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## **RESPONSE ACTION PLAN**

### **101 WEST DICKMAN STREET** **Baltimore City, Maryland**

July, 2, 2015

Submitted to:

**Maryland Department of the Environment**

Voluntary Cleanup Program  
1800 Washington Boulevard, Suite 625  
Baltimore, Maryland 21230  
Attn: Mr. Christopher Hartman

Prepared for:

**DICKMAN PROPERTY INVESTMENTS, LLC**

1000 Key Highway East  
Baltimore, Maryland 21230

Attn: Mr. Marc Weller

---

Prepared by:

**GEO-TECHNOLOGY ASSOCIATES, INC.**

*Geotechnical and Environmental Consultants*

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GTA Project No: 140144

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GEOTECHNICAL AND  
ENVIRONMENTAL CONSULTANTS

*A Practicing GBA Member Firm*



July 2, 2015

Dickman Property Investments, LLC  
1000 Key Highway East  
Baltimore, Maryland 21230

Attn: Mr. Marc Weller

Re: Response Action Plan  
***101 West Dickman Street***  
Baltimore City, Maryland

Dear Mr. Weller:

In accordance with our agreement dated April 2, 2015, Geo-Technology Associates, Inc. (GTA) has prepared this Response Action Plan (RAP) for 101 West Dickman Street (“subject property”), which is located south and west of West Dickman Street, in Baltimore City, Maryland. This RAP has been prepared to address soil and groundwater contamination detected during prior evaluations in conjunction with site renovations and re-development.

An application for the subject property’s acceptance into the Maryland Department of the Environment (MDE) Voluntary Cleanup Program (VCP) was submitted to MDE on July 24, 2014. The subject property has been accepted into the VCP by the MDE on March 30, 2015.

We appreciate the opportunity to be of assistance on this project. Should you have any questions regarding this information, or should you require additional information, please do not hesitate to contact our office at (410) 792-9446.

Sincerely,  
**GEO-TECHNOLOGY ASSOCIATES, INC.**

Lisa M. DeRose  
Environmental Scientist

Paul H. Hayden, P.G., L.R.S.  
Vice President

140144  
LMD/KPP/PHH  
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cc: Mr. Christopher Hartman/ Maryland Department of the Environment

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## EXECUTIVE SUMMARY

Geo-Technology Associates, Inc. (GTA) has prepared this Response Action Plan (RAP) for 101 West Dickman Street (the “subject property”), as described herein. This *Executive Summary* is limited in scope and detail and is presented for the convenience of the reader. Please refer to the written report for details concerning the environmental condition of the subject property, as well as the scope and limitations of this RAP. Do not rely on this *Executive Summary* for any purpose except that for which it was prepared. Rely only on the full report for information about the findings, recommendations, and other concerns.

The subject property is comprised of 6.77 acres located south and west of West Dickman Street, in Baltimore City, Maryland. The subject property is occupied by the former City of Baltimore Department of Public Works (DPW) Maintenance Garage. Historically, prior to 1914, 14 residential row homes were present on the north-central portion of the site and several single-family residences and a pier were located on the southern portion of the site along the waterfront. By 1950, a group of buildings labeled “Junk” were located on the western portion of the site, and appeared to be part of an automobile junkyard located adjacently west of the subject property. The City of Baltimore DPW Maintenance Garage was constructed on the central portion of the subject property on or before 1965 and was utilized by the City for vehicle maintenance until 2008. The garage consists of an approximate 141,036 square foot one-story building and former operations/areas in the building included office areas, car and truck vehicle maintenance areas, a hydraulic and welding shop, a machine shop, a body shop, a paint mixing room and paint booths, a transmission room, a tire shop, an engine rebuild room, a new part warehouse/new tire storage area, and electric and boiler rooms. Aside from the garage building, the remaining structures located on the subject property were razed prior to 1965. The southeastern portion of the site was extended using fill into the Middle Branch of the Patapsco River in the early 1970’s.

An application for acceptance into the Maryland Department of the Environment’s (MDE) Voluntary Cleanup Program (VCP) was submitted to the MDE on July 24, 2014. The subject property was accepted into the MDE’s VCP on March 30, 2015 with the requirement that a Response Action Plan (RAP) be prepared.

The subject property has been the subject of two VCP applications previously. According to the regulatory database search, Dickman Street Development, LLC applied to enter the subject property into the VCP on September 11, 2007, and was accepted into the program on September 26, 2007, as an Inculpable Person (IP). An application was also submitted by 101 West Dickman Street Development, LLC, on September 11, 2013, as an IP and was granted approval by the MDE on September 18, 2013.

Since 2004 numerous environmental evaluations have been performed on the subject property as part of ongoing property transactions, investigation and removal of underground storage tanks (USTs), and the investigation and removal of hydraulic lifts located on-site. These evaluations are summarized below.

Between 2004 and 2006, a Phase II Environmental Site Assessment (ESA), a Phase I ESA Update, and a Supplemental Phase II ESA were performed. Arsenic, mercury, volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH) diesel range organics (DRO) were detected in soil samples above the MDE’s Non-Residential Cleanup Standards (NRCS).

Groundwater samples collected from the subject property did not exceed the Groundwater Cleanup Standards (GCSs). Groundwater elevations measured in the field indicated that the apparent groundwater flow is primarily towards the south and southeast. Twelve RECs were identified, associated with USTs, above-ground storage tanks (ASTs), the facility floor drain system including oil-water separators, parts washing stations; various wrecked city vehicles and vehicle parts, and the former auto junkyard on the western portion of the property. An MDE file review was conducted as part of the Phase I ESA Update and results were inconclusive regarding the history of USTs at the facility. The file review revealed an additional waste oil UST that may be associated with the oil-water separator. A dye trace study performed as part of the supplemental Phase II ESA indicated the on-site drains discharge to the on-site oil-water separator.

In May 2010, the MDE Oil Control Program (OCP) oversaw the removal of six USTs and observed perforations in the accessible piping associated with two USTs. Approximately 550 tons of “oil-contaminated” soil was removed and liquid phase hydrocarbons (LPH) were encountered on the groundwater in the open excavations of five of the UST removals. Temporary groundwater monitoring points indicated that TPH DRO exceeded the “cleanup standards” in one groundwater sample. Based on the OCP’s review of the results, OCP required no further corrective action at the subject property. The OCP stated that the property was in compliance with Maryland UST release response and corrective action, and out-of-service UST and UST closure regulations. The OCP case (Case No. 2010-0641-BC) associated with the release was therefore closed.

In June 2013, a Report of Completion was performed for the MDE in regards to OCP case No. 2010-0631BC. This report indicated that 17 in-ground hydraulic lifts and associated equipment were removed from the subject property. LPH and stained soil was observed in the excavations and the LPH was removed with a vacuum truck and approximately 245 tons of stained soil was disposed off-site. In addition, approximately 1,980 gallons of oil/water were removed and disposed off-site. Post-excavation soil samples collected from the each excavation detected TPH DRO at concentrations above the NRCS in 16 of the 17 excavations.

A Phase I ESA conducted in September 2013 identified RECs concerning open OCP case (No. 2013-0631-BC). As part of the open OCP case and hydraulic oil contamination, the Phase I ESA noted that MDE identified the City of Baltimore as a responsible party as a prior owner/operator of the hydraulic lifts for any further investigation or remediation of the hydraulic lifts. In addition, this report indicated that a previous report detected polycyclic aromatic hydrocarbons (PAHs) in soils. No documentation regarding the PAH detections was available.

Because the subject property historically contained a maintenance garage, and RECs were identified in previous Phase I ESAs, and to satisfy MDE requirements for review under the VCP, GTA performed a Phase II ESA dated October 31, 2014. Arsenic was detected slightly above the MDE’s NRCS in one composite soil sample and nine sub-slab soil vapor points installed in the building detected VOCs that were below the MDE Tier 1 and Tier 2 screening values. Based on GTA’s Phase II ESA data and historical information MDE requested that a RAP be developed for the subject property.

Due to the construction schedule associated with the subject property’s redevelopment, a Soil Management Plan (SMP) prepared by GTA was submitted to the MDE on April 17, 2015

and approved on April 23, 2015. The SMP provides guidance on managing utility excavation activities within impacted soil associated with the proposed interior demolition prior to approval of this RAP. The interior demolition activities proposed generally include the installation of utilities, primarily sanitary sewer and public water services. In addition, the concrete foundation/floor inside the northeastern and southern portions of the building will be removed and soil will be exposed prior to replacement of the concrete.

Additional site characterization of the subject property was conducted by the City of Baltimore to address open OCP case (No. 2013-0631-BC). This case was opened on April 26, 2013 and is associated with contamination that remains on the subject property from 17 in-ground hydraulic lifts. The City of Baltimore has been identified as the responsible party as a prior owner/operator of the hydraulic lifts for any further investigation or remediation of the hydraulic lifts. The OCP requested the City submit a Work Plan for recovering LPH and delineating the extent of the LPH. A Work Plan dated August 14, 2014 was prepared by KCI for the City of Baltimore. The Work Plan included the installation of temporary piezometers adjacent to the former lift locations in order to delineate the extent of the LPH.

KCI installed 26 temporary piezometers in the location of the former lifts and surrounding the former lifts. Petroleum impacted soil and LPH was observed in several of the temporary piezometers. These results were provided under a separate cover. KCI recommended excavating the impacted soil through a Corrective Action Plan (CAP). The CAP was submitted to the MDE OCP on April 24, 2015. City of Baltimore will ultimately obtain closure of this case through the MDE OCP. This work will likely be done in conjunction with the interior demolition and during future RAP implementation activities.

GTA understands that the subject property is planned to be renovated for use as a large commercial building with various tenants. During the renovation, portions of the building are planned to be demolished, and paved parking areas will be improved and landscaped areas will be added.

An Environmental Covenant (EC) will be prepared pursuant to the Uniform Environmental Covenants Act, effective on October 1, 2005, in Maryland, and will incorporate the requirements and guidelines of this RAP to provide information and guidance for appropriate risk abatement measures to protect human health and the environment during future redevelopment and reuse of the subject property.

In accordance with the March 30, 2015, VCP Acceptance Letter, this RAP has been prepared to establish a remedy for impacted soil and groundwater within the site boundary, which will be implemented in conjunction with the planned site renovations and re-development activities. The proposed remedy for soil includes capping and off-site disposal of the impacted soil as needed for site grading purposes, construction observation for correct RAP implementation, and notification to MDE prior to future excavation activities. No excavated material from the subject property will be disposed in areas with current or proposed residential use. The proposed remedy for groundwater includes a deed restriction on the use of groundwater beneath the site for any purpose, health and safety measures during the planned construction, proper management of groundwater during construction dewatering activities (if necessary), and capping. The RAP has been prepared for MDE submittal so that a Certificate of Completion may be obtained following the implementation of the response actions proposed herein.

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Table 2 – Soil Vapor Analysis Results Summary (*color*)

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# **RESPONSE ACTION PLAN**

**101 WEST DICKMAN STREET  
BALTIMORE, MARYLAND  
JULY 2, 2015**

## **1.0 SITE OVERVIEW**

### **1.1 Introduction**

As requested by the Maryland Department of the Environment (MDE), Geo-Technology Associates, Inc. (GTA) has prepared this Response Action Plan (RAP) for the 101 West Dickman Street property (“subject property”), located south and west of West Dickman Street, in Baltimore City, Maryland. During previous environmental evaluations, impacted soil and groundwater were identified above the applicable MDE criteria. This RAP has been prepared to establish a proposed remedy for the impacted soil and groundwater contamination in conjunction with the planned site renovations and re-development.

Prior to purchasing the property, Dickman Property Investments, LLC (“Client”) applied to the MDE Voluntary Cleanup Program (VCP) as an “Inculpable Person” (IP) for the subject property. GTA learned the subject property had been accepted into the MDE's VCP on March 30, 2015 with the requirement that a RAP be prepared. A copy of the MDE acceptance letter is included in *Appendix A*.

This RAP has been prepared to establish a proposed remedy for impacted soil and groundwater contamination within the site boundaries. The proposed remedy for soil includes capping and off-site disposal of the impacted soil as needed for site grading purposes, construction observation for correct RAP implementation, and notification to MDE prior to future excavation and disposal activities. No excavated material from the subject property will be disposed in areas with current or proposed residential use. The proposed remedy for groundwater includes a deed restriction on the use of groundwater beneath the site for any purpose, health and safety measures during the planned construction, proper management of groundwater during construction dewatering activities (if necessary), and capping. The RAP has

been prepared for MDE submittal so that a Certificate of Completion (COC) may be obtained following implementation of the proposed remedy.

An Environmental Covenant (EC) will be prepared pursuant to the Uniform Environmental Covenants Act (UECA), effective on October 1, 2005, in Maryland, and will incorporate the requirements and guidelines of this CAP to provide information and guidance for appropriate risk abatement measures to protect human health and the environment during future redevelopment and reuse of the subject property.

## **1.2 Limitations**

This RAP was prepared by GTA for Dickman Property Investments, LLC, under the terms and conditions of GTA's contract with Dickman Property Investments, LLC. GTA acknowledges that this document is being submitted to the MDE VCP and will be part of the public record, and that the MDE VCP is expected to use this report as part of its review process. However, use of this report by any third party is at their sole risk. GTA is not responsible for any claims, damages, or liabilities associated with third-party use.

## **1.3 General Property Description**

### ***1.3.1 Structures and Land Use***

The subject property is comprised of 6.77 acres located south and west of West Dickman Street, in Baltimore City, Maryland. The subject property is occupied by the former City of Baltimore Department of Public Works (DPW) Maintenance Garage. A *Site Location Map* for the subject property is presented as *Figure 1 (Appendix B)*.

According to the Baltimore City records of the Maryland Department of Assessments and Taxation (MDAT) and information provided by the current property owner, the subject property is comprised of 6.77 acres, identified on Baltimore City Tax Map 23 as Lot 1 in Block 1060. According to the MDAT records, Lot 1 is owned by Dickman Property Investments, LLC, and was purchased from Dickman Street Development, LLC. The MDAT records indicate that the land use for Lot 1 is commercial.

GTA understands that building located on the subject property is planned to be renovated for use by several commercial tenants. During the re-development, portions of the building are planned to be demolished. Interior demolition of utility installation will occur inside the building. The surrounding parking areas and driveways will be improved. In addition, some landscaped areas will be installed on the northern and eastern portions of the subject property. All of these features are included within the bounds of the RAP. Details regarding the proposed development for the subject property are presented as *Figure 2 (Appendix B)*.

### ***1.3.2 Site Setting***

#### ***1.3.2.1 Topography***

The topographic information on the USGS Topographic Quadrangle Map (Baltimore East, MD) for the site vicinity indicates that the ground surface elevation on the subject property ranges from approximately five to 10 feet above Mean Sea Level. The subject property and surrounding vicinity slope gently to the south and southwest toward the Middle Branch of the Patapsco River, and on-site drainage is directed to the south and southwest, toward the Patapsco River. A *Topographic Map* for the site and vicinity, based on the USGS Map, is included as *Figure 3*.

#### ***1.3.2.2 Soils***

According to the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Web Soil Survey (reviewed on May 12, 2015), the site is underlain by Udorthents (42E) and Urban land (44UC).

#### ***1.3.2.3 Geology and Hydrogeology***

According to the Maryland Geological Survey *Geologic Map of Baltimore County and City, Maryland* (1976), the site vicinity is situated in the Coastal Plain Physiographic Province, which is generally characterized by interlayered sedimentary deposits from historic marine and estuarine environments. Specifically, the subject property is indicated to be underlain by the Lowland Deposits which are characterized by sand, silt, and clay.

Hydrologically, the Coastal Plain is underlain by both unconfined and confined aquifers of unconsolidated sediments, which overlie consolidated bedrock and dip toward the southeast. Groundwater storage and movement are functions of the primary porosity of the sediments. Larger storage is provided by gravel and sand, with little to no storage provided by clay. Near-surface, unconfined aquifers typically consist of sediments of higher permeability and are recharged locally, primarily through precipitation that permeates through the unsaturated zone into the aquifer. The water table in unconfined aquifers is therefore highly variable, fluctuating with the seasons and with rates of precipitation. Variations in the groundwater surface and flow generally reflect the topography and relative locations of surface water features. Intermittent confining layers can locally alter the water table conditions. The deeper, confined aquifers are bound by confining layers above and below, creating an artesian system. Confined aquifers are recharged in areas where the formation crops out, generally in more remote areas to the west.

The groundwater flow direction in the site vicinity is assumed to mirror surficial topography. Accordingly, the groundwater flow direction in the immediate site vicinity of the site is assumed to be generally toward the south and southwest, toward the Middle Branch of the Patapsco River.

## **1.4 Environmental Background**

### ***1.4.1 Facility History***

Prior to 1914, 14 residential row homes were present on the north-central portion of the site. Additional structures located west of the row homes appeared to be part of the Dickman's Farm Dairy. In addition, several single family residences and a pier were located on the southern portion of the site along the waterfront. By 1950, a group of buildings labeled "Junk" were located on the western portion of the site, and appeared to be part of an automobile junkyard located adjacent to the subject property to the west. The City of Baltimore DPW Maintenance Garage was constructed on the central portion of the subject property on or before 1965 and was utilized by the City for vehicle maintenance until 2008. Aside from the garage building, the remaining structures located on the subject property were razed prior to 1965. The

southeastern portion of the site was extended using fill into the Middle Branch of the Patapsco River in the early 1970's.

#### ***1.4.2 Environmental Assessments***

Several previous environmental evaluations of the subject property have been prepared, including the following and are summarized below;

- *Phase II ESA*, by EA Engineering, Science, and Technology, Inc. (EA), dated June 2004;
- *Summary of a Phase I ESA Update, City Garage ("Parcel B")*, by EA, dated June, 2005;
- *Supplemental Phase II ESA*, by EA, dated March 16, 2006;
- *MDE Notice of Compliance, Former Baltimore City Central Garage*, dated April 13, 2013;
- *Report of Completion*, by Petroleum Management, Inc., dated June 12, 2013;
- *Phase I ESA*, by EA, dated September 3, 2013;
- *Phase I ESA*, by GTA, dated June 29, 2014;
- *Work Plan*, by KCI Technologies, Inc. (KCI), dated August 14, 2014;
- *Phase II ESA*, by GTA, dated October 31, 2014; and
- *CAP*, by KCI, dated April 23, 2015

In June 2004, EA performed a Phase II ESA of the subject property. Arsenic was detected in three surface and sub-surface soil samples above the MDE's Non-Residential Cleanup Standards (NRCS) on the western and southwestern portions of the subject property and in the southern portion of the building. In addition, arsenic exceeded the NRCS in a surface soil sample located in the northern portion of the building. Mercury was detected above the NRCS in a surface soil sample located on the southwestern portion of the site. Several volatile organic compounds (VOCs) exceeded the NRCS in a surface soil sample located on the southwestern portion of the site. Groundwater samples did not exceed the Groundwater Cleanup Standards (GCSs). Groundwater elevations measured in the field indicated that the apparent groundwater flow is primarily towards the south and southeast.

In June of 2005, EA performed a Phase I ESA Update. Twelve RECs were identified, associated with underground storage tanks (USTs), above-ground storage tanks (ASTs), the facility floor drain system including oil-water separators, parts washing stations; various wrecked

city vehicles and vehicle parts, and the former auto junkyard on the western portion of the property. An MDE file review was conducted as part of the 2005 Phase I ESA Update and results were inconclusive regarding the history of USTs at the facility. The file review revealed an additional waste oil UST that may be associated with the oil-water separator.

In March 2006, EA performed a Supplemental Phase II ESA, which included additional land located south and east of the current subject property. One soil sample contained total petroleum hydrocarbons (TPH) diesel range organics (DRO) above the NRCS. This sample was collected in the vicinity of an air compressor condensate discharge located near a transformer and is believed to be related to oil from the condensate knock-out. A dye trace study performed as part of the supplemental Phase II ESA indicated the on-site drains discharge to the on-site oil-water separator.

In May 2010, the MDE Oil Control Program (OCP) oversaw the removal of six USTs and observed perforations in the accessible piping associated with two USTs. Approximately 550 tons of “oil-contaminated” soil was removed. Liquid phase hydrocarbons (LPH) were encountered on the groundwater in the open excavations of five of the UST removals. Several soil borings were completed as temporary groundwater monitoring points and no LPH was detected. TPH DRO concentrations in one groundwater sample exceeded the “cleanup standards”. Based on the OCP’s review of the investigation results, OCP concluded and required no further corrective action at the subject property. The OCP stated that the property was in compliance with Maryland UST release response and corrective action, and out-of-service UST and UST closure regulations. The OCP case (No. 2010-0641-BC) associated with the release was therefore closed.

In June 2013, a Report of Completion was performed for the MDE in regards to OCP case No. 2010-0631BC. This report indicated that 17 in-ground hydraulic lifts and associated equipment were removed from the subject property. LPH and stained soil was observed in the excavations and the LPH was removed with a vacuum truck and approximately 245 tons of stained soil was disposed off-site. In addition, approximately 1,980 gallons of oil/water were

removed and disposed off-site. Post-excavation soil samples collected from each excavation detected TPH DRO at concentrations above the NRCS in 16 of the 17 excavations.

In September 2013, EA conducted a Phase I ESA and identified two RECs concerning the remaining contamination and open OCP case (No. 2013-0631-BC) and elevated concentrations of metals and polycyclic aromatic hydrocarbons (PAH) contamination associated with the former junkyard, the historic fill, and remnant hydrocarbon impacts in the vicinity of the former USTs. As part of the open OCP case and hydraulic oil contamination, the ESA noted that MDE identified the City of Baltimore as a responsible party as a prior owner/operator of the hydraulic lifts for any further investigation or remediation of the hydraulic lifts.

In October 2014, GTA conducted a Phase II ESA of the subject property. This Phase II addressed RECs identified in a prior Phase I ESA and tasks specified in a response from the MDE VCP in regards to a VCP application submitted for the subject property dated June 10, 2014. GTA performed 20 soil borings, collected one composite soil sample, and collected nine subslab soil vapor samples. The composite soil sample identified arsenic above the MDE, NRCS, and ATC. A *Soil Analysis Results Summary* table, attached as *Table 1* in *Appendix C*, presents the soil analytical data, with a comparison to the MDE's NRCS, as presented in MDE's *Cleanup Standards for Soil and Groundwater; June 2008; Interim Final Guidance (Update No. 2.1)*. Soil vapor samples collected from the inside the building detected several VOCs at concentrations above the laboratory reporting limits but below the commercial Tier 1 Screening Values. *Table 2, Soil Vapor Analysis Results Summary*, included in *Appendix C*, presents the soil vapor analytical data and compares it to Tier 1 and Tier 2 soil screening values for commercial properties dated June 2012, as published in the MDE's September 2012 *Vapor Intrusion Fact Sheet*. Based on the analysis results, soil vapor was no longer determined to be an exposure pathway.

Due to the construction schedule associated with the subject property's redevelopment, a Soil Management Plan (SMP) prepared by GTA was submitted to the MDE on April 17, 2015 and approved on April 23, 2015. The SMP provides guidance on managing utility excavation and disposal activities within impacted soil associated with the proposed interior demolition prior

to approval of this RAP. The interior demolition activities proposed generally include the installation of utilities, primarily sanitary sewer and public water services. In addition, the concrete foundation/floor inside the northeastern and southern portions of the building will be removed and soil will be exposed prior to replacement of the concrete.

### ***1.4.3 Additional Site Characterization Conducted by City of Baltimore***

Additional site characterization of the subject property was conducted by the City of Baltimore. The open OCP case (No. 2013-0631-BC) associated with the subject property was opened on April 26, 2013, and is associated with the June 2013 source removal and excavation of soil containing petroleum hydrocarbons (hydraulic oil) released from the 17 in-ground hydraulic lifts located in the DPW garage. The OCP case is still open due to contamination associated with the removed hydraulic lifts/source remains. The OCP requested the City submit a Work Plan for recovering LPH and delineating the extent of the LPH. A Work Plan dated August 14, 2014 was prepared by KCI for the City of Baltimore. The Work Plan proposed the installation of temporary piezometers adjacent to the former lift locations in order to delineate the extent of the LPH.

MDE approved the Work Plan and KCI began implementing the Work Plan in February and March 2014. KCI installed 26 temporary piezometers in the location of and surrounding the former (car and truck) lifts. The soil was field screened using a photoionization detector (PID). Petroleum impacted soil was observed in several borings at depths ranging from 6 to 11 feet bgs. The temporary piezometers were developed and gauged for LPH. The depth to water in the piezometers ranged from 4.5 to 5.5 feet bgs. LPH was detected in eight of the 26 piezometers. LPH was detected in one boring in the northern portion of the building near the car lifts and in seven borings in the central portion of the garage near the trucklifts. These results were submitted to the MDE and the Client under a separate cover. Based on these results, KCI recommended excavating the impacted soil through a CAP. The CAP was submitted to MDE on April 24, 2015. The City of Baltimore will ultimately obtain closure of this case through the MDE OCP. This work will likely be done in conjunction with the interior demolition and during future RAP implementation activities.

## **2.0 EXPOSURE ASSESSMENT**

### **2.1 Current and Future Land Use/Occupants**

The subject property is occupied by the former City of Baltimore DPW Maintenance Garage. The ground surface is mostly paved, except in areas where USTs were removed and the landscaped area near Dickman Street. Proposed plans include the renovation of the existing building and re-paving the parking areas. During site renovations, portions of the building will be demolished. Details regarding the proposed development for the subject property are presented as *Figure 2 (Appendix B)*. The planned use of the subject property includes “Tier 2B (Restricted Commercial)” as defined by the *MDE Voluntary Cleanup Program Guidance Document*, June 2008.

### **2.2 Potential Contaminants of Concern**

#### ***2.2.1 Soil***

Metals (specifically arsenic and mercury), VOCs, and TPH DRO have been detected in onsite soils above their NRCS. Reportedly, previous evaluations identified elevated metals and polycyclic aromatic hydrocarbons (PAHs) associated with the former junkyard and historic fill on the subject property. Therefore, the contaminants of potential concern (COPCs) in soil are metals, VOCs, PAHs, and TPH DRO.

#### ***2.2.2 Groundwater***

Several VOCs and TPH DRO have been detected in groundwater on the site, at concentrations above their GCSs. Therefore, the COPCs in groundwater are TPH DRO and VOCs. LPHs have been noted in several previous borings surrounding the former hydraulic lifts and USTs, however, the LPH will be removed pursuant to a MDE OCP approved RAP.

### **2.3 Exposure Pathway Evaluation**

Based on the depth of groundwater and the planned capping that will cover the entire site, a direct contact exposure pathway will not exist between future occupants/workers and the groundwater contamination. Potential risks to construction workers may exist through direct contact/ingestion of impacted soil and through inhalation of dust. In addition, a prohibition on the use of groundwater on the subject property for any purpose will be included in an EC and deed restriction.

GTA acknowledges that potential future exposure risks exist at the site. A site-specific Human Health Risk Assessment has not been prepared for this site, since elimination of the identified exposure pathways to future occupants (adult/youth on-site workers and adult/youth visitors, and construction worker) is proposed. The identified exposure pathways and potentially exposed populations are summarized in the table below and discussed in the following *Sections*.

***Potentially Exposed Populations***

<b>Media</b>	<b>Exposure Pathway</b>	<b>Potential Exposed Population</b>	<b>Contaminants</b>
Surface Soil	Dermal Exposure	Adult On-Site Visitors, Youth On-Site Visitors, Adult On-Site Workers, Construction Worker	Metals, VOCs, PAHs, and TPH DRO
	Incidental Ingestion	Adult On-Site Visitors, Youth On-Site Visitors, Adult On-Site Workers, Construction Worker	Metals, VOCs, PAHs, and TPH DRO
	Inhalation of Volatiles and Fugitive Dust	Adult On-Site Visitors, Youth On-Site Visitors, Adult On-Site Workers, Construction Worker	Metals, VOCs, and PAHs
Subsurface Soil	Dermal Exposure	Adult On-Site Visitors, Youth On-Site Visitors, Adult On-Site Workers, Construction Worker	Metals, VOCs, PAHs, and TPH DRO
	Incidental Ingestion	Adult On-Site Visitors, Youth On-Site Visitors, Adult On-Site Workers, Construction Worker	Metals, VOCs, PAHs, and TPH DRO
	Inhalation of Volatiles and Fugitive Dust	Adult On-Site Visitors, Youth On-Site Visitors, Adult On-Site Workers, Construction Worker	Metals, VOCs, and PAHs
Groundwater	Dermal Exposure	Construction Worker	TPH DRO and VOC
	Incidental Ingestion	None	None
	Inhalation of Volatiles	None	None

Sub-slab soil vapor sampling conducted on the subject property indicated that COPCs in sub-slab soil vapor were determined to be below the non-residential cleanup standards. The inhalation of VOC from soil vapor is not considered a potential exposure pathway in regards to all potential exposed populations.

### ***2.3.1 Direct Contact and Ingestion of Soil Contamination***

Soil impacted by COPCs above the NRCS exists in areas of the subject property. COPCs concentrations exceeding the NRCS have been detected at depths up to approximately 20 feet bgs. The COPCs identified consist of metals, VOCs, PAHs, and TPH DRO.

There is a potential for site construction workers to come into contact with COPC impacted soil. This contact is expected to be limited due to implementation of a site-specific Health and Safety Plan (HASP).

Based on current development plans, fill material is expected to be imported to the site to adjust grade or for capping prior to final construction. Excavation for installation of subsurface utilities may encounter impacted soil, which will be re-used on site beneath the cap or properly disposed off-site. These limitations will be recorded as a deed restriction in the land records for the subject property. The proposed remedies for the soil contamination (HASP, capping, soil removal, institutional, and engineering controls) are protective of human health because they are designed to prevent exposure to contamination. Under the current conditions, construction worker and future on-site worker and visitor populations at the subject property could be exposed to the COPC; however, once this RAP is complete, the above referenced populations will be protected. These proposed remedial strategies are further outlined in *Section 4.1* of this report.

### ***2.3.2 Inhalation of Soil Contamination***

The COPCs were detected above the NRCS in soil. During future construction activities, it is possible for this impacted soil to become airborne, with the potential that site construction workers may breathe this fugitive dust. The inhalation of fugitive dust is planned to be limited due to implementation of a site-specific HASP and construction practices that prevent dust generation (e.g. implementation of dust control methodologies).

Capping (e.g., soil, asphalt, or concrete) across the subject property will act as a limiting alternative, which will eliminate future exposure to inhalation of fugitive dust to future on-site worker and visitor populations. The proposed remedy for inhalation of fugitive dust (HASP and dust control methodologies) is protective of human health since exposure to contamination above

regulatory limits will be prevented. Specific details associated with the dust control during construction are further described in *Section 4.3.3* of this RAP.

### ***2.3.3 Exposure of Future Occupants to Groundwater Contamination***

Groundwater has been impacted by COPCs above the GCS at the subject property. Based on the depth to groundwater observed during previous investigations and the planned capping that will cover the entire site, a direct contact exposure pathway will not exist between future occupants and the groundwater contamination. Based on the observed depth to groundwater and construction/grading plans, dewatering of construction excavations is possible. If dewatering is required, site construction workers may come in contact with the groundwater during site development. In addition, a prohibition on the use of groundwater on the subject property for any purpose will be included in the deed restriction and EC.

Specific details associated with the dewatering activities are further described in *Section 4.2.4* of this RAP. A HASP for construction workers will be developed, implemented and maintained on-site. Personnel will be made aware of the HASP. A copy of the HASP has been submitted under separate cover to MDE.

### ***2.3.4 Migration of Contamination to Ecological Receptors***

Typical ecological receptors to contamination include wetlands and surface water bodies. Although wetlands have not been identified on the site, a surface water body (the Middle Branch of the Patapsco River) is located approximately 200 to 400 feet south of the subject property. Therefore, the Middle Branch of the Patapsco River is considered an off-site ecological receptor to the contamination. As discussed in *Section 5.0*, engineering controls (capping) will be established on the site as a limiting alternative. The engineering controls will provide continued future protection of the environment.

## **3.0 CLEANUP CRITERIA**

Presented below is the soil and groundwater cleanup criteria selected for the site. The MDE NRCS, and/or GCS concentrations for CPOC are referenced in the *MDE Cleanup Standards for Soil and Groundwater: Interim Final Guidance (Update No. 2.1)*; June 2008. The

applicable cleanup criteria for the analytes of concern at the site are summarized in the table below.

*Soil and Groundwater Cleanup Standards*

Analyte (Soil)	MDE NRCS OR ATC
<i>PAHs</i>	
Benzo(a)pyrene	0.39 (NRCS)
Benzo(b)fluoranthene	3.9 (NRCS)
Dibenz(a,h)anthracene	0.39 (NRCS)
<i>TPH DRO</i>	
TPH DRO	620 (NRCS)
<i>Metals</i>	
Arsenic	10.0 *
Mercury	2.3 (NRCS)
Analyte (Groundwater)	MDE GCS
<i>VOCs</i>	
All VOCs	varies
<i>TPH DRO</i>	
TPH DRO	0.047

Soil and groundwater concentrations expressed in milligrams per kilogram (mg/kg) and milligrams per liter (mg/L), respectively, equivalent to parts per million (ppm).

Notes: \* - Cleanup standard for arsenic is above the ATC for eastern Maryland and is being proposed to the MDE VCP for an approval.

#### **4.0 SELECTED TECHNOLOGIES AND INSTITUTIONAL CONTROLS**

This RAP presents proposed corrective actions to protect against exposure to contaminated soil and groundwater in conjunction with future site renovations. Potentially-complete exposure pathways have been identified between the contaminated soil and future occupants or users of the subject property. The exposure pathways associated with soil will be eliminated through capping and off-site disposal of the impacted soil as needed for site grading purposes, construction observation for correct RAP implementation, and notification to MDE prior to future excavation and disposal activities. The exposure pathways associated with groundwater will be eliminated through the preparation of a HASP, a deed restriction on the use of groundwater beneath the site for any purpose, health and safety measures during the planned construction, proper management of groundwater during construction dewatering activities (if necessary), and capping. Also, as a conservative measure, groundwater use for any purpose on the subject property will be prohibited by a deed restriction and EC.

**Engineering and Institutional Controls**

ENGINEERING CONTROLS	INSTITUTIONAL CONTROLS
Permanent site capping requirements.	Restricted commercial use requirement (per the VCP land use definition). Soil disposal/excavation notification.
Soil excavation and off-site disposal.	Inspection and maintenance requirement for all site caps. One-Call system (Miss Utility) notification
HASP generation and implementation for construction workers.	Groundwater use prohibition. MDE notification of transfer of property ownership.

Limiting alternatives to future potential exposure will be performed through placement of deed restrictions prohibiting the use of groundwater beneath the property and the restriction of soil excavation and annual cap inspection and maintenance. Additionally, future site improvements will be connected to municipal water and sewer services.

**4.1 Corrective Actions for Specific Development Features**

**4.1.1 Proposed Renovations**

The proposed building will be renovated and will remain as commercial use. Prior to the approval of this RAP, portions of the building will be demolished in accordance with the SMP. The interior demolition activities proposed generally include the installation of utilities, primarily sanitary sewer and public water services. In addition, the concrete foundation/floor inside the northeastern and southern portions of the building will be removed and soil will be exposed prior to replacement of the concrete. The proposed site capping and landscaped areas are depicted on the *Designated Landscaped and Capped Areas* detail, which is included as *Figure 5*.

**4.1.2 Asphalt/Concrete Paved Areas**

The existing impervious cover will be milled and resurfaced using existing asphalt and imported asphalt. The impervious cover will consist of approximately six inches of granular sub-base (already in-place) and 2.5 inches of milled asphalt. Details of the capping are illustrated in *Figure 6 – Capping Details in Appendix B*. Please note that these plans are not for construction, and will be designed/incorporated into the detailed design of the proposed development by the design engineer.

Some impervious areas are proposed to be developed with concrete sidewalks and loading docks, which will consist of approximately 3-inches of gravel subgrade and a minimum of 4-inches of concrete.

#### **4.1.3 Landscaped Areas**

Pervious capping will include the landscaped areas. These areas will be capped with a minimum of two feet of clean fill. The thickness of the cap may be increased as necessary to accommodate the planting of different species in order to ensure the minimum clean fill requirements and accommodate the plant's root ball. The pervious capping will eliminate the direct contact exposure risk to future occupants or users of the site. Based on preliminary grading estimates, the re-use of on-site materials is anticipated, with MDE-approved clean fill that meets non-residential soil standards used where necessary to reach final grade. A total of at least two feet of certified clean fill material above a geotextile marker fabric will be placed in areas of pervious capping. A Clean Fill Sampling Plan will be submitted for MDE approval, implemented, and the material accepted by MDE prior to the delivery/use of any fill on the property.

Both the pervious and impervious capping will be underlain by a geotextile marker fabric, as shown on *Figure 5, Designated Landscaped and Capped Areas* included in *Appendix B*. The geotextile marker fabric will not be placed beneath building foundations or asphalt pavement. The geotextile marker fabric will be placed between the native site soil and clean fill. The geotextile marker fabric will consist of a geotextile fabric meeting the Maryland State Highway Administration specification 921.09; under Maryland application class SD Type I, woven, monofilament. Specifications for soil and asphalt marker fabric are presented, along with general details for the impervious and pervious capping, on *Figure 5, Designated Landscaped and Capped Areas*. The property owner is responsible for ensuring the proper implementation of all recorded deed restrictions and land use controls, and maintenance requirements for site caps to reduce the risk to public health and the environment.

Specifications for the marker fabric are presented on *Figure 5*. It should be noted that utilities may be installed in these areas prior to capping. Excavated materials which are

generated during utility installation that are not used as backfill will either be placed elsewhere onsite beneath a capped area or removed from the site for disposal. Specific details regarding soil disposal are presented in *Sections 4.2.2*. Documentation of these activities will be submitted to MDE VCP within monthly RAP Implementation Progress Reports and the RAP Completion Report.

Soil samples collected from the landscaped area located along West Dickman Street and Clarkson Street did identify COPCs. These samples were collected as part of a Phase II ESA conducted by GTA in October 2014. This area is shown on *Figure 5, Designated Landscaped and Capped Areas* included in *Appendix B*. This landscaped area does not need to be capped with clean fill or marker fabric.

## **4.2 Site-Wide Corrective Actions for Soils**

### ***4.2.1 Protection of Site Workers***

Soil containing COPCs above the cleanup criteria in *Section 3.0* is present throughout the site. A HASP will be implemented to reduce direct contact exposure of construction workers to the impacted soil during construction. Standard construction practices for dust control will be utilized to limit worker exposure to contaminants borne on dust and windblown particulates. On-site construction monitoring will be provided during earthwork activities to ensure that the soil is handled properly and document onsite activities.

### ***4.2.2 Impacted Soil***

Metals, VOCs, PAHs, and TPH DRO impacted soil has been identified at the subject property. Excavated materials generated during foundation and utility installation are anticipated to be utilized elsewhere onsite beneath a capped area. No excavated material from the subject property will be disposed in areas with current or proposed residential use. In the event that soil will need to be transported off-site, the likely offsite disposal facilities proposed for receiving contaminated soil based on the results of the previous sampling data is as follows:

Soil Safe, Inc. (Soil Safe)  
16001 Mattawoman Drive  
Brandywine, Maryland 20613-3027  
(301) 782-3036  
<http://www.soilsafe.com/>  
Point of Contact: Amy Ralston

Or

Clean Earth Inc. (Clean Earth)  
6250 Dower House Road  
Upper Marlboro, Maryland 20772  
(215) 734-1400  
[www.cleanearthinc.com](http://www.cleanearthinc.com)  
Point of Contact: Paula Cross

Use of either facility as an off-site disposal facility is contingent on future waste characterization soil sampling. If on-site soils are determined to be hazardous in a waste disposal scenario or have COPC concentrations above the levels in the facility's permit, the soil will be excavated and transported to the selected licensed waste disposal facility. Additional/alternate disposal facilities may also be utilized. Information regarding these facilities will be provided to MDE prior to the transport of impacted soil offsite.

#### ***4.2.3 Imported Fill Material Sampling and Analysis***

Currently the subject property is close to the proposed grade needed for construction. However, clean imported fill may be needed for utility fills, site grading, and landscaped areas. Such fill material will be sampled, with analytical results submitted for approval by MDE VCP, prior to being transported to the site. Work plans for sampling fill material source areas will be submitted to the VCP for review and approval at least one week prior to proposed soil sample collection and analysis. The Work Plan will include number and location of samples and sample analyses. No soil will be transported onsite for use as fill material without prior written approval by the VCP project manager and soil transported onsite for use as fill material will meet MDE NRCS and/or cleanup criteria in Section 3.0. Documentation of the imported fill sampling activities will also be summarized within monthly RAP Implementation Progress Reports and the RAP Completion Report.

If virgin material (e.g. aggregate, stone dust etc.) is used as clean-fill on the subject property, a certification letter will need to be provided by the supplier. All clean fill must be transported directly from the source facility and not stockpiled at a third party storage yard.

#### ***4.2.4 Groundwater Contamination***

The planned site development includes connection to a public water supply; therefore, groundwater use by future occupants will not occur. Based on the depth to groundwater, direct contact between future occupants and the contaminated groundwater is not anticipated. As a limiting alternative, the site will be capped with hardscape surfaces such as concrete walkways, stone/brick pavers, and asphalt.

A groundwater use prohibition will be established for the site and recorded in the local land records. The proposed remedy for the groundwater contamination (groundwater use prohibition) is protective of human health since contact with the contaminated groundwater will be prevented.

Based on the depth to groundwater and details associated with future construction, direct contact and incidental ingestion between construction workers and the contaminated groundwater is anticipated. If groundwater is encountered, this Section describes the methods for dewatering to remove, dispose of, or discharge waters that may enter the excavation areas during the installation of the proposed utilities and utility connections.

It is anticipated that the installation of utilities and utility connections at the site will require temporary dewatering to reduce the amount of perched groundwater infiltration into the utility trenches. If groundwater is encountered, the site may be required to obtain a General Permit that will specify the discharge limits. This General Permit will be obtained by GTA, in connection with the on-site construction activities, and will be utilized for dewatering activities on the site. If dewatering is necessary, GTA will submit an addendum to the RAP.

#### ***4.3.2 Site Security***

Applicable Occupational Safety and Health Administration (OSHA) regulations must be followed during the implementation of this RAP. Excavations resulting from renovation work must be secured with perimeter fencing if they are to be left open for more than one workday. Any breaches to the fence required by construction activities must be promptly re-secured. A site-specific HASP must be developed, implemented, and maintained on-site. The HASP must itemize environmental risks, such as dust inhalation and the potential for encountering contaminated soil. All personnel must be made aware of the HASP. The HASP must be submitted to the MDE prior to the commencement of work. The site is currently surrounding by a 6-foot locked chain linked fence.

#### ***4.3.3 Air Monitoring Requirements***

Air monitoring requirements must be included in the site-specific HASP. In order to evaluate risks associated with dust emissions generated during general construction operations and cap construction activities relative to the COPC identified in site soils, site specific dust action levels must be calculated for each of the identified COPC at the site. These values will be calculated using the highest concentration of each COPC in soil (and assuming the concentration in soil was equal to the concentration in air) and the OSHA permissible exposure limits (PELs) for each COPC and for Particulates Not Otherwise Regulated (PNOR) (nuisance dust) to provide a conservative estimate of potential construction worker exposure.

If the calculated site specific permissible dust levels for each COPC are higher than the OSHA PEL for PNOR/nuisance dust ( $15 \text{ mg/m}^3$ ), a conservative level of PNOR/nuisance dust of  $12 \text{ mg/m}^3$  shall be used as the action level to determine the need to implement dust suppression techniques.

If the  $12 \text{ mg/m}^3$  OSHA PEL is exceeded, operations must be shut down and dust suppression (such as wetting or misting) performed until dust levels are reduced to below the  $12 \text{ mg/m}^3$  action level. Operations may only be resumed once dust has been reduced indicating that dust concentrations are below the  $12 \text{ mg/m}^3$  action level. However, as a conservative measure,

air monitoring must be conducted during intrusive operations involving soil excavation, grading, and soil relocation operations.

In order to document COPCs concentrations in the dust generated, three dust sample events will be collected during initial site grading and building foundation excavation activities. A minimum of three samples should be collected. One sample should be collected from within the immediate vicinity of the earthwork, one from the center of the work area, and one from the boundary of the work area downwind of the earthwork. The samples should be collected over an 8-hour period using pumps and a filter assembly and should be analyzed for COPCs. The results of the analysis will be compared to the OSHA PEL. An exceedance of the PEL will require additional dust control measures and additional monitoring. If no COPC are detected in the dust samples at a concentration above the PEL, the sampling will be discontinued until the next sampling event activity commences, with approval from MDE CHS. Dust control measures will be implemented in accordance with local regulations.

## **5.0 RISK MANAGEMENT**

The proposed remedies include concrete, clean fill material, or fencing, which will require periodic maintenance activities.

### **5.1 Cap Maintenance**

Physical maintenance requirements will include maintenance of the capped areas to prevent degradation of the cap and unacceptable exposure to the underlying soil. Annual inspections of the cap will be conducted each year in the spring, targeting April. The property owner will be responsible for onsite cap maintenance inspections, performing maintenance to the cap, and maintaining all cap inspection records. Maintenance records will include, at a minimum, the date of the inspection, name of the inspector, any noted issues, and subsequent resolution of the issues. A Cap Inspection Form is included in *Appendix D*.

### **5.2 Emergency Excavation**

MDE must be verbally or electronically notified within 24 hours following the discovery of unplanned emergency conditions at the subject property which will penetrate the cap, and

must be provided with written documentation within 10 days of the repair. In addition, MDE must be provided written notice a minimum of five business days prior to planned activities at the site that will penetrate the cap, with the repairs completed within 15 days, and written documentation submitted to MDE within 10 days of the repair. Written notice of planned excavation and soil disposal activities must include the proposed date(s) for the excavation and soil disposal, location of the excavation(s), health and safety protocols (as required), clean fill source and documentation (as required), and proposed characterization and disposal requirements (as required). The property owner will maintain on-site records of the yearly inspections and will include information on any repairs to the capping. The property owner or occupants will be required to notify MDE in writing of any proposed construction or excavation and soil disposal activities that breach any site cap. These notification requirements and appropriate contact information must be included in the RAP for each future development area.

### **5.3 Planned Excavations**

MDE will be provided written notice a minimum of five business days prior to planned activities at the site that will penetrate the cap, with the repairs completed within 15 days, and written documentation submitted to MDE within 10 days of the repair. The property owner will provide written notice of planned excavation and soil disposal activities, including the proposed date(s) for the excavation, location of the excavation(s), health and safety protocols (as required), clean fill source and documentation (as required), and proposed characterization and disposal requirements (as required).

In order to ensure that the site is returned to a condition that complies with the Cleanup Criteria outlined in *Section 3.0*, potentially impacted soil encountered during intrusive activities should be managed as described in the following sections.

#### ***5.3.1 Reuse of Soils Within Landscaped Areas***

All soil excavated from the upper two feet of landscaped areas (above the geotextile marker fabric) should be stockpiled separately from any soils excavated from below the geotextile marker fabric. Soil that is excavated from the upper two feet (above the geotextile marker fabric) in landscaped areas may be used at any depth at any locations on the site or properly disposed of off-site (see *Section 4.2.2*). Soil that is excavated from below the geotextile

fabric (i.e., at depths greater than two feet bgs) must be re-used under an appropriate engineering control such as hardscape or two feet of clean soil cover underlain by geotextile marker fabric.

### **5.3.2 Reuse of Soils Below Hardscape**

All soil that is excavated from below hardscape such as building slab or parking areas must be reused on-site as backfill below an appropriate engineering control such as hardscape or two feet of clean soil cover underlain by geotextile marker fabric or properly disposed of off-site (see *Section 4.2.2*).

## **6.0 PERMITS, NOTIFICATIONS, AND CONTINGENCIES**

### **6.1 Permits**

The property owner must comply with federal, State and local laws and regulations by obtaining necessary approvals and permits to conduct activities and implement this RAP or activities specified in the RAP.

### **6.2 Site Contingency Plan**

In the event that the future soil and/or groundwater COPCs exceed their designated cleanup criteria or safe concentrations and/or cannot be controlled during the CAP or CAP implementation process or contamination and/or exposure risks/pathways not previously identified are identified, the following contingency measures will be taken:

- Notify MDE within 24 hours.
- Postpone implementation of the RAP.
- Evaluate new site conditions identified.
- Amend RAP to address new site conditions identified.

Notified departments will include:

Maryland Department of the Environment

MDE Voluntary Cleanup Program  
Land Management Administration  
1800 Washington Boulevard  
Baltimore, Maryland 21230  
(410) 537-3493

MDE Oil Control Program  
Land Management Administration  
1800 Washington Boulevard  
Baltimore, Maryland 21230  
(410) 537-3442

The MDE will be verbally notified within 48 hours (72 hours in writing) of changes (planned or emergency) to the RAP implementation schedule, previously undiscovered

contamination, and citations from regulatory entities related to health and safety practices. Notifications shall be made to the MDE project manager and at 410-537-3493.

The MDE must be provided with documentation and analytical reports generated as a result of any unidentified contamination. The property owner or prospective property owner understands that previously undiscovered contamination may require an amendment to the RAP.

## **7.0 IMPLEMENTATION SCHEDULE**

The VCP project manager will be notified in writing within 5 calendar days of the beginning RAP implementation activities, and monthly RAP Implementation Progress Reports will be submitted to the VCP project manager during the implementation of this RAP. The VCP project manager will be verbally notified within 48 hours (72 hours in writing) of any changes (planned or emergency) to the RAP implementation schedule.

The proposed schedule to implement the RAP is presented below. The VCP may request a new implementation schedule if RAP activities have not begun within 12 months of the participant receiving approval of this RAP.

### ***RAP Implementation Schedule***

<b>RESPONSE ACTION ACTIVITY</b>	<b>TENTATIVE SCHEDULE*</b>
RAP Review/Approval	May to June 2015
Public Participation Period	May 2015 (30 days)
Submit and maintain RAP security (Letter of Credit, Performance Bond, etc.)	10 Days after receiving RAP approval and annually thereafter (dependent on type of RAP security)
MDE RAP Kickoff Meeting	June 2015
Submit Clean Fill Sampling Plan for MDE approval	June – July 2015
Clean Fill Sampling	June – July 2015
Begin Submittal of Monthly RAP Progress Reports	June – July 2015
Begin Earthwork	June – July 2015
Begin Construction	June – July 2015
Complete Construction	June – July 2015
RAP Completion Report to MDE	August 2015

(\*) = The tentative schedule presented above is subject to change beyond the Applicant's control. Deviations from this proposed schedule will be communicated to MDE.

It should be noted that the construction schedule is highly contingent on the site renovation team, which is currently under consideration for the proposed development. Once

selected, GTA will review the above RAP Implementation Schedule with the site renovation team and will submit a revised schedule to the MDE VCP. As requested, the revised schedule will be more specific with regards to site renovations methodology, duration of soil exposure, and auger cast pile and utility installation timing.

## **8.0 ADMINISTRATIVE REQUIREMENTS**

### **8.1 Written Agreement**

If the RAP is approved by the MDE, the participant agrees, subject to the withdrawal provisions of Section 7-512 of the Environment Article, to comply with the provisions of the RAP. Participant understands that if he fails to implement and complete the requirements of the approved RAP and schedule, the MDE may reach an agreement with the participant to revise the schedule of completion in the approved RAP or, if an agreement cannot be reached, the Department may withdraw approval of the RAP.

The EC, to be executed for 101 West Dickman Street and MDE, will require compliance with this RAP by current and future property owners. The EC will be submitted under separate cover by the MDE.

### **8.2 Zoning Certification**

Dickman Property Investments, LLC certifies that the subject property meets all applicable provisions and zoning requirements, as required by Section 7, Subtitle 5 of the Environmental Article, *Annotated Code of Maryland*. A certified statement from Dickman Property Investments, LLC is included as *Appendix E*.

### **8.3 Public Participation**

Dickman Property Investments, LLC submitted an MDE-approved RAP public notice to *The Baltimore Daily Record*, a weekly newspaper with coverage that includes Baltimore, Maryland.

Dickman Property Investments, LLC held a public informational meeting on the proposed RAP at the BCFD Locust Point Fire House, 1001 East Fort Avenue, Baltimore,

Maryland 21230 on June 16 at 6:00 PM. The site history, detected on-site contamination, planned future use of the site, and a description of the proposed remedies were presented at the meeting.

During the 30-day public comment period after publishing the public notice, a property sign was placed along West Dickman Street. This sign depicted the same information provide in the public notice outlined above. The sign was removed following the 30-day public comment period. Documentation of the sign placement and legibility was provided to the MDE for approval.

#### **8.4 Performance Bond or Other Security**

As required by the VCP, Dickman Property Investments, LLC will provide either a Performance Bond or Letter of Credit in the amount of \$10,000 to MDE covering the cost of securing and stabilizing the property. Securing and stabilizing the property includes the following activities:

<b>ACTION ACTIVITY</b>	<b>ESTIMATED COST</b>
<ul style="list-style-type: none"><li>• Pave and seal areas of the parking lot in the location of former USTs (approximately 7,800 ft<sup>2</sup>)</li></ul>	\$6,500
<ul style="list-style-type: none"><li>• Post appropriate warnings and notices about conditions on the property;</li><li>• Restrict access to contaminated portions of the property with fencing;</li><li>• Prevent exposure to contaminated soil, groundwater, or contaminants prior to continuing implementation of a response action plan;</li><li>• Prevent dust or other movement of contaminated soil or contaminants off of the property prior to continuing implementation of a response action plan;</li><li>• Where applicable, abandon monitoring wells, dismantle and dispose of treatment systems, and backfill open excavations</li></ul>	\$3,500

Dickman Property Investments, LLC understands that the obligation for the performance bond or other security remains in effect for the subject property and does not become void until issuance of the final Certificate of Completion for the subject property, or 16 months after

withdrawal of this application from the VCP. Dickman Property Investments, LLC acknowledges that failure to maintain the performance bond or other security for the property will result in the withdrawal of the application from the VCP.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***