantee the following (collectively referred to herein as the "Property"): all rights, titles, estates and interests of Grantor in and to (a) the land located in the County of Harris, State of Texas, and described in Exhibit "A" attached hereto and made a part hereof, incorporated herein for all purposes (the "Land"); (b) all improvements and structures thereon; (c) all rights, titles, estates and interests of Grantor, if any, in and to any and all alleys, strips or gores of land and to any land lying in the bed of any highway, street, road, avenue or alley, open or proposed, in, on, across from, in front of, abutting or adjoining the Land, whether owned or claimed by deed, limitation or otherwise and whether or not located inside or outside the Land; (d) all rights, titles, estates and interests of Grantor, if any, in and to any easements, right-of-ways, rights of ingress or egress and other interests in, on or to any land, highway, street, road or avenue, open or proposed in, on, across from, in front of, abutting or adjoining the Land; (e) all rights, titles, estates and interests of Grantor, if any, in and to any condemnation award made or to be made, after the date hereof, in connection with the Land and/or the interests described in the foregoing subparagraphs (b), (c) and (d), and in and to any unpaid award for damage to the Land and/or said interests pertaining to the Land; (f) all rights, titles, estates and interests of Grantor, if any, in and to any and all oil, gas and other mineral rights and interests pertaining to the Land without any warranty of title or condition whatsoever, notwithstanding anything herein to the contrary; (g) all rights, titles, estates and interests of Grantor, if any, in and to any and all rights to the present or future use of water rights, waste water, waste water capacity, drainage, water or other utility facilities that pertain to or benefit the Land, including without limitation, all reservations or commitments or letters covering any such use in the future; (h) all rights, titles, estates and interests of Grantor, if any, in and to any and all reversionary rights attributable to the Land; and (i) all rights, titles, estates and interests of Grantor, if any, in and to all other rights, benefits, privileges, tenements, hereditaments and appurtenances thereon or in anywise appertaining to the Land or owned by Grantor and held in connection with the Land.

This conveyance is made subject and subordinate to the encumbrances and exceptions ("Permitted Exceptions") described in Exhibit "B" attached hereto and incorporated herein by reference for all purposes.

TO HAVE AND TO HOLD the Property together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee, its successors and assigns, forever, subject to the Permitted Exceptions; and Grantor does hereby bind itself and its successors and assigns to WARRANT AND FOREVER DEFEND all and singular the said Property, subject to the Permitted Exceptions, unto the said Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through, or under Grantor, but not otherwise.

EXCEPT FOR (I) THE REPRESENTATIONS AND WARRANTIES EXPRESSLY SET FORTH IN THAT CERTAIN COMMERCIAL CONTRACT-IMPROVED PROPERTY DATED EFFECTIVE FEBRUARY 19, 2007, AS AMENDED BY AMENDMENT TO COMMERCIAL CONTRACT-IMPROVED PROPERTY DATED EFFECTIVE MARCH 22, 2007, AND BY SECOND AMENDMENT TO COMMERCIAL CONTRACT-IMPROVED PROPERTY DATED EFFECTIVE APRIL 9, 2007 BY AND BETWEEN GRANTOR AND GRANTEE (COLLECTIVELY, THE "AGREEMENT"), AND (II) ALL EXPRESS AND IMPLIED WARRANTIES CONTAINED HEREIN AND ALL OTHER CONVEYANCE, TRANSFER AND ASSIGNMENT DOCUMENTS TO BE DELIVERED TO BUYER AT THE CLOSING, (COLLECTIVELY THE "REPRESENTATION AND WARRANTY EXCEPTIONS"), GRANTOR HAS NOT MADE, AND HEREBY SPECIFICALLY DISCLAIMS, ANY WARRANTY, GUARANTY OR REPRESENTATION, ORAL OR WRITTEN, PAST, PRESENT OR FUTURE, OF, AS TO, OR CONCERNING (i) THE NATURE AND CONDITION OF THE PROPERTY, INCLUDING, WITHOUT LIMITATION, THE WATER, SOIL AND GEOLOGY, AND THE SUITABILITY THEREOF AND OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY ELECT TO CONDUCT THEREON; (ii) THE NATURE AND EXTENT OF ANY RIGHT-OF-WAY, LEASE, RIGHT TO POSSESSION OR USE, LIEN, ENCUMBRANCE, LICENSE, RESERVATION, CONDITION OR OTHER MATTER AFFECTING TITLE TO THE PROPERTY, (iii) INCOME TO BE DERIVED THEREFROM OR EXPENSES TO BE INCURRED WITH RESPECT THERETO OR (iv) THE COMPLIANCE OF THE PROPERTY OR ITS OPERATION WITH ANY LAWS, ORDINANCES OR REGULATIONS OF ANY GOVERNMENTAL OR OTHER BODY. BY ACCEPTANCE OF THIS DEED, GRANTEE ACKNOWLEDGES AND AGREES THAT GRANTEE IS RELYING SOLELY ON (I) GRANTEE'S OWN INVESTIGATION OF THE PROPERTY, AND (II) THE REPRESENTATION AND WARRANTY EXCEPTIONS, AND GRANTEE WILL ACCEPT THE PROPERTY, AND ACKNOWLEDGES THAT THE CONVEYANCE OF THE PROPERTY TO GRANTEE IS MADE BY GRANTOR ON AN "AS IS, WHERE IS, AND WITH ALL FAULTS" BASIS SUBJECT TO AND EXCEPT AS PROVIDED IN THE REPRESENTATION AND WARRANTY EXCEPTIONS. FURTHER, BY ACCEPTANCE OF THIS DEED, GRANTEE EXPRESSLY ACKNOWLEDGES THAT GRANTOR MAKES NO WARRANTY OR REPRESENTATION OF ANY KIND, ORAL OR WRITTEN, EXPRESS OR IMPLIED,



EXHIBIT "A"

Legal Description of Land  
(Follows This Page)

1300 ells - sage interests deed.01a

## EXHIBIT "A"

### METES AND BOUNDS DESCRIPTION 4.5702 ACRES OUT OF THE JOHN REINERMAN SURVEY, A-642 HOUSTON, HARRIS COUNTY, TEXAS

All that certain 4.5702 acres of land out of the John Reinerman Survey, A-642 Houston, Harris County, Texas and being all that certain 0.9453 acres (called tract two) described in a deed dated 02-14-1990 from Naomi Elizabeth January, Naomi Lurlyn Fleming and Durwood Fleming, Co-trustees to 1300 Ella Ltd., filed in the Official Public Records of Real Property of Harris County, Texas at Clerk File No. M515839, Film Code No. 169-67-1362 and all that certain 3.63 acre tract of land described in a deed dated 06-31-1996 from Global Services, Inc. to 1300 Ella, Ltd., filed in the Official Public Records of Real Property of Harris County, Texas at Clerk File No. R960078, Film Code No. 508-66-1005 and being more particularly described by metes and bounds as follows;

Beginning at a found 3/4" iron pipe in the west right-of-way line of Ella Boulevard (80' wide) at its intersection with the north right-of-way line of West 12th Street (60' wide);

Thence N 89° 26' 00" W - 414.50', with said north right-of-way line to a to a found 5/8" iron rod for corner;

Thence N 00° 20' 30" E - 374.48', with the east line of a called 4.6155 acre tract of land described in a deed dated 03-03-1980 from Keystone International, Inc. to Big Three Industries, Inc., filed in the Official Public Records of Real Property of Harris County, Texas at Clerk File No. G460102, Film Code No. 152-98-1708 to a to a found 5/8" iron rod for corner;

Thence S 89° 26' 00" E - 133.89', with the south line of a MK&T Railroad Company Easement described in a deed dated 04-30-1949 from Adolph Lackner, et al to Missouri-Kansas-Texas Railroad Company of Texas filed at Volume 1941, Page 453 Harris County Deed Records to a to a found 5/8" iron rod for corner;

Thence N 00° 34' 00" E - 8.50' to a to a found 5/8" iron rod with cap for corner;

Thence S 89° 26' 00" E - 32.10', to a found 5/8" iron rod for corner;

Thence N 00° 28' 00" E - 150.73', with the west line of Lot 32, Block 50, Timbergrove Manor, Section 8 according to the plat thereof filed at Volume 53, Page 39, Harris County Map Records, to a found 5/8" iron rod marking a point on a curve to the left having a central angle of 02° 49' 39" a radius of 620.00' the center of said curve being located on a radial line bearing N 10° 36' 21" W from said point;

Thence in an easterly direction with said curve and the south right-of-way line of Grovewood Lane (60' wide) for an arc distance of 30.60' to a found PK nail in asphalt marking the Point of Reverse Curvature of a curve to the right having a central angle of 14° 00' 00" a radius of 337.00';

Thence with said curve continuing with said south right-of-way line for an arc distance of 82.34' to a found 5/8" iron rod marking the Point of Tangency;

Thence S 89° 26' 05" E - 138.59', continuing with said south right-of-way line to a found 5/8" iron rod for corner;

Thence S 00° 28' 00" W - 167.41' with the aforementioned west right-of-way line of Ella Boulevard to a found 5/8" iron rod for angle point;

Thence S 00° 34' 10" W - 382.98' continuing with said west right-of-way line to the POINT OF BEGINNING, containing 4.5702 acres (199,076 square feet) of land, more or less.

**EXHIBIT "B"**

**Permitted Exceptions**

1. Consent to encroachment of concrete block base and wood fence onto the herein described Land, as reflected by instrument recorded under Clerk's File No. X111517, in the Official Public Records of Real Property of Harris County, Texas, Office of the County Clerk of Harris County, Texas.
2. Building setback line ten (10) feet in width along the North and East boundary lines of the herein described Land as reflected by recorded plat in Volume 53, Page 39 of the Map Records of Harris County, Texas.
3. 1/16<sup>th</sup> undivided interest of all oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same pertaining to the herein described Land as set forth in instrument recorded in Volume 1768, Page 142 of the Deed Records of Harris County, Texas.
4. 1/32<sup>nd</sup> undivided non-participating royalty interest in all oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same pertaining to the herein described Land as set forth in instrument recorded in Volume 2428, Page 306 of the Deed Records of Harris County, Texas.

ANY PROVISION HEREIN WHICH RESTRICTS THE SALE, RENTAL, OR USE OF THE DESCRIBED REAL PROPERTY BECAUSE OF COLOR OR RACE IS INVALID AND UNENFORCEABLE UNDER FEDERAL LAW.  
THE STATE OF TEXAS  
COUNTY OF HARRIS  
I hereby certify that this instrument was FILED in the number Sequence on the date and at the time stamped herein by me, and was duly RECORDED, in the Official Public Records of Real Property of Harris County, Texas on

MAY - 7 2007



*Charisly B. Kayman*  
COUNTY CLERK  
HARRIS COUNTY, TEXAS

FILED  
2007 MAY - 7 PM 12:54  
*Charisly B. Kayman*  
COUNTY CLERK  
HARRIS COUNTY, TEXAS

**RECORDER'S MEMORANDUM:**  
At the time of recordation, this instrument was found to be inadequate for the best photographic reproduction because of illegibility, carbon or photo copy, discolored paper, etc. All blockouts, additions and changes were present at the time the instrument was filed and recorded.

BOUNDARY AND TOPOGRAPHIC SURVEY

Tract 1  
3.8679 Acres  
and  
Tract 2  
0.7022 Acres  
Being out of the  
John Reimeron Survey  
A-642

TITLE COMPANY  
Kirby Title, LLC

EFFECTIVE  
February, 07, 2011

G.F. NO.  
08115297

PROPOSED INSURED  
TBD

ABSTRACT INFORMATION PROVIDED HEREON IS BELIEVED TO BE  
CURRENT AND CORRECT BY THE UNDERSIGNED SURVEYOR. THIS  
SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR.  
THE ENCUMBRANCES OF RECORD AS REFLECTED ON THIS SURVEY ARE  
BASED ON THE RECORDED MAP, PLAT AND/OR DEEDS IN CONJUNCTION  
WITH THE INFORMATION OBTAINED FROM THE TITLE REPORT LISTED  
HEREON.

I, the undersigned Registered Professional Land Surveyor, do hereby  
state that the plat shown herein represents a boundary survey made  
on the ground under my supervision of the tract or parcel of land,  
according to the map or plat and/or deeds thereto, indicated herein.

Job No. GT-LV-847-12 Surveyed: 03-28-12

Greater Texas Surveying  
6201 Westchase  
Houston, Texas 77042  
(713) 667-0800

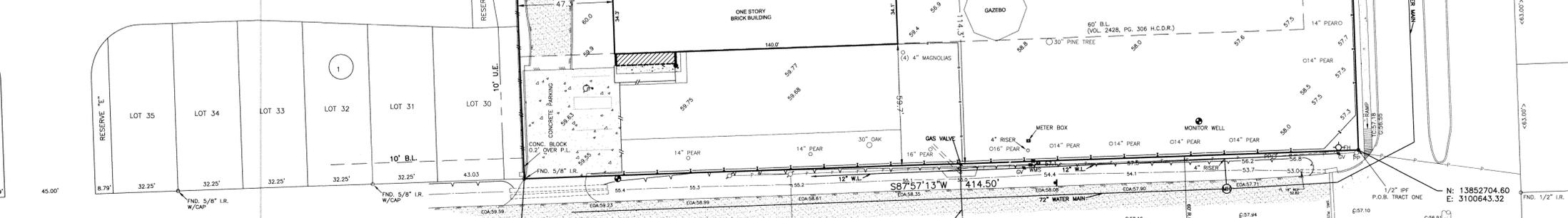
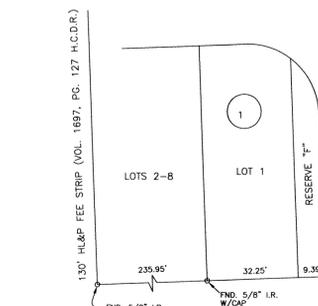
FOUND	LEGEND
IRF IRON ROD FOUND	CH CLEAN OUT
IP IRON PIPE FOUND	CH/1 CLEAN OUT
TC TOP CURB	GV GATE VALVE
CG COUNTRY	LS LIGHT STANDARD
MM MANHOLE	AC AC PAD
OL OVERHEAD UTILITY LINES	PT POWER POLE
UP UTILITY POLE	MC MONITOR WELL
FM FIRE HYDRANT	EW ELECT. BOX
GV GATE VALVE	MA MANHOLE
WM WATER METER	WM WATER METER
SET 1/2" I.R. WITH TECH (UNLESS OTHERWISE NOTED)	UTL. PEDESTAL



NOTES:

- ALL EASEMENTS AND BUILDING LINES SHOWN ARE PER THE RECORDED PLAT UNLESS OTHERWISE NOTED.
- NO ADDITIONAL RESEARCH WAS PERFORMED BY GREATER TEXAS SURVEYING FOR RECORDED OR UNRECORDED EASEMENTS THAT MAY AFFECT THIS PROPERTY.
- THIS SURVEY DOES NOT ADDRESS ARCHITECTURAL PROTRUSIONS SUCH AS EAVES, OVERHANGS, WINDOW LEDGES, ETC. IN RELATION TO EASEMENTS AND/OR BUILDING LINES.
- A GROUND OR AERIAL EASEMENT MAY EXIST ADJACENT TO ANY EXISTING UTILITY. OWNER/BUILDER MUST VERIFY CLEARANCE OF UTILITIES AND EASEMENTS WITH APPLICABLE COMPANIES PRIOR TO PLANNING OR CONSTRUCTION.
- RESTRICTIVE COVENANTS AS PER VOLUME 53, PAGE 39, MAP RECORDS AND VOLUME 2438, PAGE 306, DEED RECORDS, HARRIS COUNTY, TEXAS.
- CONSENT TO ENCRoACH OF CONCRETE BLOCK BASE AND WOOD FENCE ONTO TRACT 1 AS PER H.C.C.F. NO. X-111517.
- MK&T 17' RAILROAD RIGHT-OF-WAY AS PER VOL. 1941, PG. 453, H.C.D.R. AND ALSO TIMBERGROVE MANOR, SEC. 8, VOL. 53, PG. 39, H.C.M.R.

C1: R=620.00' L=30.62' CHORD: N75°27'33"E 30.62'  
C2: R=337.00' L=54.84' CHORD: N78°42'16"E 54.78'  
C3: R=337.00' L=27.50' CHORD: N85°42'16"E 27.49'  
L1: N02°02'48"W 8.50'



**TRACT ONE**  
**METES AND BOUNDS DESCRIPTION**  
**155500.43 SQUARE FEET (3.5698 ACRES)**  
**OUT OF THE JOHN REINERMAN SURVEY, A-642**  
**HOUSTON, HARRIS COUNTY, TEXAS**

All that certain 3.5698 acres of land out of the John Reinerman Survey, a-642, Houston, Harris County, Texas being more particularly described by metes and bounds as follows;

**BEGINNING** at a 1/2" iron pipe found in the Intersection of the North Right-of-Way of West 12<sup>th</sup> Street (60' R.O.W.) and the West Right-of-Way of Ella Boulevard (80' R.O.W.) same being the Southeast corner of herein described tract;

**THENCE** South 87°57'13" West along the North Right of Way of West 12<sup>th</sup> Street a distance of 414.50 feet to a 5/8" Iron Rod Found also being the Southwest corner of herein described tract;

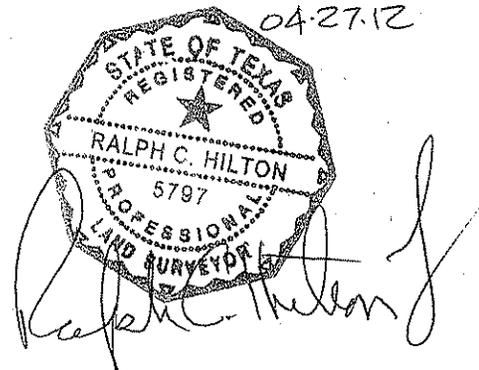
**THENCE** North 02°16'19" West along the west line of Heritage Creek Subdivision F.C. No. 499018, H.C.M.R., a distance of 374.48 feet to a point in the South line of MK&T Railroad Company Easement as per Vol. 1941, pg. 453, H.C.D.R. From which a fence post Bears South 30°45' West at 0.50 feet and another fence post Bears South 48°03' East at 2.2 feet;

**THENCE** North 87°57'11" East along the South line of the MK&T Railroad Company Easement a distance of 415.99 feet to a set 5/8" iron rod in the West Right of Way of Ella Boulevard (80' R.O.W.);

**THENCE** South 02°02'39" East a distance of 10.82 feet to a point found 1/2" iron rod in the West Right of Way of Ella Boulevard;

**THENCE** along the West Right of Way of Ella Boulevard (80' R.O.W.) South 02°02' 39" East a distance of 363.66 feet to the **PLACE OF BEGINNING** and containing 155500.43 Square Feet or 3.5698 Acres.

GT-LV-847-12-TRACT-ONE.M&b



**TRACT TWO**  
**METES AND BOUNDS DESCRIPTION**  
**43571.06 SQUARE FEET (1.0002 ACRES)**  
**OUT OF THE JOHN REINERMAN SURVEY, A-642**  
**HOUSTON, HARRIS COUNTY, TEXAS**

All that certain 1.0002 acres of land out of the John Reinerman Survey, a-642, Houston, Harris County, Texas being more particularly described by metes and bounds as follows;

**COMMENCING** at a 1/2" iron pipe found in the Intersection of the North Right-of-Way of West 12<sup>th</sup> Street (60' R.O.W.) and the West Right-of-Way of Ella Boulevard (80' R.O.W.) same being the Southeast corner of herein described tract;

**THENCE** North 02°02'39" West along the West Right of Way of Ella Boulevard a distance of 363.66 feet to a Set 1/2" iron rod;

**THENCE** North 02°02'39" West along the West Right of Way of Ella Boulevard a distance of 10.82 feet to a Set 5/8" iron rod for the Southeast corner of herein described tract and the **POINT OF BEGINNING**;;

**THENCE** South 87°57' 11" West along the South Right of Way of the MK&T Railroad Company Easement (Vol. 1941, Pg. 453, H.C.D.R.) a distance of 282.10 feet to a point;

**THENCE** North 02°02'48" West across the MK&T Railroad Company Easement a distance of 8.50 feet to a point;

**THENCE** North 87°57' 11" East across the MK&T Railroad Company Easement a distance of 32.00' to a point from which a 5/8" iron rod Bears North 06°07' " East at 0.50 feet;

**THENCE** North 02°12' 54" West a distance of 150.73 feet crossing the MK&T Railroad Company Easement and along the East line of Lot 32, Block 50, Timbergrove Manor Sec. 8, Vol. 53, Pg. 39, H.C.M.R. to a point in the South Right of Way of Grovewood Lane (60' R.O.W.)

from which a 5/8" inch iron rod Bears North 35°17' 00" East at 0.49 feet and a 1/2" iron rod Bears North 24°48' 00" East at 1.00 feet;

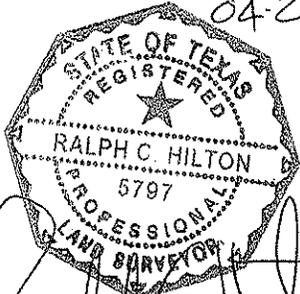
**THENCE** continuing with the South Right of Way of Grovewood Lane (60' R.O.W.) with a curve to the left having a Radius of 620.00', a Central Angle of 02° 50' 18" a Chord Bearing of North 75°27' 33" East at a distance 30.62 feet to a point from which a PK Nail Bears North 04° 23' 00" East at 0.27 feet;

**THENCE** continuing with the South Right of Way of Grovewood Lane (60' R.O.W.) with a curve to the the right having a Radius of 337.00', a Central Angle of 14° 00' 01", a Chord Bearing of North 81°02' 32" East at a distance of 82.34 feet to a Set Railroad Spike in asphalt;

**THENCE** continuing with the South Right of Way of Grovewood Lane (60' R.O.W.), North 87°52'50" East a distance of 138.61 feet to a Set Railroad Spike at the intersection of the West Right of Way of Ella Boulevard (80' R.O.W.), same being the Northeast Corner of herein described tract;

**THENCE** South 02°12'55" East continuing along the West Right of Way of Ella Boulevard (80' R.O.W.) a distance of 167.41 feet to a 5/8" iron rod;

**THENCE** South 02°02'39" East continuing along the West Right of Way of Ella Boulevard (80' R.O.W.) a distance of 8.51 feet to a 5/8" iron rod and the **PLACE OF BEGINNING** and containing 43571.06 Square Feet (1.0002 Acres)

04-27-12  
  
Ralph C. Hilton

## Appendix B – Property Use

---

The following is a description of the current land use, and, to the extent known, the anticipated uses of the designated property and surrounding properties located within 500 feet of the designated property boundary.

### **Current and Anticipated Land Use of the Designated Property**

According to the Harris County Appraisal District (HCAD), as of April 22, 2013, the designated property consists of five parcels totaling approximately 5.70 acres:

- Three tracts of commercially-developed land, privately owned by Ella W. 12<sup>th</sup>, Ltd. at 2902 West 12<sup>th</sup> Street, 1321 Ella Boulevard and 1247 Ella Boulevard, totaling approximately 4.57 acres; and
- Two parcels, each including a public street and rights-of-way; West 12<sup>th</sup> Street and Ella Boulevard, totaling approximately 1.13 acres..

The designated property is located northeast of the intersection of West 12<sup>th</sup> Street and Ella Boulevard in Houston, Harris County, Texas (**Figure C.1**). The designated property is located approximately 4.25 miles northwest of downtown Houston, Texas. The designated property is bordered to the north by Grovewood Lane followed by residential properties, to the east by Ella Boulevard followed by residential properties, to the west by residential properties, and to the south by West 12<sup>th</sup> Street followed by commercial/industrial properties. A survey and metes and bounds description of the designated property is included in **Appendix A**.

The designated property is located in the White Oak Bayou Watershed. According to the Federal Emergency Management Agency (FEMA) Federal Flood Insurance Rate Map (FIRM) for the area containing the designated property, the majority of the designated property is located within Flood Zone X (unshaded) and is outside the 0.2% annual chance floodplain areas. The area along the eastern property boundary is located within Flood Zone X (shaded) and is within the 0.2% annual chance floodplain area. A watershed map and a floodplain map of the area containing the designated property are included as **Figures C.2** and **C.3**, respectively.

Approximately 75 percent of the designated property is covered by concrete or asphalt pavement. The designated property is developed with driveways, sidewalks, parking areas, and commercial buildings. The road parcels (West 12<sup>th</sup> Street and Ella Boulevard) are both concrete-paved streets. The remainder of the designated property is unpaved and covered by vegetation. The proposed future use of the designated property is residential.

The designated property is enrolled in the Texas Commission on Environmental Quality (TCEQ) Voluntary Cleanup Program (VCP) as ID No. 2053 under the TCEQ Texas Risk Reduction Program (TRRP) for adverse environmental impacts identified in connection with the former

Koenig Iron Works and King Winch facility. On April 29, 2013, Ella W. 12<sup>th</sup>, Ltd. submitted an amended VCP Application to the TCEQ to add a second VCP Applicant (InTown Homes, Ltd.) to the designated property. The application was approved by the TCEQ on June 5, 2013. The current and future use of the designated property is commercial and residential, respectively, and is discussed further in **Appendix J**.

### **Current and Anticipated Land Use of the Surrounding Properties**

Properties in the vicinity of the designated property are predominantly mixed commercial, industrial, and residential. Commercial buildings, industrial buildings, and a private middle school are located directly south of the designated property, along West 12<sup>th</sup> Street. Single-family residences are located directly east and west of the designated property. Grovewood Lane is located directly north of the designated property, followed by single-family residences. Sinclair Elementary school is located northeast of the designated property, at the intersection of Grovewood Lane and Ella Boulevard. A map detailing the land use of the surrounding properties within 500 feet of the designated property is presented as **Figure C.4**. The future use of the land in the area of the designated property is anticipated to remain mixed commercial, industrial, and residential.

### **Water Wells**

According to records obtained from the Texas Commission on Environmental Quality (TCEQ), the Harris-Galveston Subsidence District, Texas Water Development Board and GeoSearch, Inc., approximately 991 registered/permitted water wells are reportedly located within a 5-mile radius of the designated property. Of these, 5 water wells are reportedly located within a 0.5-mile radius of the designated property. Two water wells are reportedly located to the southwest (approximately 690 feet), 2 water wells are located to the south (ranging from 2,430 feet to 2,480 feet), and 1 water well is located to the west (approximately 2,640 feet) from the designated property. Of the 991 registered/permitted water wells reportedly located within 5 miles of the designated property, approximately 17 are reportedly owned or operated by a public retail water utility. In addition, 3 of the 17 water wells reportedly located within 5 miles of the designated property are reportedly owned by municipalities or institutions other than the City of Houston. The other municipalities or institutions are the City of West University Place and Memorial Villages Water Authority.

Of these, 5 water wells are reportedly located within a 0.5-mile radius of the designated property. Two water wells are reportedly located to the southwest (approximately 690 feet), 2 water wells are located to the south (ranging from 2,430 feet to 2,480 feet), and 1 water well is located to the west (approximately 2,640 feet) from the designated property.

Of the two water wells located approximately 690 feet to the southwest, one was reportedly drilled in 1988 for Texas Bolt Company. This water well was completed at 305 feet below the ground surface (ft-bgs) was cemented from 90 ft-bgs to 290 ft-bgs, and is screened from 292 to

304 ft-bgs. Due to its distance from the designated property and the depth of the screened interval, it is highly unlikely that this well is affected by contaminants present in the soil or groundwater on the designated property. The other water well located approximately 690 feet to the southwest was reportedly drilled in 1962 for Production Die Casting Company. This water well was completed at 310 feet below the ground surface (ft-bgs); however, the screened interval was not reported. As groundwater flow at the designated property is to the east-southeast., it is highly unlikely that these water wells are affected by contaminants present in the soil or groundwater on the designated property.

The water well located approximately 2,430 feet to the south was reportedly drilled in 1974 for Automation Products, Inc. This water well was completed at 287 ft-bgs, was cemented from 209 ft-bgs to 264 ft-bgs, and is screened from 277 to 287 ft-bgs. Due to its distance from the designated property and the depth of the screened interval, it is highly unlikely that the water well is affected by contaminants present in the soil or groundwater on the designated property.

The water well located approximately 2,480 feet to the south was reportedly drilled in 1971 for Superior Concrete Accessories. The well was completed to 480 ft-bgs and is reported as plugged.

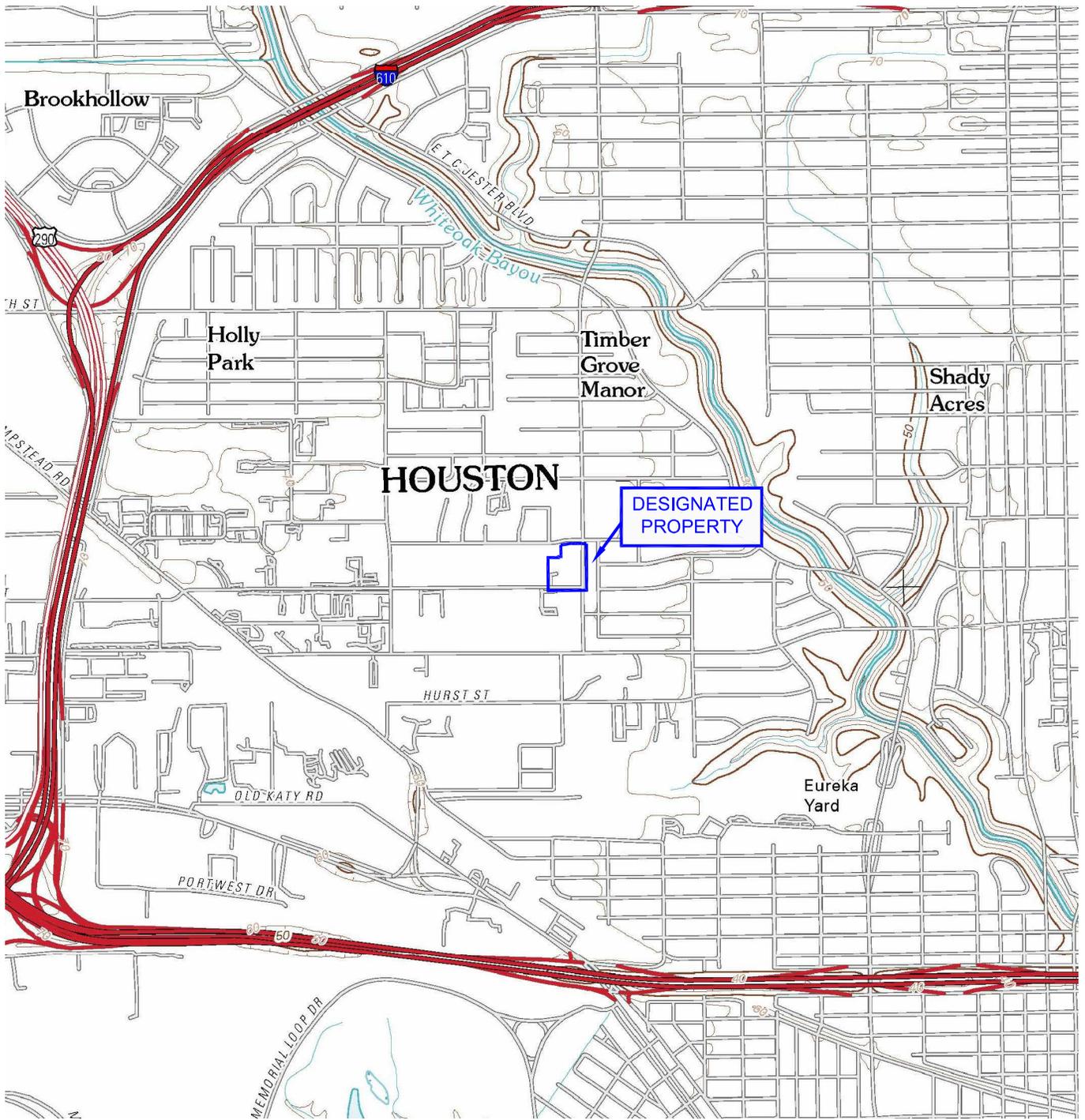
The water well located approximately 2,640 feet to the west was reportedly drilled in 1969 for General Electric Company. The well was completed at 533 ft-bgs, was cemented from 0 ft-bgs to 433 ft-bgs, and is screened from 450 ft-bgs to 470 ft-bgs and 513 ft-bgs to 533 ft-bgs. The well is reported as plugged.

## Appendix C – Site Maps

---

The following figures are included in **Appendix C**.

- Figure C.1 Site Location and Topographic Map
- Figure C.2 Watershed Map
- Figure C.3 Floodplain Map
- Figure C.4 Surrounding Land Use Map
- Figure C.5 Soil and Groundwater Sampling Location Map
- Figure C.6A Groundwater Gradient Map November 2011
- Figure C.6B Groundwater Gradient Map July 27, 2012
- Figure C.6C Groundwater Gradient Map November 28, 2012
- Figure C.6D Groundwater Gradient Map February 21, 2013
- Figure C.7 Surface Soil Protective Concentration Level Exceedance Zone Map
- Figure C.8 Subsurface Soil Protective Concentration Level Exceedance Zone Map
- Figure C.9 Groundwater Protective Concentration Level Exceedance Zone Map



REFERENCE USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE  
HOUSTON HEIGHTS AND SETTEGAST, TEXAS  
2010



APPROXIMATE SCALE: 1"=2000'



SKA CONSULTING, L.P.  
1515 WITTE ROAD, SUITE 150  
HOUSTON, TEXAS 77080

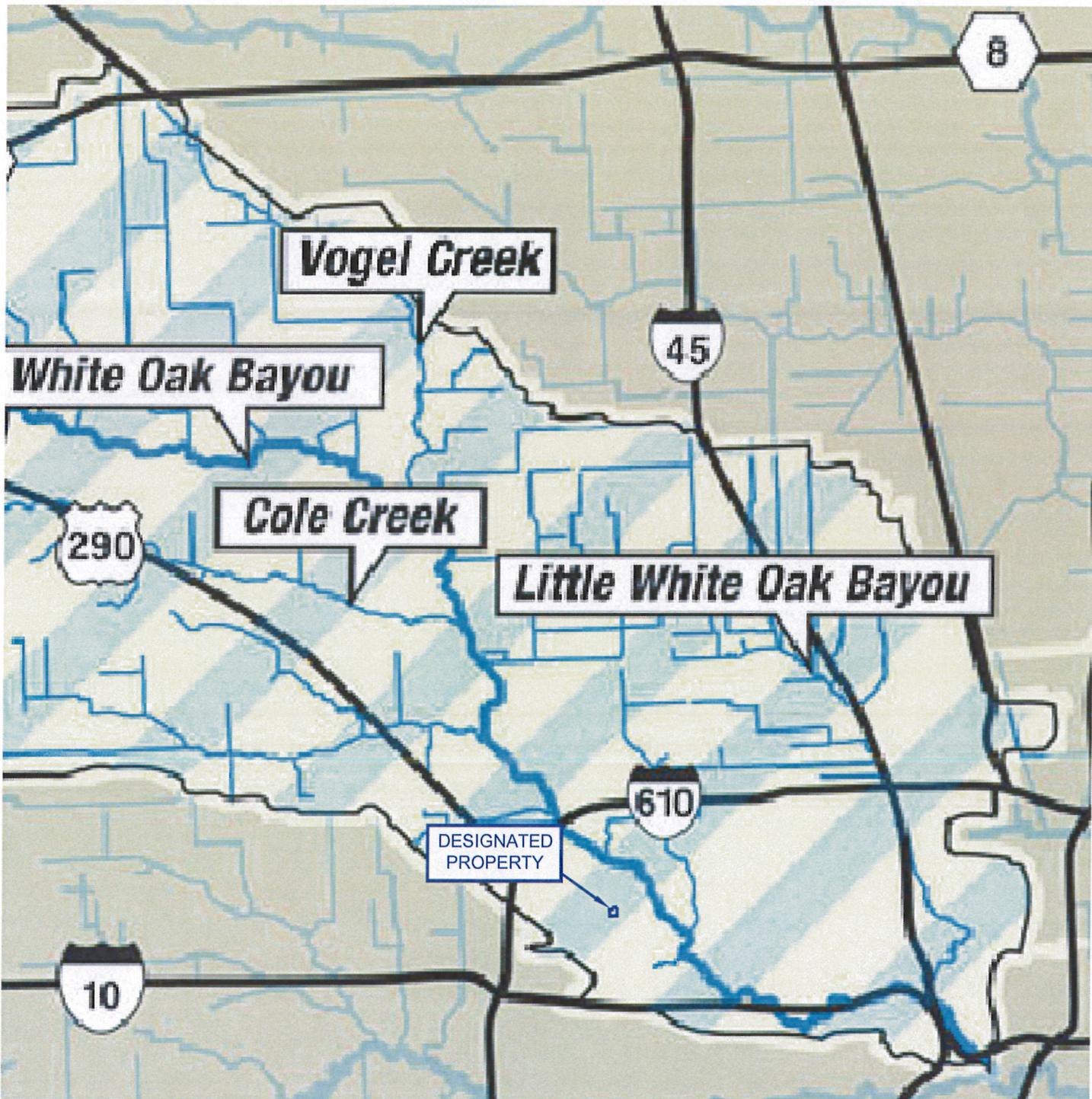
**SITE LOCATION AND TOPOGRAPHIC MAP**

CITY OF HOUSTON MUNICIPAL  
SETTING DESIGNATION APPLICATION  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP ID NO. 2053

FIGURE  
**C.1**

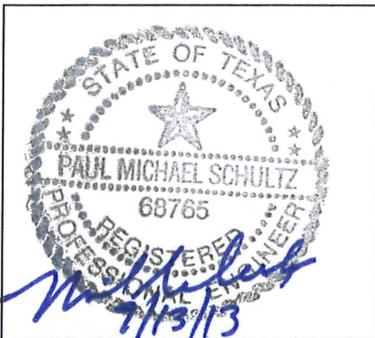


DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM



 WHITE OAK BAYOU WATERSHED

0 5000 10,000  
 APPROXIMATE SCALE:  
 1"=10,000'



SKA CONSULTING, L.P.  
 1515 WITTE ROAD, SUITE 150  
 HOUSTON, TEXAS 77080

Texas Registered Engineering Firm F-005009  
 Texas Registered Geoscience Firm 50011

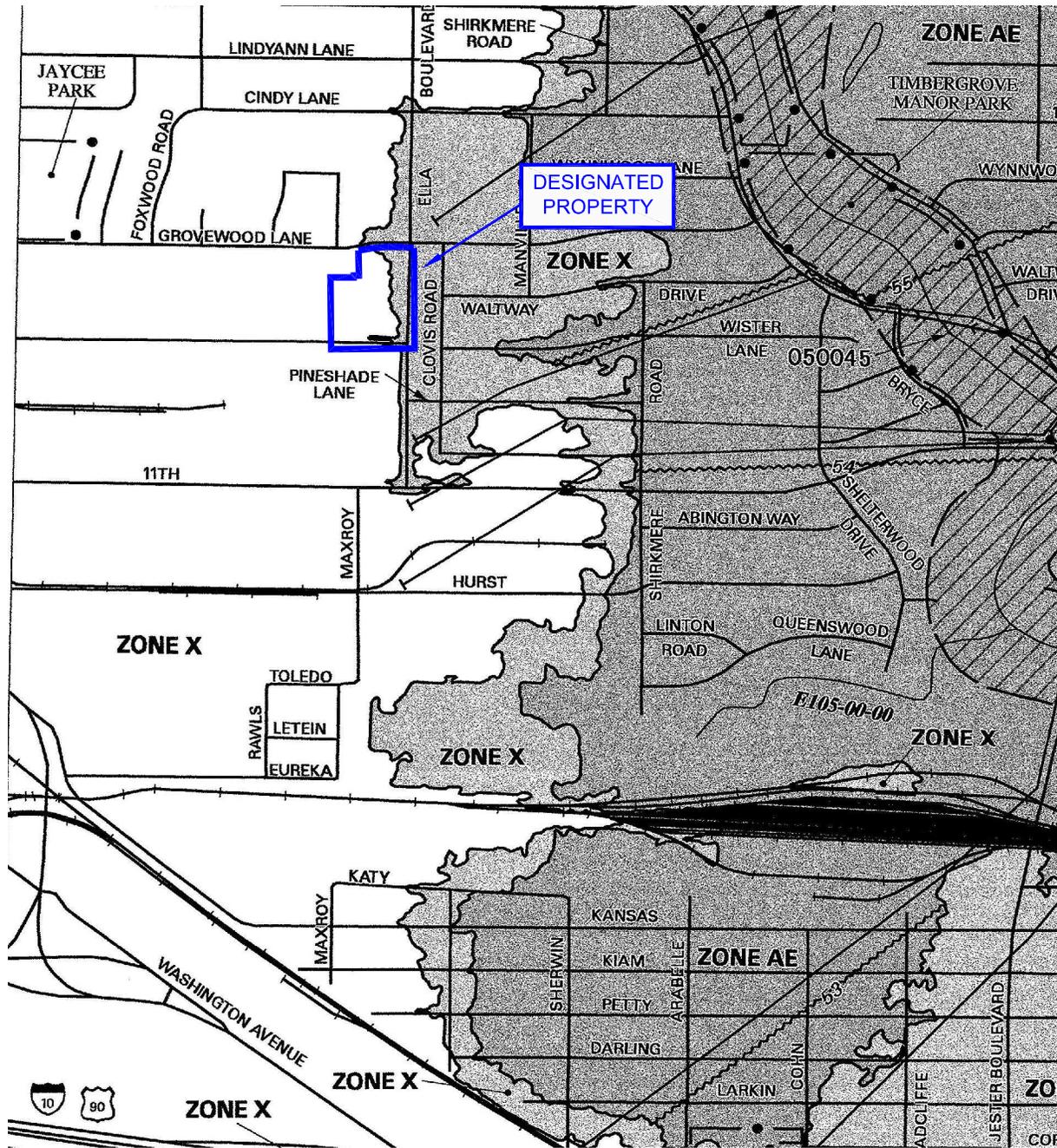
**WATERSHED MAP**

CITY OF HOUSTON MUNICIPAL  
 SETTING DESIGNATION APPLICATION  
 FORMER KOENIG/KING WINCH  
 2902 WEST 12TH STREET  
 HOUSTON, HARRIS COUNTY, TEXAS  
 VCP ID NO. 2053

FIGURE  
**C.2**



DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM

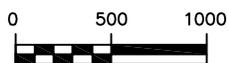


**EXPLANATION:**

- Zone AE - Areas determined to be within the 1% annual chance floodplains for which Base Flood Elevations determined.
- Zone X (unshaded) - Areas determined to be outside the 0.2% annual chance floodplains.
- Zone X (shaded) - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depth of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

FEDERAL EMERGENCY MANAGEMENT AGENCY  
HARRIS COUNTY, TEXAS

MAP NO. 48201C0670L (06/18/2007)



APPROXIMATE SCALE: 1"=1000'



SKA CONSULTING, L.P.  
1515 WITTE ROAD, SUITE 150  
HOUSTON, TEXAS 77080

Texas Registered Engineering Firm F-005009  
Texas Registered Geoscience Firm 50011

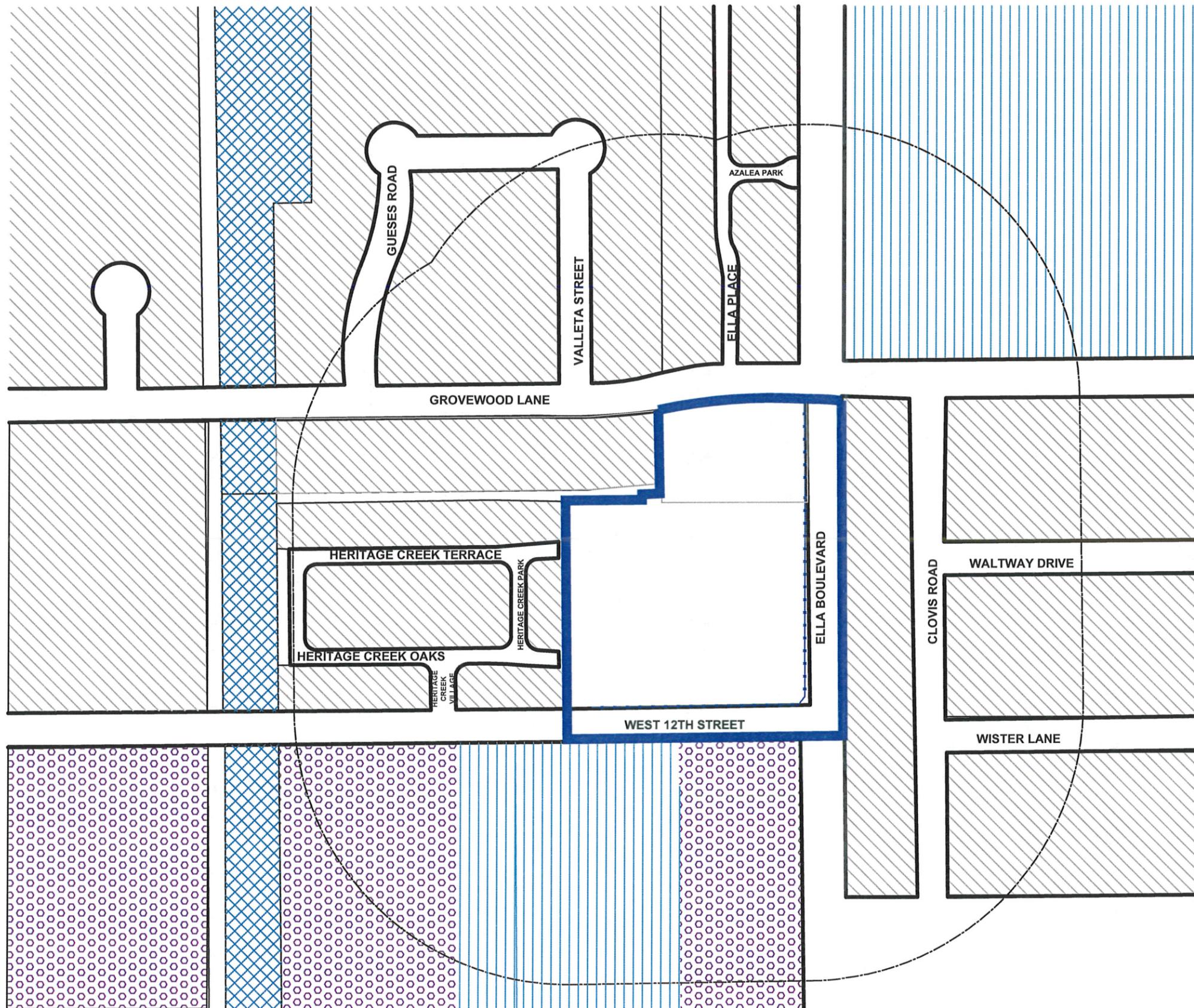
**FLOODPLAIN MAP**

CITY OF HOUSTON MUNICIPAL  
SETTING DESIGNATION APPLICATION  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP ID NO. 2053

FIGURE  
**C.3**



DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM

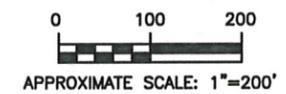


**LEGEND**

-  DESIGNATED PROPERTY BOUNDARY
-  ROADS
-  500' RADIUS

**PARCEL LAND USE**

-  INDUSTRIAL/COMMERCIAL
-  RESIDENTIAL
-  OTHER LAND USES (E.G. SCHOOLS, CHURCHES)
-  UTILITY RIGHT-OF-WAY
-  VACANT



SKA CONSULTING, L.P.  
10260 WESTHEIMER, SUITE 605  
HOUSTON TEXAS 77042

Texas Registered Engineering Firm F-005009  
Texas Registered Geoscience Firm 50011

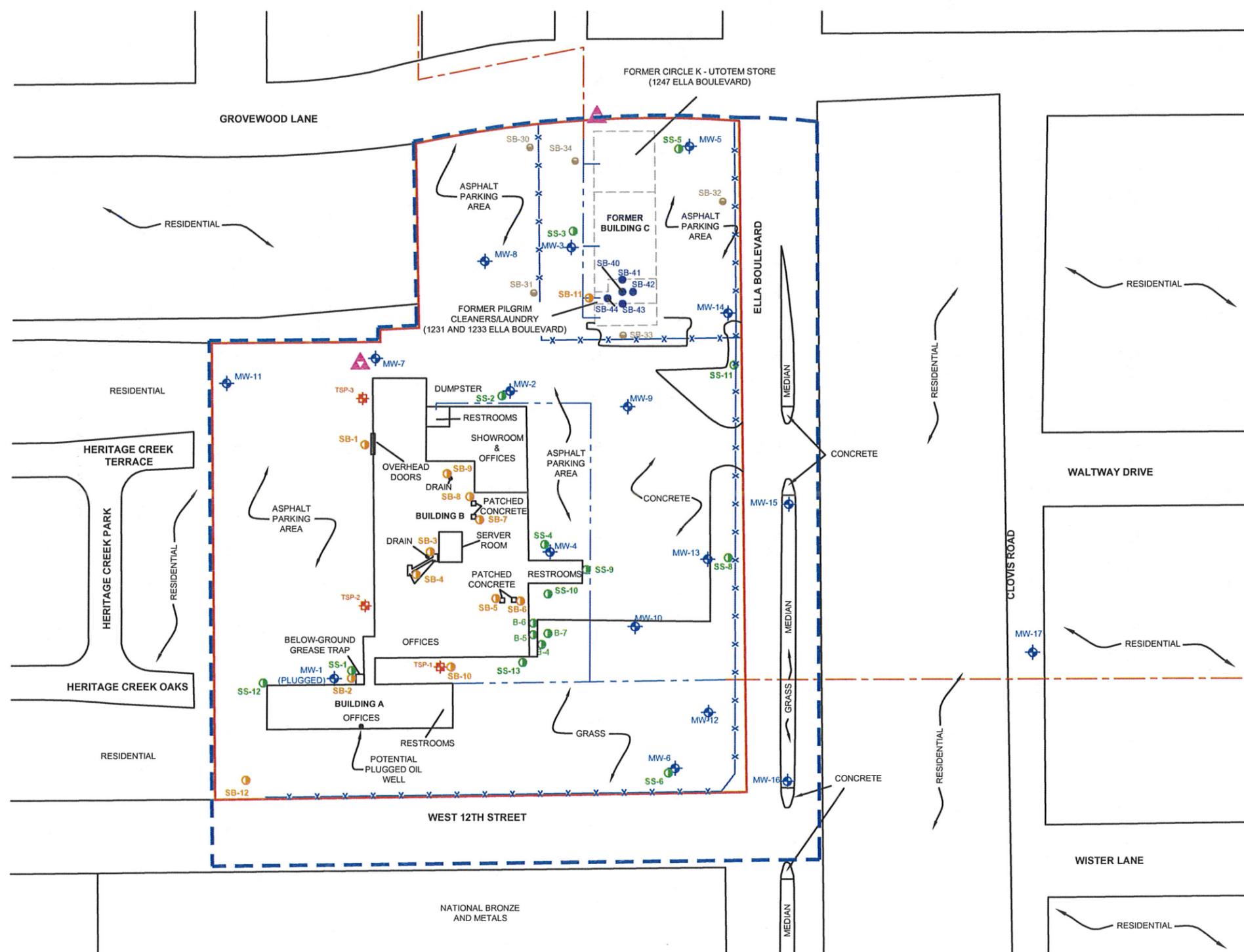
**SURROUNDING LAND USE MAP**

CITY OF HOUSTON MUNICIPAL  
SETTING DESIGNATION APPLICATION  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP ID NO. 2053

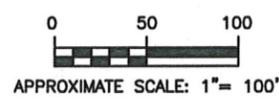
FIGURE  
C.4



DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM



- LEGEND**
- DESIGNATED PROPERTY BOUNDARY
  - VCP ID NO. 2053 PROPERTY BOUNDARY
  - x-x-x CHAIN-LINK FENCE
  - SANITARY SEWER LINE
  - ASSUMED SANITARY SEWER LINE
  - ▲ POLE-MOUNTED ELECTRICAL TRANSFORMERS
  - ◆ PERMANENT MONITORING WELL LOCATION
  - ◆ TEMPORARY MONITORING WELL LOCATION
  - SOIL BORING LOCATION
  - SOIL BORING LOCATION (SKA, 2011)
  - SOIL BORING LOCATION (SKA, 2012)
  - SOIL BORING LOCATION (SKA, 2013)

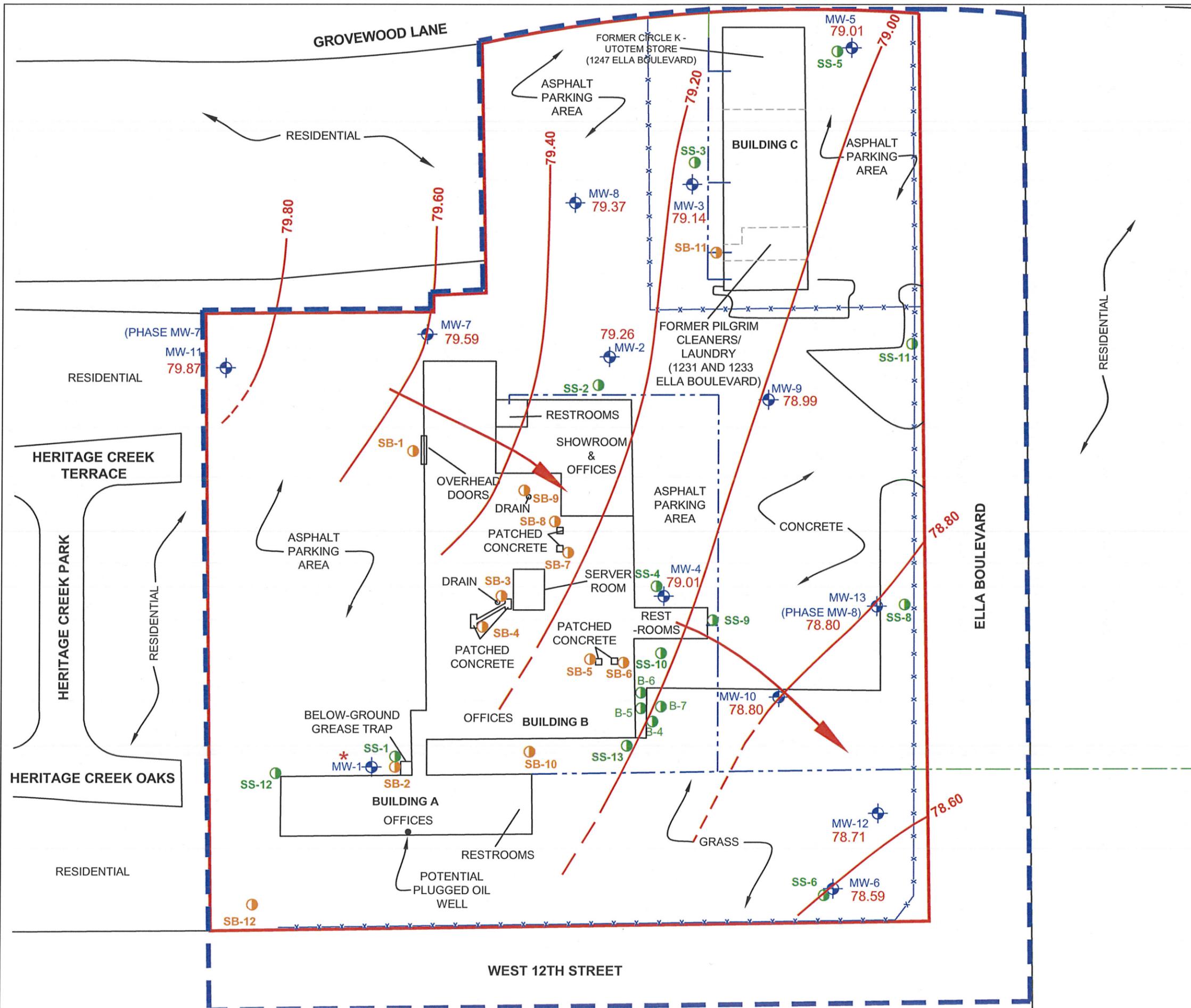


**ska** SKA CONSULTING, L.P.  
 1515 WITTE ROAD, SUITE 150  
 HOUSTON, TEXAS 77080  
 Texas Registered Engineering Firm F-005009  
 Texas Registered Geoscience Firm 50011

**SOIL AND GROUNDWATER SAMPLING LOCATION MAP**  
 CITY OF HOUSTON MUNICIPAL  
 SETTING DESIGNATION APPLICATION  
 FORMER KOENIG/KING WINCH  
 2902 WEST 12TH STREET  
 HOUSTON, HARRIS COUNTY, TEXAS  
 VCP ID NO. 2053

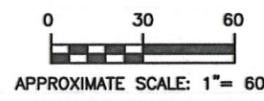
FIGURE  
**C.5**

DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM



**LEGEND**

- VCP ID No. 2053 PROPERTY BOUNDARY
- x-x-x- CHAIN-LINK FENCE
- SANITARY SEWER LINE
- ASSUMED SANITARY SEWER LINE
- ⊕ PERMANENT MONITORING WELL LOCATION
- 79.87 GROUNDWATER ELEVATION
- GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION
- SOIL BORING LOCATION
- SOIL BORING LOCATION (SKA, 2011)
- \* TOP OF CASING ELEVATION NOT AVAILABLE FOR MW-1
- - - - MSD BOUNDARY



STATE OF TEXAS  
JANET L. RASHKES MEAUX  
GEOLOGY  
2162  
3/5/14

**ska** SKA CONSULTING, L.P.  
1515 WITTE ROAD, SUITE 150  
HOUSTON, TEXAS 77080  
Texas Registered Engineering Firm F-005009  
Texas Registered Geoscience Firm 50011

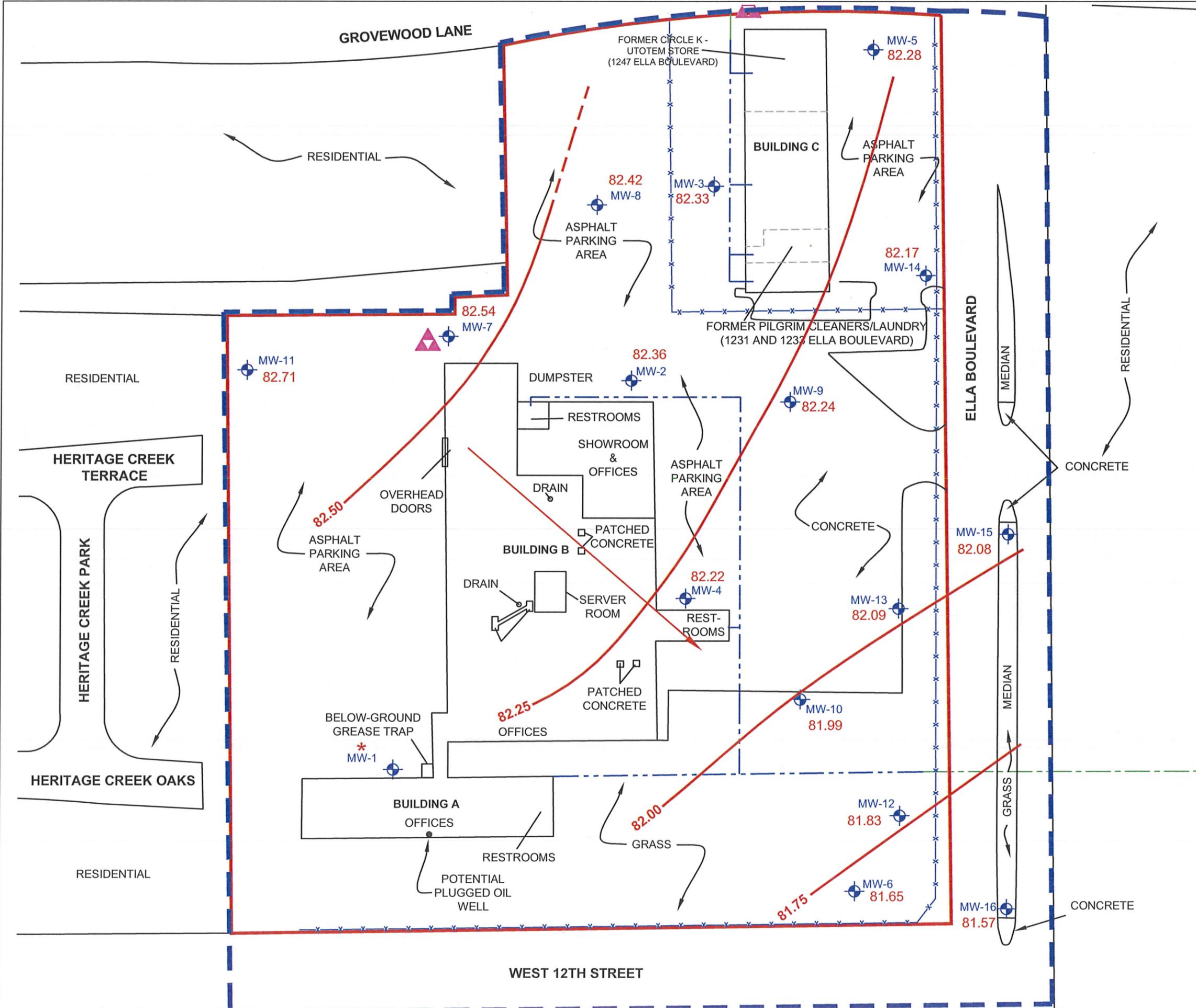
**GROUNDWATER GRADIENT MAP**  
**NOVEMBER 2011**

CITY OF HOUSTON MUNICIPAL SETTING DESIGNATION APPLICATION  
FORMER KOENING/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP NO. 2053

FIGURE  
**C.6A**

DATE:	MARCH 2014	JOB NO.:	2002-0069	SCALE:	AS SHOWN
1	FIRST REVISION	-	DRAWN BY:	WPS	
2	SECOND REVISION	-	CHECKED BY:	JRM	
3	THIRD REVISION	-	APPROVED BY:	JRM	



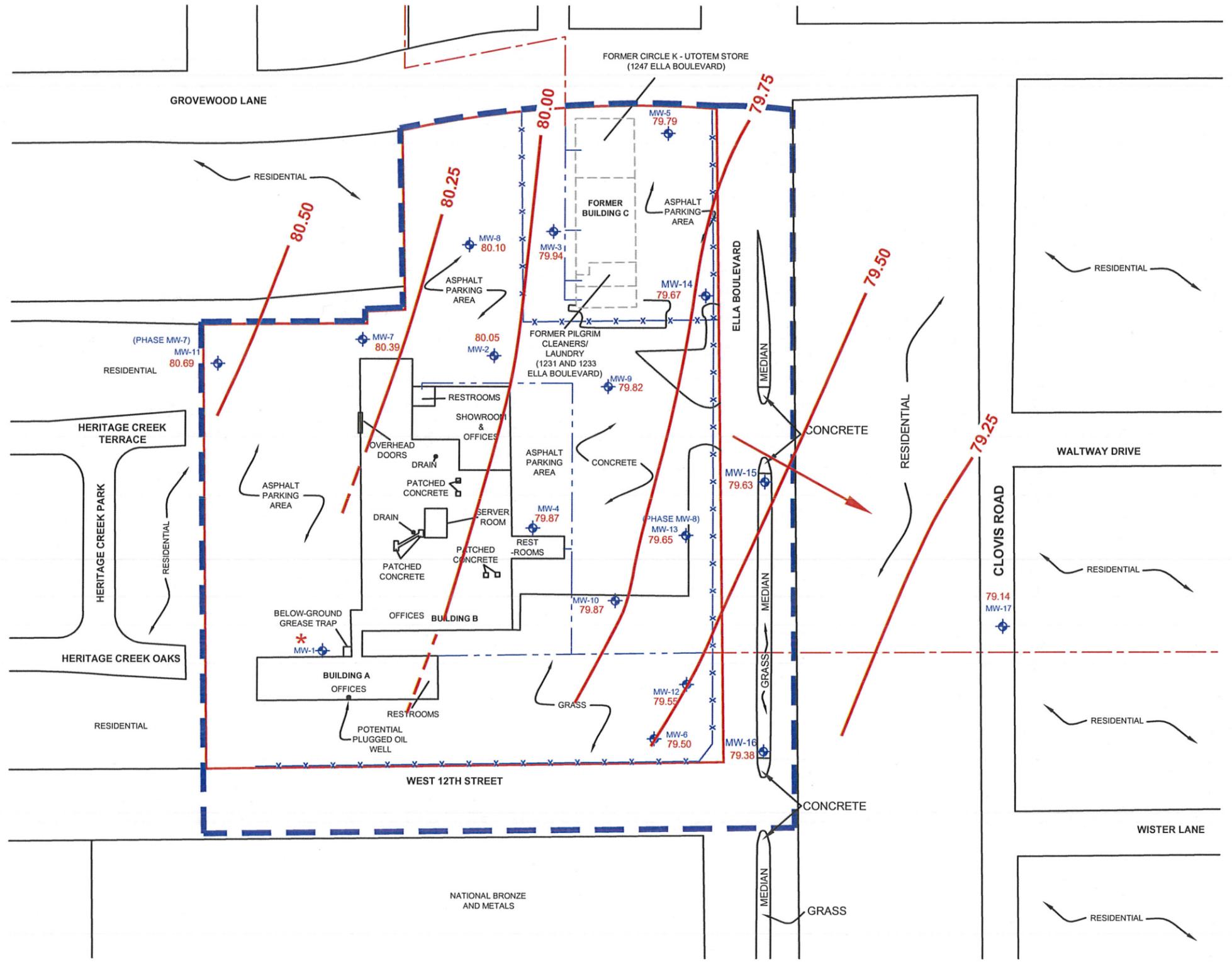


- LEGEND**
- VCP ID No. 2053 PROPERTY BOUNDARY
  - x-x-x- CHAIN-LINK FENCE
  - SANITARY SEWER LINE
  - ASSUMED SANITARY SEWER LINE
  - ▲ POLE-MOUNTED ELECTRICAL TRANSFORMER
  - ⊕ PERMANENT MONITORING WELL LOCATION
  - 82.42 GROUNDWATER ELEVATION
  - GROUNDWATER CONTOUR
  - GROUNDWATER FLOW DIRECTION
  - \* TOP OF CASING ELEVATION FOR MW-1 NOT AVAILABLE
  - MSD BOUNDARY

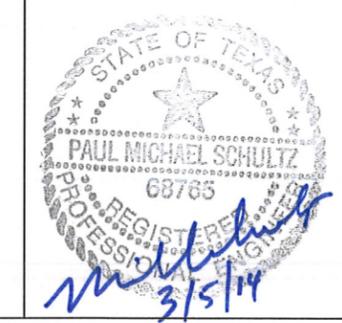
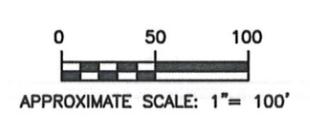
0 30 60  
APPROXIMATE SCALE: 1" = 60'

**ska** SKA CONSULTING, L.P.  
1515 WITTE ROAD, SUITE 150  
HOUSTON, TEXAS 77080  
Texas Registered Engineering Firm F-005009  
Texas Registered Geoscience Firm 50011

<b>GROUNDWATER GRADIENT MAP</b>		FIGURE <b>C.6B</b>
JULY 27, 2012		
CITY OF HOUSTON MUNICIPAL SETTING DESIGNATION APPLICATION		
FORMER KOENING/KING WINCH 2902 WEST 12TH STREET HOUSTON, HARRIS COUNTY, TEXAS VCP NO. 2053		
DATE: MARCH 2014	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: WPS
2 SECOND REVISION	-	CHECKED BY: JRM
3 THIRD REVISION	-	APPROVED BY: JRM



- LEGEND**
- DESIGNATED PROPERTY BOUNDARY
  - VCP ID NO. 2053 PROPERTY BOUNDARY
  - x-x-x CHAIN-LINK FENCE
  - SANITARY SEWER LINE
  - ASSUMED SANITARY SEWER LINE
  - + MW-1 PERMANENT MONITORING WELL LOCATION
  - 79.87 GROUNDWATER ELEVATION
  - GROUNDWATER CONTOUR
  - GROUNDWATER FLOW DIRECTION
  - \*
  - MSD BOUNDARY



**ska** SKA CONSULTING, L.P.  
 1515 WITTE ROAD, SUITE 150  
 HOUSTON, TEXAS 77080  
 Texas Registered Engineering Firm F-005009  
 Texas Registered Geoscience Firm 50011

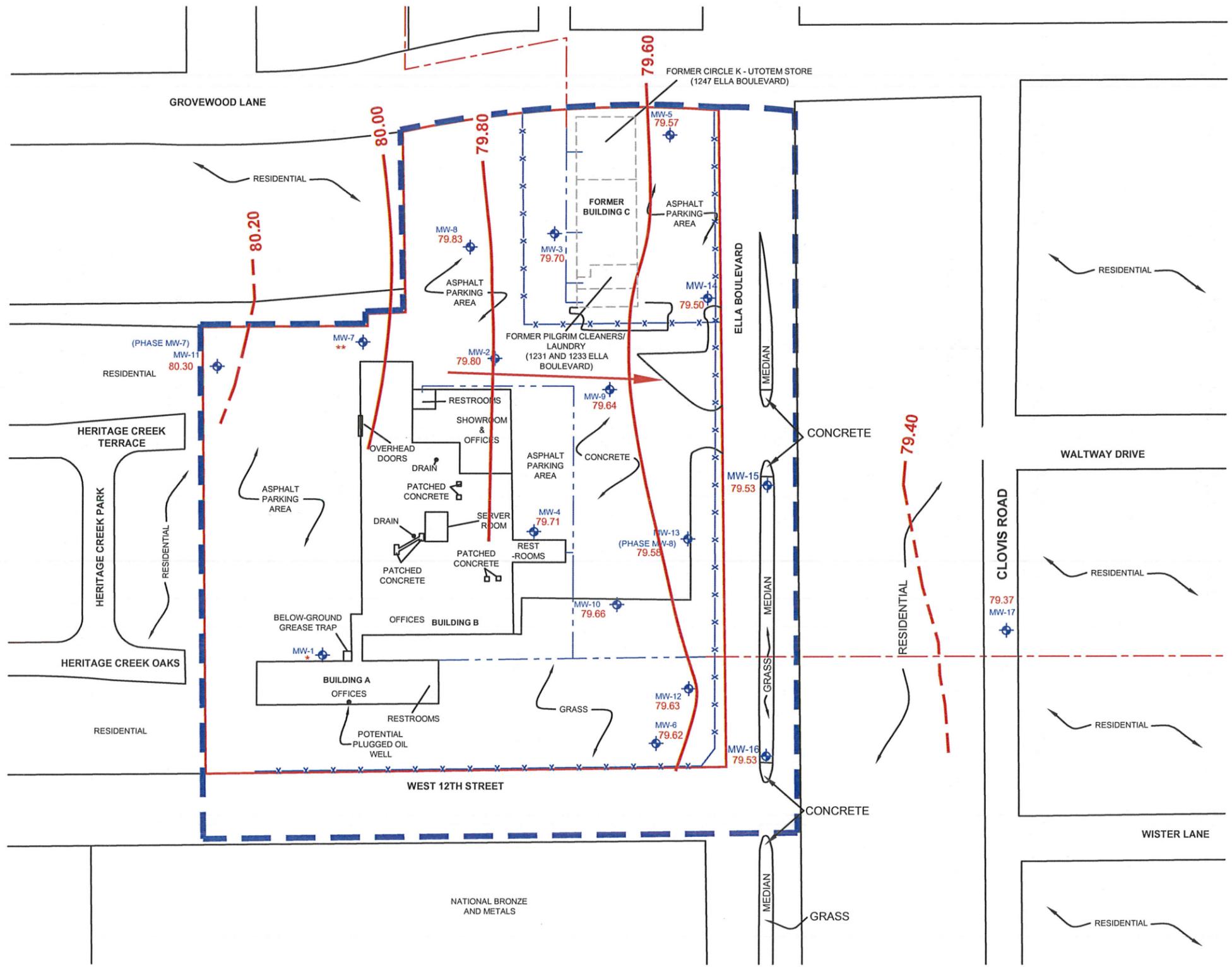
**GROUNDWATER GRADIENT MAP  
 NOVEMBER 28, 2012**

CITY OF HOUSTON MUNICIPAL  
 SETTING DESIGNATION APPLICATION  
 FORMER KOENIG/KING WINCH  
 2902 WEST 12TH STREET  
 HOUSTON, HARRIS COUNTY, TEXAS  
 VCP ID NO. 2053

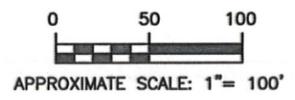
FIGURE  
**C.6C**

DATE: MARCH 2014	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: WPS
2 SECOND REVISION	-	CHECKED BY: JRM
3 THIRD REVISION	-	APPROVED BY: JRM





- LEGEND**
- DESIGNATED PROPERTY BOUNDARY
  - VCP ID NO. 2053 PROPERTY BOUNDARY
  - CHAIN-LINK FENCE
  - SANITARY SEWER LINE
  - ASSUMED SANITARY SEWER LINE
  - PERMANENT MONITORING WELL LOCATION
  - 80.30** GROUNDWATER ELEVATION
  - GROUNDWATER CONTOUR
  - GROUNDWATER FLOW DIRECTION
  - \*** TOP-OF-CASING ELEVATION NOT AVAILABLE FOR MW-1
  - \*\*** SURFACE WATER OVER MW-7, WELL COULD NOT BE GAUGED
  - MSD BOUNDARY



**ska** SKA CONSULTING, L.P.  
 1515 WITTE ROAD, SUITE 150  
 HOUSTON, TEXAS 77080  
 Texas Registered Engineering Firm F-005009  
 Texas Registered Geoscience Firm 50011

**GROUNDWATER GRADIENT MAP  
 FEBRUARY 21, 2013**

CITY OF HOUSTON MUNICIPAL  
 SETTING DESIGNATION APPLICATION  
 FORMER KOENIG/KING WINCH  
 2902 WEST 12TH STREET  
 HOUSTON, HARRIS COUNTY, TEXAS  
 VCP ID NO. 2053

FIGURE  
**C.6D**

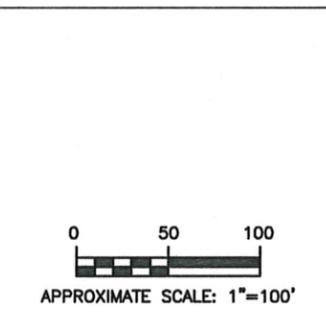
DATE:	MARCH 2014	JOB NO:	2002-0069	SCALE:	AS SHOWN
1	FIRST REVISION	-	DRAWN BY:	WPS	
2	SECOND REVISION	-	CHECKED BY:	JRM	
3	THIRD REVISION	-	APPROVED BY:	JRM	



**LEGEND**

- DESIGNATED PROPERTY BOUNDARY
- VCP ID NO. 2053 PROPERTY BOUNDARY
- x-x-x- CHAIN-LINK FENCE
- SANITARY SEWER LINE
- ASSUMED SANITARY SEWER LINE
- ▲ POLE-MOUNTED ELECTRICAL TRANSFORMERS
- MW-1 PERMANENT MONITORING WELL LOCATION
- TSP-1 TEMPORARY MONITORING WELL LOCATION
- SS-1 SOIL BORING LOCATION
- SB-1 SOIL BORING LOCATION (SKA, 2011)
- SB-30 SOIL BORING LOCATION (SKA, 2012)
- SB-40 SOIL BORING LOCATION (SKA, 2013)
- As ARSENIC PCLE ZONE
- Cd CADMIUM PCLE ZONE
- TCE/CIS TRICHLOROETHENE PCLE ZONE AND CIS-1,2-DICHLOROETHENE PCLE ZONE
- PCE TETRACHLOROETHENE PCLE ZONE

NOTE: METHYLENE CHLORIDE WAS DETECTED IN CONCENTRATIONS ABOVE THE SOIL-TO-GROUNDWATER PCL IN THE 10-11 FT-BGS SAMPLE FOR SOIL BORING B-5. THIS IS LIKELY DUE TO LAB CONTAMINATION AND IS NOT LIKELY REPRESENTATIVE OF SITE CONDITIONS.



**SKA CONSULTING, L.P.**  
 1515 WITTE ROAD, SUITE 150  
 HOUSTON, TEXAS 77080

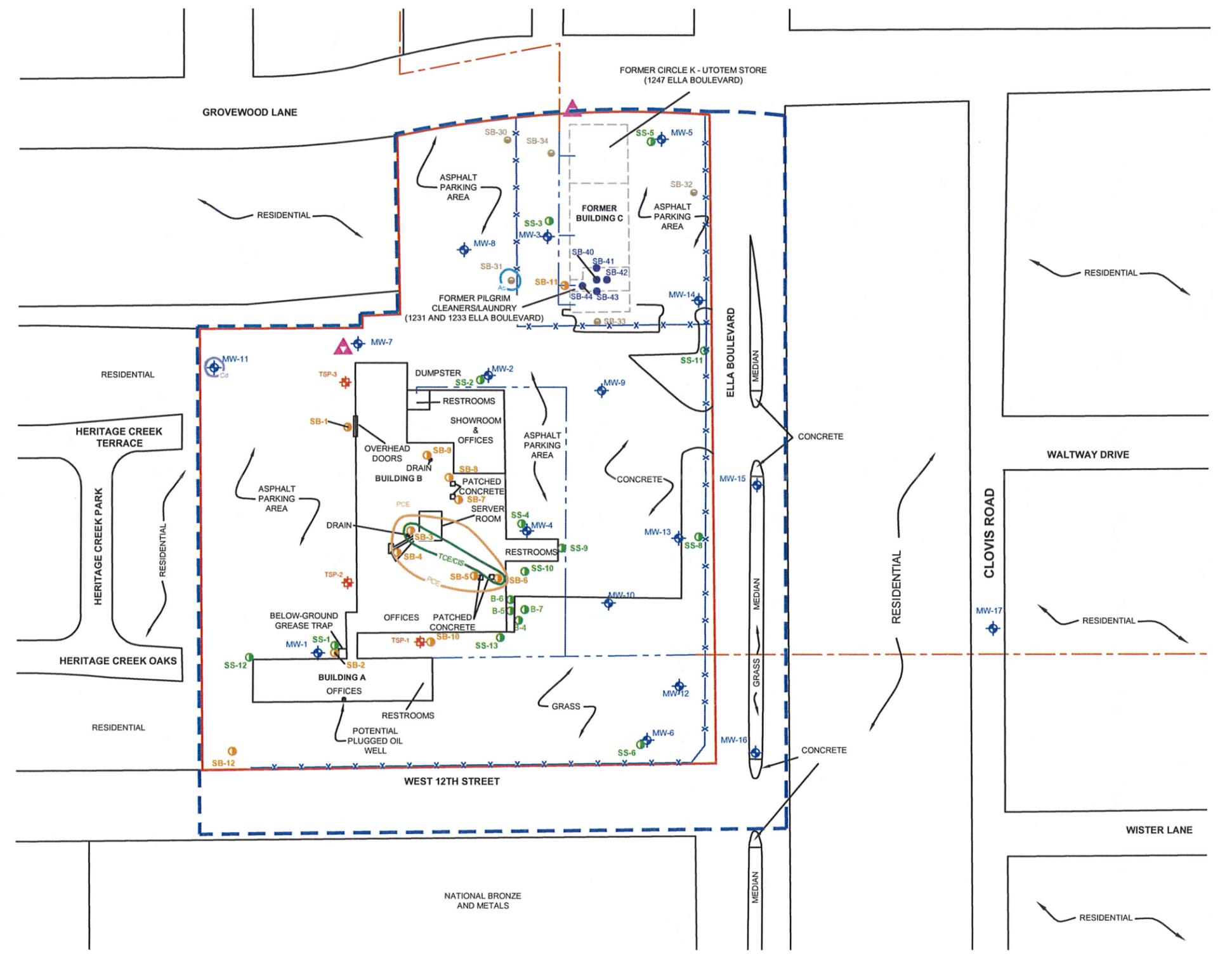
Texas Registered Engineering Firm F-005009  
 Texas Registered Geoscience Firm 50011

**SURFACE SOIL PROTECTIVE CONCENTRATION LEVEL EXCEEDENCE (PCLE) ZONE MAP**

CITY OF HOUSTON MUNICIPAL SETTING DESIGNATION APPLICATION  
 FORMER KOENIG/KING WINCH  
 2902 WEST 12TH STREET  
 HOUSTON, HARRIS COUNTY, TEXAS  
 VCP ID NO. 2053

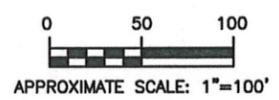
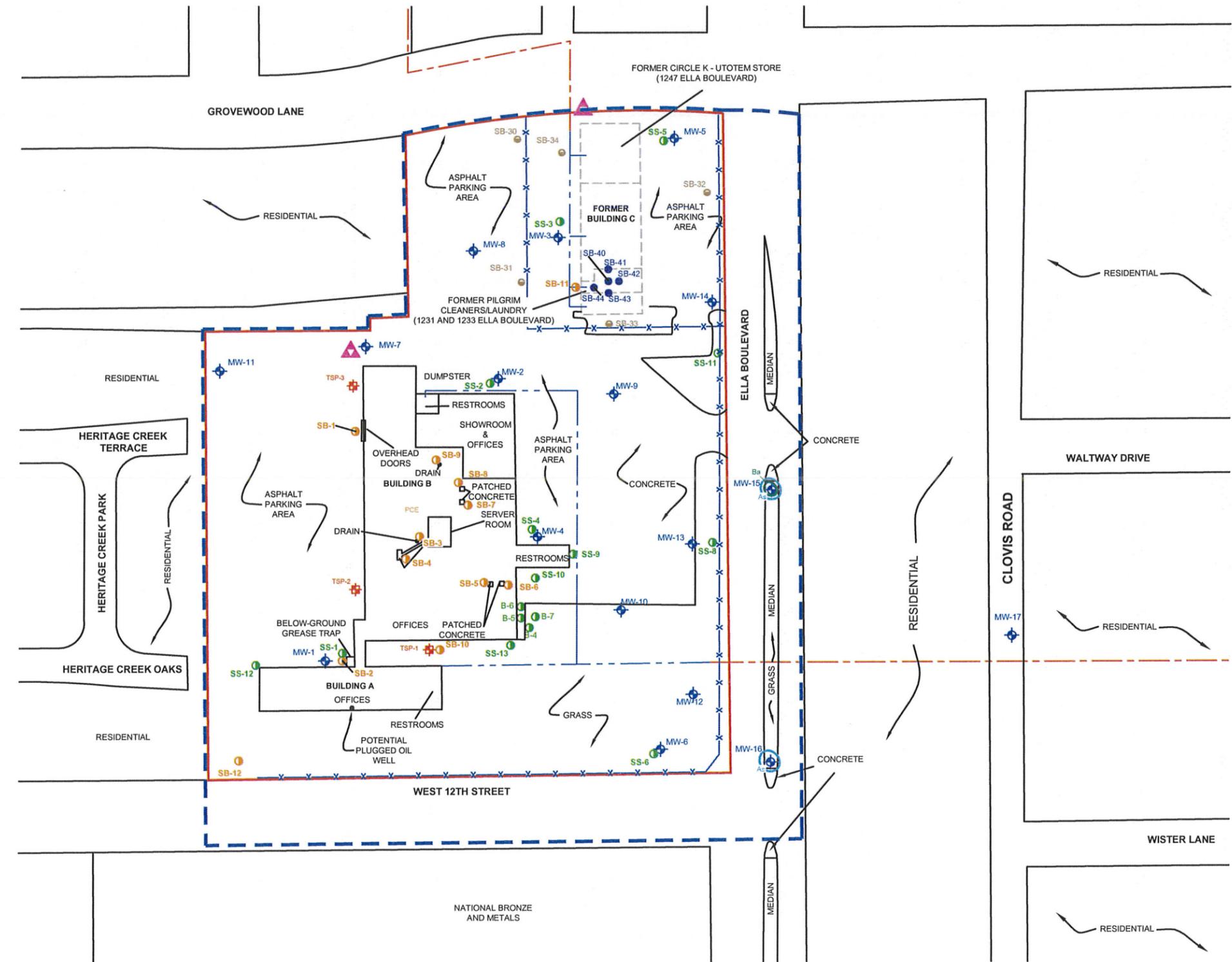
DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM

FIGURE  
**C.7**



**LEGEND**

-  DESIGNATED PROPERTY BOUNDARY
-  VCP ID NO. 2053 PROPERTY BOUNDARY
-  CHAIN-LINK FENCE
-  SANITARY SEWER LINE
-  ASSUMED SANITARY SEWER LINE
-  POLE-MOUNTED ELECTRICAL TRANSFORMERS
-  PERMANENT MONITORING WELL LOCATION
-  TEMPORARY MONITORING WELL LOCATION
-  SOIL BORING LOCATION
-  SOIL BORING LOCATION (SKA, 2011)
-  SOIL BORING LOCATION (SKA, 2012)
-  SOIL BORING LOCATION (SKA, 2013)
-  ARSENIC PCLE ZONE
-  BARIUM PCLE ZONE



**ska** SKA CONSULTING, L.P.  
1515 WITTE ROAD, SUITE 150  
HOUSTON, TEXAS 77080  
Texas Registered Engineering Firm F-005009  
Texas Registered Geoscience Firm 50011

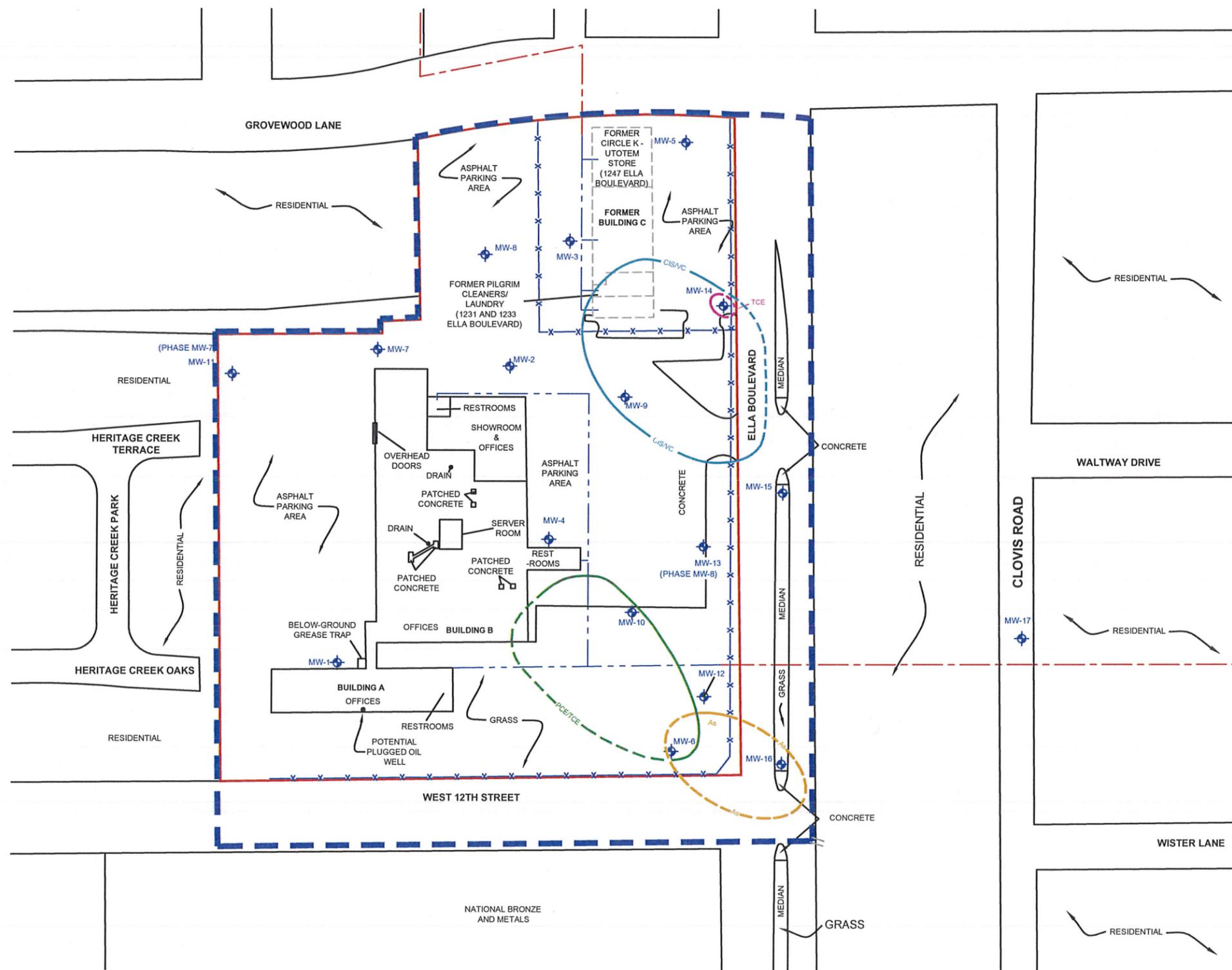
**SUBSURFACE SOIL PROTECTIVE CONCENTRATION LEVEL EXCEEDENCE (PCLE) ZONE MAP**

CITY OF HOUSTON MUNICIPAL  
SETTING DESIGNATION APPLICATION  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP ID NO. 2053

DATE: SEPTEMBER 2013	JOB NO: 2002-0069	SCALE: AS SHOWN
1 FIRST REVISION	-	DRAWN BY: JCS
2 SECOND REVISION	-	CHECKED BY: CLS
3 THIRD REVISION	-	APPROVED BY: JRM

FIGURE  
**C.8**

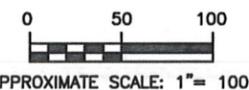




**LEGEND**

- DESIGNATED PROPERTY BOUNDARY
- VCP ID NO. 2053 PROPERTY BOUNDARY
- x-x-x CHAIN-LINK FENCE
- SANITARY SEWER LINE
- ASSUMED SANITARY SEWER LINE
- MW-1 + PERMANENT MONITORING WELL LOCATION
- PCE/TCE TRICHLOROETHENE/TETRACHLOROETHENE PCLE ZONE
- TCE TRICHLOROETHENE PCLE ZONE
- As ARSENIC PCLE ZONE
- CIS-1,2-DICHLOROETHENE/VINYL CHLORIDE PCLE ZONE
- MSD BOUNDAR

NOTE: SOLID LINE OF PCLE ZONE IS INTERPOLATED; DASHED LINE IS INFERRED.



SKA CONSULTING, L.P.  
 1515 WITTE ROAD, SUITE 150  
 HOUSTON, TEXAS 77080  
 Texas Registered Engineering Firm F-005009  
 Texas Registered Geoscience Firm 50011

**GROUNDWATER PROTECTIVE CONCENTRATION LEVEL EXCEEDANCE ZONE MAP**

FIGURE C.9

CITY OF HOUSTON MUNICIPAL  
 SETTING DESIGNATION APPLICATION  
 FORMER KOENIG/KING WINCH  
 2902 WEST 12TH STREET  
 HOUSTON, HARRIS COUNTY, TEXAS  
 VCP ID NO. 2053

DATE:	MARCH 2014	JOB NO:	2002-0069	SCALE:	AS SHOWN
1	FIRST REVISION	-	DRAWN BY:	WPS	
2	SECOND REVISION	-	CHECKED BY:	JRM	
3	THIRD REVISION	-	APPROVED BY:	JRM	



## Appendix D – PCLE Zone Discussion

---

This section includes a description of the ingestion protective concentration level (PCL) exceedance zones (PCLE zone) and non-ingestion PCLE zones, the level of contamination, and the basic geochemical properties of each contaminant of concern on the designated property.

In accordance with TRRP, PCLs for COCs present in soil and/or groundwater have been developed for human ingestion and non-ingestion exposure pathways based on TRRP Tier 1 residential soil and groundwater PCLs. For purposes of this MSD application and in accordance with City of Houston, Texas Ordinance No. 2007-959 (pertaining to MSDs), the most restrictive of the current TRRP Tier 1 residential soil and groundwater ingestion and non-ingestion PCLs developed for the identified COCs have been compared to the soil and groundwater sampling and analysis results obtained for samples collected from the designated property to determine the current location and extent of TRRP soil and groundwater ingestion and non-ingestion PCL exceedance (PCLE) zones.

TRRP PCLs utilized for determination of the designated property's soil and groundwater ingestion and non-ingestion PCLE zones are included in **Tables D.1** and **D.2** in **Appendix D**. The locations of all soil and groundwater sampling points are shown on **Figure C.5**, four groundwater gradient maps are included as **Figures C.6A through C.6D**, and the approximate locations of all TRRP soil and groundwater ingestion PCLE zones are shown on **Figures C.7** through **C.9**.

A discussion of the designated property's TRRP soil and groundwater ingestion and non-ingestion PCLE zones and a discussion of the geochemical properties of the COCs detected in the designated property's soil and groundwater is included below.

### **Surface Soil PCLE Zones**

Soil sampling and analysis results obtained for surface soil samples collected from the designated property indicate detections of arsenic, barium, cadmium, PCE, TCE, cis-1,2-DCE, and methylene chloride that exceed TRRP Tier 1 and Tier 2 <sup>GW</sup>Soil<sub>ing</sub> PCLs included on **Table D.1**.

Methylene chloride is a common lab contaminant and is not considered a chemical of concern on the designated property. Therefore, a PCLE zone for methylene chloride is unlikely to exist at the site in surface soil.

The surface soil analytical data and TRRP Tier 1 and Tier 2 PCLs utilized for determination of the designated property's soil ingestion and non-ingestion PCLE zones are included in **Table D.1** and soil ingestion and non-ingestion PCLE zones shown on **Figure C.7**.

Except for arsenic detected in soil boring SB-31, none of the metals or VOCs detected in the soil at the designated property exceed their applicable TRRP non-ingestion soil PCLs (TRRP Tier 1 residential <sup>Tot</sup>Soil<sub>Comb</sub> PCLs). As such, one TRRP non-ingestion surface soil PCLE zone for arsenic exists at the designated property.

#### Arsenic PCLE Zone located near Soil Boring SB-31

Arsenic was detected in excess of the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL and applicable non-ingestion soil PCL (<sup>Tot</sup>Soil<sub>Comb</sub> PCLs for surface soil) in soil boring SB-31 (2-3 feet below the ground surface, ft-bgs, and 6-8 ft-bgs). This PCLE zone is shown in **Figure C.7**. Soil boring SB-31 was installed in June 2012 by SKA. Soil samples collected from soil borings in the vicinity of soil boring SB-31, soil boring SB-11 (installed in 2011 by SKA) and soil boring SS-3 (installed in 2001 by Phase Engineering, Inc. [Phase]), exhibited concentrations of arsenic that were below the TRRP soil ingestion PCL. Therefore, the arsenic PCLE zone at SB-31 is horizontally and vertically delineated to the TRRP soil ingestion PCL.

#### Cadmium PCLE Zone Located Near Monitoring Well MW-11

A detection of cadmium in excess of the TRRP Tier 2 <sup>GW</sup>Soil<sub>ing</sub> PCL and below the TRRP non-ingestion soil PCL was detected in monitoring well MW-11 (2 ft-bgs and 4-6 ft-bgs). This PCLE zone is shown in **Figure C.7**. Monitoring well MW-11 was installed as monitoring well MW-7 in November 2000 by Phase. Cadmium was not detected in any of the soil samples from soil borings closest to monitoring well MW-11 (soil borings SB-1 or TSP-3) above the TRRP Tier 1 <sup>GW</sup>Soil<sub>ing</sub> ingestion PCL.

#### Chlorinated Ethene PCLE Zones Located Beneath Building B

Two chlorinated ethene PCLE zones are centered beneath Building B, the location of the former on-site manufacturing activities. Two chlorinated ethenes TCE, and cis-1,2-DCE comprise one PCLE zone and PCE comprises the other PCLE zone.

Detections of PCE in excess of the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL were exhibited in soil borings SB-3 (1-2 ft-bgs), SB-4 (1-2 ft-bgs), SB-5 (1-2 ft-bgs), and SB-6 (1-2 ft-bgs and 4-6 ft-bgs). This PCLE zone is shown in **Figure C.7**. Soil borings SB-3, SB-4, SB-5, and SB-6 were installed by SKA in June 2011. None of the PCE detections exceed the TRRP surface soil non-ingestion PCL. The PCE PCLE zone is vertically delineated by deeper samples from the same borings and horizontally delineated by soil borings SB-7 and SS-4 to the northeast, TSP-2 to the southwest, SS-10 to the east, and SS-13 to the south.

The PCLE zone comprised of TCE and cis-1,2-DCE is also shown on **Figure C.7**. Detections of TCE in excess of the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL were exhibited in soil borings SB-3 (1-2 ft-bgs), and SB-6 (1-2 ft-bgs). Soil borings SB-3 and SB-6 were installed by SKA in June 2011. None of the detections of TCE exceed the TRRP soil non-ingestion PCL. The TCE PCLE zone is vertically delineated by deeper samples from the same borings, and horizontally delineated by soil

borings SB-4 to the southeast, SB-7 and SS-4 to the northeast, SS-10 to the east, and SS-13 to the south.

Detections of cis-1,2-DCE in excess of the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL were exhibited in soil borings SB-3 (1-2 ft-bgs) and SB-6 (4-6 ft-bgs). Soil borings SB-3 and SB-6 were installed by SKA in June 2011. None of the detections of cis-1,2-DCE exceed the TRRP soil non-ingestion PCL. The cis-1,2-DCE PCLE zone is horizontally delineated by soil borings SB-4 to the southeast, SB-7 and SS-4 to the northeast, SS-10 to the east, and SS-13 to the south.

#### Methylene Chloride Detected in Soil Boring B-5

One detection of methylene chloride in excess of the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL and below the TRRP non-ingestion soil PCL is exhibited in soil boring B-5 (10-11 ft-bgs). Soil boring B-5 was installed by Terracon in April 2006. As no source area appears to exist for the methylene chloride, and methylene chloride is a common laboratory contaminant, a methylene chloride PCLE zone is not shown in **Figure C.7**.

#### Subsurface Soil PCLE Zones

Soil sampling and analysis results obtained for subsurface soil samples collected from the designated property indicate detections of arsenic and barium that exceed TRRP Tier 1 and Tier 2 <sup>GW</sup>Soil<sub>ing</sub> PCLs included on **Table D.1**.

The subsurface soil analytical data and TRRP Tier 1 and Tier 2 PCLs utilized for determination of the designated property's soil ingestion and non-ingestion PCLE zones are included in **Table D.1** and ingestion PCLE zones shown on **Figure C.8**.

None of the metals, or VOCs detected in the soil at the designated property exceed their applicable TRRP non-ingestion subsurface soil PCLs (TRRP Tier 1 residential <sup>Air</sup>Soil<sub>inh-v</sub> PCLs). As such, no non-ingestion subsurface soil PCLE zone exists at the designated property.

#### Metal PCLE Zones Located Near Monitoring Wells MW-15 and MW-16

Arsenic was detected above the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL and below the TRRP subsurface soil non-ingestion PCL in subsurface soil samples from monitoring wells MW-15 and MW-16 at 34-35 ft-bgs and 37.5-40 ft-bgs, respectively. This PCLE zone is shown in **Figure C.8**. These monitoring wells were installed in the median of Ella Boulevard in July 2012 by SKA. Lower concentrations of arsenic were detected from shallower soil samples from monitoring wells MW-15 and MW-16. The only significant concentration of arsenic in surface soil is in soil boring SB-31 which is approximately 275 feet from monitoring well MW-15. It does not appear that the arsenic present in the MW-15 and MW-16 subsurface samples originated from current and/or historical operations on the designated property.

A detection of barium above the TRRP Tier 2 <sup>GW</sup>Soil<sub>ing</sub> PCL was exhibited in a subsurface soil sample from monitoring well MW-15 (34-35 ft-bgs) east of the subject property. The monitoring

well was installed in July 2012 by SKA. Based on lower concentrations of barium from a shallower soil sample from MW-15, it does not appear that the barium present in the MW-15 subsurface samples originated from current and/or historical operations located on the designated property.

### **Groundwater PCLE Zones**

The July 2012 through February 2013 groundwater sampling and analysis results indicate that arsenic, PCE, TCE, cis-1,2-DCE, and VC are present in the designated property's shallow groundwater in excess of their applicable TRRP groundwater ingestion PCLs (TRRP Tier 1 residential groundwater ingestion [<sup>GW</sup>GW<sub>Ing</sub>] PCLs). While three distinct TRRP <sup>GW</sup>GW<sub>Ing</sub> PCLE zones currently exist at the designated property, no TRRP <sup>GW</sup>GW<sub>Ing</sub> PCLE zones exist downgradient of the designated property that resulted from current and historical operations that occurred on the designated property. No COCs exceed the applicable TRRP Tier 1 residential non-ingestion groundwater PCLs, which correspond to the <sup>Air</sup>GW<sub>Inh-v</sub> pathway.

Groundwater gauging data collected to date from monitoring wells installed within and adjacent to the designated property boundary indicates the flow of shallow groundwater is towards the southeast, as shown in the groundwater gradient maps in **Appendix C**. The southeasterly groundwater flow direction and the location of the groundwater PCLE zones precludes the possibility of contaminant migration to Sinclair Elementary School, which is located on the northeastern corner of Grovewood Lane and Ella Boulevard.

Further discussion regarding the designated property's current TRRP groundwater ingestion PCLE zones for PCE, TCE, cis-1,2-DCE, VC, and arsenic follows. The locations of each of the designated property's TRRP groundwater PCLE zones are shown on **Figure C.9**. The groundwater analytical data and TRRP PCLs utilized for determination of the designated property's groundwater ingestion and non-ingestion PCLE zones are included in **Table D.2**.

### **Arsenic PCLE Zone**

The most recent groundwater monitoring data indicate that an arsenic groundwater ingestion PCLE zone is present on the designated property as indicated by the arsenic detections in monitoring wells MW-6 and MW-16. The maximum arsenic value of 0.167 mg/L was detected in the groundwater sample from monitoring well MW-6 in July 2012. While arsenic was also previously detected above the groundwater ingestion PCL in the MW-15 groundwater samples from July 2012 and November 2012, the February 2013 value of 0.0080 mg/l was below the PCL.

As the TRRP non-ingestion groundwater PCL for arsenic (the TRRP Tier 1 residential <sup>Air</sup>GW<sub>Inh-v</sub> PCL for a 0.5-Acre Source Area) is not defined, there is no arsenic non-ingestion PCLE zone in groundwater at the designated property.

ethene groundwater ingestion PCLE zone is delineated laterally to the north by monitoring wells MW-4 and MW-13; to the west by monitoring well MW-1, to the east by monitoring well MW-12, and to the southeast (downgradient) by monitoring well MW-16 .

The current maximum PCE value of 0.010 mg/L was detected in the groundwater sample from monitoring well MW-10 (November 2012). The concentration of PCE decreases in the downgradient direction, as PCE was not detected in monitoring wells MW-12 and MW-16 (November 2012) and the PCE detection of 0.0055 mg/L from monitoring well MW-6 (November 2012), is just above the applicable TRRP Tier 1 residential <sup>GW</sup>GW<sub>ing</sub> PCL of 0.005 mg/L. In addition, PCE was not detected in the groundwater sample from monitoring well MW-16 (< 0.0010 mg/L) in February 2013.

While TCE was detected in in September 2008 in groundwater samples from monitoring well MW-12 above applicable TRRP Tier 1 groundwater ingestion PCLs, groundwater samples from monitoring well MW-10 have exhibited stable concentrations of TCE and decreasing concentrations of cis-1,2-DCE (daughter product of TCE) since November 2011.

As concentrations of PCE and TCE have not been detected in the groundwater in excess of their respective applicable TRRP non-ingestion groundwater PCL (TRRP Tier 1 residential <sup>Air</sup>GW<sub>Inh-v</sub> PCL for a 0.5-Acre Source Area) of 500 mg/L and 24 mg/L, respectively, no PCE or TCE non-ingestion PCLE zones occur in groundwater at the designated property. In addition, no concentrations of PCE or TCE have been detected off-site in excess of their respective TRRP non-ingestion groundwater PCLs.

#### Northeast Chlorinated Ethene PCLE Zone

The most recent groundwater monitoring data indicates a chlorinated ethene groundwater ingestion PCLE zone is present in the northeast portion of the designated property as evidenced by TCE detections above the groundwater ingestion PCL in monitoring well MW-14 and cis-1,2-DCE and vinyl chloride detections above applicable groundwater ingestion PCLs in monitoring wells MW-9 and MW-14. The northeastern chlorinated ethene groundwater ingestion PCLE zone is delineated laterally to the north by monitoring well MW-5; to the northwest by monitoring well MW-3; to the west by monitoring well MW-2, to the south by monitoring well MW-4 and MW-13; and to the southeast (downgradient) by monitoring well MW-15.

The current maximum concentration of TCE is from a groundwater sample from monitoring well MW-14 (0.071 mg/L), while the highest concentration of cis-1,2-DCE was detected in the groundwater sample from monitoring well MW-14 (0.79 mg/L, November 2012). The current maximum VC value of 0.015 mg/L was detected in February 2013 from the monitoring well MW-14 groundwater sample. The concentration of VC decreases in the downgradient direction as shown in VC detections exhibited in monitoring wells MW-15 (0.0019 J mg/L).

The current maximum concentration of TCE is from a groundwater sample from monitoring well MW-14 (0.071 mg/L), while the highest concentration of cis-1,2-DCE was detected in the groundwater sample from monitoring well MW-14 (0.79 mg/L, November 2012). The current maximum VC value of 0.015 mg/L was detected in February 2013 from the monitoring well MW-14 groundwater sample. The concentration of VC decreases in the downgradient (southeast) direction as shown in VC detections exhibited in monitoring wells MW-15 (0.0019 J mg/L).

Groundwater samples from monitoring wells MW-2 and MW-4 have not exhibited concentrations of cis-1,2-DCE above the TRRP groundwater ingestion PCL since April 2008 and April 2006, respectively. Groundwater samples from monitoring wells MW-2 and MW-6 have not exhibited concentrations of VC above the TRRP groundwater ingestion PCL since September 2008 and December 2000, respectively. Groundwater samples from monitoring well MW-15 have exhibited decreasing concentrations of VC since installation in July 2012, and were below the TRRP Tier 1 groundwater ingestion PCL in February 2013.

No concentrations of TCE, cis-1,2-DCE or VC have been detected in groundwater in excess of their respective applicable TRRP groundwater non-ingestion PCLs (the TRRP Tier 1 residential <sup>Air</sup>GW<sub>Inh-V</sub> PCL for a 0.5-Acre Source Area) of 24 mg/L, 1,200 mg/L, and 3.8 mg/L, respectively. As such, no TCE, cis-1,2-DCE, or VC non-ingestion PCLE zones occur in groundwater at the designated property. In addition, no concentrations of TCE, cis-1,2-DCE, or VC have been detected off-site in excess of the TRRP groundwater ingestion or non-ingestion PCLs.

#### **Geochemical Properties of COCs in Designated Soil and Groundwater**

The groundwater COCs (PCE, TCE, cis-1,2-DCE, and VC) are chlorinated ethenes which occur in the dissolved-phase. No direct evidence of non-aqueous phase liquids (NAPLs) has been observed or detected. In addition, the dissolved phase concentrations do not indicate the presence of NAPL.

Arsenic, an inorganic COC, is a metal that can be naturally occurring or released due to chemical processes in the soil. Generally, arsenic is not volatile, has a higher density than water, and is not explosive.

**TABLE D.1  
SOIL DATA SUMMARY  
TPH, METALS, and VOCs  
FORMER KOENIG/KING WENCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP No. 2053**

Sample Name	Sample Depth (ft-bgs)	Sample Date	TPH							RCRA 8 Metals										VOCs																			
			pH	C6-C10 TPH	C6 - C12	>C10-C28 TPH	>C12 - C28	>C28 - C35	Total TPH	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Acetone	Benzene	Methyl Ethyl Ketone (MEK)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene (Cumer)	Methylene Chloride	Naphthalene	n-Propylbenzene	n-Butylbenzene	sec-Butylbenzene	Tert-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trans-1,2-Dichloroethene	Trichloroethene	o-xylene	m,p-xylene	
			Method 9045C pH Units	Method TX 1005 mg/kg	Method 6020 mg/kg	Method 7471A mg/kg	Method 6020 mg/kg	Method 6020 mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg										
<b>REGULATORY STANDARDS</b>																																							
TCEQ TRRP Tier 1 Residential Soil TotSoil <sub>Comb</sub> PCLs (0.5-Acre Source Area)	-	-	NA	-	NA	NA	15,000	24	8,100	52	33,000	500	3.6	310	97	66,000	120	40,000	150	110	140	6,400	4,300	480	220	2,200	3,300	3,300	3,300	6,700	450	5,900	590	18	48,000	8,900			
TCEQ TRRP Tier 1 Residential Soil GWSoil <sub>log</sub> PCLs (0.5-Acre Source Area)	-	-	NA	-	NA	NA	NA	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48	43	0.026	29	49	53	0.25	7.6	350	0.013	31	45	150	85	100	3.3	0.05	8.2	0.49	0.034	71	110			
TCEQ TRRP Tier 2 Residential Soil GWSoil <sub>log</sub> PCLs (0.5-Acre Source Area)	-	-	-	-	-	-	-	5.8	1,600	7.5	-	550	2.1	5.1	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.084	-	-			
TCEQ TRRP Tier 1 Residential Soil AirSoil <sub>h-v</sub> PCLs (0.5-Acre Source Area)	-	-	NA	-	NA	NA	30,000	-	-	-	-	-	4.6	-	-	600,000	160	200,000	160	120	920	29,000	9,200	13,000	270	6,300	-	-	-	11,000	940	63,000	920	31	68,000	9,400			
Texas-Specific Background Concentrations	-	-	-	-	-	-	-	5.9	300	-	30	15	0.04	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
<b>SOIL BORINGS (BY OTHERS)</b>																																							
B-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
B-5	3-4	4/17/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00652 J	-	-	<0.00507	-	<0.00277	<0.000556	-	0.0113 J	<0.00396	-	-	-	-	-	-	0.0357	<0.00337	-	0.00315 J	-			
B-6	10-11	4/17/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00539	-	-	<0.00461	-	<0.00251	<0.00505	-	0.022	<0.00359	-	-	-	-	-	0.0222	0.00348 J	-	<0.00272	-				
B-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SS-1	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	62.1	<0.500	<5.00	3.61	<0.200	<5.00	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-		
SS-2	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	35.7	<0.500	<5.00	4.17	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-		
SS-3	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	17.5	<0.500	<5.00	2.93	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-4	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	17.5	<0.500	<5.00	3.81	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-5	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	17.5	<0.500	<5.00	3.40	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-6	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	29.6	<0.500	<5.00	29.7	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-8	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	7.68	<0.500	<5.00	3.71	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-9	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	8.35	<0.500	<5.00	6.38	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-10	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	3.73	<0.500	<5.00	3.73	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-11	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	14.7	<0.500	<5.00	14.7	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-12	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	27.3	<0.500	<5.00	7.79	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
SS-13	2	1/4/2001	-	-	<50.0	-	<50.0	<5.00	19.5	<0.500	<5.00	16.6	<0.200	<5.00	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	
<b>SOIL BORINGS (SKA CONSULTING, L.P.)</b>																																							
SB-1	6-8	6/28/2011	5.57	-	250 J	-	2,900	250 J	3,400	2.64	58.5	<0.052	8.63	8.03	0.00532	0.613	<0.083	0.068	0.008	<0.0026	0.027	<0.00094	<0.0018	0.0079	0.038	<0.0029	0.83	0.057	0.018	0.018	<0.00071	<0.00071	0.0056 J	<0.00083	<0.0011	<0.0019	<0.0012	<0.0020	
	10-12		5.73	-	480	-	4,400	410	5,290	4.63	58.4	<0.057	5.66	6.78	<0.0035	0.701	<0.092	0.061	0.015	<0.0027	3.8	1.0	<0.0018	0.015	1.4	<0.0030	14	2.3	<0.00073	0.16	<0.00073	<0.00073	0.021	<0.00083	<0.0011	<0.0019	0.0020 J	0.037	
	16-17		7.4	-	<19	-	<19	<19	<19	2.99	144	<0.059	10.1	13.1	0.00765	0.875	<0.094	0.010 J	0.011 J	<0.0028	<0.0010	<0.0010	0.0019	<0.0012	<0.0013	<0.0032	<0.0010	<0.0012	<0.00078	<0.00078	<0.00078	<0.0013	<0.00090	<0.0012	<0.0021	<0.0013	<0.0022		
SB-2	2-4	6/28/2011	7.75	-	<20	-	<20	23 J	23	2.49	21.1	<0.062	3.88	5.33	0.0168	<0.22	<0.10	0.11	0.016 J	0.016	0.0012 J	<0.0011	<0.0020	<0.0012	<0.0013	0.0082 J	0.0011 J	<0.0012	<0.00080	<0.00080	0.0011 J	0.016	<0.00084	<0.0012	<0.0021	<0.0013	<0.0023		
	8-10		8.49	-	<17	-	<17	<17	<17	1.20	55.2	<0.052	3.21	3.25	<0.0032	1.12	<0.083	0.031	<0.00089	<0.0025	<0.00092	<0.00092	<0.0017	<0.0010	<0.0011	<0.0029	0.0071	<0.0010	<0.00069	<0.00069	<0.00069	<0.00069	0.016	<0.00080	<0.0010	<0.0018	<0.0019		
SB-3	1-2	6/28/2011	7.42	-	<16	-	370	120	490	1.95	29.4	0.0636 J	3.03	7.73	0.0202	0.341 J	<0.084	<0.051	<0.0067	<0.025	<0.0089	<0.0089	0.46	<0.010	<0.011	0.0069 J	0.020 J	<0.010	<0.0067	<0.0067	1.00	<0.0078	<0.010	2.0	<0.011	<0.019			
	6-8		5.27	-	<18	-	<18	<18	<18	3.06	81																												

**TABLE D.1  
SOIL DATA SUMMARY  
TPH, METALS, and VOCs  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP No. 2053**

Sample Name	Sample Depth (ft-bgs)	Sample Date	TPH							RCRA 8 Metals									VOCs																				
			pH	C6-C10 TPH	C6 - C12	>C10-C28 TPH	>C12 - C28	>C28 - C35	Total TPH	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Acetone	Benzene	Methyl Ethyl Ketone (MEK)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene (Cumene)	Methylene Chloride	Naphthalene	n-Propylbenzene	n-Butylbenzene	sec-Butylbenzene	Tert-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trans-1,2-Dichloroethene	Trichloroethene	o-xylene	m,p-xylene	
			Method 9045C pH Units	Method TX 1005 mg/kg	Method 6020 mg/kg	Method 7471A mg/kg	Method 6020 mg/kg	Method 6020 mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg	Method 8260B mg/kg											
<b>REGULATORY STANDARDS</b>																																							
TCEQ TRRP Tier 1 Residential Soil <sup>Tot</sup> Soil <sub>Comb</sub> PCLs (0.5-Acre Source Area)	--	--	NA	--	NA	NA	15,000	24	8,100	52	33,000	500	3.6	310	97	66,000	120	40,000	150	110	140	6,400	4,300	480	220	2,200	3,300	3,300	3,300	6,700	450	5,900	590	18	48,000	8,900			
TCEQ TRRP Tier 1 Residential Soil <sup>GW</sup> Soil <sub>log</sub> PCLs (0.5-Acre Source Area)	--	--	NA	--	NA	NA	NA	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48	43	0.026	29	49	53	0.25	7.6	350	0.013	31	45	150	85	100	3.3	0.05	8.2	0.49	0.034	71	110			
TCEQ TRRP Tier 2 Residential Soil <sup>GW</sup> Soil <sub>log</sub> PCLs (0.5-Acre Source Area)	--	--	--	--	--	--	--	5.8	1,600	7.5	--	550	2.1	5.1	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.084	--	--			
TCEQ TRRP Tier 1 Residential Soil <sup>Air</sup> Soil <sub>ln-v</sub> PCLs (0.5-Acre Source Area)	--	--	NA	--	NA	NA	30,000	--	--	--	--	--	4.6	--	--	600,000	160	200,000	160	120	920	29,000	9,200	13,000	270	6,300	--	--	--	11,000	940	63,000	920	31	68,000	9,400			
Texas-Specific Background Concentrations	--	--	--	--	--	--	--	5.9	300	--	30	15	0.04	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
<b>TEMPORARY MONITORING WELLS</b>																																							
TSP-1	0-2 6-7	6/26/2000	--	<50.0	--	<50.0	--	<50.0	<5.00	41.2	0.800	6.80	43.4	<0.200	<5.00	--	<0.005	--	<0.005	<0.005	0.007	<0.005	<0.005	<0.020	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	<0.010			
TSP-2	0-2 22-23	6/26/2000	--	<50.0	--	555	--	<50.0	<5.00	21.1	<0.500	5.35	13.0	<0.200	<5.00	--	<0.005	--	<0.005	<0.005	<0.005	<0.005	<0.020	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010		
TSP-3	0-2 26-27	6/26/2000	--	<50.0	--	<50.0	--	<50.0	<5.00	17.3	<0.500	29.0	8.40	<0.200	<5.00	--	<0.005	--	<0.005	<0.005	<0.005	<0.005	<0.020	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010		
<b>MONITORING WELLS (BY OTHERS)</b>																																							
MW-1	24	7/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.005	<0.005	0.006	<0.005	0.34	<0.005	<0.005	<0.010	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.121	--	--			
MW-2	24	7/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.026	<0.005	<0.005	0.026	--	--			
MW-3	24	7/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
MW-4	13-14	8/1/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
MW-5	24	8/1/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.005	<0.005	0.081	<0.005	0.033	0.011	<0.010	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
MW-6	24	8/1/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
MW-11 (Phase MW-7)	2 6	11/22/2000	--	<50.0	--	<50.0	--	--	14.4	28.0	28.0	9.17	--	--	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010		
<b>MONITORING WELLS (SKA CONSULTING, L.P.)</b>																																							
MW-14	2-4	7/25/2012	--	--	<16	--	<16	<16	<16.3	1.09	21.7	<0.0496	2.66	2.55	0.00475	<0.179	<0.0794	0.012 J	<0.0066	<0.0024	0.00088	0.00088	<0.0017	<0.00099	<0.0011	0.0035 J	0.00088	<0.00099	<0.00066	<0.00066	<0.00066	<0.00066	<0.00066	<0.0011	<0.00077	<0.00099	<0.0018	<0.0011	<0.0019
MW-15	5-7.5 34-35	7/23/2012	--	--	<17	--	<17	<17	8.52	1850	0.101 J	15.7	11.8	<0.00035	1.67	<0.083	<0.0052	<0.0068	<0.0025	<0.00091	<0.00091	<0.0017	<0.0010	<0.0011	<0.0028	<0.00091	0.0010 J	<0.00068	<0.00068	<0.00068	<0.00068	<0.00068	<0.0011	0.0013 J	<0.0010	<0.0018	<0.0011	<0.0019	
MW-16	2.5-5 37.5-40	7/23/2012	--	--	<17	--	<17	<17	2.21	97.6	0.0605 J	7.82	20.6	0.0456	0.834	<0.0826	<0.0052	<0.0068	<0.0025	<0.00091	<0.00091	<0.0017	<0.0010	<0.0011	<0.0028	<0.00091	<0.0010	<0.00068	<0.00068	<0.00068	<0.00068	<0.00068	<0.0011	<0.00080	<0.0010	<0.0018	<0.0011	<0.0019	
MW-17	2-4 26.5-29	11/27/2012	--	--	<18	--	<18	<18	8.09	181	0.0733 J	13.1	9.67	0.000594 J	1.13	<0.0869	<0.0055	<0.0011	<0.0026	<0.00095	<0.00095	<0.0018	<0.0011	<0.0012	<0.0030	<0.00095	<0.0011	<0.00071	<0.00071	<0.00071	<0.00071	<0.0012	<0.00083	<0.0011	<0.0019	<0.0012	<0.0020		

Notes:  
 Only analytes with at least one sample with a concentration above the laboratory Sample Detection Limit (SDL) are shown on this table.  
 "--" represents not analyzed.  
 "--" represents not applicable.  
 "<0.00599" indicates the analyte was NOT detected at or above the specified laboratory SDL.  
 "(J)"- indicates the concentration was estimated between the Sample Detection Limit (SDL) and the Method Quantitation Limit (MQL).  
 "ft-bgs" represents feet below ground surface.  
 "mg/Kg" represents milligrams per kilogram  
 "VOCs" represents Volatile Organic Compounds.  
 Bold numbers indicate concentrations at or above the laboratory SDL.  
 Bold numbers highlighted in YELLOW exceed their respective TRRP Residential Assessment Level (RAL).  
 TCEQ TRRP Tier 1 Residential Soil Protective Concentration Levels (30 TAC Chapter 350; Table 1: Tier I Residential Soil PCLs 0.5 Acre Source Area; dated June 2012).  
 # Two samples analyzed from same sample interval.  
 Results from TPH 1006 analysis conducted on soil boring SB-1 (10-12 ft bgs) used to determine a site specific Tier 1 TPH mixture PCL.  
 Soil boring SB-10 collected and analyzed to confirm lead concentration detected in TSP-1. Results indicate that there is not a lead PCLE zone at the TSP-1 location.  
 Samples shaded in blue are saturated soil samples that exceed the Residential Assessment Levels, but are not representative of unsaturated subsurface soil.

**TABLE D.2  
GROUNDWATER DATA SUMMARY  
FORMER KOENING/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP No. 2053**

Sample Name	Sample Date	VOCs												Metals								TPH						
		Benzene	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Acetone	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Methylene Chloride	Naphthalene	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	C6-C10 Carbon Range	C10-C28 Carbon Range	C6 to C12 Carbon Range	C12 to C28 Carbon Range	C28 to C35 Carbon Range	
		Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 6010	Method 7470	Method 6010	Method 6010	TX1005	TX1005	TX1005	TX1005	TX1005					
<b>REGULATORY STANDARDS</b>																												
TCEQ TRRP Tier 1 Residential Groundwater <sup>All</sup> GW <sub>inh-v</sub> PCLs (mg/L) (0.5-Acre Source Area)		180	36	43,000	1700	33	1,000,000	1200	500	770	24	3.8	21,000	320	-	-	-	-	-	7.3	-	-	1800	7500	1800	7500	7500	
TCEQ TRRP Tier 1 Residential Groundwater <sup>GW<sub>mg</sub></sup> PCLs (mg/L)		0.005	0.07	4.9	0.0070	0.005	22	0.07	0.005	0.10	0.005	0.002	0.005	0.49	0.010	2.0	0.0050	0.10	0.015	0.002	0.050	0.12	0.98	0.98	0.98	0.98	0.98	
<b>TEMPORARY MONITORING WELLS (INSTALLED BY OTHERS)</b>																												
TSP-1	6/26/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	0.005	<0.005	<0.020	<0.010	<0.056	0.309	<0.006	<0.056	0.017	<0.002	<0.056	<0.056	<4.25	<4.25	NA	NA	NA	
TSP-2	6/26/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.010	<0.056	0.653	<0.006	<0.056	0.073	<0.002	<0.056	0.103	<4.25	<4.25	NA	NA	NA	
TSP-3	6/26/2000	-	-	-	-	-	-	<0.005	<0.005	<0.005	0.038	<0.005	-	-	<0.016	0.965	<0.006	0.132	<0.011	<0.002	<0.056	<0.056	<4.40	<4.40	NA	NA	NA	
<b>MONITORING WELLS (INSTALLED BY OTHERS)</b>																												
MW-1	8/1/2000	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	0.0056	<2.00	<0.005	<0.100	<0.015	<0.002	<0.050	<0.050	NA	NA	NA	NA	NA	
	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA	
	2/14/2006	<0.00010	<0.00015	<0.00014	<0.00017	<0.00025	<0.00053	<0.00027	<0.00023	<0.00015	<0.00010	<0.00020	<0.00032	0.00426	NA	NA	NA	NA	NA	NA								
	11/11/2006	<0.000380	<0.000470	<0.00044	<0.00033	<0.000470	<0.00087	<0.00038	<0.00042	<0.00031	<0.00038	<0.00034	0.00104(b)	<0.00101	NA	NA	NA	NA	<0.00104	<0.00162	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.00012	<0.00052	<0.00015	0.00087 J	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA								
	4/1/2008	<0.00018	<0.00006	<0.00012	<0.00012	<0.00012	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA								
	9/8/2008	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	NA	NA	<0.78	<0.93	<0.93								
	11/28/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.0013	0.0772	<0.00080	<0.00012	<0.00070	<0.00042	0.00136 J	<0.00080	NA	NA	<0.19	<0.19	<0.19
MW-2	8/1/2000	<0.005	<0.005	<0.005	<0.005	<0.005	NA	0.030	<0.005	<0.005	0.018	<0.002	<0.005	<0.005	NA	NA	NA	NA	NA									
	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	0.007	<0.005	<0.005	0.016	<0.002	<0.005	<0.005	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA	
	2/14/2006	<0.00010	<0.00015	<0.00014	<0.00017	<0.00025	<0.00053	0.0486	<0.00023	0.0014	0.0121	<0.0020	<0.00032	0.00147	NA	NA	NA	NA	NA	NA								
	4/24/2006	<0.000240	<0.000240	<0.00021	0.0007(J)	<0.000250	<0.00085	0.157	<0.00026	0.00198	0.00701	<0.0003	<0.00029	<0.001	NA	NA	NA	NA	NA	NA								
	11/11/2006	<0.000380	<0.000470	<0.00044	<0.00033	<0.000470	0.08460	0.0887	<0.00033	0.00184	0.00429	<0.000340	<0.00056	<0.00101	NA	NA	NA	0.00357 (B)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2007	0.00044 J	<0.00006	<0.00012	0.00172	<0.0002	<0.00052	0.34	0.00059J	0.00893	0.00928	0.00286	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA								
	4/3/2008	<0.00018	<0.00006	<0.00012	0.00079J	<0.0002	<0.00052	0.267	<0.00018	0.0033	0.00539	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA								
	9/8/2008	0.00064 J	<0.00015	<0.00016	0.00130	<0.00016	<0.00020	<0.0016	<0.00080	0.0076	0.0062	0.0023	<0.00042	<0.00047	NA	NA	<0.79	<0.94	<0.94									
11/1/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	0.011	<0.0017	<0.0010	<0.0011	<0.0010	<0.0013	<0.0010	<0.0013	0.854	<0.00080	<0.0012	<0.00070	<0.00042	0.00154 (J)	<0.00080	NA	NA	<0.19	<0.19	<0.19		
7/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	0.021	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0013	0.968	<0.00080	<0.0012	0.00117 J	<0.00042	0.00212 J	<0.00080	NA	NA	<0.19	<0.19	<0.19		
MW-3	8/1/2000	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	NA	NA	NA	NA	NA									
	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA	
	2/14/2006	<0.00010	<0.00015	<0.00014	<0.00017	<0.00025	<0.00053	<0.00027	<0.00023	<0.00015	<0.00010	<0.00020	<0.00032	<0.00024	NA	NA	NA	NA	NA	NA								
	11/10/2006	<0.000380	<0.000470	<0.000440	<0.000330	<0.000470	<0.000870	<0.000380	<0.000420	<0.000310	<0.000380	<0.000340	<0.000560	<0.00101	NA	NA	NA	NA	NA	NA								
	12/5/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	0.0006 J	0.00049 J	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA								
	4/3/2008	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA								
	9/8/2008	<0.00010	0.00046 J	<0.00014	<0.00017	<0.00025	<0.00052	<0.00027	<0.00023	<0.00015	<0.00010	<0.00020	<0.00032	<0.00024	NA	NA	NA	<0.92	<1.1	<1.1								
	11/2/2011	<0.0010	<0.0011	0.00110	<0.0013	<0.0010	<0.0040	<0.0025	<0.0017	<0.0010	<0.0011	<0.0010	<0.0013	<0.0010	<0.0013	0.51800	<0.00080	<0.0012	<0.00070	0.00014 J	0.00149 J	<0.00080	NA	NA	<0.19	<0.19	<0.19	
7/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0013	0.515	<0.00080	<0.0012	0.00103 J	0.000620 J	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19		
MW-4	8/1/2000	<0.005	<0.005	<0.005	<0.005	<0.005	NA	0.138	0.150	0.014	0.202	<0.002	<0.005	<0.005	NA	NA	NA	NA	NA									
	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	0.072	0.066	0.006	0.086	<0.002	<0.005	<0.005	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA	
	2/14/2006	<0.00010	<0.00015	<0.00014	<0.00017	<0.00025	<0.00053	0.0959	0.00124	0.00235	0.00751	<0.00020	<0.00032	<0.00024	NA	NA	NA	NA	NA									
	4/24/2006	<0.000240	<0.000240	0.0006(J)	<0.00024	<0.000250	<0.00085	0.082	0.00385	0.00195	0.00899	0.00048 J	<0.00029	<0.001	NA	NA	NA	NA	NA	NA								
	11/11/2006	<0.000380	<0.000470	<0.00044	<0.00033	<0.000470	0.0842	0.063	<0.00042	0.00221	0.00404	<0.00034																

**TABLE D.2  
GROUNDWATER DATA SUMMARY  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP No. 2053**

Sample Name	Sample Date	VOCs													Metals								TPH				
		Benzene	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Acetone	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Methylene Chloride	Naphthalene	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	C6-C10 Carbon Range	C10-C28 Carbon Range	C6 to C12 Carbon Range	C12 to C28 Carbon Range	C28 to C35 Carbon Range
		Method 8260 mg/L	Method 8260 mg/L	Method 8260 mg/L	Method 8260 mg/L	Method 8260 mg/L	Method 8260 mg/L	Method 8260 mg/L	Method 6010 mg/L	Method 7470 mg/L	Method 6010 mg/L	Method 6010 mg/L	TX1005 mg/L	TX1005 mg/L	TX1005 mg/L	TX1005 mg/L	TX1005 mg/L										
<b>REGULATORY STANDARDS</b>																											
TCEQ TRRP Tier 1 Residential Groundwater <sup>All</sup> GW <sub>in</sub> -V PCLs (mg/L) (0.5-Acre Source Area)		180	36	43,000	1700	33	1,000,000	1200	500	770	24	3.8	21,000	320	-	-	-	-	-	7.3	-	-	1800	7500	1800	7500	7500
TCEQ TRRP Tier 1 Residential Groundwater <sup>GW<sub>reg</sub></sup> PCLs (mg/L)		0.005	0.07	4.9	0.0070	0.005	22	0.07	0.005	0.10	0.005	0.002	0.005	0.49	0.010	2.0	0.0050	0.10	0.015	0.002	0.050	0.12	0.98	0.98	0.98	0.98	0.98
MW-5	8/1/2000	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.055	<0.055	<0.055	<0.055	<0.002	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.055	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
	2/14/2006	<0.00016	<0.00015	<0.00014	<0.00017	<0.000250	<0.00053	0.011	<0.00023	<0.00015	0.00457	<0.00020	<0.00032	<0.00024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/10/2006	<0.000380	<0.000470	<0.000440	<0.000330	<0.000470	<0.000870	<0.000380	<0.000420	<0.000310	<0.000380	<0.000340	<0.000560	<0.00101	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/5/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	0.0004 J	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/3/2008	<0.00018	0.00071 J	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/8/2008	<0.00016	<0.00015	<0.00014	<0.00017	<0.00025	<0.00053	<0.00027	<0.00023	<0.00015	<0.00010	<0.00020	<0.00032	<0.00024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.92	<1.1	<1.1
	11/3/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<0.0025	<0.0017	<0.0010	<0.0011	<0.0010	<0.0013	<0.0010	<0.0013	0.295	<0.00080	<0.0012	<0.00070	<0.000042	0.00345 (J)	<0.00080	NA	NA	<0.19	<0.19	<0.19
7/24/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0013	0.324	<0.00080	<0.0012	0.00131 J	<0.000042	0.00708	<0.00080	NA	NA	<0.19	<0.19	<0.19	
MW-6	8/1/2000	<0.005	<0.005	<0.005	<0.005	<0.005	NA	0.007	<0.055	<0.055	<0.055	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	0.007	<0.005	<0.005	<0.005	0.107	<0.005	<0.005	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
	2/14/2006	<0.00016	<0.00015	<0.00014	<0.00017	<0.000250	<0.00053	<0.00027	<0.00023	<0.00015	<0.00010	<0.00020	<0.00032	<0.00024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/11/2006	<0.000380	<0.000470	<0.00044	<0.00033	<0.000470	<0.00087	0.00662	<0.00042	<0.00031	<0.00038	<0.00034	0.000690 J	<0.00101	NA	NA	NA	NA	<0.00162	NA	<0.00162	NA	NA	NA	NA	NA	NA
	12/5/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	0.00205	0.00199	<0.00012	0.0084	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/3/2008	<0.00018	0.00069 J	<0.00012	<0.00012	<0.0002	<0.00052	0.00831	0.0164	<0.00012	0.0235	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/8/2008	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	0.0073	0.0026	<0.00010	0.0087	<0.0020	<0.0010	<0.0010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.92	<1.1	<1.1
	11/1/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	0.012	0.0073	<0.0010	0.023	<0.00050	<0.0013	<0.0010	0.136	0.289	<0.00080	<0.0012	0.000867 J	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19
7/25/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	0.020	0.013	<0.0010	0.036	<0.00050	<0.0010	<0.0010	0.167	0.322	<0.00080	<0.0012	0.00113 J	<0.000042	0.00170 J	<0.00080	NA	NA	<0.19	<0.19	<0.19	
11/28/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	0.016	0.0055	<0.0010	0.017	<0.00050	<0.0010	<0.0010	0.156	0.328	<0.00080	<0.0012	<0.00070	<0.000042	<0.0010	<0.00080	NA	NA	<0.18	<0.18	<0.18	
MW-7	2/14/2006	<0.0001	<0.00015	<0.00014	<0.00017	<0.00025	<0.00053	0.00166	<0.00023	<0.00015	<0.00010	<0.00020	<0.00032	<0.00024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	11/9/2006	<0.000380	<0.000470	<0.000440	<0.000330	<0.000470	<0.000870	<0.000380	<0.000420	<0.000310	<0.000380	<0.000340	<0.000560	<0.00101	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/4/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	4/3/2008	<0.00018	<0.00006	<0.00012	<0.00012	-	<0.00052	0.0101	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/8/2008	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.92	<1.1	<1.1
	11/1/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<0.0025	<0.0010	<0.0010	<0.0011	<0.0010	<0.0013	<0.0010	<0.0013	0.615	<0.00080	<0.0012	<0.00070	<0.000042	0.00126 (J)	NA	NA	<0.19	<0.19	<0.19	
	7/24/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0013	0.660 <sub>d</sub>	<0.00080	<0.0012	0.00194 <sub>d</sub> J	<0.000042	<0.0010	<0.00080	--	--	--	--	
	7/24/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0013	0.583	<0.00080	0.00225 J	0.00186 J	<0.000042	0.00193 J	<0.00080	NA	NA	<0.19	<0.19	<0.19
MW-8	4/24/2006	<0.000240	<0.000240	<0.00021	<0.00024	<0.000250	<0.00085	<0.00024	<0.00026	<0.000260	<0.00021	<0.0003	<0.00029	<0.001	-	-	-	-	-	-	-	-	NA	NA	NA	NA	
	11/10/2006	<0.000380	<0.000590	<0.000440	<0.000330	<0.000470	<0.000870	<0.000380	<0.000420	<0.000310	<0.000380	<0.000340	<0.000560	<0.00101	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/4/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	<0.00310	0.176	<0.00190	<0.00155	<0.00210	NA	<0.00203	<0.00020	NA	NA	NA	NA	
	4/2/2008	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	<0.00310	0.182	<0.00190	<0.00155	<0.00210	NA	<0.00203	<0.00020	NA	NA	NA	NA	
	9/8/2008	<0.00010	0.00044 J	<0.00014	<0.00017	<0.00025	<0.00053	<0.00027	<0.000080	<0.00015	<0.0010	<0.0020	<0.0032	<0.00024	<0.00310	0.177	<0.000730	<0.00155	<0.00210	NA	-	<0.00020	NA	NA	<0.93	<1.1	<1.1
	11/1/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<0.0025	<0.0017	<0.0010	<0.0011	<0.0010	<0.0013	<0.0010	<0.0013	0.266	<0.00080	<0.0012	<0.00070	<0.000042	<0.0010	<0.00080	NA	NA	NA	NA	
	7/24/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	0.00263 J	0.222	<0.00080	0.00244 J	0.00233 J	<0.000042	0.00566						

**TABLE D.2  
GROUNDWATER DATA SUMMARY  
FORMER KOENING/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP No. 2053**

Sample Name	Sample Date	VOCs													Metals								TPH				
		Benzene	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Acetone	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Methylene Chloride	Naphthalene	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	C6-C10 Carbon Range	C10-C28 Carbon Range	C6 to C12 Carbon Range	C12 to C28 Carbon Range	C28 to C35 Carbon Range
		Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 8260	Method 6010	Method 6010	Method 6010	Method 6010	Method 6010	Method 7470	Method 6010	Method 6010	TX1005	TX1005	TX1005	TX1005	TX1005
<b>REGULATORY STANDARDS</b>																											
TCEQ TRRP Tier 1 Residential Groundwater All GW <sub>in</sub> -V PCLs (mg/L) (0.5-Acre Source Area)		180	36	43,000	1700	33	1,000,000	1200	500	770	24	3.8	21,000	320	-	-	-	-	-	7.3	-	-	1800	7500	1800	7500	7500
TCEQ TRRP Tier 1 Residential Groundwater <sup>GW<sub>in</sub></sup> PCLs (mg/L)		0.005	0.07	4.9	0.0070	0.005	22	0.07	0.005	0.10	0.005	0.002	0.005	0.49	0.010	2.0	0.0050	0.10	0.015	0.002	0.050	0.12	0.98	0.98	0.98	0.98	0.98
MW-11	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.055	<0.055	<0.055	<0.002	<0.005	<0.005	-	-	-	-	-	-	-	NA	NA	NA	NA	NA	
	11/11/2006	<0.000380	<0.000470	<0.00044	<0.00033	<0.000470	<0.00087	<0.00038	<0.00042	<0.00031	<0.00038	<0.00034	<0.00056	<0.00101	NA	NA	NA	<0.00104	NA	NA	NA	NA	NA	NA	NA	NA	
	12/4/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<b>0.00082 J</b>	<0.00018	<b>0.00012</b>	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	4/2/2008	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<b>0.0009 J</b>	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/5/2008	<0.00013	<0.00015	<0.00016	<0.00013	<0.00013	<0.00020	<b>0.0012</b>	<0.000080	<0.00012	<0.00013	<0.00013	<0.00042	<0.00047	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.78	<0.93	<0.93	
	11/2/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<0.0025	<0.0017	<0.0010	<0.0011	<0.0010	<0.0010	<0.0010	<0.0013	<b>0.493</b>	<0.00080	<0.0012	<0.00070	<0.000042	<b>0.00127 (J)</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
	11/2/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<0.0025	<0.0017	<0.0010	<0.0011	<0.0010	<0.0010	<0.0010	<0.0013	<b>0.493</b>	<0.00080	<0.0012	<0.00070	<0.000042	<b>0.00127 (J)</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
7/24/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<b>0.00187 J</b>	<b>0.542</b>	<0.00080	<b>0.00236 J</b>	<b>0.00153 J</b>	<0.000042	<b>0.00503</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
MW-12	11/11/2006	<0.000380	<0.000470	<0.00044	<0.00033	<0.000470	<0.00087	<0.00038	<0.00042	<0.00031	<0.00038	<0.00034	<0.00056	<0.00101	NA	NA	NA	NA	<0.00162	NA	NA	NA	NA	NA	NA	NA	
	12/5/2007	<0.00018	<0.00006	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	4/3/2008	<0.00018	<b>0.00068 J</b>	<0.00012	<0.00012	<0.0002	<0.00052	<0.00015	<0.00018	<0.00012	<0.00014	<0.00014	<0.00019	<0.00041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/8/2008	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	<b>0.0029</b>	<b>0.0070</b>	<0.0010	<b>0.0099</b>	<0.0020	<0.0010	<0.00047	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.78	<b>1.8</b>	<0.93
	11/1/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<b>0.0053</b>	<b>0.0024 J</b>	<b>0.0016 J</b>	<b>0.00430</b>	<0.0024	<0.0013	<0.0010	<b>0.0212</b>	<b>0.182</b>	<0.00080	<0.0012	<0.00070	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19
	7/25/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	<b>0.00596<sub>d</sub></b>	<b>0.170<sub>d</sub></b>	<0.00080 <sub>d</sub>	<0.0012 <sub>d</sub>	<b>0.00130<sub>d</sub></b>	<0.000042	<b>0.00520<sub>d</sub></b>	<0.00080 <sub>d</sub>	--	--	--	--	--
	7/25/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<b>0.0026 J</b>	<0.0010	<0.0010	<b>0.0016 J</b>	<0.00050	<0.0010	<0.0010	<b>0.00719 J</b>	<b>0.179</b>	<0.00080	<b>0.00549</b>	<b>0.00240 J</b>	<0.000042	<b>0.00145 J</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
11/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<b>0.00547</b>	<b>0.184</b>	<0.00080	<0.0012	<0.00080	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19	
MW-13	12/7/2000	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	-	-	-	-	<b>0.017</b>	-	-	NA	NA	NA	NA	NA	
	11/2/2011	<0.0010	<0.0011	<0.0011	<0.0013	<0.0010	<0.0040	<0.0025	<0.0017	<0.0010	<0.0011	<0.0010	<0.0010	<0.0010	<0.0013	<b>0.607</b>	<0.00080	<0.0012	<0.00070	<0.000042	<b>0.00184 (J)</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
	7/24/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0013	<b>0.521</b>	<0.00080	<b>0.00448 J</b>	<b>0.00131 J</b>	<0.000042	<b>0.00404 J</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
<b>MONITORING WELLS (INSTALLED BY SKA CONSULTING, L.P.)</b>																											
MW-14	7/26/2012	<0.00050	<0.0010	<b>0.0012 J</b>	<b>0.0027 J</b>	<0.00050	<0.0030	<b>0.31</b>	<0.0010	<b>0.0024 J</b>	<b>0.042</b>	<b>0.011</b>	<0.0010	<0.0010	<0.0013	<b>0.640</b>	<0.00080	<0.0012	<b>0.00102 J</b>	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19
	11/28/2012	<0.00050	<0.0010	<b>0.0019 J</b>	<b>0.0048 J</b>	<0.00050	<0.0030	<b>0.79</b>	<0.0010	<b>0.0046 J</b>	<b>0.097</b>	<b>0.018</b>	<0.0010	<0.0010	<0.0013	<b>0.713</b>	<0.00080	<0.0012	<0.00070	<0.000042	<b>0.00126 J</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
	2/21/2013	<0.00050	<0.0010	<b>0.0018 J</b>	<b>0.0036 J</b>	<0.00050	<0.0030	<b>0.57</b>	<0.0010	<b>0.0081</b>	<b>0.071</b>	<b>0.015</b>	<0.0010	<0.0010	<b>0.00235 J</b>	<b>0.671</b>	<0.00080	<b>0.00448 J</b>	<b>0.00100 J</b>	<0.000042	<0.00100	<0.00080	NA	NA	<0.19	<0.19	<0.19
MW-15	7/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<b>0.061</b>	<b>0.0097</b>	<0.0010	<b>0.0065</b>	<b>0.0026</b>	<0.0010	<0.0010	<b>0.0182</b>	<b>0.169</b>	<0.00080	<0.0012	<b>0.00145 J</b>	<0.000042	<0.0010	<0.00080	NA	NA	<0.20	<0.20	<0.20
	11/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<b>0.064</b>	<0.0010	<b>0.0017 J</b>	<b>0.0013 J</b>	<b>0.0020 J</b>	<0.0010	<0.0010	<b>0.0274</b>	<b>0.155</b>	<0.00080	<0.0012	<0.00070	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19
	2/21/2013	<0.00050	<0.0010	<b>0.00059 J</b>	<0.00060	<0.00050	<0.00050	<b>0.052</b>	<0.0010	<b>0.0010 J</b>	<b>0.0018 J</b>	<b>0.0019 J</b>	<0.0010	<0.0010	<b>0.0080</b>	<b>0.177</b>	<0.00080	<0.0012	<b>0.000879 J</b>	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19
MW-16	7/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<b>0.0044 J</b>	<0.0010	<b>0.0019 J</b>	<b>0.0014 J</b>	<0.00050	<0.0010	<0.0010	<b>0.0270</b>	<b>0.728</b>	<0.00080	<0.0012	<b>0.00121 J</b>	<0.000042	<0.0010	<0.00080	NA	NA	<0.19	<0.19	<0.19
	11/26/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<b>0.0634</b>	<b>0.590</b>	<0.00080	<0.0012	<0.00070	<0.000042	<b>0.00162 J</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19
MW-17	11/28/2012	<0.00050	<0.0010	<0.00050	<0.00060	<0.00050	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0013	<b>0.221</b>	<0.00080	<0.0012	<0.00070	<0.000042	<b>0.00105 J</b>	<0.00080	NA	NA	<0.19	<0.19	<0.19

**Notes:**  
 Only analytes with at least one sample with a concentration at or above the laboratory Sample Detection Limit (SDL) are shown on this table.  
 "--" and "NA" represents not analyzed.  
 "--" indicates not applicable.  
 "d" indicates dissolved analysis.  
 "<0.006" Indicates the analyte was NOT detected at or above the specified laboratory SDL.  
 "b" indicates that the target analyte was found in the laboratory method blank.  
 "(J)"- indicates the concentration was estimated between the Sample Detection Limit (SDL) and the Method Quantitation Limit (MQL).

Bold numbers indicate concentrations at or above the laboratory SDL.  
 Bold numbers highlighted in YELLOW exceed their respective Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Tier 1 Residential Groundwater Protective Concentration Levels (30 TAC Chapter 350; Table 3; dated June 29, 2012).  
 "RCRA" represents Resource Conservation and Recovery Act.  
 "VOCs" represents Volatile Organic Compounds.  
 "mg/L" represents milligrams per liter.

**TABLE D.2  
GROUNDWATER DATA SUMMARY  
FORMER KOENIG/KING WINCH  
2902 WEST 12TH STREET  
HOUSTON, HARRIS COUNTY, TEXAS  
VCP No. 2053**

Sample Name	Sample Date	SVOCs		
		Di-n-butyl phthalate	Naphthalene	Phenanthrene
		Method SW8270 mg/L	Method SW8270 mg/L	Method SW8270 mg/L
<b>REGULATORY STANDARDS</b>				
TCEQ TRRP Tier 1 Residential Groundwater <sup>GW</sup> PCLs (mg/L)		<b>2,400</b>	<b>0.49</b>	<b>0.73</b>
<b>PERMANENT MONITORING WELLS</b>				
MW-14	7/26/2012	<b>0.00011 J</b>	<b>0.000079 J</b>	<b>0.000059 J</b>

**Notes:**

Only analytes with at least one sample with a concentration at or above the laboratory

Sample Detection Limit (SDL) are shown in this table.

"-" and "NA" represents not analyzed.

"-" indicates not applicable.

"(J)"- indicates the concentration was estimated between the Sample Detection Limit (SDL) and the Method Quantitation Limit (MQL).

"mg/L" represents milligrams per liter.

"SVOCs" represents Semi-Volatile Organic Compounds.

Bold numbers indicate concentrations at or above the laboratory SDL.

Bold numbers highlighted in YELLOW exceed their respective Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Tier 1 Residential Groundwater Protective Concentration Levels (PCLs).

## **Appendix E – COCs in Designated Groundwater**

---

As previously discussed and documented in **Appendix D**, groundwater sampling and analysis activities performed to date on the designated property indicate the groundwater currently contains concentrations of the following COCs that exceed the TRRP ingestion PCLs: PCE, TCE, cis-1,2-DCE, VC, and arsenic. A brief summary discussion regarding the COCs present in the groundwater of the designated property follows. A more detailed discussion of the COCs and their associated groundwater PCLE zones is provided in **Appendix D**. Maps showing the current locations and concentrations of COCs in the designated property's groundwater are provided in **Appendix C** and summary tables of all groundwater sampling and analysis results obtained for the designated property are provided in **Appendix D** as **Tables D.1** and **D.2**.

### **Ingestion PCLE Zone in Designated Groundwater**

Groundwater sampling and analysis activities performed to date indicate the groundwater of the designated property currently contains detectable concentrations of seven VOC COCs and five metal COCs. The COCs occur in the dissolved-phase and no direct or indirect evidence of NAPLs has been observed or detected. Of the seven VOC COCs detected on the designated property, four (PCE, TCE, cis-1,2-DCE, and VC) are currently present in excess of the COCs' applicable TRRP groundwater ingestion PCLs (TRRP Tier 1 residential <sup>GW</sup>GW<sub>ing</sub> PCLs). Of the five metal COCs detected on the designated property, one (arsenic) is currently present in excess of the COCs' applicable TRRP groundwater ingestion PCLs (TRRP Tier 1 residential <sup>GW</sup>GW<sub>ing</sub> PCLs). As of February 2013, the maximum concentration of PCE was detected in monitoring well MW-10 in the southeastern portion of the designated property, and the maximum concentrations of TCE, cis-1,2-DCE and VC were detected in monitoring well MW-14, in the northeastern portion of the designated property. As of November 2012, the maximum concentration of arsenic was detected in monitoring well MW-6, located in the southeastern portion of the designated property.

### **Non-Ingestion PCLE Zone in Designated Groundwater**

No concentrations of any COCs have been detected in the groundwater of the designated property in excess of applicable TRRP non-ingestion PCLs. As such, no TRRP non-ingestion groundwater PCLE zones exist in connection with the designated property.

### **Geochemical Properties of COCs in Designated Groundwater**

The groundwater VOC COCs (PCE, TCE, cis-1,2-DCE, and VC) are chlorinated ethenes which occur in the dissolved-phase and no direct evidence of NAPLs has been observed or detected.

Arsenic, an inorganic COC, is a metal that can be naturally occurring or released due to chemical processes in the soil. Generally, arsenic is not volatile, has a higher density than water, and is not explosive.

## Appendix F – Summary of Soil and Groundwater Data \_\_\_\_\_

As previously discussed and detailed in **Appendix D** and **Appendix E**, soil sampling and analysis activities performed to date have revealed, arsenic, barium, cadmium, PCE, TCE, and cis-1,2-DCE present in excess of the TRRP soil-to-groundwater ingestion PCLs. Arsenic also exceeds its respective TRRP soil non-ingestion PCL (critical TRRP PCLs with an MSD) in one soil boring (SB-31).

Groundwater sampling and analysis activities performed to date have revealed concentrations of five COCs (PCE, TCE, cis-1,2-DCE, VC, and arsenic) in excess of the TRRP groundwater ingestion PCLs of the designated property. However, no COCs in groundwater currently exceed their respective TRRP non-ingestion PCLs (critical TRRP PCLs with an MSD).

As indicated in **Tables F.1** and **F.2**, the COCs in soil and groundwater on the designated property which currently exceed their respective TRRP soil-to-groundwater ingestion PCLs (the critical PCLs without an MSD) are highlighted in yellow. As previously stated, only one COC, arsenic, currently exceeds its TRRP non-ingestion PCL (Critical TRRP PCLs with an MSD) which is highlighted in green.

Complete summaries of all soil and groundwater sampling and analysis results obtained for sampled collected from the designated property since 2000 are provided in **Tables D.1** and **D.2**. The locations of all soil and groundwater sampling points are presented on **Figure C.5** in **Appendix C**.

**TABLE F.1  
SUMMARY OF MAXIMUM SOIL CONCENTRATIONS  
MUNICIPAL SETTING DESIGNATION APPLICATION  
FORMER KOENIG/KING WINCH  
2902 WEST 12<sup>TH</sup> STREET  
HOUSTON, HARRIS COUNTY, TEXAS**

CHEMICAL OF CONCERN	MAXIMUM SOIL CONCENTRATION				CRITICAL TRRP TIER 1 RESIDENTIAL SOIL PROTECTIVE CONCENTRATION LEVEL		
	Sample ID	Sample Depth	Sample Date	Detected Concentration (mg/Kg)	Ingestion PCL (Without MSD)	Non-Ingestion PCL (With MSD)	
					<sup>GW</sup> Soil <sub>Ing</sub> (mg/Kg)	<sup>Tot</sup> Soil <sub>Comb</sub> (mg/Kg)	<sup>Air</sup> Soil <sub>Inh-V</sub> (mg/Kg)
TPH	SB-6	1-2	6/28/11	9,600	--	15,000	30,000
ARSENIC	SB-31	2-3	6/28/11	102	5	24	--
CADMIUM	MW-7	2	11/22/00	28.0	1.5	52	--
LEAD	TSP-1	0-2	6/26/00	43.4	3	500	--
SELENIUM	SB-8	4-6	6/29/11	2.29	2.3	310	--
SILVER	SB-5	1-2	6/28/11	0.492	0.48	97	--
BENZENE	SB-1	10-12	6/28/11	0.015	0.026	120	160
cis-1,2-DICHLOROETHENE	SB-6	4-6	6/28/11	2.5	0.25	140	920
METHYLENE CHLORIDE	B-5	10-11	4/17/06	0.022	0.013	480	13,000
TETRACHLOROETHENE	SB-6	1-2	6/28/11	410	0.05	450	940
TRICHLOROETHENE	SB-6	1-2	6/28/11	2.2	0.034	18	31

**NOTE:**

1. COCs highlighted in yellow exceed the critical TRRP Tier 1 Residential Soil PCL (applicable TRRP Tier 1 Residential Soil Ingestion PCL) without an MSD; but do not exceed the critical TRRP Tier 1 Residential Soil PCL (applicable TRRP Tier 1 Residential Soil Non-Ingestion PCL) with an MSD.
2. Ingestion PCLs are highlighted in yellow and non-ingestion PCLs are highlighted in green.
3. Methylene chloride is a common lab contaminant and is not likely present in soil.

**TABLE F.2  
SUMMARY OF MAXIMUM GROUNDWATER CONCENTRATIONS  
MUNICIPAL SETTING DESIGNATION APPLICATION  
FORMER KOENIG/KING WINCH  
2902 WEST 12<sup>TH</sup> STREET  
HOUSTON, HARRIS COUNTY, TEXAS**

CHEMICAL OF CONCERN	GROUNDWATER-BEARING UNIT	CURRENT MAXIMUM GROUNDWATER CONCENTRATION			CRITICAL TRRP TIER 1 RESIDENTIAL GROUNDWATER PROTECTIVE CONCENTRATION LEVEL	
		Sample ID	Sample Date	Detected Concentration (mg/kg)	Ingestion PCL (Without MSD)	Non-Ingestion PCL (With MSD)
					<sup>GW</sup> GW <sub>ing</sub> (mg/L)	<sup>Air</sup> GW <sub>inh-v</sub> (mg/L)
cis-1,2-DICHLOROETHENE	First	MW-2	12/4/07	0.34	0.070	1,200
TETRACHLOROETHENE	First	MW-4	8/1/00	0.150	0.005	500
TRICHLOROETHENE	First	MW-4	8/1/00	0.202	0.005	24
VINYL CHLORIDE	First	MW-6	12/7/00	0.107	0.002	3.8
ARSENIC	First	MW-6	11/1/11	0.136	0.010	--
CHROMIUM	First	TSP-3	6/26/00	0.132	0.10	--
LEAD	First	TSP-1 MW-13	6/26/00 12/7/00	0.017	0.015	--
TPH (C12-C28)	First	MW-12	9/8/08	1.8	0.98	7,500

**NOTE:**

1. COCs highlighted in yellow exceed the critical TRRP Tier 1 Residential Groundwater PCL (applicable TRRP Tier 1 Residential Groundwater Ingestion PCL ) without an MSD; but do not exceed the critical TRRP Tier 1 Residential Groundwater PCL (applicable TRRP Tier 1 Residential Groundwater Non-Ingestion PCL) with an MSD.
2. Ingestion PCLs are highlighted in yellow and non-ingestion PCLs are highlighted in green.

## Appendix G – Plume Stability

---

Soil and groundwater assessments and monitoring activities performed to date on the designated property reveal five distinct soil contaminant plumes and three distinct groundwater contaminant plumes. The soil plumes consist of either isolated detections of metals each from a single soil boring or chlorinated ethenes from soil borings beneath Building B. The groundwater plumes consist of arsenic and chlorinated ethene parent and daughter products (PCE, TCE, cis-1,2-DCE, VC). Four of the five soil plumes consist of one soil boring with no known source area outside Building B, and the fifth soil plume is defined by soil borings beneath Building B, where the on-site manufacturing activities were located. The following sections provide discussions regarding the stability of each of the designated property's contaminant plumes.

### **Soil Plumes**

Assessment activities performed to date indicate the soil plumes consist of either isolated detections of metals each from a single soil boring or chlorinated solvents from soil borings beneath Building B.

#### Metals Plumes

As shown on **Figure C.7**, two of the four surface soil PCLE zones are centered around a single soil boring. The COCs of these limited PCLE zones are arsenic and cadmium, and are located around soil boring SB-31 (arsenic) and monitoring well MW-11 (cadmium). The arsenic exceedance in soil boring SB-31 and cadmium exceedance in MW-11 decrease with depth. While the detections decrease with depth, the sources of arsenic and cadmium are unknown.

As shown on **Figure C.8**, the two subsurface soil PCLE zones are centered around a single soil boring in subsurface soil. The COCs of these limited PCLE zones are arsenic and barium. The COCs of the soil PCLE zones are located around monitoring wells MW-15 (arsenic and barium), and MW-16 (arsenic). As previously stated, it does not appear that the arsenic and barium present in the MW-15 and MW-16 subsurface soil samples originated from current and/or historical operations on the designated property.

#### Chlorinated Ethene PCLE Zones Located Beneath Building B

As mentioned previously chlorinated ethene parent and daughter products were detected in soil samples from soil borings beneath Building B, which were located next to drains or patched concrete as shown in **Figure C.7**. The COCs consist of PCE, TCE, and cis-1,2-DCE. PCE degrades to TCE in a one-to-one relationship (i.e. one molecule of PCE degrades to one molecule of TCE [primarily] which degrades to one molecule of cis-1,2-DCE).

PCE was detected above the TRRP Tier 1 soil ingestion PCL in soil borings SB-3 through SB-6 which are located in Building B adjacent to drains or patched concrete. The exceedances occur at 1-2 ft-bgs and decrease with depth in soil. TCE and cis-1,2-DCE were detected above the

TRRP Tier 1 soil ingestion PCL in soil borings SB-3 and SB-6. TCE and cis-1,2 DCE soil concentrations are found in the same PCLE zone with PCE soil concentrations, which indicates the presence of TCE and cis-1,2 DCE is likely due to the degradation of the parent product PCE. The concentration of TCE and cis-1,2 DCE also decrease with depth in soil with the exception of cis-1,2-DCE, which increases slightly from 1-2 ft-bgs to 4-6 ft-bgs in soil boring SB-6. Based on decreasing concentrations with depth and no current sources of chlorinated ethenes identified on the designated property, the concentrations of chlorinated ethenes in soil are either stable or decreasing.

### **Groundwater Plumes**

Assessment activities performed to date at the designated property have revealed three distinct groundwater plumes as shown on **Figure C.9**. A chlorinated ethene plume and arsenic plume are located in the southeast portion of the designated property, and a chlorinated ethene plume is located in the northeast portion of the designated property.

### **Southeast Chlorinated Ethene Plume**

Assessment activities have revealed a chlorinated ethene plume with PCE as the parent product which has impacted groundwater on the southeast portion of the designated property. Evidence of the chlorinated ethene plume was detected in groundwater sampled from monitoring wells MW-10 and MW-6 (**Figure C.9 and Table D.2**). The groundwater samples collected from monitoring wells MW-6 and MW-10 installed on the designated property indicate concentrations of PCE and associated daughter product TCE in excess of the COCs' respective TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCLs. Cis-1,2-DCE was also present in groundwater sampled from monitoring wells MW-10, MW-6 and MW-16 at concentrations below the applicable TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL. PCE degrades to TCE in a one-to-one relationship (i.e., one molecule of PCE degrades to one molecule of TCE. TCE primarily degrades to cis-1,2-DCE in a one-to-one relationship. Therefore, the presence of TCE and cis-1,2-DCE indicates that degradation (natural attenuation) of PCE is occurring in the groundwater near the locations of monitoring wells MW-10, MW-6, and MW-16.

**Graph G.1** illustrates the concentrations of COCs in monitoring wells MW-6, MW-10 and MW-16, which roughly parallel the longitudinal axis of the southeast chlorinated PCE plume. **Graph G.1** indicates that the extent of the plume is stable as concentrations decrease based on distance from the suspected source area near monitoring well MW-10. A comparison of the concentrations in July 2012 to the concentrations in November 2012 in **Graph G.1** indicates that concentrations of total chlorinated ethenes are stable.

Therefore, the southeast chlorinated ethene plume is stable, delineated to the residential assessment level, and contained within the designated property. These COCs in groundwater result from historic operations conducted on the designated property, as discussed in **Appendix J**.

### **Northeast Chlorinated Ethene Plume**

Assessment activities have revealed a chlorinated ethene plume with TCE as the parent product that has adversely impacted groundwater on the northeast portion of the designated property. Evidence of the chlorinated ethene plume was detected in groundwater sampled from monitoring wells MW-9, MW-14, and MW-15 (**Figure C.9** and **Table D.2.**). The groundwater sampling results indicate concentrations of TCE and associated daughter products cis-1,2-DCE and vinyl chloride in monitoring well MW-14 are above the COCs' respective TRRP groundwater ingestion PCLs (TRRP Tier 1 Residential <sup>GW</sup>GW<sub>ing</sub> PCLs). Due to the July 2012 COC detections in monitoring wells MW-14 and MW-15 and the southeasterly direction of groundwater flow as shown in **Figure C.6B**, monitoring well MW-17 was installed in November 2012 to delineate the northeast chlorinated ethene plume. No COCs were detected in the groundwater sample from monitoring well MW-17. The groundwater gradient map from November 2012 (**Figure C.6C**), which included the groundwater elevation from monitoring well MW-17, confirmed the southeasterly groundwater flow direction.

Cis-1,2-DCE and vinyl chloride are present above applicable TRRP Tier 1 groundwater ingestion PCLs in samples collected from monitoring well MW-9. However, the February 2013 sample from monitoring well MW-15, in the downgradient direction from monitoring well MW-9, indicated concentrations of vinyl chloride below the TRRP Tier groundwater ingestion PCL.

**Graph G.2** illustrates the concentrations of COCs in monitoring wells MW-14, MW-15 and MW-17, which roughly parallel the longitudinal axis of the northeast chlorinated PCE plume. **Graph G.2** indicates that the extent of the plume is stable as concentrations are decreasing downgradient from the suspected source area near monitoring well MW-14. A comparison of the concentrations in November 2012 to the concentrations in February 2013 in **Graph G.2** indicates that concentrations of total chlorinated ethenes are stable.

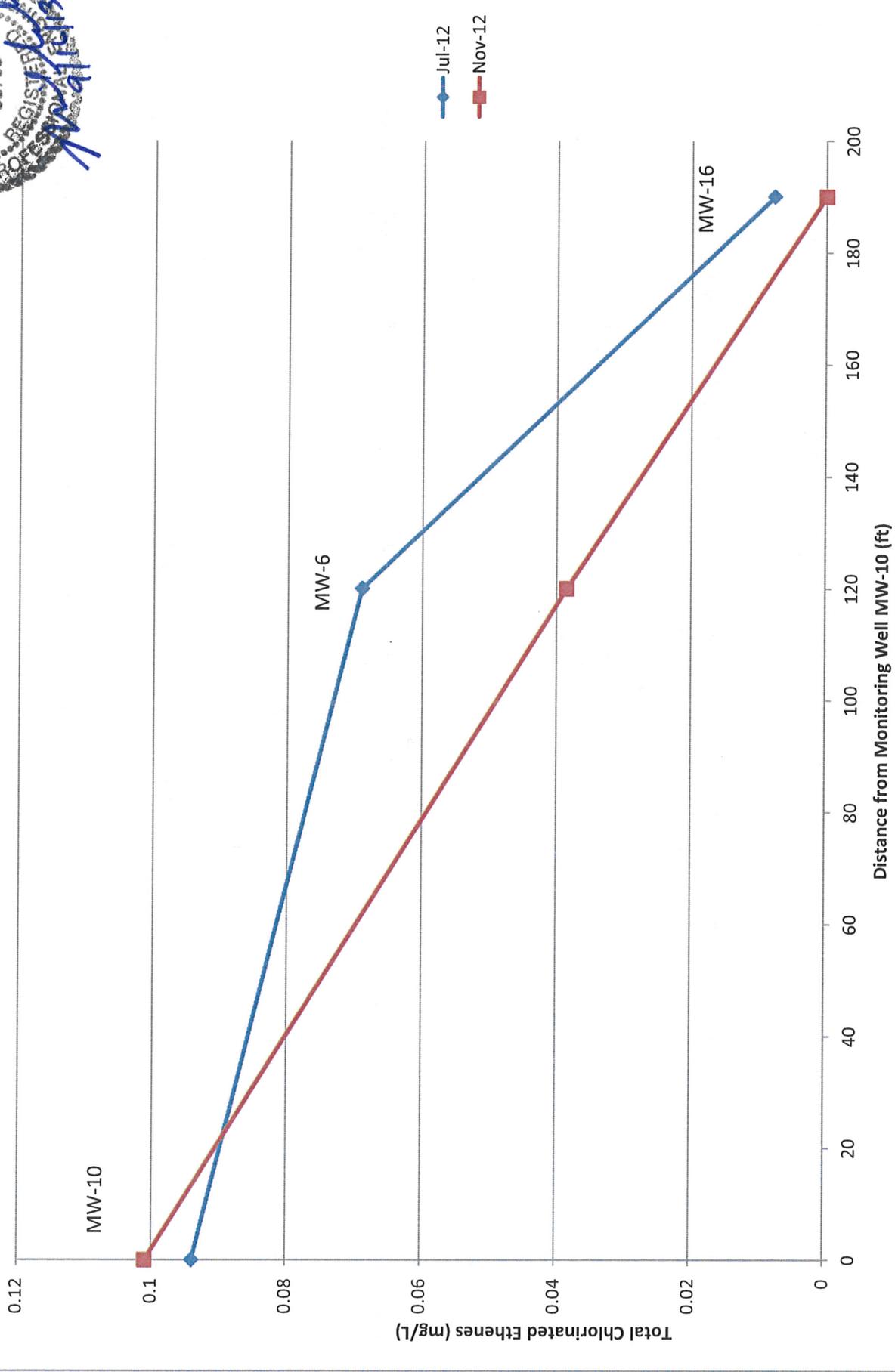
Therefore, as the plume is stable and groundwater gradient maps included in **Appendix C** indicate groundwater flow is predominately to the southeast, the northeast chlorinated ethene plume delineated to the residential assessment level and contained within the designated property as shown by COC data from monitoring well MW-15. . These COCs in groundwater result from an unknown source, as discussed in **Appendix J**.

### **Arsenic Plume**

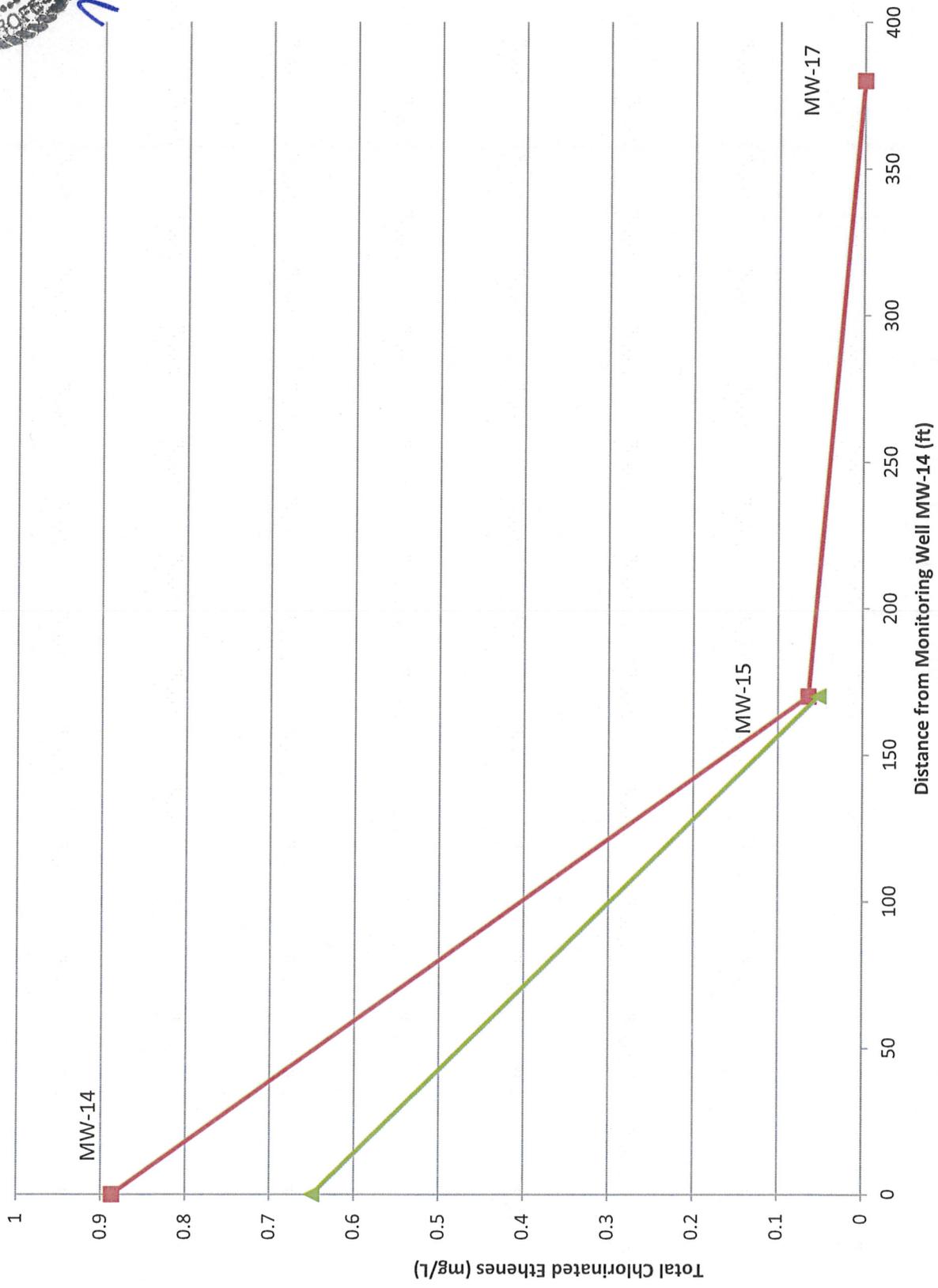
Assessment activities have revealed an arsenic plume that has adversely impacted groundwater in samples collected from monitoring wells MW-6 and MW-16 in November 2012 in excess of the arsenic TRRP groundwater ingestion PCL (TRRP Tier 1 Residential <sup>GW</sup>GW<sub>ing</sub> PCL) on the southeast portion of the designated property. While arsenic was detected above the TRRP groundwater ingestion PCL from groundwater samples from MW-15 in July and November 2012, it was below the PCL in groundwater samples collected in February 2013. As arsenic was only detected above the TRRP <sup>GW</sup>Soil<sub>ing</sub> PCL from a shallow soil sample from soil boring SB-31 over 400 feet north of monitoring well MW-6, the arsenic in groundwater in the southeast portion of the designated property does not appear to have resulted from historic operations on the designated property, as discussed in **Appendix J**.



**Graph G1: Southeast Chlorinated Solvent Plume**



# Graph G2: Northeast Chlorinated Solvent Plume



Nov-12

## Appendix H – Contamination Exceedence Without MSD

---

As previously discussed and detailed in **Appendices D, E, F** and **G**, soil sampling and analysis activities performed to date indicate concentrations of arsenic, barium, cadmium, PCE, TCE, cis-1,2-DCE, and methylene chloride exceed TRRP soil ingestion PCLs (TRRP Tier 1 or 2 residential <sup>GW</sup>Soil<sub>ing</sub> PCLs). However, as discussed in **Appendix D**, methylene chloride is a common laboratory contaminant and therefore is not considered a COC for the designated property.

Without an MSD, the TRRP residential <sup>GW</sup>Soil<sub>ing</sub> PCL represents the TRRP residential assessment level for all COCs present in surface and subsurface soil at the designated property. Tier 2 residential soil-to-groundwater ingestion PCLs were developed for barium, lead, mercury, selenium, silver, and TCE. As such, only arsenic, barium, cadmium, PCE, TCE and cis-1,2-DCE in soils of the designated property exceed their respective TRRP residential assessment levels. Based on the soil assessment results obtained to date, none of these COCs are known or expected to be present in soil off-site in excess of any of the applicable TRRP residential assessment levels (with or without an MSD) as a result of historical operations that occurred on the designated property. As previously stated, it does not appear that the arsenic and barium present in the MW-15 and MW-16 subsurface soil samples originated from current and/or historical operations on the designated property.

Groundwater analytical results have revealed concentrations of PCE, TCE, cis-1,2-DCE, vinyl chloride, and arsenic in the groundwater of the designated property in excess of their respective TCEQ TRRP Tier 1 groundwater ingestion PCLs (TRRP Tier 1 Residential <sup>GW</sup>GW<sub>ing</sub> PCLs). The groundwater PCLE zones are located within the northeastern and southeastern portions of the designated property.

Without an MSD, the TRRP residential <sup>GW</sup>GW<sub>ing</sub> PCL represents the TRRP residential assessment level for all COCs present in groundwater at the designated property. As such, the current concentrations of PCE, TCE, cis-1,2-DCE, VC, and arsenic in the shallow groundwater of the designated property exceed their respective TRRP residential assessment levels. Based on the groundwater assessment results obtained to date, none of these COCs have been detected or are expected to be present in groundwater downgradient of the designated property in excess of any TRRP residential assessment levels with or without an MSD as a result of historical operations that occurred on the designated property. As previously stated, the arsenic in groundwater in the southeast portion of the designated property does not appear to have resulted from current and/or historic operations on the designated property.