

October 27, 2023 (**Revised December 19, 2023**)

Ms. Mariya Chiger  
Department of Natural Resources and  
Environmental Control  
Remediation Section  
391 Lukens Drive  
New Castle, DE 19720

Re: Project No. 16530  
Environmental Monitoring Work Plan  
Rodney Reservoir Site – DE-1851 (aka P00074)  
1500 W Ninth Street  
Wilmington, Delaware

Dear Ms. Chiger:

Verdantas LLC (Verdantas) submits this Environmental Monitoring Work Plan (Work Plan) on behalf of our client, the City of Wilmington via D'Huy Engineering, to address the management of potentially environmentally-impacted materials generated during demolition and soil-disturbing activities associated with the removal of the existing reservoir structure and requisite re-grading at the above-referenced site (the "Property" or "Site"). The Site is located at 1500 West Ninth Street in Wilmington, Delaware, and is identified by the State of Delaware, Department of Natural Resources and Environmental Control – Remediation Section (DNREC-RS) as DE-1851 (aka P00074) (Figure 1).

## **A. SITE BACKGROUND**

### **1. REDEVELOPMENT PLANS & SOIL SAMPLING**

The Property Owner, the City of Wilmington, plans to demolish the existing reservoir structure and utilize soils within the earthen berm surrounding the reservoir as fill material following demolition. Verdantas collected soil samples from the earthen berm to assess the suitability of the soil for reuse following demolition of the reservoir.

A total of 31 soil samples were collected and analyzed. Analytical results for the soil samples were compared to DNREC-RS Screening Levels. No volatile organic compounds (VOCs), pesticides, or poly-chlorinated biphenyls (PCBs) were reported above the DNREC-RS Screening Levels. Several semi-volatile organic compounds (SVOCs) were reported above DNREC-RS Screening Levels in one soil sample. Several metals, including cobalt, were reported above DNREC-RS Screening Levels.

A human health risk assessment was performed for contaminants of potential concern (COPCs) identified in shallow soil and combined soil. Cancer risks and non-cancer hazard estimates were calculated using the following DNREC-required land use scenarios:

DNREC Land Use Scenario	Current Use	Future Use
Outdoor Worker		X
Excavator		X
Recreator		X
Trespasser	X	X
Resident		See Note
Urban Garden	X	X

Note: The residential use scenario is not an anticipated future use of the Site but is being evaluated to determine if land use restrictions will be necessary to be protective of human health and the environment.

The results of the potential cancer and non-cancer estimates indicated the following:

- Regulated substances in shallow soil and combined soil pose an acceptable cancer and non-cancer risks for the current and proposed use of the Property.
- Regulated substances in combined soil are pose an acceptable cancer risk under the resident scenario.
- Regulated substances in shallow soil pose an unacceptable cancer risk under the resident scenario, which was driven by benzo(a)pyrene concentrations in one shallow soil sample.
- Regulated substances in shallow and combined soil pose an unacceptable non-cancer risk under the resident child hazard index (HI) scenario, which was driven by cobalt concentrations reported for the soil samples.

The results of the risk calculations indicate that the exposure scenario for shallow or combined soils poses a potential unacceptable risk under the residential scenario. While this scenario is not anticipated, as a conservative measure, Verdantas recommended that the following actions be implemented during and following demolition activities at the Site:

- Soil disturbing activities at the Site should be conducted in accordance with DNREC's generic Contaminated Materials Management Plan (CMMP, dated April 25, 2018);
- An Air Monitoring Work Plan should be developed and implemented during soil disturbing activities to monitor airborne particulate concentrations during demolition activities; and
- Following regrading and stabilization activities, additional soil sampling be completed to assess the final shallow soil conditions at the Site. Additionally, an updated risk assessment should be performed to confirm that the conclusions presented in the Supplemental Soil Sampling Report remain valid.

In correspondence dated October 24, 2023, DNREC-RS concurred with the above-referenced recommendations (Attachment A).

## 2. PURPOSE

The purpose of this Work Plan is to provide guidelines for the handling of potentially environmentally-impacted materials and air monitoring to be conducted during redevelopment activities at the Site. The current, proposed redevelopment activities at the Site will include the demolition of the existing reservoir structure and regrading of existing soils at the Site. No off-site soil disposal is anticipated.

## 3. ACTIVITIES COVERED

Activities covered under this Work Plan will be managed by the on-site contractor at the Site (herein identified as the "Contractor"). This Work Plan does not encompass all Contractor work responsibilities, only those pertaining to management of environmentally-impacted soils and demolition debris, as presented herein. Generally, activities covered under this Work Plan include, but are not limited to, the following:

- Demolition of the existing reservoir structure;
- Excavation and management of on-site soils from the earthen berm surrounding the reservoir; and
- Import of off-site clean fill material and topsoil for grading and stabilization, if needed.

## 4. CONTACT INFORMATION

The following personnel are responsible for specific aspects of the project related to this Work Plan:

Table 1 – Contact Information		
Contact	Responsibility	Phone Number
Lynn Klous, City of Wilmington	City of Wilmington Representative	302-576-2620
Craig Murray, D'Huy Engineering	Owner's Project Manager	302-463-4581
Robert Smagala, Verdantas LLC	Environmental Project Manager for Verdantas	302-239-6634
*	Contractor Site Manager	*
Mariya Chiger, DNREC-RS	DNREC-RS Project Officer	302-395-2600
Deanna Morozowich, DNREC-Division of Air Quality	DNREC-Division of Air Quality Representative	302-739-9402

Note: \* = Contractor shall be identified after the contract for the work has been issued. Contractors are required to prepare their own site-specific Health and Safety Plan.

## **B. SITE CHARACTERISTICS**

### **1. IDENTIFICATION OF IMPACTED SOILS**

Shallow and combined soils at the Site are documented to contain the following metals and SVOCs at concentrations that exceed DNREC-RS Screening Levels:

- Metals – aluminum, chromium, cobalt, iron, mercury, thallium, and vanadium.
- SVOCs – benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

### **2. CONTRACTOR RESPONSIBILITIES**

Prior to intrusive activities, the Contractor will complete the tasks listed below. The requirements listed below are not intended to encompass all Contractor work responsibilities, only those that pertain to the management of environmentally-impacted materials, as presented herein.

- The Contractor will provide the City of Wilmington/Verdantas five (5) days notice prior to any intrusive work at the Site. The Contractor will describe the activity being performed and identify the area where the activity will occur.
- The Contractor will notify the City of Wilmington/Verdantas of the source of any off-site fill material proposed to be used at the Site a minimum of four (4) weeks in advance of the proposed import date of the material onto the Site. If necessary, Verdantas will sample soil obtained from an off-site source in general accordance with the DNREC-RS Guidance for Soil/Material Reuse at and from Sites/Facilities Regulated by the Hazardous Substance Cleanup Act, May 2023 for approval by DNREC-RS prior to bringing the material on-site.
- The Contractor will provide the appropriate personnel, equipment, and supplies to comply with this Work Plan, the DNREC-RS Generic CMMP.

During intrusive activities, the Contractor will perform the following:

- The Contractor will conduct demolition and construction activities in compliance with 7 DE Admin. Code 1106 (Particulate Emissions from Construction and Materials Handling) and 7 DE Admin. Code 1121 (Emission Standards for Hazardous Air Pollutants).
- The Contractor shall maintain any erosion and sediment controls as required by the City of Wilmington and/or DNREC. The Contractor shall keep all public roadways entering and leaving the Site free from soil. Additionally, if necessary, the Contractor will provide a truck wash station to reduce the possibility that potentially environmentally-impacted materials may inadvertently be transported off-site. No removal of soils from the Site is anticipated.

- The Contractor shall supply adequate water to control dust throughout the demolition and restoration activities. Contractor shall also be responsible for management of the dust control water.
- The Contractor will be responsible for site security and will install fencing, as needed, to prevent exposure of trespassers to environmentally-impacted materials and demolition related materials.
- While there are no indications that current or former underground storage tanks (USTs) are present at the Site, in the event that petroleum-contaminated materials or USTs are encountered during intrusive activities, the USTs will be properly removed by a State of Delaware certified tank removal contractor and petroleum-impacted soils will be sampled and managed according to the State of Delaware Regulations Governing Underground Storage Tank Systems.

## **C. EXCAVATION, HANDLING & MANAGEMENT OF SOIL**

### **1. DNREC GENERIC CMMP**

Soil disturbing activities as the Site shall be conducted in accordance with DNREC's Generic CMMP dated April 25, 2018 (DNREC CMMP). Although there is no risk to current or future site users (recreators, urban gardeners, outdoor workers, trespassers) or to excavation workers, use of the Generic CMMP was recommended as a precautionary measure. A copy of the DNREC CMMP is included as Attachment B. The DNREC CMMP provides general guidance for safe handling of impacted soils at DNREC sites impacted or potentially impacted with hazardous substances and/or petroleum.

### **2. AIR MONITORING**

During intrusive work, on-going monitoring of ambient air conditions in the work zone and along the perimeter of the Site will be performed. Results of the air monitoring will be recorded and maintained by Verdantas and will be shared with DNREC-RS on a weekly basis. Weekly updates will include information such as the average and maximum daily concentrations for VOCs and airborne particulates, the time and location of Action Level exceedances, and the corrective action taken in the event that an exceedance is reported. Additionally, the weekly updates will be uploaded to the City of Wilmington's Rodney Reservoir website following submission to DNREC-RS.

#### **i. EQUIPMENT**

Equipment including a photo-ionization detector (PID) and a mini-ram (personal dust monitor) will be used to monitor organic gases and vapors, and airborne particulates in the active working zones during soil disturbing activities. Additionally, perimeter air monitoring will be conducted as a precautionary action for protection of the surrounding community. Four real-time air monitoring stations will be positioned along the Site perimeter, one located in each cardinal direction (north, south, east, west) of active soil disturbing activities.

The monitoring equipment will be calibrated following equipment manufacturer' instructions. At a minimum, calibration will be performed at the beginning of each day of use and when required during the course of work.

**ii. ACTION LEVELS & ACTIONS**

While soil disturbing activities are in progress, the following criteria shall indicate the appropriateness of Level D Personal Protective Equipment (PPE) during work:

<u>VOC Concentration Range</u>	<u>Level of Protection</u>
0-5 ppm (sustained)	Level D
5-50 ppm (sustained)	Level C

If PID readings are sustained at five deflection units or more above ambient background readings for more than 30 seconds, Verdantas personnel or the Contractor will require work to cease and workers to leave the work area. If, after five minutes, PID meter readings have returned to levels less than five deflection units, work will be allowed to resume. If PID readings remain above five deflection units, but less than 50 deflection units, workers will be required to upgrade PPE to Level C. If PID readings are greater than 50 deflection units, all work will cease and workers will leave the area immediately.

Airborne Particulates Action Level

1.0 mg/m<sup>3</sup> in the breathing zone

Action

This action level is based on airborne particulates containing cobalt. Notify Verdantas or the Contractor, who has "stop work" authority, after sustained readings of 30 seconds. If action level exceedances are detected for longer than 30 seconds, dust suppression measures will be taken and likely consist of applying water to soils. Additional preventative measure of dust suppression will likely consist of applying water to soils prior to or during excavation. If elevated levels persist, notify Verdantas and the Contractor.

The action level for particulates in air is based on visual and respiratory impairment and is more conservative than levels calculated to meet regulatory exposure limits. Based on experience at other similar locations, gross particulate concentrations in the air at construction sites seldom exceed 1.0 mg/m<sup>3</sup> for sustained periods of time.

Dust suppression measures will be the principle means of minimizing the creation of airborne particulates during the work and are sufficiently conservative to minimize the possibility that particulate levels would reach health-based action levels. Water will be utilized for dust suppression, on an as-needed basis, during soil excavating, stockpiling, and loading activities. The Contractor will provide water tanker trucks as needed for any required dust suppression.

To demonstrate the conservative nature of the action level (1.0 mg/m<sup>3</sup>) established for this plan, the following airborne dust concentration was calculated using the maximum concentration of cobalt in the site soils. The OSHA Action Level used in the calculation is the most restrictive level published by OSHA. The time-weighted average (TWA) permissible exposure limit (PEL), which is intended for levels averaged over an 8-hour working day, was used for the calculation. The

Action Level is intended for long-term occupational exposures and is conservative for the short-term exposures that will occur during intrusive activities at the Site. OSHA regulations allow for employee exposures up to the PEL of 0.02 mg/m<sup>3</sup>, averaged over an 8-hour period.

Maximum Detected Site Concentration (mg/kg)	Substance	OSHA Exposure Limits	Calculated Dust Concentration at OSHA Exposure Limit
94.5	Cobalt	0.02 mg/m <sup>3</sup>	211 mg/m <sup>3</sup>

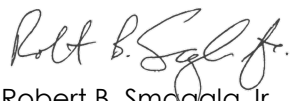
### 3. SOIL IMPORT TESTING

The Contractor shall notify the City of Wilmington/Verdantas of the source of any off-site fill material proposed to be used at the Site a minimum of 4 weeks in advance of the proposed import of the material onto the Site. Verdantas will contact the DNREC-RS Project Officer regarding the proposed source material to determine if sampling will be required. If required, Verdantas will collect samples from the off-site source in general accordance with the DNREC-RS Guidance for Soil/Material Reuse at and from Sites/Facilities Regulated by the Hazardous Substance Cleanup Act, May 2023.

This Work Plan is based on Verdantas' current understanding of the Site conditions and future redevelopment plans. Verdantas will notify DNREC-RS of the anticipated schedule and of changes to the Work Plan. Should you have any questions, concerns, or comments regarding this Work Plan, please feel free to contact our office at 302-239-6634.

Sincerely,

VERDANTAS LLC



Robert B. Smagala Jr.  
Environmental Project Manager

RBS:cml  
16530 - Rodney Reservoir Soil Sampling\Working\Environmental Monitoring Work Plan\Wkp-16530-20231027.docx

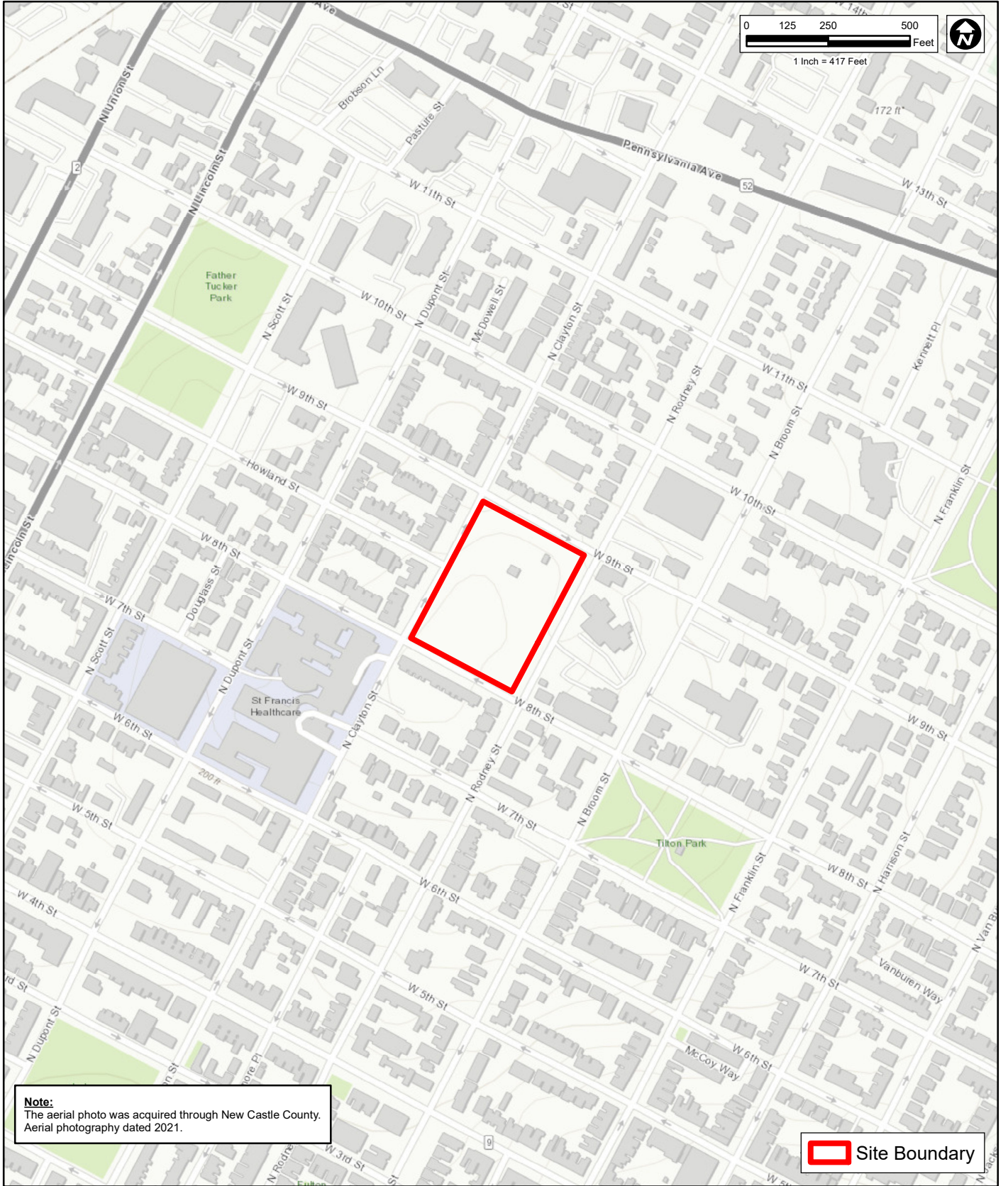
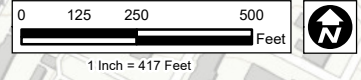
Attachments:

- Figure 1 – Site Location Map
- Attachment A – DNREC Supplemental Soil Sampling Report Approval Letter
- Attachment B – DNREC Generic CMMMP

## FIGURE 1

### SITE LOCATION MAP





**Note:**  
The aerial photo was acquired through New Castle County.  
Aerial photography dated 2021.

 Site Boundary



**DISCLAIMER:**  
Verdantas LLC has furnished this map to the company identified in the title block (Client) for its sole and exclusive use as a preliminary planning and screening tool and field verification is necessary to confirm these data. This map is reproduced from geospatial information compiled from third-party sources which may change over time. Areas depicted by the map are approximate and may not be accurate to mapping, surveying or engineering standards. Verdantas LLC makes no representation or guarantee as to the content, accuracy, timeliness or completeness of any information or spatial location depicted on this map. This map is provided without warranty of any kind, including but not limited to, the implied warranties of merchantability or fitness for a particular purpose. In no event will Verdantas LLC, its owners, officers, employees or agents, be liable for damages of any kind arising out of the use of this map by Client or any other party.

September 2023  
Earthen Berm Soil Sampling  
Rodney Reservoir Site  
  
**Site Location Map**  
  
North Rodney Street & West 9th Street  
Wilmington, New Castle County, Delaware

Figure  
**1**



## ATTACHMENT A

### DNREC SUPPLEMENTAL SOIL SAMPLING REPORT APPROVAL LETTER



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL**  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
391 LUKENS DRIVE  
NEW CASTLE, DELAWARE 19720

**REMEDIATION  
SECTION**

PHONE: (302) 395-2600  
FAX: (302) 395-2601

October 24, 2023

Robert B. Smagala  
Environmental Project Manager  
Verdantas LLC  
5400 Limestone Road,  
Wilmington, Delaware 19808

**RE: DNREC-RS Approval of Supplemental Soil Sampling Report  
Rodney Reservoir (P00074)  
1500 W Ninth Street  
Wilmington, Delaware**

Dear Mr. Smagala:

The Department of Natural Resources and Environmental Control, Remediation Section (DNREC-RS) has reviewed and approves the Supplemental Soil Sampling Report dated October 10, 2023, for the Rodney Reservoir (P00074) located at 1500 W Ninth Street in Wilmington, Delaware.

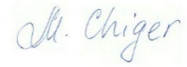
Based on the provided sampling results and human health risk assessment, DNREC-RS concurs with Verdantas conclusions and recommendations to implement the following precautionary actions during and following demolition activities at the Site:

- Soil disturbing activities at the Site should be conducted in accordance with DNREC's generic Contaminated Materials Management Plan (CMMP, dated April 25, 2018);
- An Air Monitoring Work Plan should be developed and implemented during soil disturbing activities to monitor airborne particulate concentrations during demolition activities; and
- Following regrading and stabilization activities, additional soil sampling be completed to assess the final shallow soil conditions at the Site. Additionally, an updated risk assessment should be performed to confirm that the conclusions presented in this report remain valid.

Additionally, following of the "Guidance for Soil / Material Reuse at and from Sites/ Facilities Regulated by the Hazardous Substance Cleanup Act May 2023" is not required but strongly recommended during construction activities.

If you have any questions, please feel free to contact me at 302.395.2600.

Sincerely,

A handwritten signature in blue ink that reads "M. Chiger". The signature is written in a cursive style and is placed on a light blue rectangular background.

Mariya Chiger  
Hydrologist

cc: Amy Bryson, DNREC, Program Manager  
Craig W. Murray, D'Huy Engineering, Inc.  
Vincent Carroccia, City of Wilmington

MC:pb  
MC 23023doc  
DE P00074 II 1



## ATTACHMENT B

### DNREC GENERIC CMMP



# Contaminated Material Management Plan (CMMP) For Utility Installation and Repair at DNREC Sites

Delaware Department of Natural Resources and Environmental Control (DNREC)

The purpose of this CMMP is to provide general guidance to utility companies for safe handling of contaminated materials (soil and groundwater) at DNREC sites contaminated or potentially contaminated with hazardous substance and/or petroleum. The CMMP addresses the management of material related to soil excavation activities to be performed for installation or replacement of underground utilities by workers under their own utility company contract.

## Background

There are hundreds of sites contaminated or potentially contaminated with hazardous substances that are being addressed by DNREC Site Investigation and Restoration Section (SIRS) and thousands of sites contaminated or potentially contaminated with petroleum releases from underground and aboveground storage tanks that are being addressed by DNREC-Tank Management Section (TMS). These sites are at different stages of investigation and cleanup process and the amount of information regarding contamination at these sites varies. Some sites are at the beginning of the investigation and have only limited information whereas at other sites the remedy is in place such as a cap. Sites with remedy in place such as engineered cap might have special instructions on the advisory ticket to contact DNREC prior to excavation.

## Intrusive Activities

Intrusive activities are defined as activities penetrating the existing ground surface which include, but are not limited to:

- Excavation and proper material management (soil and groundwater) associated with trenches for utility excavation due to utility installations or utility system repairs.
- Backfilling excavated areas.
- Management of underground storage tanks (USTs) and associated piping, components and foundations, if encountered.
- Excavation of landscaped areas or site grading.

## Excavation, Handling and Management of Contaminated Materials

The contaminant of concern for the site where excavation is taking place will be listed in the advisory. However, some of these sites are in the initial stages of investigations and may not have a detailed list. It is not possible to sample every location on a site, so there is potential for encountering contamination other than the ones listed. So the following measures should be taken as standard procedures.

## Soil

The advisory for the ticket should give a general idea of what types of contaminants are likely to be encountered during the excavation. The advisory may also provide any special information about the site such as there is a 1 to 2 feet thick soil cap present at the site. The advisory should be consulted to determine how to handle the excavated soil.

Soil that is excavated or disturbed at a location with known Volatile Organic Compounds (VOCs), semi volatile Organic Compounds (SVOCs), gasoline, or diesel contamination will require special treatment in the following cases. These contaminants are generally iden-

tifiable by characteristic petroleum odors or staining.

- If these signs are identified during excavation, and the soil is not immediately scheduled to be reused in the excavation, soil should be stocked pile on top of double 6 mil thick polyethylene sheeting and be covered with a similar material at the end of each work day and secured by weights to minimize removal of the cover by wind. If the soil is stored in the staging area for more than 14 days after stockpiling, the excavator will install silt fencing around the stockpile and temporarily stabilize using DNREC approved best management practices.
- If the purpose of the excavation is to install or replace a water supply line, organic impacted soils (i.e. petroleum, chlorinated solvents, etc.) cannot be reused in the excavation without DNREC approval. Clean imported soil and the use of non-permeable materials including water mains and organic-resistant gaskets are standard practices in these cases.
- Any non-reusable soils generated that are not going to be used to fill the excavation should not be considered as "clean fill". These soils need to be characterized prior to off-site disposal. Contact DNREC person listed on your ticket for coordination on testing and soil disposal requirements.
- In the event that soil is heavily contaminated with petroleum compounds to a point that there is free product mixed with the soil or grossly contaminated with other contaminants indicated by heavy staining or strong odor, backfilling activities cannot proceed without DNREC approval.

If the advisory indicates inorganic contamination in soil such as metals only and the excavated soil does not show indication of contamination determined using visual, olfactory or instrumental evidence then the soil can be put back into the excavation.

If the advisory indicate that a 1 or 2 foot thick cap is present at the site then the soil encountered in the upper 1or 2 feet of the excavation should be separated from the rest of the soil generated from the excavation. This clean soil is required to be put back on the excavation as an upper fill, as encountered prior to excavation. In this way, we can minimize exposure to deeper potentially contaminated soils.

## Fill/Debris Materials

If visually contaminated, the debris materials (timber, treated wood, railroad ties and/or concrete) encountered during excavation activities will be segregated and stockpiled on 6 mil polyethylene sheeting. If debris material is determined to be hazardous, it will be managed following RCRA generator, transportation and disposal requirements.

## USTs, ASTs and Piping

If USTs, ASTs or associated piping are encountered during any of the intrusive activities at the site, they will be properly drained of liquids, removed, decontaminated and disposed off site in accordance with the Delaware Regulations Governing Underground Storage Tank Systems or the Delaware Regulations Governing Aboveground Storage Tank Systems. If a regulated UST or piping associated with a regulated AST or UST is discovered, you must contact the DNREC Tank Management Section. In general, if any component of an AST or UST system is encountered, the DNREC Tank

*(Continued on next page)*



# Contaminated Material Management Plan (CMMP) For Utility Installation and Repair at DNREC Sites *(continued)*

Management Section can be contacted at 302-395-2500 to answer any questions.

## Groundwater

If groundwater is encountered during excavation activities, the utility company is responsible for obtaining a wastewater discharge permit prior to dewatering activities from the appropriate local and state agency. All dewatering operations require DNREC approval. Please contact DNREC Water Supply Section for permits at 302-739-9945. For the City of Wilmington, all dewatering fluids are required to be routed into one of the designated sanitary sewer man-holes approved by the City in accordance with the Wastewater Discharge Permit. Initial pretreatment of the groundwater may include a sedimentation tank, a filtration unit, an oil/water separator, or a carbon filtration unit if necessary, before discharging into the sewer system. Water pumped from the excavation shall be treated, as necessary, to meet the discharge concentrations specified by the wastewater permit issued by the City or a state agency.

## Health and Safety

The intrusive activities shall be conducted under the guidance of the Health and Safety (H&S) plan of each utility company. The H&S plan should indicate what level of training the worker would need such as OSHA 24-hour HAZWOPER training or 40-hour HAZWOPER training. In general a modified level D OSHA personal protective equipment (PPE) within the project area is required. However, a higher level of protection may be required based on the contaminants as indicated in the H & S plan. The excavator shall provide adequate protective measures to limit potential public exposure to environmentally impacted materials.

## Transportation of Contaminated Materials

### a) Soil Disposal

1. Contaminated soil shall either be loaded or temporarily stockpiled in preparation for loading into dump trucks or trailers by the excavator. The excavator is responsible for monitoring the loading and stockpiling the soil. The soil will be transported to a DNREC approved disposal location and copies of completed waste manifests shall be forwarded to DNREC contact listed in the ticket.
2. The trucks shall be loaded so that the solids are at least six (6) inches below the top of the trailer bed.
3. The trucks shall be covered during transport.
4. The excavator should remove accumulated material from the truck tires prior to the trucks leaving the site. Soil removed from the truck tires shall be collected and managed as per the specifications of this plan.
5. The excavator shall keep all roadways entering and leaving the site free from soil. If necessary a tracking pad or street sweeper will be used to prevent any soil tracked on roadways from trucks leaving the site.
6. A manifest record should be kept by the excavator.

### b) Fill/Debris Materials

1. Excavator should be responsible for transportation and disposal of all concrete, asphalt, metal and untreated wood resulting from the excavation. If debris material is determined to be hazardous, it will be managed following RCRA generator, transportation and disposal requirements. Copies of Com-

pleted waste manifests shall be forwarded to DNREC contact listed in the ticket.

### c) Petroleum Contaminated Water and Oil (if encountered)

1. Petroleum contaminated water will be pre-treated, as necessary, and then pumped to a treatment water plant or sewer system if applicable and permitted.
2. The transporter of any recovered oil will be a fully licensed, insured and permitted company to transport petroleum contaminated liquids in the State of Delaware.
3. The excavator is responsible for keeping all disposal records as appropriated.

## Site Restoration

Restoring the site conditions to conditions prior to excavation activities is a requirement to protect the integrity of any remedy in place. Therefore, after excavation is complete, the utility company is required to restore the site to a condition that prevents potential contact with contaminated materials.

- Procedure for backfilling: The upper 1 to 2 foot of clean soil indicated in ticket as a cap needs to be put back on the excavation as an upper fill.
- Impervious surfaces (asphalt, concrete, etc): Asphalt and concrete from utility trenches must be restored to a previous excavation condition of the cap. This would prevent exposure to the soil underneath the cap.
- Landscaped areas: materials from the landscape areas at sites with cap must be restored to a condition previous to excavation. This would prevent exposure to the soil underneath the cap.

## Emergency Utility Repair

For emergency utility repairs, except for water lines replacement or installation, reusing the onsite excavating materials from the utility trench back into the trench is an acceptable procedure for DNREC. However, if evidence of contamination was detected and if possible, the soil should be stock piled. If that is not possible, soil can be temporarily put back in the excavation but DNREC should be informed by the next working day. However, if free product is encountered during the excavation, the excavator should contact the material and notify DNREC emergency response team immediately.

## Further Support

For further support regarding safe handling of contaminated materials please contact DNREC. For best response select the Tank Management Section for petroleum related contamination, or the Site Investigation and Restoration Section for non-petroleum related contamination:

- **DNREC Tank Management Section**  
Lori Spagnolo  
302-395-2500
- **DNREC Site Investigation and Restoration Section**  
Meghan Crystall  
302-395-2600
- **DNREC Emergency Response Team**  
800-662-8802