WORK PLAN

Former Bomax Manufacturing Site
Site #623009
Watertown, New York

Interim Remedial Measure Work Plan

September 2014

O'BRIEN & GERE

Interim Remedial Measure Work Plan
Former Bomax Manufacturing Site
Site No. 6-23-009

Watertown, New York

I, Douglas M. Crawford, certify that I am currently a NYS registered professional engineer and that this Interim Remedial Measure Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

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1. INTRODUCTION

1.1 GENERAL

This document serves as the Interim Remedial Measure (IRM) Work Plan for the Former Bomax Manufacturing Site (Site) located at 6393 Coffeen Street, Town of Watertown, Jefferson County, New York. The IRM is being conducted by the New York State Department of Environmental Conservation (NYSDEC). The NYSDEC Site ID number is 623009. A Site location map is provided as **Figure 1**.

The IRM scope of work included herein was developed based on historic data, data collected during recent remedial investigation (RI) activities, and discussions with the NYSDEC.

1.2 INTERIM REMEDIAL MEASURE OBJECTIVE

The objective of the IRM is to remove facilities that are considered to have the potential to act as sources of residual chlorinated volatile organic compounds (CVOCs) at the Site, which include a septic system (septic tank, leachfield piping, and distribution box), conveyance piping from the former manufacturing building to the septic system and associated manholes, an underground 10,000-gallon wastewater holding tank, and additional overburden soil in the vicinity of a previously-removed 500-gallon underground waste oil tank.

2. BACKGROUND

2.1 SITE LOCATION

The Site is located at 6393 Coffeen Street in the Town of Watertown, Jefferson County, New York. The Site is serviced by public water and there are no nearby residential structures. A Site location map is presented as **Figure 1**.

2.2 SITE FEATURES

The Site is relatively flat with a paved parking lot located to the east of the manufacturing facility. The Site consists of two parcels. The first parcel is approximately 5.6 acres and contains the former Bomax Manufacturing building (originally a 60,000 ft^2 building). The second parcel is located to the south of the former Bomax manufacturing building and consists of vacant, undeveloped land consisting of approximately 1.5 acres.

An underground 10,000-gallon wastewater tank is located adjacent to the southeast corner of the building. In the past, the wastewater tank reportedly received discharge from interior floor drains. A 500-gallon waste oil tank, located on the western side of the building, was previously excavated, along with accessible impacted overburden soil. During 2013, development of the northwestern portion of the Site as a Nice N Easy retail store and gas pumps was completed. Development of this portion of the Site required demolition and removal of the northern half of the former manufacturing building. The former underground 5,000 gallon septic tank and associated leachfield are located within the southern parcel. The conveyance piping runs from the southeast corner of the building to the septic system distribution box (**Figure 2**).

The buildings and properties surrounding the Site are of mixed use, including commercial, light industrial and utility rights-of-way consisting of:

- Coffeen Street to the north, with undeveloped land and commercial facilities further north
- U.S. Interstate Route 81 off ramp to the east
- Interstate Route 81 is located approximately 200 feet east of the Site
- Commercial buildings, including Beam Mack, Inc., a large truck sales and service facility, immediately to the south
- Salmon Run Mall Road immediately to the west with undeveloped property and a National Grid substation further to the west

2.3 HISTORIC SITE USE

Sub-fractional horsepower motors, C-frames, shaded pole motors, alternating current (AC) and electric motors, blowers, and fans were manufactured at the Site from 1965 to approximately 2004. The Site was purchased by Toped Management Services during 2007 with the intention of redeveloping the property.

2.4 GEOLOGIC CONDITIONS

The Site exhibits little relief with an elevation change of less than 20-feet across the property. Overburden consists of very fine-grained sands and clayey silt. The overburden extends to between approximately 3 to 6 feet below grade. Bedrock is composed of limestone. Groundwater is present in the shallow bedrock and some areas in the overburden as perched groundwater. Regional groundwater flow in the deeper bedrock is likely toward the Black River to the north of the Site. Site-specific groundwater flow in the shallow bedrock may be radial, as topographic low areas are present in the form of wetland to the west and south of the Site, and the road cut for Interstate 81 to the east.

2.5 ENVIRONMENTAL CONDITIONS

The Site is listed on New York State's inactive hazardous-waste disposal registry and assigned Site ID #623009.

In the late 1980s and early 1990s, NYSDEC discovered that chlorinated solvents used to clean the manufactured motor parts had been discharged to floor drains within the manufacturing building, which were routed to a sanitary leachfield located in the southern portion of the site. Sampling of sludge in the septic tank in 1989 indicated the presence of CVOCs. Upon discovery of the contamination in the septic tank, NYSDEC required that the septic tank be pumped out and cleaned, and that the floor drains in the building that led to the septic system be permanently plugged. The sludge was removed from the septic tank by Environmental Oil, and the septic tank was cleaned. Circa 1990, an underground 10,000-gallon wastewater holding tank was installed near the southeast corner of the building, and the drain line to the septic tank was plugged. The remaining operable floor drains were re-routed to the underground 10,000-gallon wastewater holding tank.

Three shallow bedrock groundwater monitoring wells were installed during 1989 in the vicinity of the septic system to evaluate potential impacts from the septic system. Historic and recent sampling of these monitoring wells indicates the presence of CVOCs in shallow bedrock groundwater in one of the monitoring wells located south of the leachfield.

During 1989, a waste oil tank that contained mixed-solvents, located adjacent to the southwestern building exterior near the former loading dock, was removed. Approximately 70 cubic yards of soil was removed from the immediate area around the tank and a pipe extending from the building to the west. The pipe was also removed. Soils were excavated to the top of the bedrock surface, which ranged from approximately 2 to 4 feet below grade. Impacted soil was identified beneath a concrete pad; however, it was not possible to excavate the impacted soils at that time due to the presence of surface facilities.

In 2006, a soil vapor sampling program was conducted at the Site by NYSDEC. Based on the results of this investigation, concentrations of total CVOCs were detected in soil vapor adjacent to the western side of the building ranging in concentrations from approximately 750 µg/m^3 to 67,200 µg/m^3, adjacent to the southern and eastern sides of the building at a concentration of approximately 300 µg/m^3, and in the vicinity of the leachfield at concentrations of approximately 850 to 1,400 µg/m^3.

Based on the results of these prior investigations, the primary contaminants of concern (COCs) are tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), and vinyl chloride.

In 2012, RI activities were initiated under NYSDEC's State Standby Superfund Contract. The objective of the RI was to evaluate the nature and extent of soil and groundwater impacts at the Site. Forty-seven soil borings were advanced across the Site to understand general soil quality near potential areas of concern. Forty-seven soil samples were collected for VOC analysis. Based on the results of the soil analyses, the primary COCs were not detected. Nine shallow bedrock monitoring wells were installed on-site and off-site to evaluate the nature and

extent of groundwater impacts in the shallow bedrock. COCs detected in ground water include 1,1,1-TCA, 1,1,-DCA, and 1,1-DCE. The highest detected concentrations in shallow bedrock groundwater, which are two orders-of-magnitude higher than groundwater quality standards, were encountered downgradient of the former 500-gallon waste oil tank and near the septic system leachfield.

2.6 SUSPECTED SOURCE AREAS

Based on the investigations conducted to date, the suspected Site contaminant source areas include structures exterior to the former manufacturing building, including the underground 10,000-gallon wastewater holding tank, the underground 5,000-gallon septic tank, leachfield, and associated conveyance piping, and soil in the vicinity of the previously excavated 500-gallon waste oil tank.

3. INTERIM REMEDIAL MEASURE

3.1 GENERAL

The IRM activities covered under this Work Plan include excavation, removal, and disposal of the underground 10,000-gallon wastewater holding tank, the underground 5,000-gallon septic tank, leachfield, and associated conveyance piping, and soil in the vicinity of the previously excavated 500-gallon waste oil tank. The approximate locations of the IRM components are depicted on **Figure 2**.

Based on discussion with NYSDEC, excavation, removal, and disposal of the IRM components will be conducted by a Contractor selected by NYSDEC under the New York State Standby Remedial Services Contract program. As such, work will be executed in accordance with this Work Plan and the provisions contained in the NYSDEC Standby Remedial Services Contract #C100910. Engineering oversight, confirmatory sampling of excavations, and coordination of associated analytical work will be provided by O'Brien & Gere Engineers, Inc. (the Engineer) under NYSDEC's State Standby Superfund Contract #D007623 and the supporting Health and Safety Plan (HASP) and Quality Assurance Project Plan (QAPP).

The following is a summary of the IRM elements:

- Removal and disposal off site at an appropriate landfill of approximately 830 linear feet (lf) of 8-inch diameter concrete drain pipe, identified as ASB. CEM. (presumed to mean asbestos cement) on the drawing provided in **Exhibit A**, running between Cleanout 0+05 and the septic tank, and any water/liquid, sediment, and/or sludge contained within the piping. Based on the piping section shown on the drawing provided in **Exhibit A**, it is suspected that this drain pipe was installed beneath the top of bedrock at some points along its length.
- Removal and disposal of three, 4 ft diameter concrete manholes (1+28, 4+54, and 8+25 shown on drawing provided in Exhibit A) installed up to 8 ft in depth below grade, appurtenant structures as may be present (*i.e.* covers, rings, sealants, pipe boots, etc), and any water/liquid, sediment, and/or sludge contained within the manholes. It is assumed that the lower 4-ft of each manhole is below the top of bedrock.
- Removal and disposal of one cleanout at northern end of 8-inch diameter concrete drain pipe (0+05 shown on drawing provided in Exhibit A) and any water/liquid, sediment, and/or sludge contained within the cleanout.
- Removal and disposal of the underground 5,000-gallon septic tank, which is believed to be of steel construction, and any water/liquid, sediment, and/or sludge contained within the septic tank.
- Removal and disposal of approximately 21 lf of 6 inch diameter Orangeburg™ asbestos-containing drain pipe from the septic tank to the distribution box, and any water/liquid, sediment, and/or sludge contained within the piping.

- Removal and disposal of the septic system distribution box and distribution system (based on the drawing provided in **Exhibit B**, there are thirty-two 60-ft laterals consisting of 4 inch diameter perforated Orangeburg™ asbestos-containing pipe), and any water/liquid, sediment, and/or sludge contained within the distribution box and lateral piping.
- Removal and disposal of the underground 10,000-gallon wastewater holding tank located outside the southeast corner of the building and any water/liquid, sediment, and/or sludge contained in the tank. The construction details (*i.e.*, steel, fiberglass or concrete) and dimensions of the holding tank are not known at this time. It is assumed that the lower portion of this tank is in bedrock.
- Removal and disposal of two additional structures, including a 2 ft by 2 ft by 2 ft deep vault, and a 12 inch diameter vertical corrugated pipe (estimated at 12 feet deep) and any water/liquid, sediment, and/or sludge contained in these structures. The vertical corrugated pipe is believed to have served as a monitoring point within the footprint of the excavation for the underground 10,000-gallon wastewater holding tank. These structures are located outside the southeast corner of the building.
- Removal and disposal of impacted soils, if any, in the vicinity of the former 500-gallon waste oil tank. Soil in the vicinity of the former 500-gallon waste oil tank will be pre-characterized prior to the initiation of IRM activities to evaluate the extent and volume of soil to be removed.
- Sub-grade material removed either as part of removal of the noted structures or as necessary based on field screening (described in Section 3.2)

3.2 IMPLEMENTATION OF INTERIM REMEDIAL MEASURE

3.2.1 Contractor Scope of Work

The Contractor shall provide all labor, materials, and equipment required to excavate, remove and dispose of the IRM components described above, in accordance with this Work Plan, the provisions contained in the NYSDEC Standby Remedial Services Contract #C100910, and as directed by the Engineer. All work associated with asbestos-containing material (ACM), or suspect ACM must be completed by an asbestos abatement contractor holding the appropriate current valid NYS licensure and certifications. Based on the project work scope, it is anticipated that a site-specific variance for relief from regulations set forth under Industrial Code Rule 56 (ICR 56) from the New York State Department of Labor (NYSDOL) will be required. Asbestos-related work shall be observed by a certified Asbestos Project Monitor, to be retained directly by the Engineer or NYSDEC.

Site preparation and Stormwater Management

The Contractor shall retain an independent utility locating service company with a minimum of 5 years related experience to field locate, mark, and stakeout existing underground utilities and service connections.

- The Contractor shall field locate, mark, and stakeout underground utilities prior to excavation.
- The Contractor shall be responsible for the location of all utilities within areas of excavation and demolition and all costs associated with the repair of utilities hit/damaged during construction.
- The Contractor shall confirm that electrical systems on-site are de-energized prior to commencing excavation.
- The Contractor shall implement procedures and provide necessary equipment to keep the work areas free from water and prevent entry of surface water into contaminated excavation areas to the extent practicable.
- Construction water collected from contaminated areas of the Site (*e.g.*, excavations) shall be temporarily containerized, characterized, and managed as appropriate.

Erosion and Sediment Control

The area to be disturbed as a result of implementation of the IRM is less than 1 acre and, therefore, a Storm Water Pollution and Prevention Plan (SWPPP) is not required. However, the Contractor is responsible for implementing erosion and sediment control (ES&C) facilities, including installation and maintenance of silt fencing, storm drain inlet protection, and temporary sediment traps.

Water Management

Based on information previously obtained from soil borings and shallow bedrock monitoring wells, it is expected that there is little, if any, water present in the overburden. There may be groundwater present in the upper 5-ft of bedrock; however, this depends largely on the presence of bedrock fractures within the excavation areas. Dewatering of excavations will be necessary when the presence of water impedes the ability to remove structures or the ability to collect confirmatory samples.

The septic tank has consistently contained liquid when observed. Previous sampling of the septic tank liquid indicated low concentrations of 1,1,1-TCA (15 µg/L) and 1,1-DCA (6.9 µg/L). The type and quantity of liquid that may be present in the underground 10,000-gallon tank is not known. Water collected from the vertical corrugated pipe in the vicinity of the underground 10,000-gallon wastewater holding tank indicated concentrations of 1,1,1-TCA, 1,1-DCA, 1,1-DCE, and chloroethane less than 10 µg/L.

The Contractor shall remove and temporarily contain all water/liquid collected within the subject structures and from excavation dewatering activities. Water contained within subject structures shall be removed prior to excavation activities and segregated from any solids/sludges present. Water/liquid contained in the various structures will be contained separately (i.e., underground 5,000-gallon septic tank, underground 10,000-gallon waste water tank, concrete drain pipe and manholes, excavation de-watering). The Contractor will collect representative characterization samples of containerized water/liquid for off-site disposal purposes that meet the acceptance criteria of the disposal facility.

Soils Management

The Contractor shall segregate excavation spoils that lie above tanks, manholes, and piping (segregated material) from that material within 2-ft horizontal or below subject structures and piping (potentially impacted material). Potentially impacted material shall be temporarily staged on, and covered with polyethylene sheeting. The segregated and potentially impacted material will be evaluated by the Engineer for re-use as backfill. Prior to re-use of soil as backfill, representative samples will be collected by the Contractor and submitted for analysis of Target Compound List (TCL) VOCs using United States Environmental Protection Agency (USEPA) Method 8260C, TCL semi-volatile organic compounds (SVOCs) using USEPA Method 8270D, TCL polychlorinated biphenyls (PCBs) using USEPA Method 8082A, TCL pesticides using USEPA Method 8081B, and Target Analyte List (TAL) metals analyses using USEPA Method 6010C including total cyanide using USEPA Method 9012B and mercury using USEPA Method 7471B. The results of these analyses will be compared to the Allowable Constituent Levels for imported Fill or Soil for Residential Use per Appendix 5 of DER-10. Soils that fail to meet these criteria or exhibit nuisance criteria (i.e., staining or odors) will be containerized for off-site disposal at a suitable disposal facility. The Contractor will collect representative characterization samples of containerized soil for off-site disposal purposes to determine if acceptance criteria of the disposal facility are met.

Soil Pre-Characterization Near Former 500-Gallon Waste Oil Tank

Prior to initiation of IRM activities, soils in the vicinity of the former 500-gallon underground waste oil tank will be pre-characterized to evaluate if additional excavation of soil is necessary, and the extent of additional excavation. The Contractor will mobilize a direct-push drill rig (Geoprobe or equivalent) and advance up to 15 borings to the top of bedrock estimated at 4-ft below grade. Soil samples will be collected continuously to the top of bedrock at each location. Soil borings that are not anticipated to be within the final excavation limits will be backfilled using soil cuttings mixed with bentonite powder.

The Engineer will provide oversight of the work. The Engineer will field screen the soil samples using a PID equipped with an 11.7 eV lamp. One soil sample per boring that exhibits the highest PID reading, and/or exhibits visual and/or olfactory evidence of contamination will be submitted for laboratory analysis of VOCs using USEPA Method 8260C. The samples will be analyzed by Con-Test Analytical Laboratory.

It is assumed that the area to be excavated will be approximately 20 ft by 20 ft by 4-ft deep. Excavated soil will be direct-loaded into roll-off containers for off-site disposal.

Removal of Structures

Excavation work associated with the removal of structures will be conducted in accordance with the provisions of Work Element VIII – Excavation contained in Schedule 2 of the NYSDEC Standby Remedial Services Contract #C100910. The Contractor shall remove the tanks, manholes and vaults by generally accepted industry standards, including, but not limited to: analyzing the airspace to verify a safe working environment, inert the structure (if necessary) and empty the structure of liquid, sediment, and/or sludge if present. Where excavation requires removal of asphalt or other hard surface materials, the contractor shall first saw-cut the area to be removed subsequent to the completion of utility clearances in the area.

Unless otherwise directed by the Engineer, the Contractor shall remove soils a distance of 24-inches horizontally beyond the subject structures and 1 ft below subject structures, or to the limits of the structure bedding, whichever is greater. The Engineer shall evaluate the excavation walls and floors and direct additional excavation based on visual, olfactory, and/or PID screening evidence of the presence of impacted soils.

ACM, or suspect ACM, piping shall be removed, segregated and staged on polyethylene prior to disposal as ACM at an approved landfill. Care should be taken such that the Orangeburg™ leachfield piping can be disassembled without saw-cutting. These components shall be removed and handled in accordance with applicable local, state, and federal regulations, by personnel with the appropriate current, valid NYSDOL licensure and certification. All asbestos-related work activities shall be coordinated with the Asbestos Project Monitor, to be retained by the Engineer or Owner.

Tanks shall be cleaned by the Contractor and all material contained in the tank and wastewater generated during the cleaning of the tank shall be containerized and characterized for off-site disposal. The tanks shall be safely placed on polyethylene sheeting for inspection by the Engineer prior to the disposal of the tank. Manholes, vaults and distribution boxes may be disposed of appropriately without Engineer inspection. Manholes and similar structures shall have gaskets, mastic, and mastic-like materials removed prior to disposal of the manholes. Gaskets, mastic, and mastic-like materials will be disposed of separately as suspect ACM.

Work Area completion of ACM and suspect ACM components, which are to be conducted by the Contractor and approved by the Asbestos Project Monitor, shall include at a minimum, visual clearance, air sampling (where required), and equipment decontamination, prior to demobilization from a designated Work Area.

Equipment Decontamination

Prior to demobilization from a designated Work Area and demobilization from the Site, heavy equipment and tooling that has come into contact with subsurface soil, groundwater, and/or the components to be removed during the IRM will be decontaminated using high-pressure steam within a decontamination pad. According to the provisions of the NYSDEC Standby Remedial Services Contract #C100910, the Contractor shall provide a plan drawing for construction of a decontamination pad.

Post-Excavation Confirmatory Sampling

The Contractor shall collect confirmatory samples as follows: one soil sample from the bottom of the concrete pipe excavation for every 100 linear ft., one sample from the bottom of each of the three manhole excavations, and twelve samples from the bottom of the leach field excavation area. The Contractor will submit the confirmatory samples to a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified analytical laboratory for VOC analysis using USEPA Method 8260C. The laboratory will be requested to provide sample results within 48-hours of receipt of the samples.

Off-Site Transportation and Disposal

The Contractor shall provide for transportation and appropriate off-site disposal of hazardous and non-hazardous materials and structures generated during execution of the IRM, in accordance with all applicable federal, state and local statutes, regulations, codes and policies, and the provisions of Work Element VII – Off-Site Transportation and Disposal contained in Schedule 2 of the NYSDEC Standby Remedial Services Contract #C100910. ACM waste/debris shall be transported to, and disposed at an appropriately-permitted landfill

facility, in accordance with applicable local, state and federal requirements. All wastes generated during implementation of the IRM will be transported and disposed within 60 days of generation.

Transportation and disposal shall occur with appropriate bill of lading and/or manifesting, which shall be submitted to the Engineer. In accordance with Article 10 I.v.j. of Contract D007623, the Engineer is duly authorized and appointed by NYSDEC, as agent-in-fact for the NYSDEC, to act in all circumstances in the name, place and stead of the NYSDEC with respect to the completion and execution of manifests required by law for the storage, transportation and/or disposal of non-hazardous and regulated hazardous, or toxic materials and wastes from the Former Bomax Manufacturing Site, Watertown, New York, as each of those terms is defined by applicable statue and regulation. In accepting this appointment, the agent agrees to abide by all applicable law, statutes and regulations governing the storage, transportation and/or disposal of non-hazardous and hazardous waste. Manifests will be signed accordingly with the following: "as an agent of NYSDEC".

For waste profiling and manifesting purposes, the generator will be identified as follows:

Generator: NYSDEC – Bomax Manufacturing Site #623009
6393 Coffeen Street
Watertown, NY 13601

If additional information generated during the IRM indicates that material to be disposed would be a regulated Hazardous Waste, a Generator ID Number will be required. Should this need arise, the Engineer will notify NYSDEC and NYSDEC will provide a Generator ID Number for use.

Restoration

The Contractor shall restore areas disturbed during execution of the IRM by properly backfilling all excavations to grade, in accordance with this section. The actual extent of excavation and restoration will be based on confirmation sampling completed by the Engineer. The Contractor shall coordinate work with the Engineer and shall not proceed with backfilling without approval by Engineer.

The contractor shall backfill with excavation spoils, as directed by the Engineer, and provide clean, compactable fill, sampled and tested in accordance with the Imported Fill Sampling Protocol, provided below. The fill shall be placed in 12 inch lifts and receive a minimum of three passes using a vibratory plate compactor, or similar, to minimize settling. The top 4-inches of restoration fill shall consist of topsoil, placed to match surrounding grade, sloped as appropriate to encourage runoff, and seeded.

The contractor shall apply a native species seed mix, appropriate for the site conditions and approved by the Engineer. The seed mix shall be applied from October through May, or otherwise as approved by the Engineer. Should the site require stabilization outside of this timeframe, the Contractor shall apply oat seed at 100 pounds per acre. The native seed mix may be applied by hand broadcast, seed drill, Brillion seeder, pneumatically as a part of an organic matter blanket, or as otherwise approved by the Engineer. The seed shall be mulched and watered, as needed to meet 80% cover (not including invasive species that may colonize the site) by the end of the first growing season following seeding. The type and rate of mulch shall be approved by the Engineer. The Contractor is responsible for monitoring and maintaining seeded areas for a period of 1 year following application of the native seed mix or until accepted by the Engineer or Owner.

Where asphalt or other hard surface was removed, the Contractor shall backfill as noted to 1 ft below surrounding grade and complete the surface in like kind as surrounding surface conditions.

The Contractor shall provide a survey showing the limits of excavation. The survey shall be conducted by a NYS-licensed surveyor. Horizontal datum will be referenced to NAD 83 (2007) New York State Plane Central Zone and vertical datum to North American Vertical Datum (NAVD) 88. The surveyor will provide a survey drawing, signed by professional surveyor, and a spreadsheet listing the sample locations, northings, eastings, and elevations.

Imported Fill Sampling Protocol

Prior to accepting imported fill at the Site, the Engineer will require a Certificate of Origin for the fill materials to be used at the Site. The soil that will be used as backfill must also meet the requirements of NYCRR 375-6.7 (d) and must not exceed the allowable constituent levels for imported fill or soil-based guidelines, as outlined in NYSDEC's *Technical Guidance for Site Investigation and Remediation* (DER-10) document. The soil must also be free of extraneous (unrelated) debris, and be recognizable (readily identifiable by visual observation) soil or other unregulated material, as set forth in 6 NYCRR Part 360.

Sampling and analysis is required for imported soil prior to use as backfill or cover material. The fill material imported to the site must be sampled and analyzed in accordance with Table 5.4(e)(10) of DER-10. The number of samples required is based on the soil quantity, as identified in the table, and will be a combination of discrete and composite samples. The samples are to be analyzed for TCL VOCs, TCL SVOCs, TAL metals including total cyanide and mercury, TCL PCBs, and TCL pesticides. A minimum of one sample must be analyzed from every new source of fill. The results of the soil sample analysis will be compared to the Residential Use levels, in accordance with DER-10.

Sampling and analysis are NOT required under the following conditions:

- Material other than soil that is imported and used as backfill beneath pavement, buildings or as final site cover, including gravel, rock or stone consisting of virgin material from a permitted mine or quarry.
- Recycled concrete or brick from a NYSDEC-registered construction and demolition (C&D) debris processing facility, if the material conforms to the requirements of Section 304 of the New York State Department of Transportation (NYSDOT) Standard Specifications Construction and Materials Volume 1 (2002).

Documentation of the source of fill will be provided by the Contractor to the Engineer, who in turn will provide such documentation to NYSDEC for approval of the source of the material prior to initiation of the IRM. This documentation should include:

- The name of the person providing the documentation and relationship to the source of the fill
- The location from where the fill was obtained
- Identification of any state or local approvals as a fill source
- If no prior approval is available for the source, a brief history of the use of the property that is the source of the fill
- Copies of the analytical results documenting that the fill meets the criteria.

If the potential fill source material has yet to be excavated, the soil can be pre-characterized. This will be done by collecting soil samples via soil borings. Both grab and composite samples of the fill material will be collected through borings completed with a direct-push drill rig and analyzed for pre characterization.

If the potential fill source material has already been excavated and is stored in a stock pile, soil samples can be collected from this stock pile using a hand auger, shovel or trowel. Both grab and composite samples of the fill material will be collected and analyzed, as outlined on page 166 in DER-10.

The soil samples will be analyzed by a NYSDOH ELAP-certified analytical laboratory. The laboratory will provide a Category B deliverable package. The samples will be analyzed for the constituents listed on the table in Appendix 5 of the DER-10 document, as follows:

PARAMETER	METHOD
TCL VOCs	USEPA Method 8260C
TCL SVOCs	USEPA Method 8270D
TAL Metals (including mercury and cyanide)	USEPA Methods 6010C/7471B/9012B
TCL PCBs	USEPA Method 8082A
TCL Pesticides	USEPA Method 8081B

3.2.2 Engineer's Scope of Work

The Engineer will provide construction oversight and direction to the Contractor, as necessary.

The Engineer shall field screen soils with a photoionization detector (PID) equipped with an 11.7 eV lamp during excavation activities. Additionally, the Engineer shall perform field screening via headspace analysis of selected soil samples to be submitted for subsequent laboratory analysis using a PID equipped with an 11.7 eV lamp.

The Engineer will subcontract a firm to conduct asbestos air/project monitoring in accordance with this work plan.

The PID will be used as a field-screening tool to direct excavation of impacted soils. Laboratory samples will be used to confirm that remaining soils do not contain detectable COCs at concentrations greater than the NYS Part 375 Commercial Use Soil Cleanup Objectives.

The Engineer shall direct the Contractor to continue excavation or backfill based on the results of these analytical results.

3.2.3 Health and Safety

Contractor

The Contractor shall provide to the Engineer a Site-Specific Health and Safety Plan (HASP), to include provisions for Contractor personnel to perform the Site work described in this IRM Work Plan. The HASP shall be submitted to the Engineer a minimum of 5 working days in advance of the start of work. It is assumed that non-asbestos related work associated with this IRM will be conducted in Level D construction site personal protective equipment (PPE) (Hard hat, safety glasses with side shields, safety boots, high visibility vests, long sleeve shirts and gloves appropriate for the task). Modified Level D with chemical resistant coveralls may be required for some tasks with a greater potential for skin contact with contaminated soil or equipment. The contractor must have a qualified excavation competent person on-site for the duration of the work and provide documentation of such competent-person training. Excavations must be installed, inspected and monitored as per OSHA regulations 1926.651.

The Contractor will provide for work area and personnel breathing zone monitoring of VOC using a Photo Ionization Detector (PID) equipped with an 11.7 eV lamp and dust using an aerosol particulate meter (dust monitor) throughout the duration of field activities to protect the safety of on-Site workers.

The Contractor shall also be required to perform personal air monitoring every work shift in each work area during which asbestos abatement activities occur in order to determine that appropriate respiratory protection is being worn and utilized. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits. The Contractor's laboratory analysis of air samples shall be conducted by an NYS DOH ELAP approved laboratory, subject to approval of the Engineer. Results of personnel air sample analyses shall be available, verbally, within twenty-four (24) hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the work site within five (5) days. Failure to comply with these requirements may result in all work being stopped until compliance is achieved.

Contractor personnel must wear personal protective equipment per OSHA and DOL regulations. The Contractor must provide respiratory protection in accordance with OSHA regulation 1910.134 and ANSI Z88.2. Contractor personnel must be trained as per OSHA and DOL requirements, have medical clearance and must have recently received pulmonary function test (PFT) and respirator fit tested by a trained professional. The use of respirators must also follow a complete respiratory protection program as specified by OSHA. Work activities will be considered to fall under the requirements of the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations in OSHA regulation 1910.120 and must include procedures for employee qualifications, training, site control and personnel decontamination.

Consistent with the Generic Community Air Monitoring Plan (CAMP) provided in Appendix 1A of DER-10 with special requirements (Attachment A), the Contractor will conduct air monitoring during ground-intrusive work

and work that has the potential to generate dust. Accordingly, one upwind and one downwind station, equipped with PID and particulate monitoring equipment equipped with visual and auditory alarms will be housed in enclosures and mounted on tripods. The instruments shall be capable of recording data and the contractor shall download the data from the instruments daily. The specific locations of the equipment will be based on wind direction and the location of the potential exposure populations at the time the field activities are completed. Monitoring guidance and action levels will be consistent with Appendix 1A of DER-10. The Contractor must have a dust control and mitigation plan in place in the event that CAMP action levels are exceeded. Upon completion of the removal and backfilling actions, the data collected during the CAMP will be provided to the Engineer.

Engineer

The Engineer shall prepare a Job Safety Analysis (JSA), detailing required provisions for the Engineer's personnel at the Site during remedial construction activities. The JSA will serve to supplement the Generic HASP developed by Parsons and O'Brien & Gere for use during NYS Superfund Standby Work Assignments. The Engineer shall also observe the progression of excavation and the remedial construction activities described in the IRM Work Plan.

As part of the requirements of the HASP, monitoring of the breathing zone within work areas will be conducted throughout the duration of intrusive field activities to protect the safety of the Engineer's on-Site workers (*i.e.,* personnel air monitoring). Personnel air monitoring in the work areas will be conducted by the Engineer using a PID equipped with an 11.7 eV lamp and an aerosol particulate meter (dust monitor). Note that the Engineer is not responsible for the health and safety of the selected Contractor or the third party on-site asbestos project monitor/air monitor. A third party asbestos project monitor/air monitor will perform work area air sampling in accordance with ICR 56 on behalf of the Engineer/Owner.

4. PROJECT COORDINATION

4.1 SUBMITTALS

The following items shall be submitted by the Contractor to the Engineer for review and approval, prior to initiating Site work.

- Materials Handling Plan describing the method of excavation, drainage, dewatering, removal, loading and transporting of the IRM materials. The Materials Handling Plan shall also describe procedures and materials that will be implemented to minimize the flow of surface water into open excavations and the handling of groundwater that enters the excavations.
- ES&C Plan.
- Transportation Plan, per Work Element VII – Off-Site Transportation and Disposal contained in Schedule 2 of the NYSDEC Standby Remedial Services Contract #C100910.
- Asbestos site-specific variance submittals, if a Site-specific variance is sought by the Contractor, shall be submitted to the Engineer and shall include the completed DOSH-751 and DOSH-465 forms, and the NYSDOL Site-specific variance decision.
- Quality control submittals shall be required from the Contractor completing asbestos abatement work, and shall include:
  - Notification Compliance Data: Within 2 days after notification is sent to the regulatory agencies, submit one copy of each notice sent to each regulatory agency (USEPA and NYSDOL).
  - Asbestos Removal Company Data: Name and address of proposed asbestos removal company and abatement contractor license issued by NYSDOL.
  - Asbestos Worker Certification Data: Name and address of proposed asbestos abatement workers and licenses issued by NYSDOL.

  - Work Plan: Submit one copy of a project work plan for asbestos abatement activities.
  - Waste Transporter Permit: One copy of transporter's current waste transporter permit from NYSDEC (NYS Part 364 Permit).
  - Landfill: Landfill to be used for ACM disposal shall be licensed to receive asbestos waste by NYSDEC (NYS Part 360 Permit) and by USEPA. Out of state landfills shall provide licenses from local agencies having jurisdiction.
  - Negative Air Pressure Equipment: Copy of manufacturer's and performance data of all units and high-efficiency particulate air (HEPA) filters used.
- Copies of manifests required to transport waste materials. Such manifests shall be submitted prior to the transportation of waste materials within 24 hours following their preparation.
- Acceptance documentation of waste materials by a facility permitted to treat or dispose of the IRM components. Such documentation shall be submitted no later than 7 days following delivery of waste materials to the permitted facility.
- Letters of acceptance from permitted facility and haulers acknowledging agreement to accept the waste material. These letters shall be submitted not more than 14 days prior to transporting any waste materials.
- Asbestos work closeout submittals shall be submitted by the Contractor completing asbestos abatement work to the Engineer and shall include:
  - Waste Shipment Records and Disposal Site Receipts: Copy of waste shipment record and disposal site receipt showing that the ACM has been properly disposed.
    - Waste shipment record and disposal site receipt must be received within 35 days of the ACM waste leaving the Site. If receipts are not received within the specified time period, the Director's Representative will notify USEPA in writing within 45 days of the ACM waste leaving the Site.
  - Daily Log: Submit copy of Project Monitor's daily air sample log and a copy of Asbestos Abatement Contractor's Daily project log.
  - Air Monitoring Data: Submit copy of air test results and chain of custody.
- CAMP monitoring data

4.2 STATUTES, REGULATIONS AND POLICIES

All work included in this IRM Work Plan shall be conducted in strict compliance with all applicable federal, state and local statutes, regulations, codes and policies. Compliance assurance shall be the responsibility of the Contractor.

- NYSDEC 6 NYCRR:
  - Part 360 Solid Waste Management Facilities.
  - Part 364 Waste Transporter Permits.
  - Part 370 Hazardous Waste Management System-General.
  - Part 371 Identification and Listing of Hazardous Wastes.
  - Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities.
  - Part 373 Hazardous Waste Management Facilities.
  - Part 375 Environmental Remediation Programs.
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation.

- Occupational Safety and Health Administration (OSHA): Asbestos Regulations (29 CFR Part 1926.1101).
- USEPA:
  - National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule.
  - Asbestos Emergency Response Act (AHERA) (40 CFR Part 763, Subpart E).
- NYSDOL: ICR 56.

4.3 PERMIT AND LICENSE REQUIREMENTS

All permits, bonds, easements, or licenses required to perform the work shall be conducted in strict compliance with all federal, state, and local statutes, regulations, codes and policies.

- The Contractor shall coordinate with the Engineer to ensure all permits are in place prior to the Contractor starting work.
- Determination of license and permit requirements shall be the responsibility of the Contractor.
- All work associated with ACM, or suspect ACM must be completed by an asbestos abatement contractor holding the appropriate current valid NYSDOL licensure and certifications.

5. INTERIM REMEDIAL MEASURE REPORT

The Engineer shall prepare a summary report upon completion of remediation activities and receipt of analytical results. The report will include the following:

- A summary of field activities, sampling methodologies and results
- A tabulation of field screening data and analytical results
- Photographs of excavation activities
- A Site Plan, depicting areas and volumes removed as part of the project
- Copies of waste manifests and/or bill of ladings (to be provided to Engineer by the Contractor)

A draft report will be provided to the NYSDEC for review and approval prior to finalization. It is anticipated that one round of consolidated comments will be provided for revision to the IRM Report.

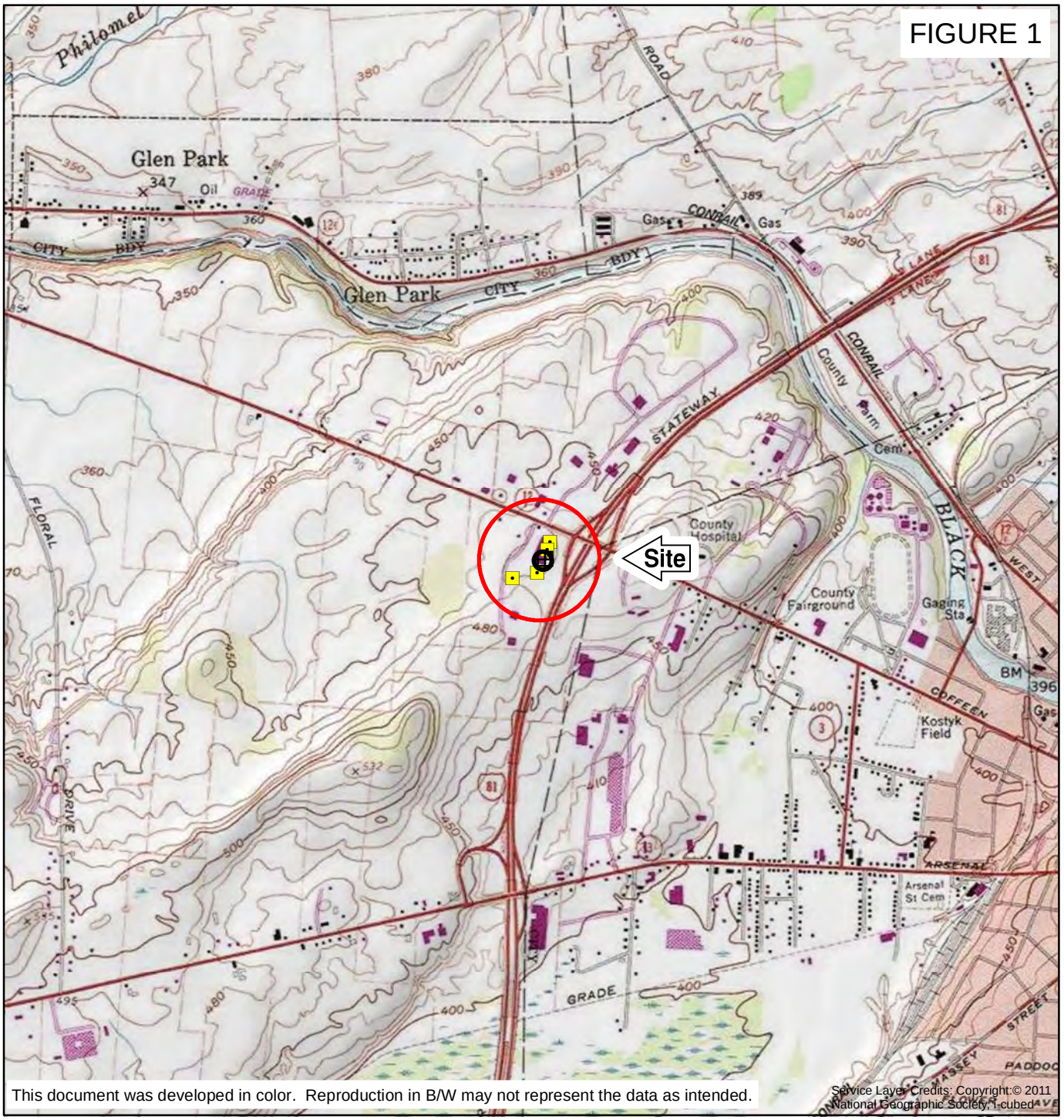
6. PROJECT SCHEDULE

The Contractor will develop a detailed project schedule incorporating the work elements described in this Work Plan. A general schedule is presented below is based on the start date after the NYSDEC approves the IRM Work Plan. Note that certain tasks may be completed concurrently.

Task/Event Description	Sub-Task Description	Start Date	End Date
IRM Work Plan is approved by NYSDEC		Week 1	Week 1
NYSDEC procures Remedial Contractor to complete IRM activities		Week 1	Week 1
Engineer and Contractor prepare for and mobilize to the Site		Week 2	Week 2
Project Kickoff Meeting		Week 2	Week 2

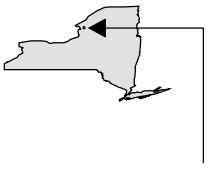
Task/Event Description	Sub-Task Description	Start Date	End Date
Underground 10,000 Wastewater Holding Tank Removal		Week 2	Week 2
Concrete Pipe, Manholes and Cement Pipe Removal		Week 2	Week 3
Underground 5,000 gal Septic Tank Removal		Week 3	Week 3
Complete Site Restoration and Demobilize from Site		Week 4	Week 4
Prepare and Submit Draft IRM Report		Week 4	Week 6
Receive one round of Report comments from NYSDEC		Week 6	Week 7
Prepare and Submit Final IRM Report		Week 7	Week 8

FIGURE 1



ADAPTED FROM: NATIONAL GEOGRAPHIC SOCIETY USGS QUADRANGLE

NYSDEC
FORMER BOMAX
MANUFACTURING SITE
WATERTOWN, NEW YORK



MAP LOCATION

N

SITE LOCATION

0 1,000 2,000 4,000 6,000 8,000

Feet

1:24,000

MAY 2014
8653.49512

O'BRIEN & GERE

I:\Parsons-Eng.8653\STDS\GIS\Bomax\MXD\IRM_Components.mxd

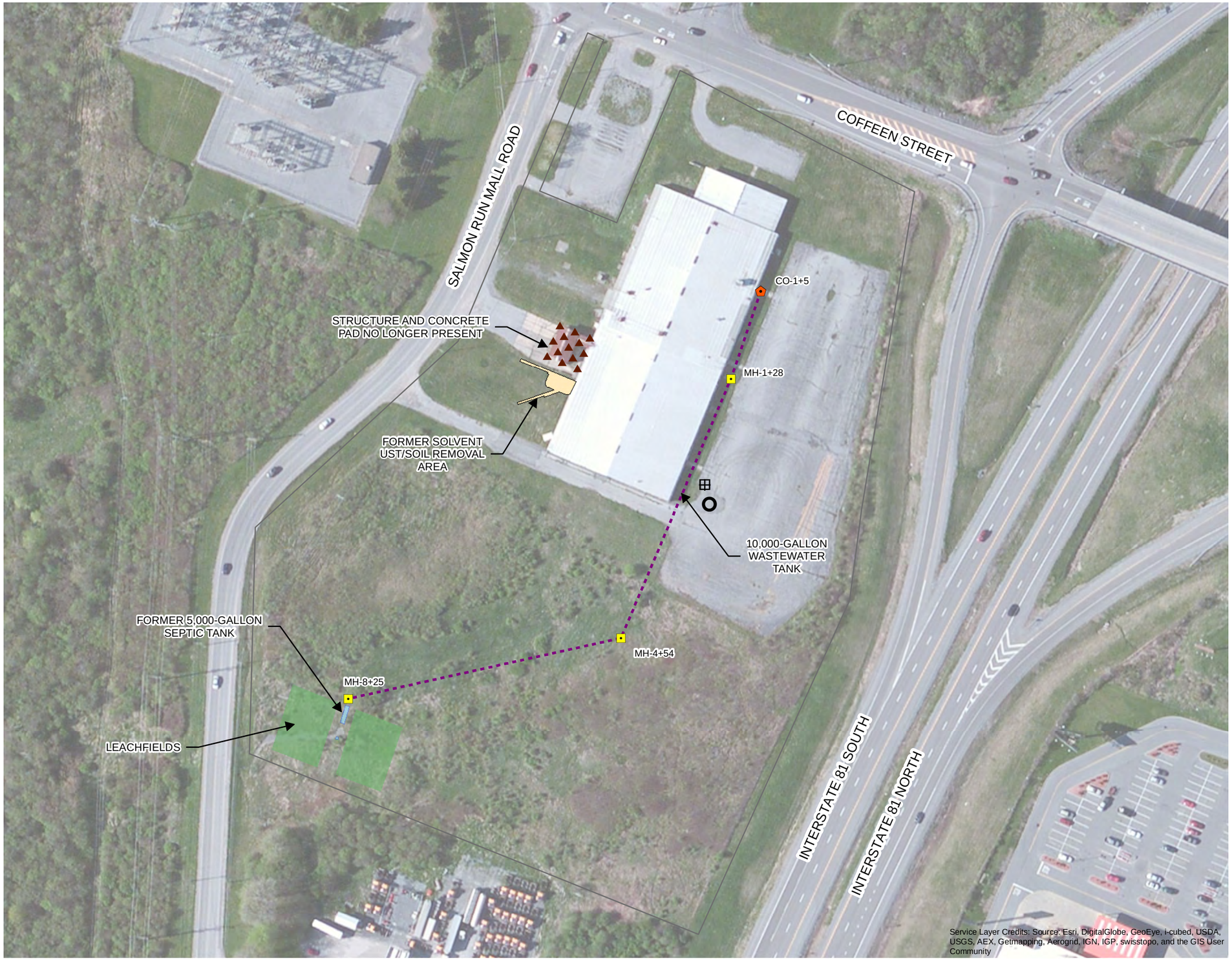


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FIGURE 2

N

LEGEND

- PRE CHARACTERIZATION SOIL BORINGS
- MANHOLE
- CLEANOUT
- 12" DIAMETER CORRUGATED METAL PIPE
- 2' x 2' x '2 CONCRETE VAULT
- 8" DIAMETER BURIED CEMENT PIPE (SUSPECT ACM)
- PROPERTY BOUNDARY
- SEPTIC TANK
- SEPTIC SYSTEM LEACHFIELD CONTAINING ACM PIPING
- FORMER EXCAVATION AREA

NYSDEC
FORMER BOMAX
MANUFACTURING SITE
WATERTOWN, NEW YORK

IRM COMPONENTS

0 60 120 240
Feet

JULY 2014
8653.49512

O'BRIEN & GERE

NYSDOH Generic Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see Paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Piping and Leachfield Layout Plan

1" = 50'

BLACKTOP PARKING LOT

4" CLEANOUT

4" ASB. CEM. -123'-0.3%

MANHOLE M+28

EXISTING BOWLE BUILDING
FLOOR EL. 100.0

PROPOSED BUILDING
FLOOR EL.

BLACKTOP DRIVE

LOAD DOCK

EXISTING PROPOSED BLACKTOP DRIVE

8" CEM. -326'-0.3%

FROM THIS MH TO I-81

MANHOLE A+34

8" ASB. CEM. 371'-0.3%

NO 2

NO 1

NO 3

NO 4

LEACH FIELD

TREES

MANHOLE 8+25

20'

I.P. INV. EL. 90.5

INV. EL. 89.5

98

97

96

95

94

93

92

91

90

94.8

PERCOLATION TESTS X

TEST NO.	TIME FOR WATER TO FALL 1" (MIN.)
1	15
2	19
3	38
4	15

FLOOR EL. 100.0

CLEANOUT

ORIGINAL GROUND

MANHOLE

BLACKTOP DRIVE

PROPOSED BLACKTOP DRIVE

NEW GRADE

MANHOLE

ORIGINAL GROUND

NEW GRADE

SEPTIC TANK

NEW YORK STATE DEPARTMENT OF H
DIVISION OF ENVIRONMENTAL HEALTH

OCTOBER

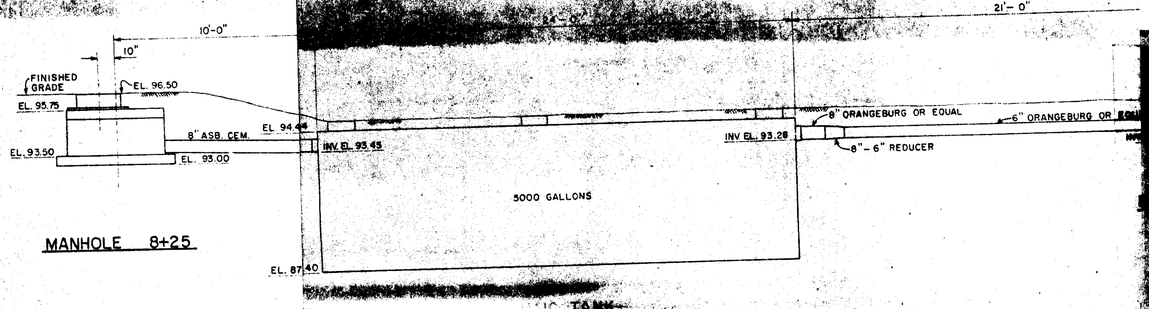
These plans for SEWAGE DISPOSAL AT
TOWN OF WATERTOWN, JEFFERSON
are hereby approved pursuant to Article 12 of
Law subject to the provisions of the permit i

DISTRICT HEALTH

By H.B. Bishop P.E.
District Sanitary Engineer

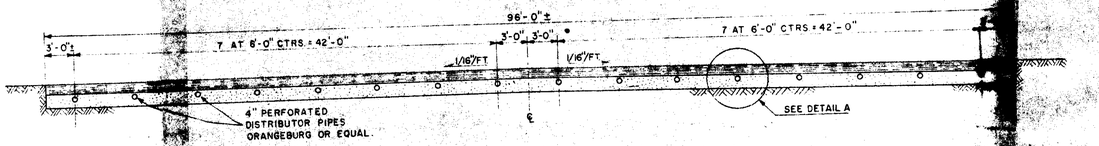
BoMAK
9626.001

Proposed Sanitary Sewage Facilities Details

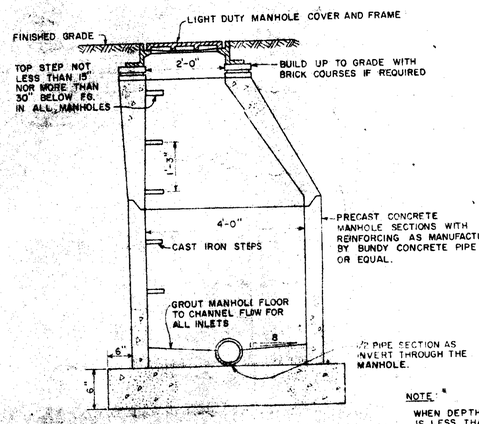


MANHOLE 8+25

TANK

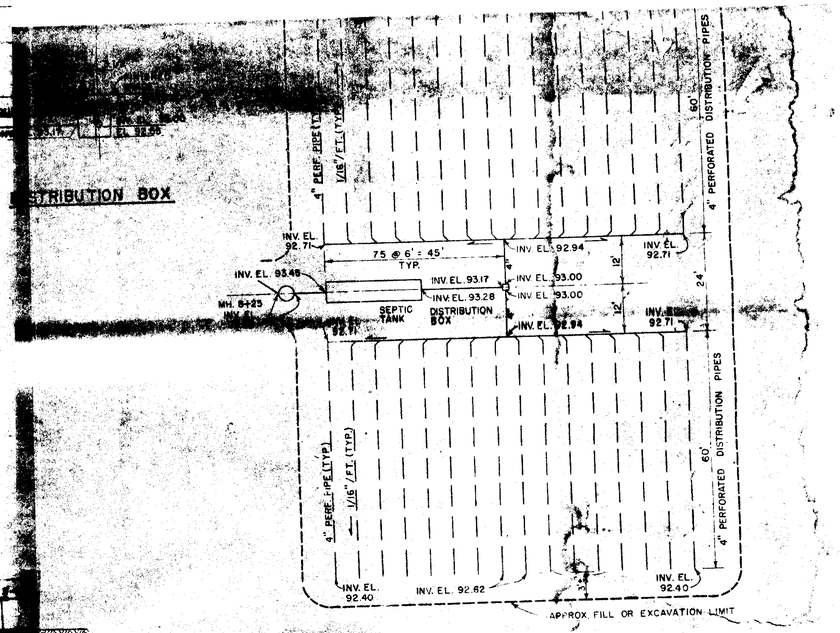


LEACH FIELD SECTION

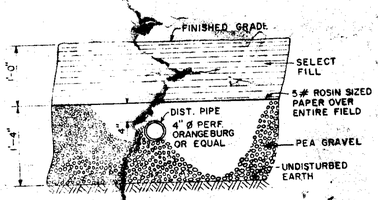


TYPICAL MANHOLE SECTION

NOTE:
WHEN DEPTH OF MANHOLE IS LESS THAN 6', A STRAIGHT MANHOLE SECTION MAY BE USED IN PLACE OF TAPERED SECTION



LEACH FIELD PLAN



DETAIL A

BOMAX
4626.00

MISCELLANEOUS SEWAGE DETAILS
PROPOSED SANITARY SEWAGE FACILITIES