REMEDIAL INVESTIGATION REPORT, RISK ASSESSMENT REPORT AND CLEANUP PLAN FOR SOIL AT THE ZIEGER FLORAL, INC. PROPERTY 1756 AND 1760 DRESHERTOWN ROAD UPPER DUBLIN TOWNSHIP MONTGOMERY COUNTY, PENNSYLVANIA

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SUBMITTED TO

The Pennsylvania Department of Environmental Protection
Southeast Regional Office
Environmental Cleanup and Brownfields Program
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1.0 INTRODUCTION AND SUMMARY

This combined Remedial Investigation Report (RIR), Risk Assessment Report, and Cleanup Plan addresses the characterization and proposed remediation of impacted soils at the Zieger Floral, Inc. (Zieger) property located at 1756 and 1760 Dreshertown Road, Upper Dublin Township, Montgomery County, Pennsylvania (hereinafter referred to as the property or Zieger property). A property location map is provided in Appendix 1.

The RIR/Risk Assessment Report/Cleanup Plan was prepared by TriState Environmental Management Services, Inc. (TriState) on behalf of The Cutler Group, Inc. (Cutler), c/o its attorney, Richard P. McBride, Esq. The work was conducted and this RIR/Risk Assessment Report/Cleanup Plan was prepared in accordance with Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2) and associated regulations and technical guidance (e.g., the latest version of the Land Recycling Program's Technical Guidance Manual [TGM], as applicable).

TriState submitted to PADEP on Cutler's behalf a Notice of Intent to Remediate (NIR) for the property on August 14, 2013, which identified the media and constituents of concern (COCs) for the "Site" being addressed under Act 2, the source of the contamination, and the proposed remediation measures. The requisite notices of the NIR to the local municipality (Upper Dublin Township) and to the public via publication in a local newspaper (The Intelligencer) were also made at that time. Copies of the above notices and proof of their receipt/publication are provided in Appendix 2. The above NIR supplants a NIR that reportedly was submitted to PADEP for the property in 2008 by DelVal Soil & Environmental Consultants, Inc. (DelVal) on Cutler's behalf.

Contamination exists in shallow soils in portions of the property that are associated with the past use of pesticides, deterioration of building lead-based paint, and storage/combustion of coal from former operations conducted at the property that included, in addition to cultivation of field crops, a large commercial rose nursery conducted within three greenhouses and associated buildings reportedly beginning in the 1920s until cessation of operations in 2005. The contaminants in soils include: the heavy metals arsenic and lead; the organic pesticide compounds 4,4'-DDT, 4,4'-DDE, endrin, endosulfan sulfate, endosulfan-I, endosulfan-II and methoxychlor; and polycyclic aromatic hydrocarbon (PAH) compounds.

The specific remediation measures to be implemented to address the above soil contamination, as described in the Cleanup Plan herein and in conjunction with the planned future residential use of the property, is the removal of soils impacted above the Act 2 residential Statewide Health Standards (SHS) from the affected areas located within future residential building lots and confirmatory post-removal sampling. The removed impacted soils will be both disposed offsite (i.e., selected surface soils with the greatest

degree of impacts), and relocated and reused onsite (i.e., the larger volume of remaining, less-impacted soils) in perimeter landscaping berms as part of property redevelopment elements with the requisite engineering (soil cap) and institutional controls (environmental covenant) thus resulting in pathway elimination and ultimately compliance with both the Act 2 residential SHS and residential Site-Specific Standard (SSS) for the Site.

2.0 SITE DESCRIPTION

2.1 SITE SETTING AND USE

The property is roughly rectangular in shape, approximately 37.5 acres in size and located at the western corner of the intersection of Welsh Road (PA Route 63) and Dreshertown Road. Jarrettown Road borders the property along its southwestern perimeter. The property consists of county tax parcel number 54-00-05410-00-8 (Block 011, Unit 001). Property layout maps depicting existing buildings and associated features are provided in Appendix 1.

The majority of the property consists of agricultural fields for cultivation of field crops such as corn, except for the eastern/southeast portion along Dreshertown Road which contains the buildings and associated features for a currently closed (see below) commercial rose nursery operation. The buildings in this area include three greenhouses each approximately 30,000 square feet (ft^2) in size, a single-story boiler house with associated elevated smoke stack, a single-story storage garage, and a single-story combination packaging and garage (former boiler room) building. The greenhouses are of steel frame and glass panel construction and the other buildings are of masonry construction without basements. Two single-family residences are located in the southern corner of the property to the southwest of the above nursery buildings. The boiler house contains two large industrial boilers; one of which has been fueled exclusively by coal and the other by either natural gas or No. 6 fuel oil. The property historically has been serviced by onsite wells for potable water and onsite septic systems for sanitary waste disposal.

The agricultural fields comprising the majority of the property are currently cultivated by a tenant farmer, while the buildings and facilities associated with the rose nursery operation, as well as the residences, are currently vacant and unused. Members of the Zieger family under several different entities have owned the property reportedly since the 1920s until the present during which they operated the commercial rose nursery until cessation of those operations in 2005.

Planned future use of the property is residential consisting of construction of single-family homes on the property, which is discussed further in the context of the proposed remediation of soils in the Cleanup Plan section (Section 6.0) of this report.

Land surrounding the property consists primarily of residential and commercial use properties, or is wooded, unused land. Single-family homes are located to the north, southwest, west and northwest of the property. Corporate office/commercial parks and a small auto repair shop are located to the northeast and east of the property across Welsh Road. An apparent former agricultural use property that is currently overgrown with vegetation and unused is located to the southeast across Dreshertown Road.

2.2 PHYSICAL SETTING

The property is located in the Gettysburg-Newark Lowland Section of the Piedmont Physiographic Province and ranges in elevation from approximately 310 to 330 feet above mean sea level. The property, in general, slopes slightly from the higher elevations in the northern/northeastern portions to the lower elevations in the southern/southwestern portions. Surface water drainage is by infiltration and overland flow generally following surface topography towards the lower elevations of the property in the cultivated fields portion of the property and/or to storm sewer inlets located around the nursery-related structures.

No surface water bodies are present at the property. The nearest surface water body is an unnamed, intermittent tributary to Sandy Run located approximately 500 feet to the west and southwest of the property. Local shallow groundwater flow direction presumably follows regional topography to the south/southwest toward the above unnamed stream. Although not encountered during the course of the site characterization work discussed herein, based on other environmental due diligence-related work conducted at the property by TriState, shallow groundwater occurs in the eastern and southern portions of the property at a depth greater than 14 feet below grade.

Soils at the property are mapped (see Appendix 3) as the Croton, Lansdale, Lawrenceville, and Readington Series, which are collectively described as silt loams that are deep to very deep and poorly to well drained soils, except for those in proximity to the nursery structures which are described as "Made land, shale and sandstone materials," which is a classification used for areas that have been developed and graded for extended periods of time, such as this portion of the property, where the natural soil profile has been disturbed by development. Bedrock at the property is mapped (also see Appendix 3) as the Triassic-age Stockton Formation, which is described as consisting of interbedded sandstone, shale and siltstone. Based on other environmental due diligence-related work conducted at the property by TriState, the depth to bedrock in the eastern and southern portions of the property ranges from approximately 10 to 14 feet below grade.

2.3 REGULATORY ACTION HISTORY

Based on the aforementioned environmental due diligence-related activities conducted by TriState, the regulatory agency documents and file information on the property summarized below were identified.

- A November 6, 1989 PADER (predecessor agency to PADEP) "Registration of Storage Tanks" form (PADEP Facility ID No. 46-21267) completed by Zieger & Sons, Inc. for a 2,000-gallon diesel fuel underground storage tank (UST), which reportedly was used in the past to refuel vehicles associated with the farming and nursery operations at the property, and two, 20,000-gallon heating oil (reportedly No. 6 fuel oil) USTs associated with the boiler house.

- A November 11, 1989 PADER letter to Zieger & Sons, Inc. acknowledging receipt of the above tank registration form and compliance with its requirements.

- An April 1998 PADEP "Underground Storage Tank System Closure Notification Form" prepared by David Zieger for the planned removal of the above diesel fuel UST.

- A September 1998 PADEP "Underground Storage Tank System Closure Report Form" prepared by Magnus Construction Co., Inc. (Magnus) detailing the removal and related site assessment activities associated with the 2,000-gallon diesel fuel UST. No obvious contamination was reported by Magnus in that report during and following UST removal, and no exceedances of the residential SHS were identified by the laboratory in the post-removal soil samples.

- A March 1999 PADEP letter to Zieger & Sons, Inc. acknowledging receipt of the above UST closure report by the Department and their plans not to review it at that time. The letter also contained the associated recordkeeping requirements and requirements to comply with the Department's Corrective Action Process regulations in the event contamination is identified, which was not the case, according to Magnus.

In addition, as noted previously, DelVal reportedly submitted an NIR in 2008 for soils at the property on Cutler's behalf.

3.0 SITE CHARACTERIZATION

3.1 PREVIOUS INVESTIGATIONS

3.1.1 DelVal's Environmental Site Assessment/Site Characterization Activities

As part of environmental due diligence, DelVal was retained to perform a Phase 1 Environmental Site Assessment (ESA) of the property in 2005. DelVal identified the possible past use of historical pesticides at the property as a potential concern based on its protracted agricultural use history, particularly the former nursery operation.

DelVal subsequently conducted initial Phase 2 ESA activities in 2005 to address the above potential concern, which included the collection and laboratory analysis of 26 surface (0 to 0.5 foot depth interval) soil samples from the cultivated fields and nursery areas of the property. These samples were analyzed for Target Compound List (TCL) pesticides; the herbicide compounds 2,4-D, 2,4,5-TP (Silvex) and 2,4,5-T; and the heavy metals arsenic and lead (lead arsenate was an inorganic pesticide compound applied to certain crops in the past). Only arsenic and lead were detected above the residential SHS and only in the samples collected in and around the nursery-related structures, especially the three greenhouses. No SHS exceedances for arsenic or lead were identified in the soil samples from the cultivated fields. The pesticides 4,4'-DDT, 4,4'-DDE, endrin, endosulfan sulfate, endosulfan-I, endosulfan-II and/or methoxychlor were detected in slightly over one-half of the soil samples from both the cultivated fields and nursery structure area, but in all cases only at low concentrations well below the residential SHS. The other TCL pesticides and all three of the targeted herbicides were not detected in any of these samples.

In 2006, DelVal completed 30 interior (greenhouses) and 55 exterior (all nursery buildings) soil borings from which a total of 264 soils samples were collected for analysis to initiate delineation of the lateral and vertical extent of the arsenic and/or lead impacts identified previously at these buildings. The above activities indicated that the soil impacts above the SHS inside the three greenhouses extended to 0.5 feet below grade inside and outside the planter beds over approximately one-half of the collective interior area of these buildings. The exterior soil sample results indicated that the vertical extent of the impacts was slightly greater (upwards of 1.5 feet below grade) than those in the interior and they extended in some portions of the targeted area laterally toward the unpaved driveway that encompasses the nursery buildings. SHS exceedances were also identified in a soil fill pile located to the north of the nursery buildings across the unpaved driveway. DelVal indicated in their report that on the basis of the results therein the delineation of the arsenic and/or lead impacts was not yet complete.

To further refine their delineation of the arsenic and/or lead impacts at the nursery buildings, DelVal in 2007 completed an additional 23 exterior soil borings and collected an additional 115 exterior soil samples from generally deeper intervals and laterally more distant locations than those assessed in exterior locations during their 2006 sampling

event. The results of that sampling event indicated that the exterior arsenic and/or lead impacts were not materially more vertically extensive than that identified during the 2006 sampling event (as deep as 2 feet below grade in some portions of the targeted area) and were somewhat more laterally extensive generally extending up to and in some locations slightly beyond the unpaved driveway that encompasses the nursery buildings in those areas. The DelVal results indicate that the lateral extent of the impacts progressively decreases with depth at distances away from the greenhouses and adjacent western nursery garage (i.e., the upper 0 to 0.5 foot interval is the most laterally extensive).

Copies of DelVal's ESA/site characterization reports, including their soil impacts delineation maps, are provided in Appendix 4 of this report.

3.1.2 TriState's Environmental Site Assessment Activities in UST Areas

As part of due diligence at the property, TriState was retained to conduct subsurface investigations in: (1) the location of the aforementioned 2,000-gallon diesel fuel UST outside the northern garage building that was removed in 1998 by Magnus to confirm the prior findings of no exceedances of the residential SHS in soils in that area, (2) the location of the existing two, 20,000-gallon No. 6 fuel oil USTs outside the boiler house, (3) the location of the existing 2,000-gallon No. 2 fuel oil UST outside the vacant newer residence, and (4) the location of the existing 550-gallon No. 2 fuel oil UST outside the older vacant residence. The investigations were conducted in January 2013 in conjunction with those discussed in Section 3.2 below

The qualitative findings and quantitative results for the above investigation indicated that no leakage has occurred from the former and existing USTs at the property resulting in adverse impacts to or exceedances of the residential SHS for targeted parameters in soils in those areas and groundwater was not encountered during the investigations. Based on the above, a Release of Liability under Act 2 in not being sought for the above UST areas.

3.2 SUPPLEMENTAL SOIL CHARACTERIZATION

3.2.1 General

Also as part of due diligence, TriState was retained to expand on/confirm the prior soil delineation work by DelVal for the arsenic and/or lead impacts associated with the nursery buildings, as well as to address certain features of potential concern associated with the former nursery operation not previously investigated. Those features include: (1) the septic system servicing the storage garage building located to the west of the greenhouses and (2) the former drainage ditch located near the southeast property perimeter adjacent to Dreshertown Road that reportedly received in the past stormwater from the aforementioned inlets in the nursery structure area and irrigation and rose processing water from the interior of certain buildings via floor drains located within those buildings. The drainage ditch reportedly was replaced in the early 1980s by a piped stormwater system engineered

and installed by others for the Ziegers at the direction of Upper Dublin Township. TriState also expanded the list of potential COCs in exterior surface/shallow soils in the nursery building area from possible atmospheric deposition of coal combustion compounds due to the extensive history of coal use in one of the large boilers for the former nursery operation.

TriState also expanded on DelVal's prior work in the cultivated fields portion of the property, specifically along a portion of the southwest perimeter of the property adjacent to an apparent orchard area that was present at the property immediately to the southwest of the Zieger property in the 1940s, based on TriState's review of historical aerial photographs of the property and surrounding area as part of due diligence. Additional sampling and analysis in that area was conducted to screen for potential overspray of historical pesticides (e.g., lead arsenate) onto the Zieger property that may have been used at that adjacent property in the past given its extended agricultural history that included orchards.

3.2.2 Technical Overview

3.2.2.1 Sampling and Analysis/Quality Assurance Plan

Health and safety measures, quality assurance/quality control (QA/QC) protocols, and sampling, sample handling and equipment decontamination protocols, as applicable, were in accordance with PADEP protocols or in lieu thereof, TriState's standard protocols which have been acceptable to PADEP on other projects. All work was conducted under a site-specific Health and Safety Plan (see Appendix 5). USEPA/SW-846 test methods and a Pennsylvania-certified laboratory were used for all soil sample analyses. Prior to intrusive activities, subsurface utility mark-outs of applicable areas were requested via the public utility ("One Call") locating service for the area, and where applicable probe hole locations were screened for the presence of underground utilities using a magnetic locator instrument.

TriState's soil sampling activities were conducted between December 2012 and February 2013. The shallow soil borings were completed manually with a stainless steel bucket auger typically to a depth of 0.5 feet below grade. The typically deeper probe holes were completed with a Geoprobe unit or manual direct-push equipment to varying depths depending on the area being addressed and/or the need for vertical delineation. Probe holes were advanced and soil samples collected with either 48-inch long, 2-inch diameter "Macro Cores" or 24-inch long, 1.5-inch diameter "Large Bore" (continuous tube samplers) with clear plastic disposable liners. In general, at soil boring locations where SHS exceedances were identified in surface soils, vertical delineation was accomplished via completion of a subsequent probe hole at that location to obtain deeper soil samples. Where this occurred, the soil boring and probe hole were assigned the same sequential location number preceded by the abbreviated area designation and either SB or PH (see below).

Soil samples collected from the soil borings and probe holes were generally inspected for color, texture, and readily identifiable qualitative indications of impacts (e.g., petroleum staining, odor, etc.), and selected samples (e.g., those where potential COCs included volatile organic compounds such as in the nursery septic system area) were field screened using a photo-ionization detector (PID) monitoring instrument. Soils were classified and logged using a modified Burmeister system and the presence of any non-native fill materials encountered was recorded. Soil samples from soil borings and/or probe holes were retained for laboratory analyses generally at: (1) the upper 0 to 0.5 foot depth interval for confirmatory, additional parameter assessment and/or expanded lateral delineation purposes, (2) at a deeper depth interval(s) for vertical delineation purposes, as applicable, and/or (3) the lowermost depth interval in the absence of qualitative indications of impacts (e.g., in the nursery building septic system and former drainage ditch areas).

Soil samples retained from the soil borings and probe holes for laboratory analysis were designated using an area identification abbreviation (e.g., BE for nursery building exterior) and either the soil boring (SB) or probe hole (PH) location number followed by the depth interval from which the sample was collected. Therefore, for example, the sample from the 0 to 0.5 foot depth interval from soil boring SB-1 completed in the general nursery building exterior (BE) was designated BESB-1/0-0.5 and the sample from the 9 to 10 foot depth interval from probe hole PH-3 completed in the nursery building septic system (SS) area was designated SSPH-3/9-10.

QA/QC samples consisting of duplicate samples were routinely collected to assess whether the analytical results were reproducible. The designations for these samples and which soil samples were duplicated are indicated on the analytical data summary tables discussed in Section 3.2.3. Trip and field blanks are not routinely collected for soil sampling for the targeted parameters.

The soil and QA/QC samples were submitted to Accutest Laboratories, Inc. (Accutest) of Dayton, New Jersey (PADEP Certification No. 68-408) and analyzed for the parameters indicated in the sections below for the respective targeted areas. The soil sample analytical results were compared to the more stringent of the direct contact or applicable soil to groundwater numeric values under the Act 2 medium-specific concentrations for soils, based on the depth intervals sampled, lack of saturated zone soils at those intervals and the proposed future residential use of the property (hereinafter collectively referred to as the residential SHS).

The specific soil sampling and analysis activities conducted in each of the targeted areas at the property are described below. The location of the soil borings and/or probe holes completed in the below areas are collectively shown on the figures in Appendix 6.

3.2.2.2 Nursery Building Interior and Exterior Areas

TriState completed a total of 6 soil borings (designated GISB-1 through GISB-6) and 20 probe holes (designated GIPH-1 through GIPH-18, GIPH-1 and GIPH-3) inside the three

greenhouses within both the concrete-lined planting beds for the rose plants and the open soils located between the beds. The probe holes were generally competed to a depth of 3 feet below building interior grade between the planter beds. Soil samples retained from the 0 to 0.5 foot depth interval from the above soil borings, and from 1.5 to 2 foot and 2.5 to 3 foot depth intervals in the above probe holes were analyzed for arsenic and lead.

TriState also completed soil borings and where necessary probe holes at a total of 37 separate locations in exterior areas around and between the nursery structures, particularly the three greenhouses. The initial set of soil borings were designated BESB-1 through BESB-13. Soil samples retained from the 0 to 0.5 foot depth interval from each of these soil borings were analyzed for TCL PAHs and Priority Pollutant (PP) list metals.

Based on the analytical results for the above samples (see Section 3.2.3), an additional 4 soil borings and 29 probe holes were progressively completed in applicable locations and to necessary depths for continued lateral and vertical delineation purposes of the identified COCs. Soil samples retained from the 0 to 0.5 foot depth interval from these soil borings and selected probe holes, and as warranted, deeper depth intervals from the probe holes were analyzed for TCL PAHs and/or arsenic and lead.

3.2.2.3 Nursery Building Septic System and Drainage Ditch Areas

TriState completed five probe holes (designated SSPH-1 through SSPH-5) in the reported location of the septic system that serviced the western nursery garage and three probe holes (DDPH-1 through DDPH-3) adjacent to the former drainage ditch near the southeast property perimeter along Dreshertown Road. Soil samples were retained from each of the septic system probe holes at the 1.5 to 2 foot depth interval and at the lowermost interval which ranged between 6.5 and 11 feet below grade in these probe holes. Soil samples were retained from each of the drainage ditch probe holes at the 1 to 1.5 foot and 7 to 8 foot depth intervals. The above samples were analyzed for TCL PAHs and/or arsenic and lead.

3.2.2.4 Cultivated Fields Property Perimeter

TriState completed four surface soil borings (designated AFSB-1 through AFSB-4) along a portion of the southwest perimeter of the property to assess for potential overspray of historical pesticides from the adjacent property to the southwest based on its agricultural history, which included an orchard in the 1940s. A soil sample from the 0 to 0.5 foot depth interval was retained from each of these soil borings and analyzed for TCL pesticides, arsenic and lead.

3.2.3 Findings/Results

3.2.3.1 General

A sampling information and field observations summary table is provided in Appendix 7. Analytical results summary tables and corresponding laboratory data summary sheets for the soil samples from all the targeted areas are provided in Appendices 8 and 9, respectively.

Soils encountered beneath the topsoil in the probe holes completed in exterior portions of the targeted areas generally consist of brown to reddish-brown silt and clay with varying amounts of fine to medium grained sand to depths between 6 and 9 feet below grade underlain by brown to reddish-brown, fine to coarse grained sand and silt with varying amounts of weathered rock fragments to depths between 10 and 12 feet below grade where advancement refusal of the probing equipment generally occurred due to the presence of bedrock. Groundwater was not encountered in any of the probe holes.

Soils encountered within the planter beds inside the three greenhouses generally consisted of a silty and sandy soil planting medium to the concrete base of the beds at a depth of approximately one foot. Soils encountered between the planter beds inside the greenhouses were generally similar to those encountered in the exterior areas around these buildings, as described above.

No readily identifiable qualitative indications of adverse impacts to soils such as material chemical staining/discoloration, odor, or PID responses (where field screening was conducted, as noted previously) were identified in the probe holes.

The specific results for the soil sampling conducted in each of the targeted areas at the property are described below. The QA/QC sample results for each of these areas indicated that the data were reproducible.

3.2.3.2 Nursery Building Interior and Exterior Areas

Arsenic and/or lead was detected above the SHS in all of the six soil boring surface samples (GISB-1/0-0.5 through GISB-6/0-0.5) from the within and between the planter beds inside the three greenhouses. Arsenic concentrations that exceed the SHS in these samples range from 13.6 mg/kg (parts per million or ppm) to 49.6 ppm, and the lead concentrations range from 1,390 to 46,600 ppm. Arsenic and lead were either not detected or detected at low concentrations below their SHS and within the range of typical naturally occurring soil concentrations for these compounds in soils in the deeper (1.5-2 and 2.5-3 foot) soil samples from the probe holes inside the greenhouses.

Most to all PAH compounds were routinely detected in the initial 13 surface (0 to 0.5 foot depth interval) soil samples collected in exterior areas around the nursery structures. However, the concentrations detected were below their residential SHS in soils, except for

samples BESB-2/0-0.5 through BESB-5/0-0.5, BESB-31/0-0.5 and BESB-32/0-0.5 located near and around the boiler house, and adjacent former coal storage area and unpaved driveway. The PAH compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene were detected above the SHS in samples BESB-2/0-0.5 through BESB-5/0-0.5, while only benzo(a)pyrene was detected above the SHS in samples BESB-31/0-0.5 and BESB-32/0-0.5. The concentrations of the above compounds that exceed the SHS range from 8.1 to 35.2 ppm for benzo(a)anthracene, 9 to 34.3 ppm for benzo(a)pyrene, 9.8 to 38.8 ppm for benzo(b)fluoranthene, 2.1 to 15.7 ppm for dibenzo(a,h)anthracene, and 5.8 to 22.5 ppm for indeno(1,2,3-cd)pyrene.

PP metals, except for arsenic and lead, in the above 13 samples from exterior areas around the nursery structures were either not detected or detected at low concentrations below their SHS and within the range of typical naturally occurring soil concentrations for these compounds in soils. Arsenic above the SHS was detected in four of these samples (BESB-1/0-0.5, BESB-4/0-0.5, BESB-5/0-0.5 and BESB-11/0-0.5) at concentrations ranging from 12.1 to 41.1 ppm, and lead above the SHS was detected in one of these samples (BESB-2/0-0.5) at 515 ppm. These samples were collected in proximity to the boiler house, adjacent former coal storage area and unpaved driveway, except for BESB-11/0-0.5 which is from the diagonally opposite side of the nursery structure area in the eastern portion of the property.

The results for the progressively more laterally and vertically distant soil samples in the exterior areas for delineation purposes were generally below the SHS for the parameters being delineated (i.e., PAHs, arsenic and/or lead), except for BEPH-20/1-1.5, BEPH-26/1-1.5 and BEPH-35/0-0.5 with arsenic concentrations of 16.9 ppm, 19.6 ppm and 12.2 ppm, respectively, and BEPH-31/0-0.5 and BEPH-32/0-0.5 with benzo(a)pyrene concentrations of 2.4 ppm and 1 ppm, respectively, which collectively are only slightly above their respective SHS.

Figure 6-1 in Appendix 6 denotes the locations where the SHS for the target parameters were exceeded in the above samples. This figure also depicts the approximate lateral extent of the SHS exceedances of the targeted parameters in surface/shallow soils in this area based on the collective site characterization activities.

3.2.3.3 Nursery Building Septic System and Drainage Ditch Areas

None of the targeted parameters were detected in the soil samples from the probe holes completed in the nursery building septic system area and adjacent to the former drainage ditch near the southeast property perimeter along Dreshertown Road, except for low concentrations of one or more PAHs in samples SSPH-3/1.5-2 and DDPH-3/7-8, and low concentrations of arsenic and lead in all of these samples, which collectively are all below their residential SHS in soils. The PAH compounds detected in the above two samples included: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, fluoranthene, indeno(1,2,3-cd)pyrene,

phenanthrene, pyrene and/or naphthalene all at concentrations one to several orders of magnitude below the residential SHS. Arsenic and lead were detected at concentrations ranging from not detected to 9.2 ppm and 10 to 67.7 ppm, respectively, within the range of typical naturally occurring soil concentrations for these compounds.

3.2.3.4 Cultivated Fields Property Perimeter

None of the targeted parameters were detected in the surface soil samples (AFSB-1/0-0.5 through AFSB-4/0-0.5) from the soil borings completed along the southwestern perimeter of the property, except for low concentrations of 4,4'-DDT, 4,4'-DDE, arsenic and lead that are all below their residential SHS in soils. The 4,4'-DDT and 4,4'-DDE concentrations in these samples were similar and ranged from 0.003 to 0.016 ppm. Arsenic and lead were detected at concentrations ranging from 6.1 to 8.2 ppm and 29.2 to 49 ppm, respectively, within the range of typical naturally occurring soil concentrations for these compounds.

3.3 FATE AND TRANSPORT ANALYSIS

Based on the collective site characterization results discussed in Sections 3.1 and 3.2, the impacts to soils by COCs above the residential SHS are confined to surface/shallow soils in the general area of the property where the COCs were originally deposited/generated/released (i.e., onto the surface in and around the nursery structure area). Given the methods by which the COCs were deposited/generated/released, as discussed in the conceptual site model in Section 4.0, and the apparent extended period they have been present at the property, migration of COCs at the property, particularly vertically through the soil profile, has been relatively limited. This is not an unanticipated condition given: (1) the silty and clayey texture of shallow soils at the property, (2) the nature of the COCs (i.e., the heavy metals arsenic and lead, and PAHs), which typically have low mobility or are generally immobile in soils in most cases due to their physical properties (e.g., the published relatively high to very high default organic carbon partition coefficients/soil-water partition coefficients applicable to these compounds and their generally low aqueous solubility), and (3) their resulting tendency to strongly adsorb and at times to possibly irreversibly adsorb to the type of soils present at the property under past and present conditions.

The above is also expected to limit/preclude the potential for the COCs to impact underlying ground water, particularly since shallow groundwater at the property is at an apparent depth greater than 14 feet below grade, as discussed previously. Thus, there is at least 8 feet of non-impacted soils between the base of the impacted area and the water table or top of bedrock.

These same low mobility conditions for the COCs are expected to continue when the impacted soils are removed and relocated on the property into landscaping berms and capped, as part of the proposed remediation discussed in Section 6.0.

4.0 CONCLUSIONS/CONCEPTUAL SITE MODEL

4.1 GENERAL

Based on the collective results of the site characterization activities discussed in Section 3.1 and 3.2, the impacted soil conditions that define the "Site," in accordance with Act 2, for which a Release of Liability is being sought, includes the nursery building area and past and present cultivated fields portions of the property, which essentially constitutes the entire property for the above purpose (see Figure 6-3). The environmental conditions and associated information identified for these two areas for developing a conceptual site model are discussed below.

4.2 NURSERY BUILDING AREA

The COCs in soil identified in interior (greenhouses) and exterior areas of the nursery building area of the property include: TCL PAHs; the organic pesticides 4,4'-DDT, 4,4'-DDE, endrin, endosulfan sulfate, endosulfan-I, endosulfan-II and methoxychlor; and the heavy metals arsenic and lead. The presence of the PAHs appears to be the result of the reported long-term use of coal in the boiler house. The presence of the above organic pesticides is the result of past application of those substances (part of a group of such compounds commonly referred to as historical pesticides) during past cultivation and/or nursery activities. The presence of the arsenic and lead is also the result of past application of historical pesticides (lead arsenate), although the significantly elevated lead concentrations (relative to the arsenic concentrations) suggest that the source of the lead impacts is more from the deterioration of lead-based paint confirmed to be on interior and exterior surfaces of the nursery buildings, particularly the greenhouses where the condition of that paint is poor, than the past use of that pesticide.

Of the above COCs, only the PAHs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene, and arsenic and lead were detected in surface/shallow soils above the applicable residential SHS. The other TCL PAHs, the other PP metals, and all of the detected organic pesticides were consistently below the residential SHS. The other PP metals were also consistently detected within the range of typical naturally occurring soil concentrations for those compounds.

The site characterization activities indicate that the soil impacts by the above COCs that exceed the residential SHS extend laterally away from the nursery buildings out to and in most cases slightly beyond the unpaved driveway that traverses around the nursery buildings, or over an area of approximately 285,000 ft^2 or 6.4 acres of the approximately 37.5 acre property. These soil impacts extend vertically to depths of between 0.5 and 1 foot inside the three greenhouses and to depths of between 1 and 2 feet below grade in the exterior areas around the nursery buildings. This results in a conservatively estimated volume of 16,000 cubic yards (yd^3) of soil that exceeds the residential SHS for one or more

COCs. Estimates of the mass of each of the COCs present in these soils, based on the volume of impacted soil and the mean concentration developed for each of the COCs, are presented in the table in Appendix 10.

The fate and transport analysis discussed in Section 3.3 indicated that the COCs in excess of the residential SHS (i.e., arsenic, lead and specific PAHs) present in surface/shallow soils in this area have inherently relatively limited mobility or are generally immobile in unsaturated zone soils due to their affinity to adsorb to soil surfaces, and hence migration of these COCs appears to be relatively limited or negligible. They also should not have any material affect on the underlying groundwater based on site conditions/setting discussed previously. The results of the site characterization activities substantiate the above given the apparent extended period of time the COCs have been present in Site soils.

4.3 CULTIVATED FIELDS

Certain organic pesticides were detected in the surface soils in the cultivated fields portion of the property; however, the specific compounds that were detected all meet the respective residential SHS for those compounds. Those compounds include: 4,4'-DDT, 4,4'-DDE, endrin, endosulfan sulfate, endosulfan-I, endosulfan-II and methoxychlor. The collective arsenic and lead concentrations detected in surface soils in the cultivated fields also were below the residential SHS for soils and within the range of typical naturally occurring soil concentrations for these compounds. Based on the above, no additional investigation or remediation activities are proposed for the cultivated fields portion of the property, and therefore not further addressed in the Cleanup Plan in Section 6.0.

5.0 RISK ASSESSMENT REPORT

5.1 GENERAL

A simplified Risk Assessment Report that addresses the relevant potential exposure pathways required under Act 2 is presented below. This simplified Risk Assessment Report is based on (1) the conceptual site model discussed in Section 4.0 and (2) the proposed remediation of impacted soils to achieve attainment of the residential SHS and SSS via removal and a combination of offsite disposal and pathway elimination of present and future exposure pathways through relocation and onsite reuse in perimeter landscaping berms as part of property redevelopment elements with the requisite engineering (soil cap) and institutional controls (environmental covenant), as discussed in Section 6.0.

5.2 ECOLOGICAL EVALUATION

Ecological screening activities conducted by TriState included review of reports and documents prepared and provided by others pertaining to the identification of species or habitats of concern and wetlands specifically at the property generated as part of the property development process, in conjunction with the identified surface soil impacts and property conditions/setting.

The reports/documents reviewed by TriState, copies of which are provided in Appendix 11, are as follows: an October 10, 2013 Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Receipt for the property obtained from the Pennsylvania Natural Heritage Program's Environmental Review Tool website and May 1, 2007 and October 16, 2013 wetlands evaluation reports for the property prepared by DelVal.

The PNDI receipt (Project Search ID No. 20131010424319) indicates "No Known Impact", which means that there are no potential impacts with special concern species or ecological resources at the property anticipated by the four government agencies having jurisdiction over the protection of these resources (i.e., U.S. Fish and Wildlife Service, Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission and Pennsylvania Department of Conservation and Natural Resources). As discussed in Section 2.2, no surface water bodies are present at or in immediate proximity to the property. The DelVal reports indicate that no portion of the property would classify as wetlands.

Based on the above information, no species or habitats of concern, threatened or endangered species, or wetlands were identified at the property and therefore potential exposure pathways to ecological receptors from soil conditions at the Site are incomplete and hence there is no substantial ecological impact now or in the future, including upon implementation of the remedial approach in the nursery structure area discussed in Section 6.0.

5.3 RECEPTOR EVALUATION

5.3.1 General

As discussed in Section 2.0, the property is located in a generally mixed residential/commercial use area bordered on its northeastern and southeaster perimeters by public streets. The property is currently unused except for the cultivation of field crops such as corn in its central and northwestern portions. No surface water bodies are present at or in immediate proximity to the property and shallow groundwater occurs at a depth greater than 14 feet below grade.

5.3.2 Potential Exposure Pathways

Relevant potential human exposure pathways both present and future were assessed as part of the receptor evaluation based on conditions at the Site, as discussed in the conceptual site model in Section 4.0.

5.3.2.1 Direct Contact and Ingestion Exposure

Given the nursery structure area of the property where the surface/shallow soil impacts have been identified is unused, the current direct contact and ingestion exposure pathways are incomplete given the lack of an "exposure point", other than possibly for contractors involved with the proposed remediation and related work specified in the Cleanup Plan in Section 6.0. Potential exposure to site workers through incidental dermal contact and possible ingestion resulting from that contact while impacted soils are being removed, loaded, relocated, capped or otherwise handled onsite will be managed through the development and implementation of appropriate contractor-specific heath and safety protocols for this type of work, as documented in a health and safety plan.

Future direct contact and ingestion exposure pathways (e.g., to residents occupying homes to be constructed at the property) will be eliminated via implementation of the proposed remediation activities specified in the Cleanup Plan in Section 6.0, which includes the excavation of soils from the area of future residential building lots and placement of a clean soil cap atop the relocated impacted soils remaining onsite for use in the perimeter landscaping berms and implementation of a post-remediation care plan for the long-term maintenance of the soil cap and provisions for any disturbances. In addition, redevelopment plans for the property specify connection of the homes to be built to the municipal potable water supply and sanitary wastewater systems. Hence, future risk associated with the impacted soils remaining at the property for these exposure pathways is negligible.

5.3.2.2 Inhalation Exposure

Given the nursery structure area of the property where soil impacts have been identified is unused and the nature of the identified COCs therein (i.e., heavy metals and semi-volatile

organic PAH compounds), the current inhalation exposure pathway is incomplete given the lack of an exposure point and exposure route, again other than possibly for contractors involved with the proposed remediation and related work specified in the Cleanup Plan in Section 6.0. Potential exposure to site workers through incidental inhalation of dust particles generated while impacted soils are being removed, loaded, relocated, capped or otherwise handled onsite will be managed through the aforementioned contractor health and safety plan and as necessary appropriate dust suppression (exposed soil wetting) practices.

Future inhalation exposure pathway (e.g., to residents occupying homes to be constructed at the property) will be eliminated via implementation of the proposed remediation activities specified in the Cleanup Plan in Section 6.0. Hence, future risk associated with the impacted soils remaining at the property for this exposure pathway is negligible.

In addition, based on the nature of the COCs at the Site (i.e., heavy metals and semi-volatile organic PAH compounds) and that none of these compounds is on PADEP's list of "Chemicals of Potential Indoor Air Concern" in soil for residential properties, and that any remaining impacted soils will be relocated to a common area of the property and capped as part of the planned remediation work, potential vapor intrusion (e.g., into buildings to be constructed at the property) is not anticipated to be a future exposure pathway of concern.

6.0 CLEANUP PLAN

6.1 INTRODUCTION

This Cleanup Plan describes the proposed remediation activities for the impacted soils present in the nursery structure area of the property. As discussed in Sections 3.0 and 4.0, approximately 16,000 yd^3 of soils with COCs above the residential SHS are present in this area extending to depths upwards of 2 feet below grade. The COCs above the residential SHS in this area include: the PAHs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene, and arsenic and lead. The proposed soil remediation, in general, includes the removal of the impacted soil and a combination of offsite disposal of selected surface soils with the greatest degree of impacts and onsite relocation and reuse of the remaining larger volume of less-impacted soils in perimeter landscaping berms as part of property redevelopment elements with the requisite engineering (soil cap) and institutional controls (environmental covenant) thus resulting in pathway elimination and ultimately compliance with both the Act 2 residential SHS and SSS for the respective portions of the Site.

The findings of the risk assessment discussed in Section 5.0 indicate that the proposed soil remediation should be protective of potential ecological or human receptors provided the requisite measures developed for completing the remediation, as discussed in this Cleanup Plan, are implemented for the latter.

Cutler is currently awaiting approvals from Upper Dublin Township for the planned subdivision of the property (construction of age-restricted single-family homes), of which the proposed soil remediation is a component. Hence, specific engineering and construction plans, including for the soil remediation, are preliminary as of the time of this report. Final plans will be prepared at the appropriate time following receipt of the Township approvals and those along with as-built drawings prepared by a Pennsylvania-licensed engineer will be included in the Final Report submitted to PADEP for this remediation under Act 2.

6.2 PUBLIC BENEFITS OF PROPERTY REUSE

Based on the information provided by the remediator, the economic benefits associated with the proposed redevelopment of the property (i.e., construction of 113 active adult single-family homes) are summarized below.

- Approximately 340 jobs will be created with estimated government revenue in the form of employment taxes generated from the jobs creation at $10,170,000 ($7,570,000 in federal taxes and $2,600,000 in state and local taxes).

- The local property and other taxes are estimated to be $1,209,000 for the one-time property transfer tax upon sale of the homes and $1,091,800 per annum for real estate and earned income taxes ($994,400 and $97,400, respectively).

6.3 LIST OF CONTACTS

The project manager for the consultant (TriState) is Mr. Terence A. O'Reilly, PG at 368 Dunksferry Road, Bensalem, PA 19020 (215-638-4338; toreilly@trienvmgmt.com).

The remediator is The Cutler Group, c/o its attorney, Richard P. McBride, Esq. at 5 Apollo Road., Suite One, Plymouth Meeting, PA 19462 (610-834-1046; rpm@rpmcbridelaw.com).

The representative for the current property owner (Zieger Floral, Inc.) is Adam Zieger, President, at 1756 Dreshertown Rd., Dresher, PA 19025 (800-752-2003; jzieger@hotmail.com).

6.4 SITE MAPS

As discussed in Sections 2.0 and 3.0 of this report, figures depicting the property/Site boundaries, adjacent properties, existing property structures, roads and utilities, the area where soil impacts were identified requiring remediation, and the boundaries of those impacts are provided in Appendices 1 and 6. Preliminary site development plans for the residential (age-restricted single-family home) use of the property, including for the applicable components of the soil remediation (see Section 6.6) prepared by others on Cutler's behalf, are provided in Appendix 12.

6.5 REMEDIAL ALTERNATIVES

Removal and offsite disposal of all soils with COCs above the residential SHS in the nursery structure area was initially considered as a remedial alternative. However, due to the overall large volume of soil requiring remediation, an alternative approach deemed as more practical and cost-effective was developed for Cutler's consideration that would be equally effective and protective of human health and the environment, as well as implementable under the Act 2 program. It is also consistent with future property development plans (i.e., the need for landscaping berms along portions of the property perimeter). This alternative approach includes: (1) removal and proper offsite disposal of the soils with the higher COC concentrations, particularly for lead, and (2) removal, onsite relocation and capping of the remaining, larger volume of less impacted soils, which has been selected by Cutler as the preferred remedial approach.

6.6 DESIGN PLANS AND SPECIFICATIONS

6.6.1 Remedial Action Description

6.6.1.1 Soil Removal and Disposal

The approach to soil remediation will consist of several parts: (1) demolition of the buildings/structures located within the area targeted for soil remediation, (2) removal, onsite staging, transport and offsite disposal of selected (most impacted) surface soils, and (3) removal and onsite relocation of the remaining less impacted soils for placement into property perimeter landscaping berms with an engineered cap (clean soil) cover.

Following the necessary phases of building/structure demolition work for the greenhouses, including the removal and proper disposal of asbestos-containing materials therein using a separate, appropriately licensed firm, the upper six-inch (0.5-foot) interval of soil will be removed from the interior of the greenhouses, including within and between the planter boxes, as well as from the immediate exterior perimeter of these buildings extending out two feet away from the building walls on all sides. Based on the aforementioned dimensions of the greenhouses, this results in an approximate 2,000 yd^3 of soil for removal from the above locations.

The above soils will be transported to a temporary staging area on the property and placed on and securely covered with plastic sheeting pending waste characterization and classification activities, including laboratory analysis, to identify offsite disposal options. Removed soils will be placed into separate approximately 500 yd^3 piles to facilitate the above waste characterization and classification. The waste characterization and classification activities will be conducted in accordance with applicable regulations and the specific requirements of prospective disposal facilities.

Depending on the results of waste characterization and classification, the surficial soils will be transported to and disposed of at an appropriately permitted facility(ies), in accordance with federal and state regulations. For any soils that may be classified as a RCRA-hazardous waste (e.g., based on TCLP results for lead), a hazardous waste generator ID number from PADEP will be obtained prior to transport and disposal of such soils.

6.6.1.2 Soil Removal, Relocation and Capping

Following the above removal of soils for offsite disposal, the remaining approximately 14,000 yd^3 of impacted soils in the nursery structure area will be removed and transported to the portions of the property designated for perimeter landscaping berm construction (i.e., along the Welsh Road property boundary). The specific depths (i.e., between 1 and 2 feet below grade) to which soils will be removed over any portion of the targeted area will be predesignated. Backfilling of the soil removal area will be conducted in conjunction with other site redevelopment activities.

The preliminary design for building the perimeter landscaping berms is shown on the aforementioned site plans prepared by others in Appendix 12. Based on anticipated planting requirements for the project, the soil cap will consist of a minimum of 2 feet of clean soil obtained from other portions of the property where soils were shown to meet residential SHS. The necessary assurances that the above soil fill meets the definition of clean fill under the PADEP's "Management of Fill" policy will be developed for the project.

6.6.1.3 Post-Removal Soil Sampling and Analysis

Following removal of the impacted soils from the nursery structure area, post-removal soil sampling will be conducted in accordance with the guidelines for such in the Act 2 TGM. It will be based on a systematic random design that will generate discrete sampling locations along the sidewalls and bottom of the excavation for demonstrating attainment of the residential SHS for the applicable COCs. Based on the estimated 16,000 yd^3 of soil for remediation and the prescribed sampling rates in the TGM associated with use of the Department's statistical (75%/10x) rule specifically for SHS attainments, a minimum of 72 post-removal samples plus associated QA/QC samples are anticipated to be collected. Post-remediation samples will be analyzed for TCL PAHs, arsenic and lead.

6.6.2 Estimated Soil Volume and Contaminant Mass for Remediation

The approximate volume of impacted soils requiring remediation in the nursery structure area is based on the area and conservative depths to which these impacts were identified to extend (i.e., approximately 285,000 ft^2, one half of which is to 1 foot and the other half is to 2 feet below grade), as identified during the site characterization activities and depicted on Figure 6-1 in Appendix 6. This yields approximately 15,800 (rounded to 16,000) yd^3 of soil for remediation.

As noted in Section 4.2, estimates of the mass of each of the COCs present in the soils planned for remediation, and hence to be removed from public exposure, are provided in the table in Appendix 10. The estimated mass of lead at roughly 25 tons in the approximately 16,000 yd^3 of soil slated for remediation is an order of magnitude higher than the estimated mass of all the other COCs combined. The estimated mass of the various PAHs range from less than one to several hundred pounds. The estimated mass of arsenic is also several hundred pounds. The estimated mass of the various target organic pesticides range from less than one to approximately 20 pounds.

6.6.3 Remedial Action Status Plan

Given the remediation to be performed is for soils only and a one-time event that is anticipated to be completed within several months, preparation of a remedial action status plan is unwarranted. Nevertheless, the short-term effectiveness of the soil remediation will be confirmed via the post-removal soil sampling and analysis conducted in the proposed nursery structure soil removal area, as discussed in Section 6.6.1.3, and the long-term

effectiveness will be assured via implementation of a post-remediation care plan for the capped perimeter landscaping berms containing removed impacted soils, as discussed in Section 6.7.

6.6.4 Construction/Remediation QA/QC Plan

Inspection of the soil remediation activities by the various contractors will be conducted by an appropriate professional (e.g., geologist or environmental scientist). These activities will be photographed and the associated field logs and maps (e.g., soil removal and post-removal sample locations) will be prepared. The requisite documentation of the remediation activities along with as-built diagrams of the constructed and capped perimeter landscaping berms prepared by a Pennsylvania-licensed engineer will be provided in the Final Report submitted to PADEP for this remediation under Act 2, which will be signed and sealed by a Pennsylvania-licensed geologist from TriState.

Similar to the site characterization activities discussed in Section 3.2, applicable field procedures, sample analyses, and data evaluation methods used during implementation of the Cleanup Plan will be in accordance with the Act 2 TGM and other PADEP guidelines.

Equipment used to implement the Cleanup Plan will be decontaminated as appropriate between sampling locations, as applicable. Other materials used (e.g., soil sampling trowels) will be new, single-use equipment, to the extent possible. Any field instruments used during the completion of the work will be calibrated and maintained in accordance with the manufacturer's instructions.

Samples for analyses will be collected in laboratory-provided containers using the appropriate preservatives and handled/transported in accordance with standard procedures and the requirements of the analytical methodology with respect to holding times, temperature, etc. They will also be accompanied by a laboratory chain of custody.

QA/QC samples such as duplicate samples will be collected and submitted for laboratory analysis along with the actual samples, the actual numbers and types of which will depend on the particular media being sampled, number of samples collected, and selected analytical parameters.

Subcontractors used to implement the Cleanup Plan (e.g., for analytical services) will be selected on the basis of experience, availability, costs, adherence to quality assurance procedures, etc. A PADEP-certified laboratory will be used for all analyses.

As discussed in Section 6.6.1.2, any soil fill that may be imported to the property for use in the engineered soil cap on the perimeter landscaping berms will meet definition of clean fill under the PADEP's "Management of Fill" policy.

6.6.5 Offsite Disposal Facilities Contact Information

Proposals from prospective remediation firms to implement the soil cleanup work, which identify prospective disposal facilities for the soils targeted for offsite disposal, have been received and are being evaluated as of the date of this report. For these soils, it is anticipated that those classified as a non-RCRA hazardous waste will be disposed of at a facility such as Waste Management's GROWS landfill in Falls Township, Pennsylvania (e.g., as landfill cover material), in accordance with their waste approval/acceptance procedures (e.g., PADEP's Form U).

Any soils classified as a RCRA-hazardous waste will be transported to an appropriately permitted facility such as Phillips Service Corp.'s facility in Hatfield, Pennsylvania for treatment and eventual disposal.

Offsite disposal documentation from the actual facilities selected to receive these materials will be included in the Final Report submitted to PADEP for this remediation under Act 2.

6.6.6 Site-Specific Health and Safety Plan

As noted previously, TriState's health and safety plan for its site characterization activities is provided in Appendix 5. This plan will be the basis for an updated plan to be prepared and implemented for remediation inspection, waste classification and post-removal soil sampling, etc. The contents of the updated plan may change or undergo revision due to additional information made available, or modified due to actual conditions in the field. All personnel involved in site activities must meet the requirements specified in the plan and will be required to sign an acknowledgment that they have read and understand the plan.

The remediation contractor(s) involved with the project, once selected, will be required to develop and implement their own heath and safety plan for the specific activities for which they are being retained. Copies of the above plans will be included in the Final Report submitted to PADEP for this remediation under Act 2.

6.6.7 Erosion and Sediment Control Plan

An Erosion and Sediment Control (E&S) Plan will be developed and a National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges Associated with Construction Activities will be obtained, along with the associated regulatory agency (Montgomery County Conservation District & PADEP) approvals/notifications. The above will be conducted in conjunction with the overall redevelopment of the property and will include the soil remediation areas. The provisions/requirements of the E&S Plan and NPDES permit will be implemented during the course of the remediation, including installation of silt fencing, truck tracking pads, etc. Copies of the above plan and permit will be included in the Final Report submitted to PADEP for this remediation under Act 2.

6.6.8 Site Security Plan

The site security plan for the project will include the use of temporary chain link fencing around the work areas for the duration of the project. The fencing will be 6-foot high and will have limited points of entry (e.g., for heavy equipment ingress/egress) to control access to those areas. During periods of offsite soil transport, signage and a signal person will be used as necessary for dump truck access from/to adjacent public roadways.

6.6.9 Remediation Schedule

The timing of initiation of soil remediation is dependent on Cutler's receipt of the Township's approval of the residential subdivision plan for the property; however, it is anticipated it will commence shortly after receipt of that approval. The anticipated timeframe for completion of the soil remediation, including the associated building demolition, is four to five months from commencement.

6.6.10 Operations and Maintenance Plan

The necessary operations and maintenance requirements associated with this soil remediation, specifically the engineered soil cap for the perimeter landscaping berms, are discussed in the context of a post-remediation care plan in Section 6.7

6.6.11 Permits and Approvals

In addition to obtaining the requisite E&S Plan approval and NPDES permit discussed in Section 6.6.7, applicable local construction permits will be necessary for implementation of the soil remediation. These permits will be obtained from Upper Dublin Township following Cutler's receipt of the Township's approval of the subdivision plan for the property and prior to initiation of the remediation work. Copies of the permits and approvals obtained for the project will be included in the Final Report submitted to PADEP for this remediation under Act 2.

6.7 POST-REMEDIATION CARE PLAN

A post-remediation care plan detailing the provisions for the long-term maintenance of the engineered soil cap on the perimeter landscaping berms containing the relocated impacted Site soils discussed in Section 6.6.1.2 and the responsible entity for this maintenance (i.e., the homeowner's association for the planned residential community) will be prepared and incorporated into an environmental covenant to be executed with PADEP for the engineering control associated with this remediation. Execution of the environmental covenant will be in conjunction with the submission to and approval by PADEP of an Act 2 Final Report for this remediation. This plan will include the requirements for items such as maintaining the physical integrity of the engineered cap, periodic inspections, vegetation/plantings management, damage repairs, erosion mitigation, etc.

7.0 PUBLIC NOTIFICATIONS AND COMMENTS

As indicated in Section 1.0, copies of the NIR and requisite notices of the NIR to the local municipality (Upper Dublin Township) and to the public via publication in a local newspaper (The Intelligencer) and proof of their receipt/publication are provided in Appendix 2. A public involvement plan has not been requested by Upper Dublin Township and no written public comments have been received as of the date of this report, which is subsequent to the required 30-day comment period for responses/comments to those notices.

Copies of the requisite notices for submission of this RIR/Risk Assessment Report/Cleanup Plan to Upper Dublin Township and to the public via publication in a local newspaper (The Intelligencer) and proof of their receipt/publication are also provided in Appendix 2.

8.0 SIGNATURES

This Remedial Investigation Report/Risk Assessment Report/Cleanup Plan was prepared by TriState on behalf of The Cutler Group, Inc. c/o its attorney, Richard P. McBride, for compliance with Pennsylvania's Act 2 and pursuit of a Release of Liability for the Site defined herein and the COCs and media of concern addressed at the 1756 and 1760 Dreshertown Road, Upper Dublin Township, Montgomery County, Pennsylvania property.

Terence A. O'Reilly, PG
Principal Project Manager
(PA PG License No. 000286G)