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## **RESPONSE ACTION PLAN**

### **NICK'S FISH HOUSE**

**2600 Insulator Drive  
Baltimore City, Maryland**

September 1, 2016

Submitted to:

**Maryland Department of the Environment**

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

Prepared for:

**2600 Insulator Drive, 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: 141887

# GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND  
ENVIRONMENTAL CONSULTANTS

*A Practicing GBA Member Firm*



September 1, 2016

2600 Insulator Drive, LLC  
1000 Key Highway East  
Baltimore, Maryland 21230

Attn: Mr. Marc Weller

Re: Response Action Plan  
***Nick's Fish House***  
Baltimore City, Maryland

Dear Mr. Weller:

In accordance with our agreement dated March 24, 2016, Geo-Technology Associates, Inc. (GTA) has prepared this Response Action Plan (RAP) for Nick's Fish House located at 2600 Insulator Drive ("subject property"). The subject property is bounded to the east by Insulator Drive and to the west by South Hanover Street in Baltimore, Maryland. This RAP has been prepared to address soil and groundwater contamination detected during prior evaluations, in conjunction with site improvements.

An application for the subject property's acceptance into the Maryland Department of the Environment (MDE) Voluntary Cleanup Program (VCP) was submitted to the MDE on May 29, 2016. The subject property was accepted into the VCP by the MDE on December 21, 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  
Project Scientist

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

141887  
LMD/PHH  
S:\Project Files\2014\141887 Nicks Fish House\Doc\RAP\Doc\ENV 141887 RAP.docx  
cc: Mr. Gary Schold / Maryland Department of the Environment

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## EXECUTIVE SUMMARY

Geo-Technology Associates, Inc. (GTA) has prepared this Response Action Plan (RAP) for Nick's Fish House (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 consists of approximately 2.0 acres and is bounded to the east by Insulator Drive and to the west by South Hanover Street in Baltimore, Maryland. The subject property contains a restaurant (Nick's Fish House), a marina complex (Baltimore Yacht Basin), a storage building, grassed areas, and associated parking areas.

Historically, the subject property primarily contained vacant land with a "City Wharf" since prior to 1914. By 1927, the subject property contained three structures, which appeared to be boat maintenance shops, ancillary structures, three piers, and boat storage areas. An additional structure was constructed in 1948 along the eastern property boundary and the shoreline had been dredged and excavated. Between 1966 and 1971, additional fill was placed on the shoreline. Prior to 1972, two structures on the northern portion of the subject property had been razed and one had been partially razed. In addition, a building that appears to have been used for boat maintenance was constructed on the central portion of the site and likely corresponds to the existing storage building. Between 1972 and 1994, all the structures on the subject property except for the storage building had been razed. In 2002, Nick's Fish House (restaurant) was constructed on the east-central portion of the site, and in 2004 a covered outdoor patio was constructed adjacently west of the restaurant.

GTA understands that portions of the subject property will be improved. The existing parking area is proposed to be milled and wedged and a new surface coat will be applied. In addition, a six-foot chained-link fence is proposed along the western portion of the subject property and will extend north and terminate at the northwestern property boundary to isolate impacted soil. MDE certified aggregate is proposed to be placed along the shoreline on the southeastern and southcentral portion of the subject property. All of these features are included within the bounds of the RAP.

A June 2006 Phase I Environmental Site Assessment (ESA) indicated that boat maintenance operations, consisting of boat cleaning and storage, occurred on site and a suspected underground storage tank (UST) was identified south of the existing storage building. The site was listed in two environmental regulatory databases (Resource Conservation and Recovery Act Large Quantity Generator and LUST [Leaking Underground Storage Tank]). The LUST case was associated with a UST located on the subject property. A prior Phase I and Phase II ESA had been performed in 2001 due to the historical land use and the suspected UST. Total petroleum hydrocarbon (TPH) diesel range organics (DRO) were detected in one soil sample near the suspected UST above the dated Maryland Department of the Environment (MDE) Residential Cleanup Standard (RCS) but below the dated Non-Residential Cleanup Standard (NRCS).

Shallow soil samples were collected as part of a June 2006 Limited Phase II ESA to evaluate the potential for metals and/or semi-volatile organic compounds (SVOCs) impacts due to historic land uses. Of the samples collected, five soil samples exhibited metal concentrations above the dated MDE RCS and NRCS and four of the five samples exhibited elevated SVOCs above the MDE RCS and NRCS.

An application for the subject property's acceptance into the MDE Voluntary Cleanup Program (VCP) was submitted to the MDE on May 29, 2015. The subject property was accepted into the VCP by the MDE on December 21, 2015.

Based on previous sampling data, the historic use of the subject property, and to satisfy MDE requirements pursuant to the VCP, GTA performed additional soil and groundwater sampling and analysis at the subject property. GTA performed 11 soil borings and collected 21 soil samples.

Several polycyclic aromatic hydrocarbons (benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, and benzo(b)fluoranthene) were detected at several soil boring locations above the current MDE NRCS. Arsenic exceeded the Anticipated Typical Concentration (ATC) and the MDE NRCS in several samples. The elevated arsenic levels are likely associated with the fill material and are similar in concentration to other commercial/industrial properties in the area. In addition, lead exceeded the MDE NRCS in one soil sample.

Three groundwater samples were collected and analyzed for volatile organic compounds, TPH DRO, TPH gasoline range organics, and priority pollutant metals. Two groundwater samples exceeded the MDE Groundwater Cleanup Standards (GCS) for TPH DRO. Several metals were also detected above their GCS.

Based on GTA's Phase II ESA data and historical information, MDE requested that a RAP be developed for the subject property.

This RAP has been prepared to establish a remedy for impacted soil and groundwater within the site boundary. The proposed remedy for soil includes capping (asphalt, MDE certified aggregate, etc.), observation for correct RAP implementation, installation of fencing to isolate impacted soil, and notification to MDE prior to future excavation activities. 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, and proper management of groundwater during construction dewatering activities (if necessary). 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 1 – Soil Analytical Summary (*11"x17", color, 2 pages*)

Table 2 – Groundwater Analysis Summary (*color*)

Appendix D Example Cap Inspection Form (*1 page*)

Appendix E Administrative Requirements (*2 pages*)

# **RESPONSE ACTION PLAN**

**NICK'S FISH HOUSE  
BALTIMORE, MARYLAND  
SEPTEMBER 1, 2016**

## **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 Nick's Fish House ("subject property"). The subject property is bounded to the east by Insulator Drive and to the west by South Hanover Street in Baltimore, 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 improvements.

Prior to purchasing the property, 2600 Insulator Drive, LLC ("Client") applied to the MDE Voluntary Cleanup Program (VCP) as an "Inculpable Person" for the subject property. The subject property was accepted into the VCP by the MDE on December 21, 2015. A copy of the MDE acceptance letter is included in *Appendix A*. The proposed future land use is Tier 2B (Restricted Commercial).

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 (asphalt, MDE certified aggregate etc.), observation for correct RAP implementation, installation of fencing to isolate impacted soil, and notification to MDE prior to future excavation activities. 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, and proper management of groundwater during construction dewatering activities (if necessary). The RAP has been prepared for MDE submittal so that a Certificate of Completion (COC) may be obtained following implementation of the proposed remedy.

## **1.2 Limitations**

This RAP was prepared by GTA for 2600 Insulator Drive, LLC, under the terms and conditions of GTA's contract with 2600 Insulator Drive, 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 comprises approximately 2.0 acres and is bounded to the east by Insulator Drive and to the west by South Hanover Street in Baltimore, Maryland. The subject property contains a restaurant (Nick's Fish House), a marina complex (Baltimore Yacht Basin), a storage building, grassed areas, and associated parking areas. A *Site Location Map* for the subject property is presented as *Figure 1 (Appendix B)*.

According to the records of the Maryland Department of Assessments and Taxation (MDAT), the subject property encompasses approximately 2.46 acres, and is identified on Tax Map 23, within Block 1078, as Lot 2. This area includes a portion of the Patapsco River located adjacently south of the subject property. According to a 2014 ALTA Survey (see details below) the subject property encompasses approximately 1.91 acres. The MDAT records indicate that the subject property is currently owned by 2600 Insulator Drive, LLC and was acquired from Nick's at the Baltimore Yacht in 2015. The Mayor & City Council owned the property in 2003. The MDAT records identify the subject property at the address 2600 Insulator Drive, with one primary structure that was built in 1985. The MDAT records indicate that the land use for Lot 2 is commercial.

GTA was provided with a copy of an ALTA Survey (Plan) of 2600 Insulator Drive, prepared by McLaren Engineering Group (McLaren), and dated October 2014. The McLaren Plan indicates that the subject property encompasses approximately 1.917 acres of land, and identifies three structures on the site, corresponding to the existing restaurant, a marina complex,

and a storage building. No other structures are depicted on the subject property, and several piers are located within the Patapsco River south of the subject property. The McLaren Plan indicates that a 30-inch storm drain is located on the western portion of the site and a discharge outfall is located on the southwestern corner of the subject property, which discharges to the Patapsco River.

GTA understands that portions of the subject property will be improved. The existing parking area is proposed to be milled and wedged and a new surface coat will be applied. In addition, a six-foot chained-linked fence is proposed along the western portion of the subject property and will extend north and terminate at the northwestern property boundary. This fence will limit access to impacted soil. MDE certified aggregate is proposed to be placed along the shoreline on the southeastern and southcentral portion of the subject property. All of these features are included within the bounds of the RAP. Details regarding the proposed improvements 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 ten feet above Mean Sea Level. The subject property and surrounding vicinity slope gently to the south toward the Middle Branch of the Patapsco River, and on-site drainage is directed to the south, toward the Patapsco River. A *Topographic Map* for the site and vicinity, based on the USGS Map, is presented as *Figure 3 (Appendix B)*.

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

According to the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Web Soil Survey (reviewed on March 10, 2016), the site is underlain by 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 shallow 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, toward the Middle Branch of the Patapsco River.

## **1.4 Environmental Background**

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

Historically, the subject property primarily contained vacant land with a “City Wharf” since prior to 1914. By 1927, the subject property contained three structures, which appeared to be boat maintenance shops, ancillary structures, three piers, and boat storage areas. An additional structure was constructed in 1948 along the eastern property boundary and the shoreline had been dredged and excavated. Between 1966 and 1971, additional fill was placed on the shoreline. Prior to 1972, two structures on the northern portion of the subject property had been razed and one had been partially razed. In addition, a building that appears to have been used for boat maintenance was constructed on the central portion of the site and likely corresponds to the existing storage building. Between 1972 and 1994, all the structures on the subject property except for the storage building had been razed. In 2002, Nick’s Fish House was constructed on the east-central portion of the site and in 2004 a covered outdoor patio was constructed adjacently west of the restaurant.

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

A June 2006 Phase I Environmental Site Assessment (ESA) indicated that boat maintenance operations, consisting of boat cleaning and storage, occurred on site and a suspected underground storage tank (UST) was identified south of the existing storage building. The site was listed in two environmental regulatory databases (Resource Conservation and Recovery Act Large Quantity Generator and LUST [Leaking Underground Storage Tank]). The LUST case was associated with a UST located on the subject property. A prior Phase I and Phase II ESA had been performed in 2001 due to the historical land use and the suspected UST. Total petroleum hydrocarbon (TPH) diesel range organics (DRO) were detected in one soil sample near the suspected UST above the dated MDE Residential Cleanup Standard (RCS) but below the dated Non-Residential Cleanup Standard (NRCS).

Shallow soil samples were collected as part of a June 2006 Limited Phase II ESA and to evaluate the potential for metals and/or semi-volatile organic compounds (SVOCs) impacts due to historic land uses. Of the samples collected, five soil samples exhibited metal concentrations

above the dated MDE RCS and NRCS. Four of the five samples exhibited elevated SVOCs above the MDE RCS and NRCS.

Based on previous sampling data, the historic use of the subject property, and to satisfy MDE requirements pursuant to the VCP, GTA performed additional soil and groundwater sampling and analysis at the subject property. GTA performed 11 soil borings and collected 21 soil samples.

Several polycyclic aromatic hydrocarbons (PAHs) (benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, and benzo(b)fluoranthene) were detected at several soil boring locations above the current MDE NRCS. Arsenic exceeded the Anticipated Typical Concentration (ATC) and the MDE NRCS in several samples. The elevated arsenic levels are likely associated with the fill material and are similar in concentration to other commercial/industrial properties in area. In addition, lead exceeded the MDE NRCS in one soil sample.

Three groundwater samples were collected and analyzed for volatile organic compounds, TPH DRO, TPH gasoline range organics (GRO), and priority pollutant metals. Two groundwater samples exceeded the MDE Groundwater Cleanup Standards (GCS) for TPH DRO. Several metals were also detected above their GCS.

## **2.0 EXPOSURE ASSESSMENT**

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

The subject property currently contains a restaurant (Nick's Fish House), a marina complex (Baltimore Yacht Basin), a storage building, grassed areas, and associated parking areas. 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 lead) and PAHs (specifically benzo(a)pyrene, benzo(a)anthracene, dibenz(a,h)anthracene, and benzo(b)fluoranthene) have been detected in onsite soils above their NRCS. Therefore, the contaminants of potential concern (COPCs) in soil are metals and PAHs.

### **2.2.2 Groundwater**

TPH DRO and several metals (specifically arsenic, beryllium, cadmium, chromium, copper, lead, nickel, and zinc) have been detected in groundwater on the site, at concentrations above the GCSs. Therefore, the COPCs in groundwater are metals and TPH DRO.

## **2.3 Exposure Pathway Evaluation**

Based on the depth of groundwater and the planned capping and fencing, a direct contact exposure pathway will not exist between future occupants/workers and the groundwater contamination. In addition, a prohibition on the use of groundwater on the subject property for any purpose will be included in a 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 on-site workers, adult/youth/child visitors, and construction workers) is proposed. Potential risks to construction workers may exist through direct contact/ingestion of impacted soil. The identified exposure pathways and potentially exposed populations are summarized in the table below and discussed in the following *Sections*.

*Potentially Exposed Populations*

Media	Exposure Pathway	Potential Exposed Population	Contaminants
Surface Soil	Dermal Exposure	Adult On-Site Visitors, Adult On-Site Workers, Construction Workers, and Youth and Child Visitors	PAHs and metals
	Incidental Ingestion	Adult On-Site Visitors, Adult On-Site Workers, Construction Workers, and Youth and Child Visitors	PAHs and metals
	Inhalation of Fugitive Dust	Adult On-Site Visitors, Adult On-Site Workers, Construction Workers, and Youth and Child Visitors	PAHs and metals
Subsurface Soil	Dermal Exposure	Adult On-Site Visitors, Adult On-Site Workers, Construction Workers, and Youth and Child Visitors	PAHs and metals
	Incidental Ingestion	Adult On-Site Visitors, Adult On-Site Workers, Construction Workers, and Youth and Child Visitors	PAHs and metals
	Inhalation of Fugitive Dust	Adult On-Site Visitors, Adult On-Site Workers, Construction Workers, and Youth and Child Visitors	PAHs and metals
Groundwater	Dermal Exposure	Construction Worker	Metals
	Incidental Ingestion	None	None
	Inhalation of Volatiles	None	None

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

Surface and subsurface soil impacted by COPCs above the NRCS exists in areas at the subject property. COPC concentrations exceeding the NRCS have been detected at depths up to eight feet below the ground surface (bgs). The COPCs identified consist of PAHs and metals.

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 improvement plans, soil is not anticipated to be disturbed during the proposed improvements at the subject property. In addition, MDE certified aggregate material is

expected to be imported to the site for capping on the southeastern and southcentral portions of the subject property along the shoreline. This will eliminate the direct contact exposure risk to construction workers and future on-site workers and visitor populations. The proposed remedies for the soil contamination (HASP, capping, 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 COPCs; 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.

### ***2.3.3 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 a majority of the subject property, a direct contact exposure pathway will not exist between future occupants and the groundwater contamination. In addition, a prohibition on the use of groundwater on the subject property for any purpose will be included in a deed restriction.

Based on the observed depth to groundwater and the proposed improvements, dewatering is likely not necessary.

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

Typical ecological receptors to contamination include wetlands and surface water bodies. A surface water body (the Middle Branch of the Patapsco River) is located adjacently south of the subject property. Therefore, the Middle Branch of the Patapsco River is considered a potential ecological receptor to the contamination. Engineering controls (capping) will be established on the site and will limit direct exposure. 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, ATC, and/or GCS concentrations for COPC 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/ATC
<b><i>PAHs</i></b>	
Benzo(a)pyrene	0.39
Benzo(b)fluoranthene	3.9
Benzo(a)anthracene	3.9
Dibenz(a,h)anthracene	0.39
<b><i>Metals</i></b>	
Arsenic	3.6
Iron	72,000
Analyte (Groundwater)	MDE GCS
<b><i>TPH</i></b>	
TPH DRO	0.047
<b><i>Metals</i></b>	
Arsenic	10
Beryllium	4.0
Cadmium	5.0
Chromium	100
Copper	1,300
Lead	15
Nickel	73
Zinc	5,000

Soil concentrations expressed in milligrams per kilogram (mg/kg). Groundwater concentrations are expressed in micrograms per liter (µ/L).

A risk-derived arsenic comparison value was developed from standard risk assessment calculations, with United States Environmental Protection Agency (USEPA) and MDE guidance for risk assessments. GTA has utilized this approach on projects with similar types of arsenic impacts, and this approach has been reinforced with MDE involvement and oversight. The risk-derived comparison value obtained for commercial properties was 26 mg/kg.

## 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 improvements. Potentially-complete exposure pathways have been identified between the contaminated soil/groundwater and future occupants or users of the subject property. These exposure pathways will be eliminated through the preparation of a HASP; observation for correct RAP implementation using appropriate health and safety measures during the planned site improvements; capping; fencing; and engineering and institutional controls (e.g. deed restrictions on use of groundwater and notifications prior to excavation). The engineering and institutional controls are summarized in the table below.

### *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.
Fencing.	Inspection and maintenance requirement for site fencing on northwestern portion of the subject property
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. 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 Structures*

The subject property currently contains a restaurant (Nick's Fish House), a marina complex (Baltimore Yacht Basin), a storage building, grassed areas, and associated parking areas. A six-foot chained link fence will be installed along the western portion of the property and will extend north and will then terminate at the northeastern property boundary. This fence will eliminate access to impacted soil. Details regarding the proposed fencing location is presented as *Figure 2 (Appendix B)*.

#### ***4.1.2 Asphalt/Concrete Paved Areas***

The current asphalt parking area will be milled and wedged and a new surface coat will be applied. Details of the capping are illustrated in *Figure 2 – Proposed Improvement Plan and Designated Capped Areas* and *Figure 5 – Capping Details* in *Appendix B*.

#### ***4.1.3 Shoreline Areas***

Pervious capping will include the shoreline areas on the southeastern and southcentral portions of the subject property to be covered by MDE certified clean aggregate. The aggregate will be MDE-approved prior to being brought on site. Documentation of these activities will be submitted to MDE VCP within monthly RAP Implementation Progress Reports and the RAP Completion Report.

### **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.

#### ***4.2.2 Imported Fill Material***

For the planned site improvements, MDE certified clean aggregate is needed for capping on the southeastern and southcentral portions of the subject property along the shoreline. Such aggregate will be approved by the MDE prior to being brought on site. No aggregate will be transported onsite for use as fill material without prior written approval by the VCP project manager. Documentation of the imported fill will also be summarized within monthly RAP Implementation Progress Reports and the RAP Completion Report.

#### ***4.2.3 Imported Clean Fill***

Clean fill is not anticipated to be used for the proposed site improvements. If the proposed improvements change and require clean fill, clean fill will need to be MDE certified and meet non-residential standards prior to being brought on-site.

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

The planned site improvements include existing 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. To reduce exposure, the site will be capped with hardscape surfaces such as asphalt and MDE certified aggregate.

A prohibition on the use of groundwater on the subject property for any purpose will be included in a deed restriction. 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 improvements, direct contact and incidental ingestion between construction workers and the contaminated groundwater is not anticipated at this time. The proposed use of the property will be limited to commercial and industrial processes.

#### ***4.2.5 Institutional Controls***

Institutional controls will be listed on the COC issued by the MDE VCP for the successful completion of RAP activities onsite. These institutional controls will include the maintenance of the cap and fencing, soil excavation restrictions, restrictions on the use of groundwater beneath the property, and any other restrictions the department deems necessary based on implementation of the approved RAP.

The proposed remedies for the soil and groundwater contamination are protective of human health since the remedies are designed to prevent exposure to contamination.

## **5.0 RISK MANAGEMENT**

The proposed remedies include applying a new surface asphalt coat, installation of fencing, and placement of MDE certified aggregate. These remedies 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. In addition, requirements will include maintenance to the fencing. Annual inspections of the cap and fencing 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 fencing, 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 activities must include 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). 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 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 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.

## **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 RAP 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:

MDE Voluntary Cleanup Program  
Land Restoration Program  
1800 Washington Boulevard  
Baltimore, Maryland 21230  
(410) 537-3493  
Attention: Administrator

In addition to the above, if there is evidence of an oil discharge at the subject property, it must be reported within two hours as specified in COMAR 26.10.08.01, to the Oil Control Program (410-537-3442) or, if after normal business hours, to the 24-hour Spill Reporting Hotline (1-866-633-4646). 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 VCP project manager and/or VCP Chief at 410-537-3493.

Emergency conditions that cause imminent and substantial endangerment to human health and the environment will require abeyance of the VCP process until the emergency condition has been addressed.

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 RAP implementation activities, and monthly RAP Implementation Progress Reports will be submitted to the VCP project manager during the implementation of this RAP. The monthly RAP Implementation Progress Reports will discuss activities that occurred in the preceding month as well as provide anticipated activities for the upcoming monthly time period. The VCP project manager will be verbally notified within 48 hours and must be notified in writing within 72 hours of any changes (planned or emergency) to the RAP implementation schedule. These changes will be documented in an updated RAP implementation schedule and included in the monthly RAP Implementation Progress Reports.

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	June/July 2016
Public Participation Period	July/August (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	August 2016 (beginning)
Begin Submittal of Monthly RAP Progress Reports	March 2017
Begin Paving and Fencing Installation	March- May 2017
Complete Improvements	March- May 2017
RAP Completion Report to MDE	May 2017

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

## **8.0 ADMINISTRATIVE REQUIREMENTS**

### **8.1 Written Agreement**

If the RAP is approved by the MDE, 2600 Insulator Drive, LLC ("Participant") agrees, subject to the withdrawal provisions of Section 7-512 of the Environment Article, to comply with the provisions of the RAP. The Participant understands that if it 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. A certified written agreement from 2600 Insulator Drive, LLC is included as *Appendix E*.

### **8.2 Zoning Certification**

2600 Insulator Drive, 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 2600 Insulator Drive, LLC is included as *Appendix E*.

### **8.3 Public Participation**

2600 Insulator Drive, LLC submitted an MDE-approved RAP public notice to *The Baltimore Daily Record*, a weekly newspaper with coverage that includes Baltimore, Maryland.

2600 Insulator Drive, LLC held a public informational meeting on the proposed RAP at BCFD Locust Point Fire House, at 1000 E. Fort Avenue, Baltimore, Maryland 21230 on July 28,

2016 at 6:00 pm. The site history, detected on-site contamination, planned future use of the site, and a description of the proposed remedies was presented at the meeting.

During the 30-day public comment period after publishing the public notice, a property sign will be placed along East Cromwell Street. This sign will depict the same information provided in the public notice outlined above. The sign will be removed following the 30-day public comment period. Documentation of the sign placement and legibility will be provided to the MDE for approval.

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

As required by the VCP, 2600 Insulator Drive, LLC will provide either a Performance Bond or Letter of Credit in the amount of \$5,000 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>• Restrict access to contaminated portions of the property with fencing (approximately 700 linear feet);</li><li>•</li></ul>	\$2,400
<ul style="list-style-type: none"><li>• Notification signage every 200 feet (5 signs);</li></ul>	\$500
<ul style="list-style-type: none"><li>• Secure and placement of aggregate along the shoreline</li></ul>	\$2,100

2600 Insulator Drive, 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. 2600 Insulator Drive, 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 \*\*\*\*\***

# **APPENDIX A**

## **MDE VCP ACCEPTANCE LETTER**



# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101 • [www.mde.maryland.gov](http://www.mde.maryland.gov)

Larry J. Hogan, Jr.  
Governor

Ben Grumbles  
Secretary

Boyd K. Rutherford  
Lieutenant Governor

December 21, 2015

## CERTIFIED MAIL

Marc Weller, Authorized Person  
2600 Insulator Drive, LLC  
1000 Key Highway East  
Baltimore, Maryland 21230

Re: Voluntary Cleanup Program Application  
Nick's Fish House  
2600 Insulator Drive  
Baltimore, Maryland 21230

Dear Mr. Weller:

The Voluntary Cleanup Program ("VCP") of the Maryland Department of the Environment ("Department") has finished its evaluation of the complete VCP application package submitted for the Nick's Fish House Property located at 2600 Insulator Drive, Baltimore, Maryland. The Department accepts the 2.46-acre property into the VCP and reaffirms the inculpable person status of 2600 Insulator Drive, LLC for this property pursuant to Title 7, Subtitle 5 of the Environment Article, [Annotated Code of Maryland](#).

Since the property does not qualify for a No Further Requirements Determination, a proposed response action plan ("RAP") must be developed, approved by the Department, and implemented to address risks to human health and the environment resulting from elevated levels of contaminants in the soil and groundwater at the site.

Submission of the proposed RAP and implementation of all statutory requirements must occur within 18 months of receipt of this letter. The guidelines for preparation of the proposed RAP have been enclosed and the statutory requirements can be found in Section 7-508 of the Environment Article. Simultaneously with submission of the proposed RAP to the Department for review and approval, you must comply with the public participation requirements by posting a sign at the property and publishing a notice in a daily or weekly newspaper of general circulation in the geographic area where the participating property is located. Both notices for the proposed RAP must include the date and location of the public informational meeting. A summary of the public participation requirements, as well as a template for the public notice in the newspaper and the sign on the property, has also been enclosed.

You are requested to forward a draft of the sign and newspaper notice for the proposed RAP to the



VCP for review and approval prior to publication and posting at the property. Please contact Gary Schold, the project manager, to discuss development of the proposed RAP, the exact date for submitting the proposed RAP, and draft public notice language to the Department for review and approval.

Upon satisfactory implementation and completion of the requirements set forth in the approved RAP and any subsequent addendums, the Department will issue a Certificate of Completion for the property which must be recorded in the land records of Baltimore City within 30 days following receipt.

In accordance with the provisions of Section 7-506(g)(1) of the Environment Article, you are requested to inform the Department in writing, within 30 days of receipt of this letter, whether 2600 Insulator Drive, LLC intends to proceed as a participant in the VCP. If the Department does not receive the notice of intent to proceed within the 30-day period, the application for participation in the VCP shall be deemed withdrawn pursuant to Section 7-506(g)(2) of the Environment Article.

If you have any questions regarding the requirements, development of the proposed RAP, or other aspects of the program, please contact Gary Schold or me at 410-537-3493.

Sincerely,



James R. Carroll, Administrator  
Land Restoration Program

Enclosures

cc: Mr. Paul H. Hayden, Geo-Technology Associates, Inc.  
Ms. Lisa DeRose, Geo-Technology Associates, Inc.  
Ms. Hilary Miller  
Ms. Barbara H. Brown  
Mr. Gary Schold



# Maryland Department Of The Environment Voluntary Cleanup Program

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## **MDE** Section Six Response Action Plan

The RAP contains a specific remedial approach and schedule for addressing environmental concerns at a property not eligible for a NFRD. The decision to conduct a RAP for a property can be made voluntarily by the participant early in the application process or by MDE at the time the property is accepted into the VCP.

It is the participant's responsibility to develop the RAP and comply with the public participation requirements. The role of MDE is to ensure that the plan is protective of human health and the environment, available for public review and comment, adequate to address the environmental concerns at the property, and properly implemented and completed to the satisfaction of the Department.

Once MDE verifies that a RAP has been successfully implemented and completed, a COC (see Section 7) will be issued to the participant stating that the plan has achieved the applicable cleanup criteria at the property.

### **6.1 NOTICE OF INTENT TO PROCEED**

After an application has been approved for the VCP and the participant has been notified that a RAP must be developed, the participant must notify MDE in writing within 30 days whether the participant intends to proceed with or withdraw from the program. If the participant fails to provide the required notification within 30 days, the application will be considered withdrawn. See Section 1.7 for more information about the VCP withdrawal provisions.

### **6.2 RAP DEVELOPMENT ASSISTANCE**

The proposed RAP must focus on constructing a remedial strategy that addresses all environmental concerns at the site, is protective of human health and the environment, ensures the health and safety of the workers implementing the plan, and has a clearly defined schedule for implementation and completion.

To assist with RAP development, participants may review previously approved RAPs for other VCP properties that may be relevant to the participant's site. MDE also recommends that participants meet with VCP staff early in the development process to get feedback on the RAP approach and discuss any questions. The VCP project manager can help participants with both of these activities.

### **6.3 RAP SUBMISSION AND REVIEW**

At the time the proposed RAP is submitted to MDE, the 75-day review period will begin provided the following have also been completed:

*Action Levels:* A RAP may include proposed action levels that will trigger contingency measures when exceeded. The action levels must be established to ensure that changing site conditions (e.g. increasing contaminant concentrations) do not pose a threat to potential on-site and off-site receptors. Since VCP authority does not extend to off-site issues, MDE encourages close cooperation between the applicant and the OCP or CHS Enforcement/Fund Lead Site Assessment Division.

As an example, for on-site receptors, a groundwater action level could be set based on vapor intrusion modeling to calculate the concentration of contaminants of concern that would pose an unacceptable health risk considering the site's future use scenario. The vapor intrusion modeling would provide a basis for establishing an on-site action level to trigger contingency measures if exceeded.

For off-site receptors (e.g. domestic wells), appropriate action levels would be MCLs at the downgradient monitoring wells and other values derived from fate and transport groundwater modeling. The appropriate action levels will be established in consultation with the CHS Enforcement/Fund Lead Site Assessment Division or the OCP.

*Establishing Action Levels:* MDE's remedial action standards have been set at a carcinogenic value of  $1.0 \times 10^{-5}$  and noncarcinogenic HQ value of 1. An exceedance of either of these remedial action standards represents an unacceptable risk to human health. Contingency plan trigger levels generally should be set for carcinogens between  $1.0 \times 10^{-6}$  and  $1.0 \times 10^{-5}$  and for noncarcinogens between a HQ of 0.1 and 1. The resulting action levels will then be below MDE's remedial action standards to account for the presence of multiple contaminants and to trigger appropriate contingency measures before site conditions reach unacceptable levels.

**G. Proposed Response Actions:** This section must include a plan for all work necessary to perform the proposed RAP, including long-term monitoring and maintenance of the site, if necessary. The following items must be considered during preparation of the work plan:

*Reporting Requirements:* The work plan must outline notification and reporting time frames for sampling and report submittal. All analytical reports and documentation generated as a result of an approved RAP must be submitted to MDE for review. This includes manifests for off-site disposal of contaminated solid or hazardous material.

*Maintenance:* A detailed maintenance plan is required to ensure that future conditions at the site do not compromise the integrity of any physical maintenance controls, which must be visually inspected on a periodic basis.

*Excavations and Clean Fill:* All excavated material must be disposed in accordance with applicable local, State and federal laws and regulations. The source of backfill material must be documented, and MDE may require laboratory analysis to certify its cleanliness.

*Asbestos, Lead, Oil:* Any demolition activities at the site must be performed in accordance with all applicable federal, State, and local regulations regarding asbestos containing material and lead based paint. To ensure compliance with asbestos regulations, State law requires notification of the Division of Asbestos Licensing & Enforcement of MDE at 410-537-3200 at least ten days

- Site control measures that will be maintained during RAP implementation to restrict access (e.g. security guards, warning fences);
- Dust abatement or suppression methods; and
- Compliance by all on-site workers with OSHA guidelines for managing contaminated material regardless of their characterization as hazardous or non-hazardous. The remedial contractor must possess the necessary certification for the transportation of any controlled hazardous substance.

## **6.7 RESPONSE ACTION PLAN REVIEW AND APPROVAL**

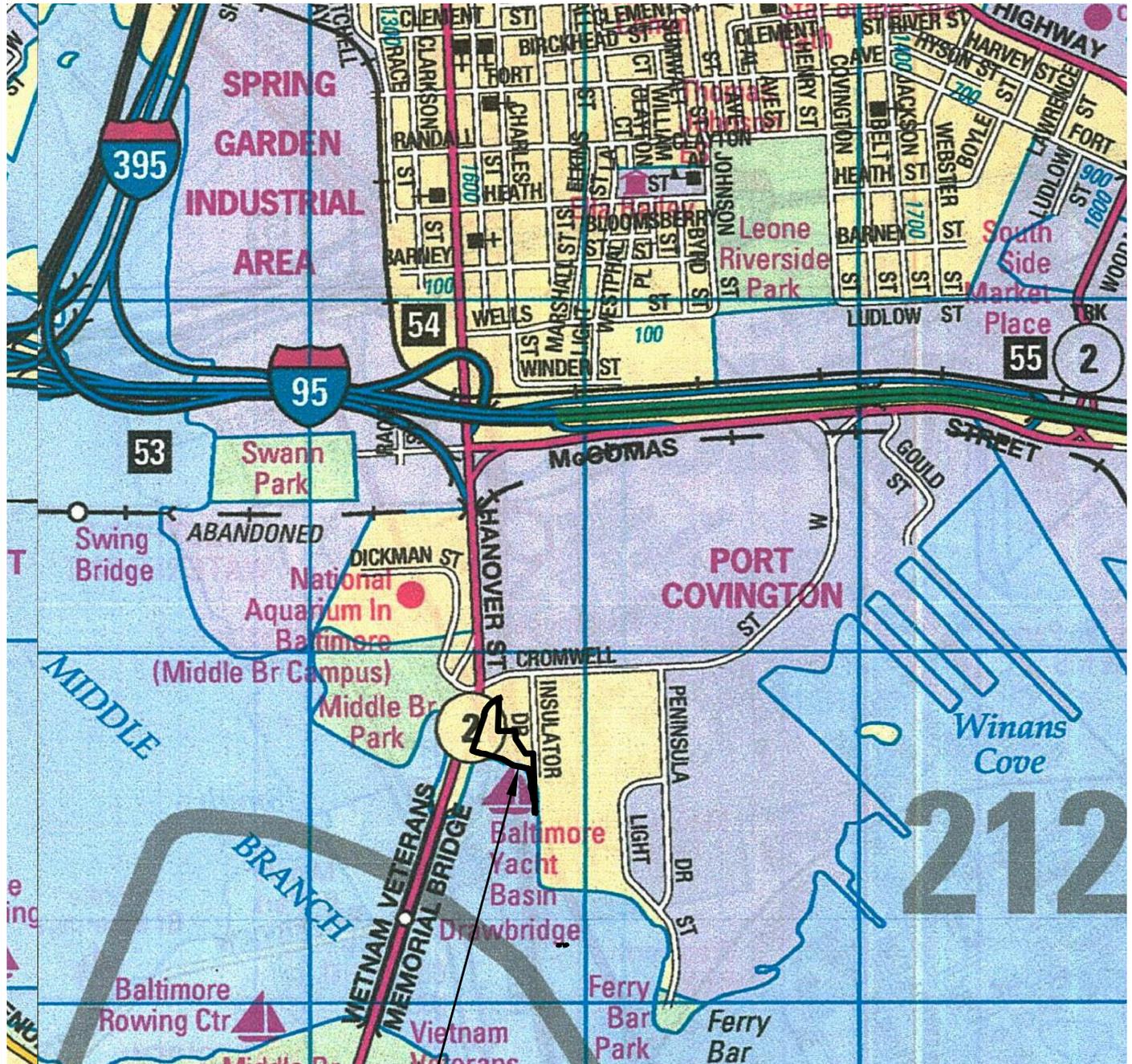
At or before the end of the 75-day review period, and after public notice requirements have been satisfied and any public comments received for the property have been considered, MDE will notify the participant in writing whether the RAP has been approved or rejected.

If RAP modifications are necessary, the participant may resubmit the plan within 120 days after receipt of notification by MDE. If the participant fails to resubmit the plan within 120 days, MDE shall consider the application withdrawn in accordance with Section 7-512 of the Environment Article.

Within 30 days following receipt of a resubmitted plan, MDE will notify the participant whether the plan is approved. Upon approval, MDE will notify the participant in writing that no further action will be required to accomplish the objectives set forth in the approved plan other than those actions described in the plan.

# **APPENDIX B**

## **FIGURES**



Approximate Subject Property Boundary

**Notes**

Map Copyright © ADC The Map People, (800) 829-6277  
 Permitted Use Number 21006238



Approximate Scale  
 1 inch = 1,000 feet



**GEO-TECHNOLOGY ASSOCIATES, INC.**  
**GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS**

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 FAX: (410) 792-7395  
 www.gtaeng.com  
 © Geo-Technology Associates, Inc.

**NICK'S FISH HOUSE**  
 BALTIMORE CITY, MARYLAND

**SITE LOCATION MAP**

PROJECT: 141887

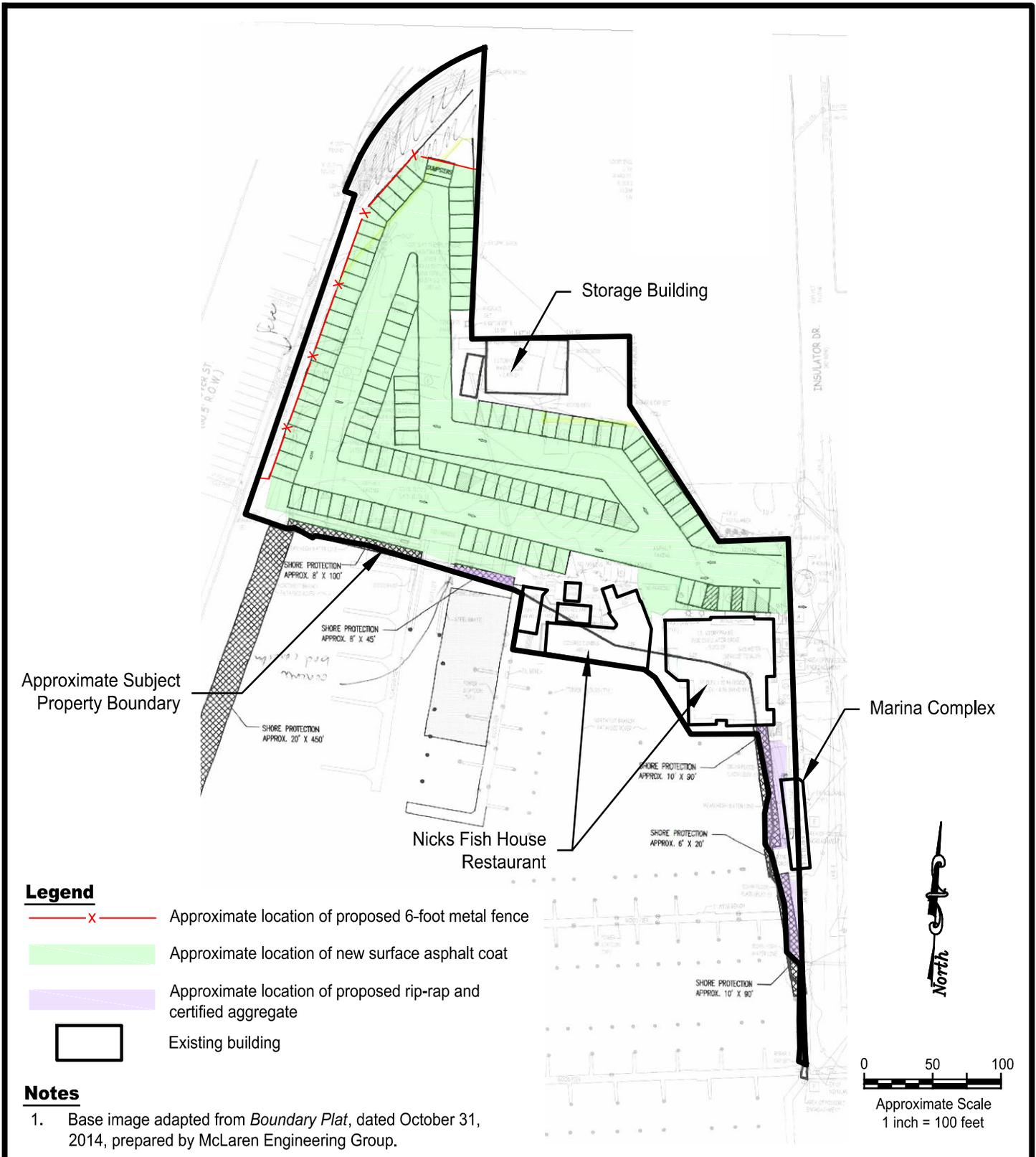
DATE: MARCH 2016

SCALE: 1" = 1,000'

DESIGN BY: LMD

REVIEW BY: PHH

FIGURE: 1



Approximate Subject Property Boundary

Storage Building

Marina Complex

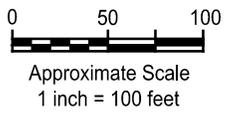
Nicks Fish House Restaurant

**Legend**

- x— Approximate location of proposed 6-foot metal fence
- Approximate location of new surface asphalt coat
- Approximate location of proposed rip-rap and certified aggregate
- Existing building

**Notes**

1. Base image adapted from *Boundary Plat*, dated October 31, 2014, prepared by McLaren Engineering Group.



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**NICK'S FISH HOUSE**  
 BALTIMORE CITY, MARYLAND  
**PROPOSED IMPROVEMENT PLAN**  
**AND DESIGNATED CAPPED AREAS**



Approximate Subject  
Property Boundary

**Notes**

1. Based on the USGS East Baltimore, MD and West Baltimore, MD 7.5 Minute Quadrangle Map.
2. Copyright 2013 MyTopo, Inc.



Approximate Scale  
1 inch = 2,000 feet



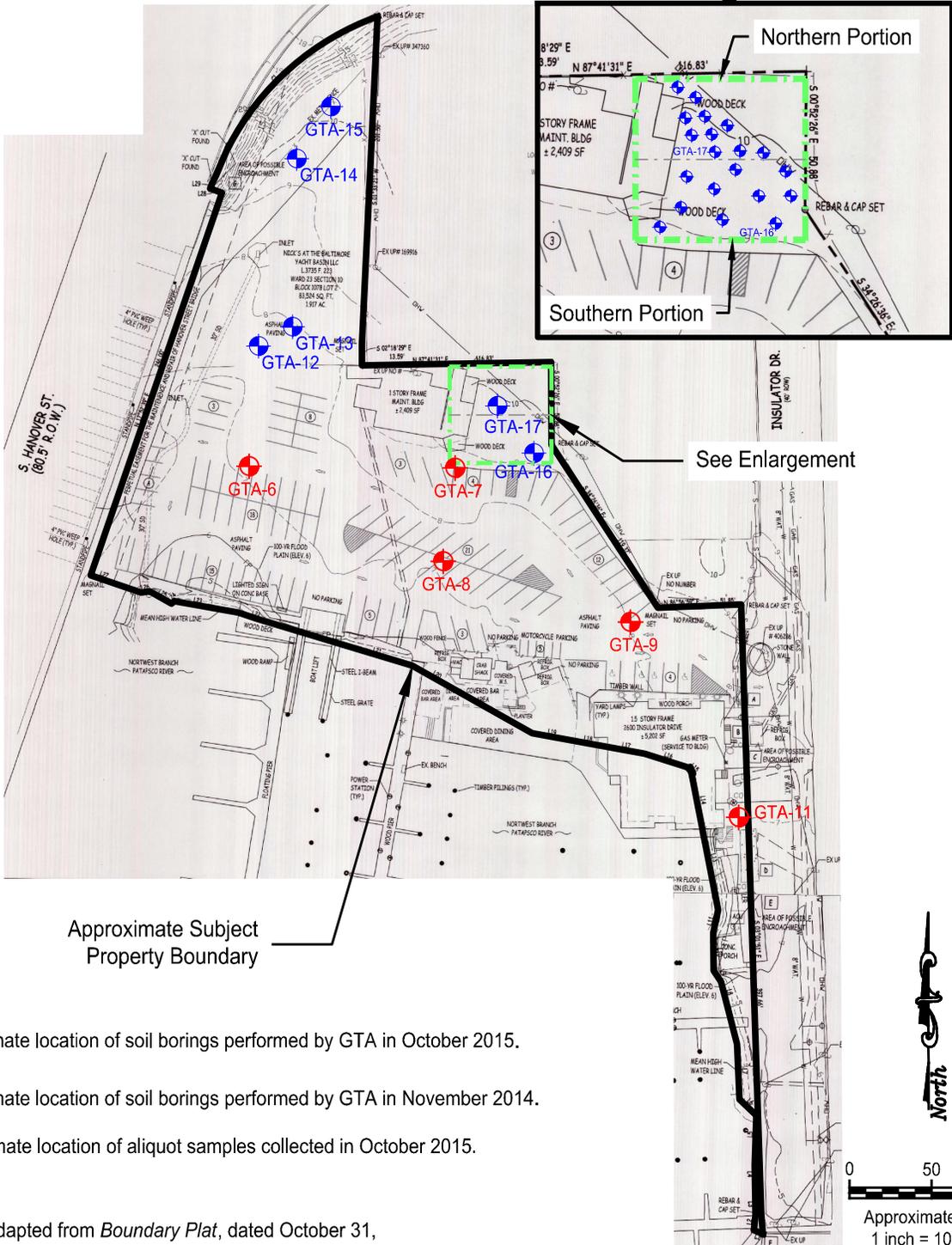
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**NICK'S FISH HOUSE**  
 BALTIMORE CITY, MARYLAND

**TOPOGRAPHIC MAP**

# Enlargement



Approximate Subject Property Boundary

**Legend**

- GTA-1  
Approximate location of soil borings performed by GTA in October 2015.
- GTA-1  
Approximate location of soil borings performed by GTA in November 2014.
- Approximate location of aliquot samples collected in October 2015.

**Notes**

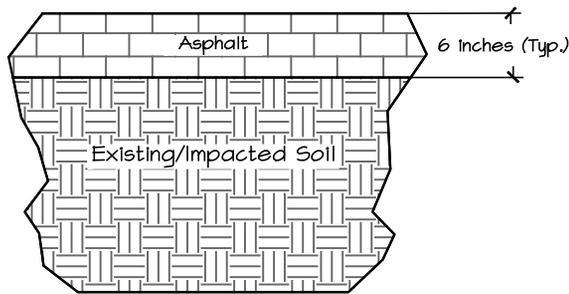
1. Base image adapted from *Boundary Plat*, dated October 31, 2014, prepared by McLaren Engineering Group.



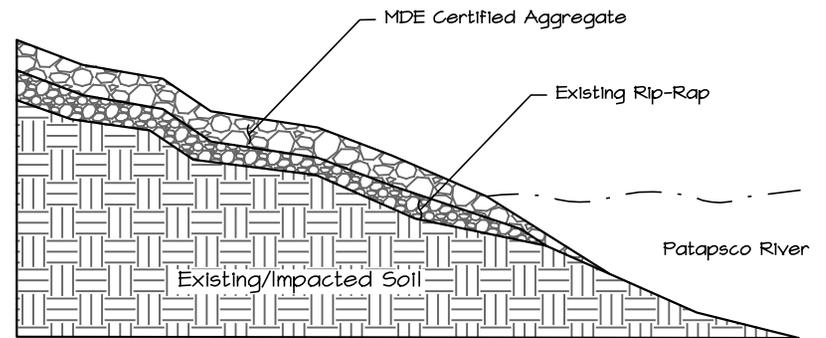
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**NICK'S FISH HOUSE**  
 BALTIMORE CITY, MARYLAND

**SAMPLE LOCATION PLAN**



**PAVED AREA**  
Typical Section



**SHORELINE**  
Typical Section

**Notes**

1. Details are not for construction.
2. Details are provided for informational purposes only and are subject to final design.
3. Granular subgrade beneath asphalt/concrete is MDE approved clean stone/fill.



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NICK'S FISH HOUSE  
BALTIMORE CITY, MARYLAND

**CAPPING DETAILS**

PROJECT: 141887

DATE: MARCH 2016

SCALE: NOT TO SCALE

DESIGN BY: MDP

REVIEW BY: PHH

FIGURE: 5

# **APPENDIX C**

## **TABLES**

**Table 1**  
**Soil Analysis Summary**  
**Nick's Fish House**

Analyte	Sample Identification									Comparison Values (mg/kg)	
	GTA-6 (0-1')	GTA-6 (3.5-4.5')	GTA-7 (0-1')	GTA-7 (7.5-8.5')	GTA-8 (0-1')	GTA-9 (0-1')	GTA-9 (7-8')	GTA-11 (0-1')	GTA-11 (7-8')	NRCS	ATC Eastern
<b>PAHs</b>											
Anthracene		3.0		--		--	0.58			31,000	NA
Benzo(a)anthracene		<b>16</b>		--		<b>4.9</b>	2.8			3.9	NA
Benzo(a)pyrene		<b>8.5</b>		--		<b>5.0</b>	<b>2.2</b>			0.39	NA
Benzo(b)fluoranthene		<b>11</b>		--		<b>6.3</b>	2.3			3.9	NA
Benzo(g,h,i)perylene		3.0		--		3.1	0.8			3,100	NA
Benzo(k)fluoranthene		8.8		--		5.1	1.3			39	NA
Chrysene		18		0.22		5.5	2.9			390	NA
Fluoranthene		90		0.4		9.8	4.9			4,100	NA
Indeno(1,2,3-c,d)Pyrene		2.7		--		2.5	0.77			3.9	NA
Phenanthrene		29		0.29		5.1	1.8			31,000	NA
Pyrene		78		0.37		8.6	6.0			3,100	NA
<b>PCBs</b>											
PCB-1254		--		--		--	0.18			1.4	NA
<b>VOCs</b>											
Acetone		--		--		--	0.067			92,000	NA
Naphthalene		--		0.0097		--	--			2,000	NA
<b>TPH</b>											
TPH DRO		130HF		77		96	180HF			620	NA
TPH GRO		--		5.4		--	--			620	NA
<b>Priority Pollutant Metals</b>											
Antimony	--	--	--	--	--	--	2.8	--	--	41	6.0
Arsenic	<b>4.6</b>	3.5	3.1	1.4	<b>7.3</b>	<b>6.9</b>	<b>7.6</b>	<b>9.9</b>	<b>10</b>	1.9	3.6
Chromium	27	26	31	4.8	42	33	23	29	19	310	28
Copper	36	34	17	3.1	39	57	100	18	6.1	4,100	12
Lead	420	110	38	8.0	400	330	240	48	4.6	1,000	45
Mercury	0.28	0.23	0.11	--	1.6	0.85	0.35	--	--	31	0.51
Nickel	11	8.2	11	--	15	16	12	14	6.2	2,000	13
Zinc	250	140	63	16	260	230	200	57	15	31,000	63

**Notes:**

Samples collected on November 11, 2014.

Results in milligrams per kilogram (mg/kg), or parts per million (ppm)

Only detected compounds shown

-- = Not detected at or above the laboratory's reporting limit

NA = Not applicable

Blank Cell = Not analyzed

NRCS = MDE Non-Residential Cleanup Standards for soil

ATC = Anticipated Typical Concentrations/Reference Levels for soils in Central Maryland (MDE Interim Final Guidance Update No. 2.1, June 2008)

Shaded and bold values represent exceedance of MDE RCS and/or ATC

PAHs = Polycyclic Aromatic Hydrocarbons

PCBs = Polychlorinated Biphenyls

VOCs = Volatile Organic Compounds

TPH = Total Petroleum Hydrocarbons

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

HF = Heavier fuel/oil pattern observed in sample

**Table 1**  
**Soil Analysis Summary**

Sample Identification	GTA-12-(0.5-2.5)	GTA-12-(2.5-4.5)	GTA-13-(0.5-2.5)	GTA-13-(2.5-4.5)	GTA-14-(0.5-2.5)	GTA-14-(2.5-4.5)	GTA-15-(0.5-2.5)	GTA-15-(2.5-4.5)	GTA-16-(0.0-1.0)	GTA-16-(4.0-5.0)	GTA-17-(0.0-1.0)	GTA-17-(4.0-5.0)	Comparison Value		
	Depth (feet)	0.5-2.5	2.5-4.5	0.5-2.5	2.5-4.5	0.5-2.5	2.5-4.5	0.5-2.5	2.5-4.5	0.0-1.0	4.0-5.0	0.0-1.0	4.0-5.0	NRCS	ATC Eastern
<b>PAHs</b>															
Acenaphthene			--	--	--	--	--	--	--	--	--	0.82	6,100	NA	
Anthracene			--	--	--	--	--	--	--	--	--	1.4	31,000	NA	
Benzo(a)anthracene			--	--	--	--	0.26	--	0.41	--	--	<b>4.2D</b>	3.9	NA	
Benzo(a)pyrene			--	<b>1.1D</b>	--	0.17	0.28	--	<b>0.47</b>	--	0.062	<b>3.1</b>	0.39	NA	
Benzo(b)fluoranthene			--	--	--	--	0.30	--	0.47	--	--	3.4D	3.9	NA	
Benzo(g,h,i)perylene			--	--	--	--	--	--	0.23	--	--	1.6	3,100	NA	
Benzo(k)fluoranthene			--	--	--	--	0.21	--	0.37	--	--	2.1	39	NA	
Chrysene			--	--	--	--	0.32	--	0.47	--	--	4.4D	390	NA	
Dibenz(a,h)anthracene			--	--	--	0.041	0.044	--	0.095	--	--	<b>0.70</b>	0.39	NA	
Fluoranthene			--	2.1D	--	0.37	0.42	--	0.73	--	--	8.7D	4,100	NA	
Fluorene			--	--	--	--	--	--	--	--	--	0.82	4,100	NA	
Indeno(1,2,3-c,d)Pyrene			--	--	--	--	--	--	0.22	--	--	1.7	3.9	NA	
Naphthalene			--	--	--	--	--	--	--	--	--	0.35	2,000	NA	
Phenanthrene			--	--	--	--	--	--	0.41	--	--	8.3D	31,000	NA	
Pyrene			--	2.3D	--	0.35	0.44	--	0.74	--	--	8.7D	3,100	NA	
All other PAHs			--	--	--	--	--	--	--	--	--	--	varies	varies	
<b>TPH</b>															
TPH DRO			120	72	31	19	100	--	37	34	--	97	620	NA	
TPH GRO			--	--	--	--	--	--	--	--	--	--	620	NA	
<b>Priority Pollutant Metals</b>															
Antimony	19	--	4.3	11	--	--	4.5	--	11	--	--	--	41	6	
Arsenic	<b>210</b>	<b>11</b>	<b>15</b>	<b>20</b>	<b>37</b>	<b>15</b>	<b>35</b>	1.3	<b>4.9</b>	<b>4.6</b>	<b>5.5</b>	<b>7.6</b>	1.9	3.6	
Cadmium	--	9.5	2.2	3.3	3.2	12	--	--	--	--	--	--	51	0.73	
Chromium	200	13	37	59	58	13	60	24	45	31	52	14	310	28	
Hexavalent Chromium	--												310	28	
Copper	230	90	510D	780D	210	29	120	6.4	320D	270D	140	130	4,100	12	
Lead	<b>2,000D</b>	120D	230D	800D	500D	160	260D	3.1	210	140	210	120	1,000	45	
Mercury	2.8D	0.27	1.1	0.89	0.77	0.22	0.66	--	0.33	0.25	0.38	0.14	31	0.51	
Nickel	24	19	19	28	20	23	15	8.4	19	15	25	8.4	2,000	13	
Selenium	13	--	--	--	3.2	--	--	--	--	--	--	--	510	2.2	
Thallium	0.90	--	--	--	--	--	--	--	--	--	--	--	7.2	3.9	
Zinc	170D	1,800D	500D	1,300D	950D	9,800D*	430D	110	250D	220D	240	83	31,000	63	
All other PPMs	--	--	--	--	--	--	--	--	--	--	--	--	varies	varies	
<b>TCLP Metals</b>															
TCLP Lead	2.0			1.3									NA	NA	
TCLP Arsenic	0.19												NA	NA	
TCLP Chromium	0.11												NA	NA	

**Notes:**  
 Samples collected on October 13, 2015  
 Results in milligrams per kilogram (mg/kg), or parts per million (ppm)  
 Only detected compounds shown  
 -- = Not detected at or above the laboratory's reporting limit  
 NA = Not applicable  
 Blank Cell = Not analyzed  
 NRCS = MDE Non-Residential Cleanup Standards for soil  
 ATC = Anticipated Typical Concentration for soils in Eastern Maryland (MDE Interim Final Guidance Update No. 2.1, June 2008)  
 TCLP = Toxicity Characteristic Leaching Procedures  
 Shaded and bold values represent exceedance of MDE NRCS (and ATC, if applicable)  
 PAHs = Polycyclic Aromatic Hydrocarbons  
 TPH = Total Petroleum Hydrocarbons  
 GRO = Gasoline Range Organics  
 DRO = Diesel Range Organics  
 D = the sample was diluted by a factor of 10 therefore increasing the laboratory reporting limits  
 D\* = D = the sample was diluted by a factor of 100 therefore increasing the laboratory reporting limits  
 Soil sample GTA-13-(0.5-4.5) from the laboratory results (Appendix C) was actually collected from a depth of 0.5 to 2.5 feet below the ground surface and is called GTA-13-(0.5-2.5) in this table



**Table 2**  
**Groundwater Analysis Summary**  
**Nick's Fish House**

Analyte	Sample Identification			GCS (µg/L)
	GTA-6-GW	GTA-7-GW	GTA-9-GW	
<b>VOCs</b>				
Methyl-t-Butyl Ether	1.5	--	--	20
<b>TPH</b>				
TPH DRO	560	480	--	47
<b>Priority Pollutant Metals (Total)</b>				
Arsenic	540	64	3.4	10
Beryllium	3.1	7.5	--	4.0
Cadmium	35	26	--	5.0
Chromium	840	440	8.5	100
Copper	4,200	2,300	15	1,300
Lead	10,000	6,100	54	15
Mercury	28	4.0	--	200
Nickel	270	210	4.9	73
Selenium	8.5	--	--	50
Silver	5.6	5.8	--	100
Thallium	2.5	2.1	--	200
Zinc	10,000	13,000	110	5,000

**Notes:**

Samples collected November 11, 2014.

Results in micrograms per liter (µg/L), similar to parts per million (ppb)

Only detected compounds are shown

-- = Not detected at or above the laboratory's reporting limit

MDE Groundwater Cleanup Standard (GCS) for Type I and II Aquifers (MDE Interim Final Guidance Update No. 2.1, June 2008)

VOCs = Volatile Organic Compounds

TPH = Total Petroleum Hydrocarbons

DRO = Diesel Range Organics

# **APPENDIX D**

## **EXAMPLE CAP INSPECTION FORMS**

## CAP INSPECTION FORM

<b>Location:</b>		<b>Date/Time:</b>	
<b>Inspector:</b>		<b>Weather:</b>	
<b>PAVEMENT</b>			
<b>Overall Condition</b>			
<b>Specific Areas of Note (use PCI, below, and attach sketches/ photographs, as needed)</b>			
<b>Area</b>	<b>PCI</b>	<b>Comments</b>	
<b>Pavement Condition Index (PCI)</b>			
<b>Response?</b>	<b>PCI</b>	<b>Characterization</b>	<b>Description</b>
<b>Optional</b>	<b>1</b>	New, crack-free surface	Black in color, smooth texture
	<b>2</b>	Oxidation has started	Short hairline cracks start to develop. Dark gray color.
	<b>3</b>	Oxidation in advanced state	Hairline cracks are longer and wider. Gray in color.
<b>Required</b>	<b>4</b>	Oxidation complete	Crack area ¼" wide and crack lines have found base faults.
	<b>5</b>	Moisture penetrating through ¼" cracks. Loose material (stone and sand) evident.	Texture of surface becoming rough. Preventive maintenance.
	<b>6</b>	Cracks widen and join.	Cracks and shrinkage evident at curb and gutter lines.
	<b>7</b>	Potholes develop in low spots.	Gatoring areas begin to break up. Overall texture very rough.
	<b>8</b>	Potholes developing.	Pavement breaking up.
	<b>9</b>	Heaving due to excessive moisture in base.	Distorts entire surface.
	<b>10</b>	General breakup of surface.	
<b>SIDEWALKS/CURBS/FENCING</b>			
	<b>Sidewalks /Fencing</b>		<b>Curbs and Gutters</b>
<b>Overall Condition</b>			
<b>Check all that apply</b>	<input type="checkbox"/> Sound <input type="checkbox"/> Cracked/boken <input type="checkbox"/> Deteriorated <input type="checkbox"/> Root Intrusion	<input type="checkbox"/> Sound <input type="checkbox"/> Cracked <input type="checkbox"/> Deteriorated <input type="checkbox"/> Root Intrusion	
<b>Other Comments</b>			
<b>LANDSCAPED AREAS</b>			
<b>Overall Condition</b>			
<b>Check all that apply</b>	<input type="checkbox"/> Sound <input type="checkbox"/> Erosion <input type="checkbox"/> Healthy Plant Condition <input type="checkbox"/> Mortality <input type="checkbox"/> Animal Burrows		
<b>Trees</b>	<input type="checkbox"/> Healthy <input type="checkbox"/> Poor Health <input type="checkbox"/> Dead <input type="checkbox"/> Fallen <input type="checkbox"/> Other _____		
<b>Shrubs</b>	<input type="checkbox"/> Healthy <input type="checkbox"/> Poor Health <input type="checkbox"/> Dead <input type="checkbox"/> Fallen <input type="checkbox"/> Other _____		
<b>Vent Risers and Piping at Light Poles</b>	<input type="checkbox"/> Good Condition <input type="checkbox"/> Cracked <input type="checkbox"/> Broken/ Damaged <input type="checkbox"/> Other _____		
<b>RESPONSE ACTIONS</b>			
<b>Responses Required</b>			
<b>Work Completed (Description, Date, Contractor, etc.)</b>			
<b>List Attached Photographs/Sketches</b>			

**APPENDIX E**

**ZONING CERTIFICATIONS**

***CERTIFIED STATEMENT RE: COUNTY AND MUNICIPAL ZONING REQUIREMENTS***

“The participant hereby certifies that the property meets all applicable county and municipal zoning requirements.

The participant acknowledges that there are significant penalties for falsifying any information required by MDE under Title 7, Subtitle 5 of the Environmental Article, Annotated Code of Maryland, and that this certification is required to be included in a response action plan for the Voluntary Cleanup Program pursuant to Title 7, Subtitle 5 of the Environmental Article, Annotated Code of Maryland.”



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2600 Insulator Drive, LLC  
Marc Weller  
Authorized Person



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Date