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SITE INVESTIGATION AND ALTERNATIVES ANALYSIS WORK PLAN GUARDIAN SELF STORAGE FACILITY LOVE ROAD

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SITE INVESTIGATION WORK PLAN
GUARDIAN SELF STORAGE FACILITY
LOVE ROAD

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1.0 INTRODUCTION

The 2 Love Road property is the future home of a proposed Guardian Self Storage Facility. The current owner of the property has received the necessary approvals from the Town of Poughkeepsie to construct the facility. A site plan documenting the proposed configuration is attached. The site currently occupies approximately 4.59 acres of land that were previously used as a petroleum bulk storage (PBS) facility, a lumber/building supply yard and a gasoline service station. The PBS facility closed in the late 1980's. The PBS facility formerly contained a 2,500,000-gallon fuel oil tank, two 25,000-gallon tanks and three 20,000-gallon tanks. The 25,000 and 20,000-gallon tanks stored either fuel oil or kerosene. The 2,500,000 was located in a diked storage area to the north of the garage facility/loading facility. The 25,000-gallon tanks and one of the 20,000-gallon tanks were located on a concrete pad along the fence in the center portion of the property near the truck loading facility. The other 20,000-gallon tanks were located on cradles between the former garage and the fenced in area. The tanks were reportedly cleaned and abandoned in the early 1990's by the former owner/operator.

One partially demolished building exists in the center of the site. Another abandoned, dilapidated wooden building is located on the southeast corner of the property. The foundation of the partially demolished building will be incorporated into the proposed redevelopment. The abandoned wooden building will be demolished and removed from the property, as warranted.

The Volunteer has successfully developed other parcels of land in the Hudson Valley region as self-storage facilities. This parcel has been approved for the proposed self-storage facility (Figure 3). The Volunteer intends to move forward with the approved development and will incorporate site remediation as warranted, based on the results of the future environmental investigations.

The site is intended for commercial re-use. The properties surrounding the site are heavily commercial in nature. There is a residential development located approximately 1/3 of a mile to the east of the property; however, the residents are upgradient, so are not likely to be impacted should any contaminants be migrating away from the site. Additionally, the region surrounding the site is provided with potable water by the Poughkeepsie Water District, so ingestion of contaminated groundwater is not likely. The proposed use of the facility will eliminate the direct exposure pathways for users of the facility. Patrons of the facility will spend very little time on the property and there will probably be no more than four employees at the facility at any point in time.

The Volunteer intends to define the nature and extent of the petroleum-impacted soil identified during a preliminary test pit investigation that was performed as part of a geotechnical study for foundation design purposes. The purpose of this Remedial Investigative Work Plan (RIWP) is to provide a scope of work to define the nature and extent of the petroleum-impacted soil and, if encountered, groundwater below the site. It also establishes the specific guidelines and procedures necessary to accomplish the environmental objectives of this investigation and for all personnel involved in the remedial investigation activity. The plan includes a description of the subsurface testing methods and protocols, preliminary sampling procedures, evaluation of site characteristics; the protection of personnel performing the scope of activities, as described in

Section 4.0 of this RIWP, establishment of an emergency chain of command; the use of basic safety equipment, personal protective equipment, air monitoring devices, and reporting and documentation procedures.

1.1 Site Characterization Work Plan Format

This Work Plan presents the proposed scope of work for pre-remediation design investigations at the Site. The Work Plan contains the following sections:

- *Section 2.0; Site and Project Description* includes a general description of site location, history, previous owners, and adjacent land use.
- *Section 3.0; Geologic and Hydrologic Characteristics of the site* provide a summary of the geology and hydrology of site.
- *Section 4.0; Site Investigative Work Plan* includes intent of work, scope of work for characterization of the study area, notification of utilities, soil sample collection analysis, assessment, hydrogeology and groundwater, and mapping.
- *Section 5.0; Protocols and Methods* summarizes the protocols and methods to be followed during the collection and analysis of samples from the site.
- *.Section 6.0; Data Management and Reporting* describes data management and reporting procedures.
- *Section 7.0; Project Schedule* presents the anticipated time frame for implementing the scope of work presented herein.
- *8.0; References*

1.2 Site Characterization Objectives

The objective of this Site Investigation and Alternative Analysis Work Plan is to define the protocols and procedures for implementing a field sampling program consistent with the requirements of the BCP. The objectives of our site characterization plan are to:

- Determine if releases have occurred.
- Delineate the three-dimensional extent of impacted media to the extent possible and practical.
- Evaluate compliance with applicable cleanup criteria.
- Identify physical and engineering constraints for site development imposed by the nature and extent of the contamination, if present.
- Generate the data necessary to develop a Remedial Work Plan and Alternatives Analysis.

2.0 SITE AND PROJECT DESCRIPTION

2.1 Site Location

The site is located at 2 Love Road in the Town of Poughkeepsie, Dutchess County, New York (Figure1).

2.2 Site Description

The site currently consists of three tax parcels making up approximately 4.59 acres. The tax parcels are identified as follows:

Grid/Street Numbers	Tax I.D.
83-85 Dutchess Turnpike	14-6261-01-173893-00
97-99 Dutchess Turnpike	14-6261-01-205886-00
87-91 Dutchess Turnpike	14-6261-01-188903-00 (2 Love Road)

The Tax parcel boundaries are roughly depicted on the site plan attached to this report (Figure 3). Access to the site is along Love Road. which intersects with Burnett Boulevard Extension (Figure1). One partially demolished building exists in the center of the site. Another abandoned, dilapidated wooden building is located on the southeast corner of the property. The foundation of the partially demolished building will be incorporated into the proposed redevelopment. The abandoned wooden building will be demolished and removed from the property, as warranted.

2.3 History

Little information was readily available regarding the site history and a reasonable effort will be made to expand our knowledge of the historic operations at the facility. The site was formerly occupied by a petroleum bulk storage (PBS) facility, a lumber/building supply yard and a gasoline service station. The PBS facility closed in the late 1980's. The PBS facility formerly contained a 2,500,000-gallon fuel oil tank, two 25,000-gallon tanks and three 20,000-gallon tanks. The 25,000 and 20,000-gallon tanks stored either fuel or kerosene. The 2,5000,000 was located in the diked storage area to the north of the garage facility/loading facility. The 25,000-gallon tanks and one of the 20,000-gallon tanks were located on a concrete pad along the fence in the center portion of the property near the truck loading facility. The other 20,000-gallon tanks were located on cradles between the former garage and fenced in area. The tanks were reportedly cleaned and abandoned in the early 1990's by the former owner/operator. No information was available documenting closure activity other than the letter from Luzon Environmental Services, which will be attached to the Remedial Investigation Report.

The parcel located at 83-85 Dutchess Turnpike (Tax I.D. 14-6261-01-173893-00) was formerly owned by Dutchess County. The parcel was taken in lieu of taxes owed by the prior owner. This parcel is located on the west side of the proposed development.

The central parcel (87-91 Dutchess Turnpike, Tax I.D. 14-6261-01-188903-00 (2 Love Road) was formerly owned and operated by Love/Effron Oil. The most recent use for this parcel was as petroleum bulk storage (PBS) facility. Prior to Love/Effron's ownership, the property was owned and operated as Clay's Service Station, an automobile repair and service station. However, the portion of the site that operated as a service station was buried beneath NYS Route 44 when the road was widened approximately 40 to 50 years ago. The Love/Effron facility operated at this location until the 1970's, when they moved to a location along the

Hudson River located at the end of Prospect Street. The Love Oil Corporate headquarters is located at 154 Garden Street, Poughkeepsie, NY, 12601.

2.4 Adjacent Land Use

The proposed BCP site is surrounded primarily by commercial real estate (Figure 3). The nearest houses are located in a residential development to the east of the site along Catskill and Longview Avenues (Figure 3). The property is abutted immediately to the south by NYS Rt. 44, commonly known as Dutchess Turnpike and to the east by an old railroad bed. Further to the east of the site along Rt. 44, there are several small commercial establishments; however, a little further east and north of the property there is a residential development. These houses are located up of the property and are provided with municipal water and sewer services by the Poughkeepsie Water and Sewer District. Commercial establishments occupy the southern side of Rt. 44 directly across from the site.

The property is surrounded to the north and west by commercial plaza commonly referred to as either the Dutchess Center Plaza or Route 44 Plaza. This plaza was constructed on lands that previously contained the Poughkeepsie Municipal Landfill. This parcel was subject to numerous investigations historically and removed from the NYSDEC's list of potential inactive hazardous waste sites. The landfill mass was moved and consolidated into a mound that currently exists on the northern boundary of the shopping plaza.

3.0 GEOLOGIC AND HYDROGEOLOGIC CHARACTERISTICS OF THE SITE

3.1 Geology of Site

The property is located near the base of a slight hill that rises to the east. The property itself is terraced on two levels. The terraces are probably manmade, but not enough information is available to verify landforms at this point in time. The land surface slopes towards the northwest.

The Surficial Geologic Map of New York, Lower Hudson Sheet, (1989) indicates that the soils in the vicinity of the site are likely fill material. If not fill, the soils are listed as either laucustrine deposits or glacial till. The Dutchess County Soil Conservation Survey (2002)depicts the soils as being Urban Lands, which typically consist of reworked native material or fill covered extensively by impervious surface. The Bedrock Geologic Map of New York (1970) suggests that the bedrock underlying the site consists mainly of silt stone, shales and greywacke of the Normanskill Formation.

3.2 Hydrogeology of Site

Groundwater probably exists in the shallow sediments and bedrock formation underlying the site; however, groundwater is not used as a potable resource in the area according to available information. There is reportedly a potable well on the property that is no longer used due to the installation of the city of Poughkeepsie public water supply. The well was located and efforts

will be made to sample the well as part of the Remedial Investigation to determine if groundwater has been impacted.

The soils encountered during a preliminary test pit investigation were primarily silty clay and fine sand with trace to some fine to medium gravel. These test pits were not excavated any deeper than three feet below ground surface and no water was encountered immediately during excavation.

Petroleum staining and odor was detected in the three foot test pits dug on the northwestern side of the site left of the bulk oil storage facility. This area will be characterized in the investigation outlined in this RIWP. The test pits were left open to facilitate later inspection. Upon returning to the site during the Pre-Application Inspection with the NYSDEC representatives, the test pits were filled with water. It had rained heavily before the inspection and the presence of standing water in the test pits was interpreted as being a function of the relatively slow draining nature of the soils. This suggests that the petroleum-impacts may be confined to a relatively narrow zone.

The topography suggests that groundwater likely flows towards the west but may have a northwesterly component. Information obtained during investigations on the adjacent mall property suggests that this area was formerly a wetland. The wetlands may have been the localized discharge point for shallow groundwater in this area. There is a manmade drainage course that runs under and along Burnett Boulevard Extension that was inundated with water during the inspection. This swale or drainage course may be conveying shallow groundwater away from the site. The discharge point of the swale is not known.

There is a small detention pond in the north portion of the site that was probably installed as part of the PBS storm water management system. This pond may also be influencing groundwater flow; however, if the detention pond was installed as part of the containment cell for the PBS facility, it may be lined and not in hydraulic contact with groundwater. It may be a receptacle for stormwater runoff.

4.0 SITE INVESTIGATION WORK PLAN

4.1 Intent of the Investigation

These parcels have independently received approval from the Town of Poughkeepsie for construction of a self-storage facility (Figure 3). During some preliminary geotechnical work prior to construction, the current owner of the property (the Volunteer) encountered some petroleum-impacted soil in the vicinity of the former gas station. The Volunteer had begun to clear the land in preparation for construction and noticed a petroleum odor. Subsequent test pits excavated in the vicinity of the proposed new construction indicated that the soils were potentially impacted with petroleum. No samples were taken to confirm the nature and extent of the release. As a result of this discovery, the Volunteer wishes to investigate and remediate the site in accordance with the requirements outlined in the BCP. Remediation will be consistent with the intended future use of the property and is likely to follow a Track 4 pathway.

The Site Investigation will be performed to determine to what extent the site has been impacted by the historic use of the property and determine if the applicable soil cleanup guidance values and groundwater standards have been contravened. It is anticipated, based on the intended future use of the property, that the actual applicable standards and criteria will be determined in consultation with the NYSDEC.

The data generated during the investigation will be used to develop a conceptual site model (CSM) to evaluate the nature and extent of the contamination on the property. Migration pathways will be defined and sensitive receptors identified. The potential for migration away from the property will be qualitatively evaluated in the context of how the impacts may affect nearby sensitive receptors.

The results of the Site Investigation will be used to characterize the fate and transport of the chemicals of concern. The findings will define the approximate boundaries of the impacted areas, the approximate volume of impacted material, the persistence of the compounds of concern and the potential for the compounds of concern to leach into the environment.

The Volunteer intends to perform the anticipated environmental investigation within two months of approval of this work plan and would like to implement remediation as soon as possible and begin construction as soon as practically possible.

4.2 Proposed Scope of Work

The following Scope of Work has been generated using available technical guidance including the requirements outlined in the NYSDEC TAGM 4007- Phase II Investigation Generic Work Plan, DER-10, Technical Guidance for Site Remediation, December 2002 and the USEPA Guidance for conducting RI/FS investigations under CERCLA. The sampling and analytical protocols used during this project will be in conformance with the specific guidelines established in the BCP guidance document and DER-10. Where applicable, data collection/analysis levels (e.g. ASP Level B) will be established in conjunction with the NYSDEC through the work plan review process.

A Fish and Wildlife Resource Impact Analysis will be conducted due to the existence of a pond onsite. This potential habitat will be characterized according to Section 3.10 of DER-10 Technical Guidance for Site Investigation and Remediation.

The site investigation will include digging between 40 and 60 test pits in the vicinity of the former bulk storage tank area and gas station. Between 10 and 20 shallow soil borings will be installed throughout the site to characterize geologic and hydrogeologic conditions. Between five and ten of the shallow soil borings will be converted to small diameter monitoring wells to facilitate groundwater sampling and determine flow direction. The shallow wells will be sampled to characterize groundwater quality and an existing production well will be sampled to determine if the bedrock aquifer has been impacted.

The project area has been broken down into two different study areas, identified as the Southern Zone (former gasoline station area), and Northern Zone (PBS facility). Proposed sampling

locations within each study area are presented on the attached site plan (Figure 4). Further details regarding the sampling procedures are included under separate cover in the QAPP prepared for the site. The proposed scope of work includes the following:

- Notifications to the Underground Facility Protection Organization (UFPO) of New York
- Excavation and sampling of up to 60 test pits to define the nature and extent of petroleum impacts
- Installation and sampling of up to 20 soil borings with direct push drilling methods
- Sampling of surface soil (0-2" deep) for evaluating potential human exposures
- Installation and collection of groundwater samples from approximately 10 on-site monitoring wells
- Collection of one groundwater sample from the abandoned on-site water supply well
- Sampling of soil vapor will be conducted in the area of the proposed structures
- Collection of two sediment samples from the on-site detention pond
- GPS Survey to identify the horizontal locations of the test pits and monitoring wells and a level run to determine the monitoring well elevations
- A summary report of the findings including a discussion of the alternatives

The following sections provide detailed discussions of the above, as warranted.

4.2.1 Utility Subsurface (UFPO) Notifications

As required by law, the UFPO state-wide underground utility locating service will be contacted prior to commencement of subsurface sampling activities to mark the location of public underground utilities within the project area.

As a courtesy to the Town of Poughkeepsie, Fuss & O'Neill will provide to the Town of Poughkeepsie Building Department a verbal description of the work to be performed and the dates that work will be performed.

4.2.2 Soil Sample Collection and Analysis

Geologic and chemical profiles of the soil samples from various soil horizons will be obtained by digging test pits and installing soil borings with a geoprobe rig. Representative soil samples will be collected from the test pits and borings. The soil samples will be screened in the field for the presence of volatile organic compounds using headspace analysis with a photoionization detector (PID). The soils encountered in the will be logged in the field by the Fuss & O'Neill field geologist or engineer. Evidence of soil staining, odor, changes in lithology, moisture content, etc. will be recorded. Test pit and soil boring logs will be generated to aid in the creation of a conceptual site model and included in the investigation report.

During the initial phase of the investigation, the soil samples will be screened for the Target Compound List (TCL) of volatile organic compounds (VOCs) using USEPA method 8260B and for semi-volatile organic compounds (SVOCs) using USEPA method 8270C. The preliminary samples will also be analyzed for the Target Analyte List (TAL) of metals. Once preliminary

sampling is completed and the initial evaluation performed, only those compounds of concern as established by the initial sampling will be analyzed for.

4.2.2.1 Surface Soil Samples

Very shallow soil samples will be obtained from those areas of the site that are likely to remain undeveloped, will not be covered by building or parking lot and will not be excavated based on the current development plan. Surface soils will be collected from these areas between a depth of 0 to 2-inches below ground surface. The samples will be collected using a pre-cleaned sampling trowel or spoon. Roots and other organic debris will be removed to the extent possible without compromising the sample integrity. Approximately 5 sampling locations are anticipated; however, the number may vary depending upon the amount of open space proposed for the facility (the development plans are currently in revision and will not be finalized until the investigation is completed).

Samples from the surface sampling locations will be forwarded to the laboratory for confirmatory analysis. The samples will be obtained from any significantly contaminated areas to determine if these areas represent a significant threat to the environment. The analytical samples will be submitted to Severn Trent Laboratories, located in Newburgh, New York. Initial soil samples will be screened for the TCL/TAL contaminant lists. After the initial evaluation, only those compounds of concern that were established by the initial sampling will be analyzed for, if follow up sampling is warranted. Soil samples will be collected according to the procedures identified in the Standard Operating Procedures (SOPs) for shallow soil sampling provided in the QAPP.

4.2.2.2 Test Pit Excavation

A track mounted excavator will be used to excavate test pits on a regularly spaced grid throughout the site; however, the grid will be flexible so that areas of concern can be more fully defined. It is estimated that between 40 and 60 shallow test pits will be excavated (Figure 4). The test pits will be excavated to an approximate depth of 10 to 15 feet. A Fuss & O'Neill geologist or field engineer will oversee the test pit excavation and prepare a test pit log documenting the lithology of the subsurface soil. An photoionization detector (PID) or similar type organic vapor monitor (OVM) will be used to screen excavated soil for the presence of VOCs.

Samples will be obtained from representative test pits. Not every test pit will be sampled for confirmatory analysis and some test pits may have more Samples from the test pits and soil borings will be forwarded to the laboratory for confirmatory analysis. The laboratory samples will be analyzed to help assess the horizontal and vertical extent of the impacted areas. The bulk of the samples will be focused at the edges of the suspected contaminant impacted area(s). Fewer samples will be collected from the areas where obvious contamination is encountered; however, samples will be obtained from any significantly contaminated areas to determine if these areas represent a significant threat to the environment.

4.2.2.3 Soil Borings

A direct push drilling rig will be used to confirm the vertical extent of impacted areas and to facilitate the installation of shallow groundwater monitoring wells. The boring locations will not be selected until the test pit investigation is completed. Selection of the boring locations will be done in conjunction with the NYSDEC Project Manager. Soil borings will generally be advanced to a depth of 12 to 20 feet below the ground surface, depending upon depth to groundwater. If native unconsolidated material that is not visually impacted is encountered the borings may be terminated at shallower depth. The field geologist will create a log for each boring in the field.

Soil samples will be obtained continuously at four feet sampling intervals using a macro-core sampling tubes. Organic vapor meter (OVM) or photo-ionization detector (PID) readings will be used to screen soils in the field, weather permitting. The analytical samples will be submitted to Severn Trent Laboratories, located in Newburgh, New York. Initial soil samples will be screened for the TCL/TAL contaminant lists. After the initial evaluation, only those compounds of concern that were established by the initial sampling will be analyzed for. Soil samples will be collected according to the procedures identified in the Standard Operating Procedures (SOPs) for direct-push sampling, and test pit excavation sampling provided in the QAPP.

4.2.2.4 Soil Vapor Sampling

If the potential exists for subsurface soil to be contaminated with volatile organic compounds, areas where buildings will be constructed in the future and existing basements or structures will be evaluated for vapor intrusion potential. Soil vapor samples will be obtained at five locations either beneath the existing slab or beneath proposed building footprint. The samples will be analyzed using USEPA method TO-15 for VOCs. The sample results will be compared to the NYSDOH's guidance tables for determining the need for vapor intrusion systems. The proposed sampling locations are shown on Figure 4.

4.3 Monitoring Well Installation and Groundwater Sampling

Up to ten shallow soil borings will be converted to monitoring wells by installing a 1-inch diameter PVC by using the direct push method (GEOPROBE). The borings will be advanced using a macro-core sampler. Once the boring are completed, a well-string will be inserted into the boring consisting of a 10 slot well screen and riser. The annular space will be filled with #1 sand to approximately two feet above the top of the screen. A bentonite seal will be placed above the sand pack and the remaining annular space will be filled with a high solids bentonite grout. The well screen will be set to intersect the water table. The monitoring wells will be completed with flush mounted protective casings and a locking cap. Monitoring well completion forms will be provided.

Groundwater samples will be collected during the site investigation from newly installed monitoring wells. The proposed well locations are unknown at this point in time and will be established based on the results of the test pit investigation in conjunction with the NYSDEC project manager. The intent is to select well locations in such a fashion to address the most significantly impacted areas and enable adequate characterization of groundwater flow in the

unconsolidated formation.. This approach will make certain that the potential impact to any sensitive receptors is adequately characterized.

Prior to sampling, each well will be developed to improve hydraulic interaction between the formation water and the well. The wells will be purged until pH, conductivity, and temperature stabilize and until the turbidity is less than 50 Nephlometric Turbidity Units (NTUs). If the desired turbidity goals cannot be met within purging 20 well volumes, the DEC will be consulted before proceeding with sampling.

The monitoring well network (Figure 4) will consist of approximately ten shallow wells installed with 10 feet of well screen that bisects the water table. Depth to groundwater will determine the overall depth of the well, which could be anywhere between approximately 15 feet to 20 feet below grade. The method for well installation will be determined in the field depending on drilling conditions. If there is evidence of substantial contamination with depth, three of the shallow wells will be converted to a well cluster consisting of a shallow-screened well bisecting the water table and deep-screened well with two feet of well screened installed approximately 20 feet below the mid-point of the shallow well. The well pairs, if necessary, will allow for characterization of vertical groundwater contaminant transport. At least one shallow well will be installed near the existing abandoned production well for comparison purposes. Wells will be installed and developed in accordance with the SOPs included in the project QAPP.

Prior to collection of groundwater samples, the depth of the water table will be measured using an electronic interface probe. This probe will be capable of detecting LNAPL floating on the water table. This information will be used to construct a groundwater contour map(s) and determine if floating product is present.

Groundwater samples will be taken and analyzed after well development. Low flow sampling techniques will be used as documented in the QAPP. The samples will be analyzed for the TCL/TAL list of parameters. Subsequent sampling events may be modified to include other parameters, such as those required to evaluate bioremediation potential or to eliminate non-critical wells and/or specific parameters based on analytical results from the first samples obtained.

Either low flow sampling techniques will be used or the monitoring wells will be purged using a peristaltic pump or manual bailing devices of at least three well volumes before sampling. If the wells are purged, the wells will be allowed to recover to approximately 90% of the initial static water level and be sampled within 24 hours of well purging. Groundwater samples will be collected using low-flow sampling techniques, in accordance with the SOPs included in the project QAPP. Based on historic analytical results, groundwater samples will be analyzed using ASP Category B protocols by EPA methods 8260, 8270, MTBE, and RCRA metals.

4.4 Production Well Sampling

One of the sensitive receptors of concern is the bedrock aquifer below the site. Although this aquifer is not used as a drinking water resource, it is one of the possible discharge points for

impacted shallow groundwater. The on-site production well will be opened and any existing well pump removed unless it can be re-used. Since the well has not been used for an extended period of time it may not be functional or usable as a sampling point. If possible, the well will be redeveloped to facilitate sampling. We will purge the well to improve hydraulic contact with the bedrock aquifer (we are assuming that any production well installed in this area is installed in the bedrock because the native soil in this region typically does not provide usable quantities of potable water). The wells will be purged until pH, conductivity, and temperature stabilize and until the turbidity is less than 50 NTUs. If the desired turbidity goals cannot be met within purging 20 well volumes, the DEC will be consulted before proceeding with sampling.

The on-site production well will be allowed to recover to approximately 90% of the initial static water level before sampling. The well will also be sampled with 24 hours of purging. Groundwater samples will be collected using low-flow sampling techniques, in accordance with the SOPs included in the project QAPP. Based on historic analytical results, groundwater samples will be analyzed using ASP Category B protocols by EPA methods 8260, 8270, MTBE, and RCRA metals.

The well will be sounded to determine its depth and the casing surveyed to determine elevation. The water level will be measured and the well purged of between 10 and 20 well volumes to re-establish connection with the formation water. If there is evidence of free product in the well, the purge water will be collected in a temporary holding tank. A groundwater sample will be collected from this well and analyzed for the same list of parameters as the shallow wells.

Prior to collection of groundwater samples, the groundwater elevation will be measured using an electronic interface probe. This probe will be capable of detecting LNAPL floating on the water table. This information will be used to construct a shallow groundwater contour map(s) for the unconsolidated aquifer. Groundwater samples from the 1 inch diameter shallow wells will be collected using low-flow sampling techniques, in accordance with the SOPs included in the project QAPP. Based on historic analytical results, groundwater samples will be analyzed by Severn Trent Laboratories (STL) of Newburgh, New York for ASP Category B protocols using USEPA methods 8260, 8270, MTBE, and RCRA Metals.

4.5 Mapping and Location Survey

Sampling and monitoring locations (e.g., groundwater, soil, and sediment) will be survey located in the field and these locations will be added to the base map maintained by the Volunteer. At monitoring wells, PVC measuring point elevations will be determined so that groundwater elevations can be calculated from water level data recorded at monitoring wells.

Mapping for the summary report will be provided by Fuss & O'Neill by locating wells and test pits using a GPS and level run to establish elevation. North arrow and bearings are based on North American Datum (NAD) 1983. Elevations of the monitoring wells will be established using an arbitrary datum to facilitate conversion of depth to groundwater to relative elevation. One meter for horizontal locations of the test pits and 0.01 feet for vertical elevation of the monitoring wells using a GPS, but may be verified by survey.

As stated previously, most of the landmarks (buildings) within the project area have been destroyed. Therefore, absence of buildings and other surface structures in the field complicates determining the location of AOCs. Every effort will be made to refer to existing permanent features when establishing the arbitrary datum. Fuss & O'Neill will also attempt to locate the following items:

- Historical maps and sketches of the site when used as a bulk oil storage facility
- Historical aerial photographs
- Historical insurance maps and city mapping

Fuss & O'Neill will identify any pertinent features on the existing conditions map (Figure 3) and identify the areas of concern based on the review of the above. Features to be included on the investigation report map include site topography, structures (buildings, streets, utilities, etc.), test pits, borings, and the location and elevation of monitoring wells (Figure 4).

4.6 Sediment Sampling

Sediment samples will be collected at two locations (Figure 4) in the on-site detention pond to characterize the environmental quality of sediment in areas that may be impacted by redevelopment efforts. Sediment samples will be collected using pre-cleaned sediment samplers. Cores will be advanced to approximately one foot into the sediment at both locations and grab samples will be obtained at 0 to 1 foot intervals. Samples will be submitted to Severn Trent Laboratories (STL) of Newburgh, NY and analyzed using ASP Category B protocols for USEPA Methods 8260, 8270, and RCRA Metals.

4.7 Assessment of Hydrology and Groundwater Use

Potential influences to groundwater flow and assessment of the potential impacts of groundwater flow on nearby receptors will be assessed. This will be completed by evaluating the shallow groundwater regime and the local storm water network within the project area, and conducting limited hydraulic conductivity testing and groundwater level monitoring.

4.7.1 Hydraulic Conductivity Testing

Slug tests will be performed at the ten newly-installed one-inch diameter monitoring wells to determine the hydraulic conductivity of the unconsolidated deposits at the site. A known volume of water will be removed and the recovery rates observed. The water level in the well will be recorded using a pressure transducer and digital data logger. The Theis Recovery Method for unconfined aquifers will be used to calculate the hydraulic conductivity.

The hydraulic conductivity values and groundwater level monitoring data will be used to estimate the average horizontal groundwater flow velocity. Field procedures for conducting hydraulic conductivity tests are referenced in the project QAPP.

4.7.2 Water Level Analysis

Manual water level monitoring will be conducted as part of water quality sampling program. . The water level data will be analyzed using a filtering method that determines mean groundwater elevations. Groundwater elevations will be calculated from the surveyed grade elevations of each monitoring well, allowing preparation of a groundwater contour map to be completed. At least one round of synoptic static water levels must be obtained to provide an accurate indication of groundwater flow direction.

4.8 Human Health Exposure Assessment

The potential impacts to future users of the property, based on the intended future use of the property, will be evaluated in the context of the potential exposure pathways to the contaminants of concern. The Human Health Exposure Assessment (HHEA) will evaluate the potential exposure to site contaminants of concern during current uses and reasonably anticipated future site. Specifically, the HHEA will focus on the inhalation of airborne VOCs and present an analysis and evaluation of the potential risks and hazards to human health that may exist.

5.0 PROTOCOLS AND METHODS

The following sections provide details on health and safety, data quality objectives and the sampling and analytical protocols to be used in this investigation. In addition, methods for data validation and disposal of investigation derived wastes are documented.

5.1 Health and Safety Plan

The site Health and Safety Plan for the project is provided in Appendix B. The HASP addresses the requirements of Occupational Safety and Health Administration safety and health standards: OSHA 29 CFR General Industry. This HASP is designed to cover those special and/or unique health and safety procedures arising from actual or potential contact with contaminated materials and those requirements pursuant to OSHA 29 CFR 1910.120.

5.2 Data Quality Objectives

The data quality objectives of this Work Plan are to obtain analytical data of sufficient quality to:

- Determine if releases have occurred
- Delineate the three-dimensional extent of impacted media
- Assess compliance with applicable cleanup criteria
- Generate the data necessary to develop an Alternatives Analysis and Remedial Work Plan

The environmental media that may be sampled as part of this investigation include soil and groundwater. The standards used to evaluate each of these media are as follows:

- Soil – The New York State Department of Environmental Conservation Brownfield Soil Cleanup Objectives under TAGM 4046
- Groundwater - The New York State Department of Environmental Conservation Groundwater Standards as provided in TOGS 1.1.1

Analytical detection limits will be low enough to allow for the comparison of laboratory results to applicable criteria. Laboratory analysis for this project will be provided by Severn Trent Laboratories of Newburgh, New York and Fuss & O'Neill's Mobile Laboratory.

5.3 Sampling Protocols

As outlined above, it is anticipated that site characterization activities will include the collection of soil, pond sediment, and groundwater samples. Protocols for the collection of samples have been included in the project QAPP.

5.4 Analytical Methods

Based on historic uses of the site, the target compounds for this investigation are Volatiles and semi-volatiles organic compounds (VOCs and SVOCs) typically associated with gasoline and fuel oil, including kerosene, MTBE, and RCRA Metals:

- Volatiles will be analyzed using USEPA 8260
- Semi-volatiles will be analyzed using USEPA 8270
- Metals will be analyzed by using RCRA Metals list
- Methyl Tertiary Butyl Ether (MTBE)

Soil and groundwater samples will be analyzed by Severn Trent Laboratories and Fuss & O'Neill's Connecticut Certified Mobile Laboratory if soil vapors are detected above the 10,000 ppb. Standard operating procedures for the laboratories are provided in the project QAPP.

5.5 QA/QC Procedures

Fuss & O'Neill's quality assurance/quality control (QA/QC) procedures are documented in Section 7.0 of the project QAPP.

5.6 Waste Management

The proposed techniques of low-flow groundwater sampling and soil sampling are not envisioned to generate a significant volume of waste. Wastes that may be generated during future on-site activities are expected to include drill cuttings; liquids from installation, development, and purging of monitoring wells; decontamination fluids; soil, and disposable equipment used for sample collection, personal protection and decontamination.

Visual observation and VOC screening will be performed using a volatile organic compound detector on drill cuttings and liquids to help determine the proper disposal method. Excavation

spoils will be returned to the hole. A PID reading over 10 ppm, petroleum sheen, and/or observed petroleum contamination may result in the waste being segregated for later disposal. Drill cuttings that are not visually contaminated and have screening readings below 10 ppm will be used to backfill the borehole. Liquids that are not visually contaminated or have screening readings below 10 ppm will be returned to the ground surface.

Solid and liquid waste that is drummed will be placed in clearly labeled Department of Transportation-approved drums. The drums will be covered except when material is being added or removed. Characterization of wastes will consist of an evaluation of existing analytical results, location relative to known contaminant sources, Fuss & O'Neill Mobile Laboratory results, and fixed-base laboratory results. Waste materials which can not be classified as hazardous or non-hazardous will be labeled "Pending Hazardous Waste Analysis – Being Tested." Drums containing wastes generated at the property will be stored in a designated staging area on site. This location will be clearly defined and entry restricted.

Soil excavated during test pit activities will be put back into the excavation. Stockpiling of contaminated soil will not occur during the SI characterization.

5.7 Data Usability

This Work Plan outlines a systematic process and structure for data quality such that the data produced during monitoring and environmental investigation activities at the Love Road Site will support decisions. The generation and use of quality data is important in the assessment of contaminant release areas and potential migration from the site and, if necessary, in the selection of adequate and appropriate corrective measures.

The function of the data validation process is to identify sampling and analytical error and not to make final determinations about the overall usability of the data for the project (U.S. EPA, 1996). The usability assessment will be conducted by the QAO and the results of the assessment will be reported to the Project Hydrogeologist. The usability assessment will report how validated project data is reconciled with the project quality objectives and limitations, if any, of the data. Reconciliation may require re-sampling or recommending the use of selected data even through it did not meet the data quality objectives (DQOs). For example, assume that a sample is analyzed for STARS 8270. The QC for benzo(a)pyrene (BAP) is not acceptable, while the QC for all other volatiles is acceptable. It is possible that the results may be usable for volatiles excluding BAP.

Quality control issues will be discussed in the usability assessment and the QAO will recommend the use or rejection of the data. Ultimately, the project manager will determine the usability of the data based on an understanding of the project data quality objectives and the results of the data verification process. The results of the usability assessment will be summarized in the DUSR.

Data from this investigation may be validated by the Project Quality Assurance Officer (QAO). The results summarized in the Data User Summary Report (DUSR) Will address the following:

- Assess and summarize the analytical quality and defensibility of data for the end user
- Document factors contributing to analytical error that may affect data usability, such as: data discrepancies, poor laboratory practices that impact data quality, site locations for which samples were difficult to analyze
- Document any "sampling error" that may be identified by the data validation process, such as contaminated trip or equipment blanks, incorrect storage or preservation techniques, improper sampling containers, and improper sampling techniques

To provide data of known quality, the data validator may perform one or more of the following levels of data validation:

1. Review the data package to evaluate whether it contains all the required documents and forms (Tier I).

2. Review the data package to evaluate whether it contains all the required documents and forms and assess the results of all QC checks and procedures (Tier II).

3. Review the data package to evaluate whether it contains all the required documents and forms, assess the results of all QC checks and procedures **and** examine the raw data in detail to verify the accuracy of all information presented by the laboratory (Tier III).

These three levels of review constitute the EPA Region I Tiered Validation approach. For the purpose of this investigation, it is anticipated that a modified Tier II Validation will be completed. Procedures for data validation are included in the project QAPP.

6.0 SITE INVESTIGATION REPORT AND DATA MANAGEMENT

Data collected in the field will be transferred into GIS/Key™, an environmental data management system. GIS/Key™ is the database system used to sort, query, and produce output of selected data. All data entered into the database are verified by the operator by comparing the database output to the original field data sheets and hard copy laboratory results. Once the data has been verified, GIS/Key™ can be used to present the data in a variety of ways, including: tabular data presentations, graphical data presentations, contour maps, geological cross sections, section view isopleths and three dimensional graphical representations of contaminant distribution. Output from GIS/Key™ can be enhanced using software utilities such as MS Excel, AutoCAD, and ArcView.

Output from GIS/Key™ will be used to refine the CSM for the project area. The following information will be provided:

- Description of setting and historical information about processes and potential release mechanisms
- Summary of available soil and groundwater quality information for the AOCs
- Documentation that the data are sufficient for comparison to applicable standards

- Evaluation of environmental data to determine compliance with the NYDEC Brownfield Cleanup Criteria

This may be demonstrated with maps and cross-sections, as appropriate, showing contaminant distribution and other features which could control contaminant migration.

A complete summary report including activities and findings will be prepared at the completion of the investigation for submittal to the NYSDEC. The report will contain investigation findings, the nature and extent of the impacts to the property within the confines of the surveyed areas, identification of any areas that represent ongoing source of contamination, qualitative risk of off-site impacts and summary tables of laboratory results, maps with sampling locations and appendices with field data (i.e. boring logs, field data sheets, electronic copies of analytical data, etc.), groundwater flow maps and a human health exposure assessment.

7.0 ALTERNATIVES ANALYSIS

Based on the results of the investigation, several remedial alternatives will be discussed. A summary of a few appropriate and applicable remedial alternatives will be prepared. A detailed analysis of some of the appropriate alternatives will be performed. The proposed remedial actions will be selected based on their ability to address the potential exposure routes, reduce or eliminate the potential for ongoing impacts to the environment and be protective of human health and other sensitive receptors, as applicable.

The remedial alternatives will be evaluated in the context of overall protection of human health and the environment, compliance with SCGs, short and long-term effectiveness, reduction of toxicity, mobility and volume, potential for implementation, cost, and community acceptance. The remedial alternatives will also be evaluated using the NYSDECs Land Use Criteria including current and future anticipated land uses, historical and recent development patterns, Brownfield Opportunity Areas, The Town of Poughkeepsie Zoning and Master Plan, proximity to residential properties, Environmental Justice concerns, Land Use Designation (Federal, State and local), population growth patterns, accessibility to existing infrastructure, proximity to cultural and natural resources, the potential vulnerability of local groundwater resources, flood plains, geography and geology, and current institutional controls and easements.

8.0 PROJECT SCHEDULE

A summary of proposed key milestones for the Remedial Investigation is presented below:

Task	Anticipated Date
Submission of Work Plan	March 2005
NYSDEC approval of Work Plan	April 2005
Initiation of Field Investigation	April 2005

9.0 REFERENCES

ASTM, 1997. ASTM Standards Relating to Environmental Site Characterization, American Society For Testing Materials, ASTM Publication Number PCN: 03-418297-38.

U.S. EPA, Region I, July 1, 1993. Tiered Organic and Inorganic Data Validation Guidelines.

U.S. EPA, August 1994. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. Draft Interim Final, EPA QA/R5.

U.S. EPA, Region I, December 1996. Data Validation Functional Guidelines for Evaluating Environmental Analyses.

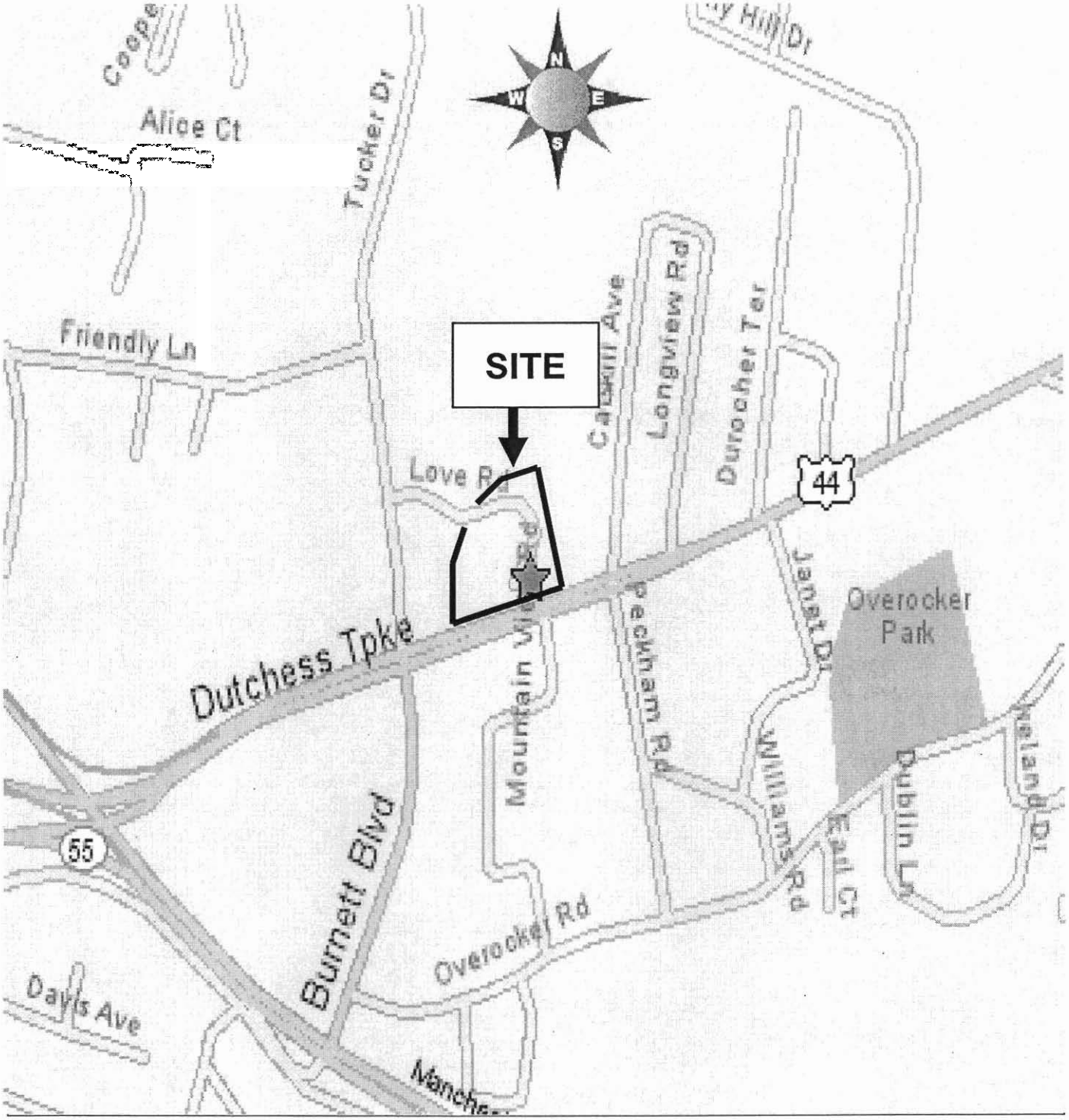
U.S. EPA, October 1998. Quality Assurance Guidance for Conducting Brownfield's Site Assessments.

NYSDEC, January 1994. Technical and Administrative Guidance Memorandum TAGM #4046 Determination of Soil Cleanup Objectives and Cleanup Levels.

NYSDEC, December 2002. Draft DER-10 Technical Guidance for Site Investigation and Remediation.

NYSDEC, Division of Environmental Remediation, May 2004. Draft Brownfield Cleanup Program Guide.

FIGURES



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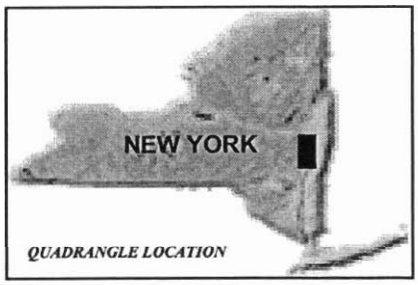
NAVTEC 2004



GRAPHIC SCALE
SCALE: 1"=1km

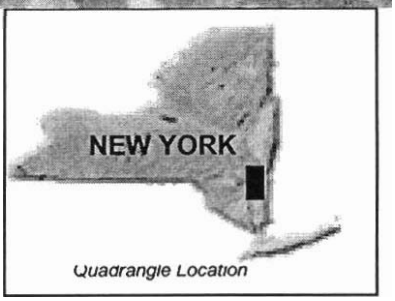
FUSS & O'NEILL of New York, PC
80 Washington Street
Poughkeepsie, New York 12601
(845) 452-6801
www.FandO.com

Herb Redl
SITE LOCATION MAP
2 LOVE ROAD
NEW YORK

PROJ. No:
DATE:

Figure 1

APPENDIX A



MAP REFERENCE:
THIS MAP WAS PREPARED FROM THE FOLLOWING
THE NATIONAL MAP, USGS, AERIAL PHOTO
ARLINGTON, NEW YORK, UNITED STATES 27 MARCH 1995

GRID BYSECTS INDICATE
TEST PIT LOCATIONS

0 1000 2000
GRAPHIC SCALE

SCALE: 1"=2000'

FUSS & O'NEILL INC. *Consulting Engineers*
80 Washington Street Poughkeepsie, New York 12601
845-452-6801
www.FandO.com

Herb Redl

AERIAL OVERVIEW

2 LOVE ROAD

POUGHKEEPSIE NEW YORK

PROJ. No:
DATE:

FIGURE 2

APPENDIX A

SITE-SPECIFIC CITIZEN PARTICIPATION PLAN

2 LOVE ROAD
POUGHKEEPSIE, NEW YORK
BCP SITE
CITIZEN PARTICIPATION PLAN

NYSDEC Site – C314113

Prepared For:
Herb Redl & Associates
80 Washington Street
Poughkeepsie, New York 12601

For submittal to:
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

2 Love Road
BCP Site # C314113

TABLE OF CONTENTS

2 Love Road
Guardian Self Storage Facility
Herb Redl

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(Continued)

LIST OF FIGURES **FOLLOWING PAGE**

APPENDICES **END OF REPORT**

1.0 INTRODUCTION

This document is a site-specific Citizen Participation Plan for the 2 Love Road Brownfield Cleanup Program Site located in the Town of Poughkeepsie, Dutchess County, New York (Figure 1). This plan is intended to facilitate opportunities for citizen participation at this BCP Site as outlined in Section 8of the Draft Brownfield Cleanup Program Guide dated May 2004 and to promote public understanding of the New York State Department of Environmental Conservation's (Department) responsibilities, planning activities, and remedial activities at its Brownfield Cleanup Program (BCP) sites. The Citizen Participation process provides an opportunity for the Department to learn from the public and provides the public with information that will enable the Department to be certain that the investigation and selected remedial alternative are sufficiently protective of the public health and the environment.

2.0 SITE BACKGROUND

2.1 Site Setting

The 2 Love Road site is located in the Town of Poughkeepsie, Dutchess County, New York (Figure 1). The new owners of the property intend to restore the site to commercial use and have received approval from the City of Poughkeepsie to construct a Self Storage Facility. During some preliminary geotechnical work prior to beginning construction, some petroleum-impacted soil was encountered prompting the site owner to enter into a Brownfield Cleanup Agreement with the Department to evaluate and mitigate, if warranted, the observed impacts.

The site currently consists of three tax parcels making up approximately 4.59 acres. The tax parcels are identified as follows:

The Tax parcel boundaries are roughly depicted on the site plan attached to this report (Figure 2). Access to the site is along Love Road, which intersects with Burnett Boulevard Extension (See Figure 1). One partially demolished building exists in the center of the site. Another abandoned, dilapidated wooden building is located on the southeast corner of the property. The foundation of the partially demolished building will be incorporated into the proposed redevelopment. The abandoned wooden building will be demolished and removed from the property, as warranted

Grid/Street Numbers	Tax I.D.
83-85 Dutchess Turnpike	14-6261-01-173893-00
97-99 Dutchess Turnpike	14-6261-01-205886-00
87-91 Dutchess Turnpike	14-6261-01-188903-00 (2 Love Road)

2.2 History

2.2.1 Historic Use of Site

The site was formerly occupied by a petroleum bulk storage (PBS) facility, a lumber/building supply yard and a gasoline service station. The PCB facility closed in the late 1980's. The PBS facility formerly contained a 2,500,000-gallon fuel oil tank, two 25,000-gallon tanks and three 20,000-gallon tanks. The 25,000 and 20,000-gallon tanks stored either fuel or kerosene. The 2,500,000-gallon bulk storage tank was located in a diked storage area to the north of the garage/loading facility. The 25,000-gallon ASTs and one of the 20,000-gallon ASTs were located on a concrete pad along the fence in the center portion of the property near the truck loading facility. The other 20,000-gallon tanks were reportedly located on cradles between the former garage and fenced-in area.

The tanks were reportedly cleaned and abandoned in the early 1990's by the former owner/operator of the facility. No information was available documenting the closure activity other than a letter from Luzon Environmental Services, which will is attached to the Site Investigation Work Plan.

2.2.2 Historic Use and Previous Owners

One of the parcels, located at 83-85 Dutchess Turnpike (Tax I.D. 14-6261-01-173893-00), was owned by Dutchess County before the Volunteer took title to the property. The parcel was taken by the County in lieu of taxes owed by the prior owner, Mr. Robert Reed. This parcel is located on the west side of the proposed development.

The central parcel (87-91 Dutchess Turnpike, Tax I.D. 14-6261-01-188903-00 (2 Love Road) was formerly owned and operated by Love/Effron Oil (owners: Donald L. Love and H. Paul Richards). The most recent use for this parcel was as petroleum bulk storage (PBS) facility. Prior to Love/Effron's ownership, the property was owned and operated as Clay's Service Station, an automobile repair and service station. However, the portion of the site that operated as a service station was buried beneath NYS Route 44 when the road was widened approximately 40 to 50 years ago. Love/Effron is still operating in Poughkeepsie, New York. They and operate a PBS facility located along the Hudson River located at the end of Prospect Street and their headquarters is located at 154 Garden Street, Poughkeepsie, NY, 12601.

2.2.3 Adjacent Land Use

The proposed BCP site is surrounded primarily by Commercial Real Estate. The nearest houses are located in a residential development to the east of the site along Catskill and Longview Avenue. The property is abutted immediately to the south by NYS Rt. 44, commonly known as Dutchess Turnpike and to the east by an old railroad bed. Further to the east of the site along Rt. 44, there are several small commercial establishments; however, a little further east and north of the property exists a residential development. These houses are located upgradient to the property and are provided with municipal water and sewer services by the Poughkeepsie Water

and Sewer District. Commercial establishments occupy the southern side of Rt. 44 directly across from the site.

The property is surrounded to the north and west by commercial plaza commonly referred to as either the Dutchess Center Plaza or Route 44 Plaza. This plaza was constructed on lands that previously contained the Poughkeepsic Municipal Landfill. This parcel was subject to numerous investigations historically and removed from the NYSDEC's list of potential inactive hazardous waste sites. The landfill mass was moved and consolidated into a mound that currently exists on the northern boundary of the shopping plaza.

3.0 SITE DESCRIPTION

3.1 Geology of Site

The property is located near the base of a slight hill that rises to the east. The property itself is terraced on two levels. The terraces are probably manmade but not enough information is available to verify landforms at this point in time. The land surface slopes towards the northwest.

The Surficial Geologic Map of New York, Lower Hudson Sheet, (1989) indicates that the soils in the vicinity of the site are likely fill material. If not fill, the soils are listed as either lacustrine deposits or glacial till. The Dutchess County Soil Conservation Survey depicts the soils as being Urban Lands, which typically consist of reworked native material or fill covered extensively by impervious surface. The Bedrock Geologic Map of New York suggests that the bedrock underlying the site consists mainly of silt stone, shales and greywacke of the Normanskill Formation.

3.2 Hydrogeology of Site

Groundwater probably exists in the shallow sediments and bedrock formation underlying the site; however, groundwater is not used as a potable resource in the area according to available information. There is a potable well on the property that is no longer used. Efforts will be made to sample the well as part of the Investigation to determine if groundwater has been impacted.

The soils encountered in the preliminary test pits were primarily silty clay and fine sand with trace amounts of some medium gravel. The test pits were not excavated any deeper than three feet below ground surface and no water was encountered during excavation. The test pits were left open to facilitate later inspection. However, upon returning to the site during the Pre-Application Inspection with the NYSDEC representatives, the test pits were filled with water that was apparently slow draining.

The topography depicts that Groundwater probably flows towards the west but may have a northwesterly component. There is a generalized depression to the west of the site that suggests a localized groundwater discharge point. From information obtained during investigations on the adjacent mall property, it is likely that this area was formerly a wetland area with an

impermeable bottom that retained water at some point in time and was filled. The impermeable base layer below the historic wetland further indicates that any suspected contaminants are most likely trapped in the soils and have not infiltrated into the groundwater table in this area. However, there is a manmade drainage course that runs under and along the Burnett Boulevard Extension.

There is a small detention basin in the north portion of the site that was probably installed as part of the stormwater management requirements for the facility when it operated as a PBS location. This "pond" may also be a localized discharge point.

If groundwater were impacted by the potential release, it is not likely to have a significant environmental impact. There are no substantive sensitive receptors in the vicinity of the site.

4.0 PROJECT DESCRIPTION

The first phase of the project consists of a Site Investigation and Alternative Analysis (SIAA) to characterize site media consisting of ground water, site soils, surface water, and sediment. The investigation will involve collection and analysis of environmental samples. The data will be used in public health and environmental evaluations. Remedial actions, if required, will be evaluated as part of the Alternatives Analysis.

4.1 Objectives of the remedial program

The project objectives are to determine whether hazardous wastes have been or may be released from the 2 Love Road Site and, if so, evaluate the extent and impacts of such release(s). The SIAA/FS is designed to characterize the extent of the contamination at the site, examine the risks associated with the contamination, and evaluate alternatives for remediating the site. The project objectives aid in the development of a cleanup program based on the findings that is sufficiently protective of human health and environment; is consistent with the proposed re-use of the property and can be implemented by the Volunteer.

4.2 Key Decision Points

Milestones in the BCP process are summarized below:

- Acceptance into the BCP/BCP Agreement
- Development and Approval of the Site Investigation Work Plan
- 30 Day Comment Period and Fact Sheet
- Department accepts SIWP
- Complete Investigation & Submit Report
- Department Reviews and Accepts Report
- Significant Threat Determination by Department
- Fact Sheet
- Alternatives Analysis and Remedy Selection
- 45 Day Comment Period and Fact Sheet; Public Meeting

- Remedial Action Work Plan
- Construction Fact Sheet and Construction Begins
- Remedy Completed
- Engineers Report and Fact Sheet
- OM&M Plan (if required)
- Certificate of Completion and IC/EC Fact Sheet (as warranted)

As warranted, the Department may present the findings of any of the above stages to the public through Citizens Participation meetings.

4.3 Available Documents

The following list documents the reports and submittals that are currently available in the document repository:

• The BCP Application which includes as attachments:

• A Site Investigation and Alternative Analysis Work Plan (Fuss & O'Neill, 2005)

All pertinent documents generated as part of this investigation and remediation program will be available for public review per the requirements outlined in the May 2004 Draft Brownfield Cleanup Program Guide.

5.0 PROJECT CONTACTS

For more information about this project, please contact the following persons:

Environmental Concerns

John Miller
NYSDEC
625 Broadway
Albany, NY 12233-7010
(518) 402-9654

Health Related Concerns

Ms. Kristin Kulow
Public Health Specialist II
NYS Department of Health
Oneonta District Office
28 Hill Street, Suite 201
Oneonta, NY 13820-9804

Citizen Participation
Michael J. Knipfing

NYSDEC
21 South Putt Corners Road
New Paltz, NY 12561-1696
(845) 256-3154

6.0 PUBLIC MAILING LIST

Interested and affected public groups that have been identified are summarized in Appendix A.

7.0 IDENTIFICATION OF DOCUMENT REPOSITORIES

Documents related to the remedial program for the Site are available for public review at the locations listed below. As additional documents are created during the remediation process, they will be added to the repositories.

Town Clerk
Town Hall
One Overocker Road
Poughkeepsie, NY 12603
(845) 485-3603/3607
Hours: Mon.-Fri. 9:00a.m. – 4:30 p.m.

Records Officer
Adriance Memorial Library
Market Street
Poughkeepsie, NY 12601
Hours: Mon.-Fri. **9:00** a.m. – 4:30 p.m.

Michael J. Knipfing
NYSDEC
21 S. Putt Corners Road
New Paltz, NY 12561

8.0 CITIZEN PARTICIPATION ACTIVITIES

NYSCEC and NYSDOH are committed to keeping the public informed and involved throughout the process of investigating and remediating this site. At any time during the investigation and remediation process, the public is encouraged to contact the officials listed in Chapter 4 of the CP Plan to express any concerns or questions they may have regarding this project.

9.0 GLOSSARY OF KEY TERMS AND MAJOR PROGRAM ELEMENTS

This glossary defines terms associated with New York's hazardous waste site citizen participation program, and important elements of the hazardous waste site remedial program. Works in **bold** in the definitions are defined elsewhere in the glossary. A list of acronyms often used in the remedial program begins on page D-7.

Administrative Record
Part of a site's **Record of Decision** which lists and defines documents used in the development of NYSDEC's decision about selection of a remedial action.

Availability Session
A scheduled gathering of program staff and members of the public in a casual setting, usually without a formal presentation or agenda, but usually focusing on a specific aspect of a site's remedial process.

Citizen Participation
A program of planning and activities to encourage communication among people affected by or interested in hazardous waste sites and the government agencies responsible for investigating and remediating them.

Citizen Participation Specialist
A staff member from a NYSDEC central office or regional office who has specialized training and experience to assist a **project manager** and other staff to plan, conduct and evaluate a site-specific citizen participation program.

Classification
A process to place a hazardous waste site within a category which defines its hazardous waste status and its threat or potential threat to public health and the environment. Sites are listed along with their classification in the **Registry of Inactive Hazardous Waste Disposal Sites.**

- **Class 1** – causing or representing an imminent danger of causing irreversible or irreparable damage to public health or environment – immediate action required.
- **Class 2 – significant threat to public health or environment** – action required.
- **Class 2a** – temporary classification assigned to a site for which there is inadequate or insufficient data for inclusions in any other classification.
- **Class 3 – does not present a significant threat to public health or environment** – action may be deferred.
- **Class 4** – site properly closed – requires continued management
- **Class 5** – site properly closed – of further action required
- **Desisted** – site no longer considered an inactive hazardous waste disposal site.

Comment Period
A time period for the public to review and comment about various documents and DER actions. For example, a 30-day comment period is provided when DER issues a **Proposed Site**

Investigation and Alternative Analysis Work Plan (SIAA), and when DER proposes to Duelist a site from the **Registry of Inactive Hazardous Waste Disposal Sites.**

Consent Order
A legal and enforceable agreement negotiated between NYSCED and a responsible party. The order sets forth agreed upon terms by which a **responsible party** will undertake site investigation and/or cleanup, or pay for the costs of those activities. The order includes a description of the remedial actions to be taken by the responsible party with NYSDEC oversight, and a schedule for implementation.

Contact List
Names, addresses and/or telephone numbers of individuals, groups, organizations, government officials and media affected by or interested in a particular hazardous waste site. The size of a contact list and the categories included are influenced by population density, degree of interest in a site, the stage of the remedial process and other factors. It is an important tool needed to conduct outreach activities.

Delist
Action by which DER removes a hazardous waste site from the **Registry of Inactive Hazardous Waste Disposal Sites** upon determination that: the site contains inconsequential amounts of hazardous wastes; or that a remediated site no longer requires **Operation and Maintenance**; or that a remediated site does not require an Operation and Maintenance. A proposal to delist a site triggers a public notification and **comment period** process.

Division of Environmental Enforcement (DEE)
A unit within the New York State Department of Environmental Conservation which works with the **Division of Environmental Remediation** and others to negotiate with **responsible parties** to achieve agreements for the investigation and remediation of hazardous waste sites. A negotiated agreement is contained in a **consent order**.

Division of Environmental Remediation
Formerly the **Division of Hazardous Waste Remediation**, a major program unit within the New York State Department of Environmental Conservation created to manage the hazardous waste site remedial program from site discovery through **Operation and Maintenance** activities. Staff includes: engineers, geologists, chemists, attorneys, citizen participation specialists, environmental program specialists and support staff.

Division of Hazardous Waste Remediation
(See **Division of Environmental Remediation.**)

Document Repository
A file of documents pertaining to a site's remedial and citizen participation programs which is made available for public review. The file generally is maintained in a public building near the hazardous waste site to provide access at times and a location convenient to the public.

Enforcement
NYSDEC's effort, through legal action if necessary, to compel **a responsible party** to perform or pay for site remedial activities. NYSDEC may perform this effort by itself or in concert with other agencies.

Environmental Quality Bond Act (EQBA)
The 1986 Environmental Quality Bond Act which gives New York State bonding authority of up to $1.2 billion to fund the State's share of the total cost of remediating hazardous waste sites in New York State.

Fact Sheet
A written discussion about part or all of a site's remedial process, prepared and provided by DER to the public. A fact sheet may focus on: a particular element of the site's remedial program; opportunities for public involvement; availability of a report or other information, or announcement of a **public meeting** or **comment period.** A fact sheet may be mailed to all or part of a site's contact list, distributed at meetings, placed in a **document repository** and/or sent on an "as requested" basis.

Interim Remedial Measure (IRM)
A discrete action which can be conducted at a site relatively quickly to reduce the risk to a people's health and the environment from a well-defined hazardous waste problem. AN IRM can involve removing contaminated soil and drums, providing alternative water supplies or securing a site to prevent access.

National Priorities List
The U.S. Environmental Protection Agency's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from a special trust fund.

New York State Department of Health
Agency within the executive branch of New York State government which: performs health-related inspections at suspected hazardous waste sites; conducts health assessments to determine potential risk from environmental exposure; reviews Risk Assessments prepared during the

Proposed Site Investigation And Alternative Analysis; conducts health-related community outreach around sites; and review remedial actions to assure that public health concerns are adequately addressed.

New York State Department of Law
Agency within the executive branch of New York State government which takes the lead on hazardous waste sites requiring civil enforcement through court action. Litigation can involve negotiations and court action with **responsible parties** to clean up sites; natural resource damage claims, and recovery of remedial costs.

New York State Registry of Inactive Hazardous Waste Disposal Sites
The "Registry." A document which NYSDEC is directed by law to maintain and which lists and provides information about every hazardous waste sites in New York State which meets criteria established through a definition of hazardous waste and **classification** system.

Operable Unit
A discrete part of an entire site that produces a release, threat of release, or pathway of exposure. An Operable Unit can receive specific investigation, a particular remedy may be proposed. **A Record of Decision** is prepared for each Operable Unit.

Operation and Maintenance
A period in which remedial action may be conducted following construction at a site (for example, operation of a "pump and treat" system), or which is performed after a remedial action to assure its continued effectiveness and protection of people's health and the environment. Activities can include site inspections, well monitoring, and other sampling.

Preliminary Site Assessment (PSA)
A PSA is DER's first investigation of a site. A PSA is performed to determine if a site meetings New York State's definition of an inactive hazardous waste disposal site by confirming ht presence of a hazardous waste and determining if the site poses a significant threat to public health or the environment.

Project Manager
A NYSDEC staff member within the Division of Environmental Remediation (usually an engineer, geologist or hydro geologist) responsible for the day-to-day administration of remedial activities at, and ultimate disposition of, a hazardous waste site. The Project Manager works with legal, health, citizen participation and other staff to accomplish site-related goals and objectives.

Proposed Remedial Action Plan (PRAP)
An analysis by DER of each alternative considered for the remediation of a hazardous waste site and a rationale for selection of the alternative it recommends. The PRAP is created based on information developed during the **Site Investigation And Alternative Analysis**. The PRAP is reviewed by the public and other state agencies.

Public Meeting
A scheduled gathering of **Division of Environmental Remediation** staff with the affected/interested public to give and receive information, ask questions and discuss concerns about a site's remedial program. Staff from other NYSDEC divisions, legal and health staff, and staff from consultants and a responsible party often also attend. A public meeting, unlike an **availability session**, generally features a formal presentation and a detailed agenda.

Reclassification
A process by which DER redefines the threat posed by a hazardous waste site to public health and the environment by developing and assessing site information and, based on finding and conclusions, assigning a new **classification** code.

Record of Decision (ROD)
A document which provides definitive record of the cleanup alternative that will be used to remediate a hazardous waste site. The ROD is based on information and analyses developed during the **Site Investigation and Alternative Analysis Work Plan** the public comment

Remedial Alternatives Report (RAR)
A report that contains an evaluation of options for the remediation of any contamination in, on, or under, or emanating from, a property that includes an analysis of data and other information concerning ht nature and extent of that property's contamination and is generally performed concurrently, and in an interactive fashion, with the site investigation.

Remedial Construction
The physical development, assembly and implementation of the remedial alternative selected to remediate a site. Construction follows the **Remedial Design** stage of a site's remedial program.

Remedial Design
The process following finalization of a **Record of Decision** in which plans and specifications are developed for the **Remedial Construction** of the alternative selected to remediate a site.

Site Investigation and Alternative Analysis/Feasibility Study (SIAA/FS)
The SIAA fully defines and characterizes the type and extent of hazardous waste contamination at the site. The FS, which may be conducted during or after the SIAA, uses information developed during the SIAA to develop alternative remedial actions to eliminate or reduce the threat of hazardous waste contamination to public health and the environment.

Responsible Party
An individual or business who: currently owns or operates a hazardous waste site; or historically owned or operated a site when hazardous waste was disposed; or generated hazardous waste at a site; or transported hazardous waste to a site.

Responsiveness Summary
A written summary of major oral and written comments received by DER during a **comment period** about key elements of a site's remedial program, such as a **Proposed Site Investigation and Alternative Analysis Work Plan**, and DER's response to those comments.

Site Investigation and Alternative Analysis (SIAA)
A process undertaken to determine the nature and extent of contamination in, on, and under, and emanating from a property. The SIAA includes the gathering of sufficient information to determine the necessity for, and the selection of the appropriate method of, remediation of contamination in, on, or under, or emanating from a property.

Site Issues and Community Profile Scoping Sheet
A document prepared to support each **Citizen Participation Record**. Each Scoping Sheet identifies issues and information important to DER and the community and information that

need to be exchanged at a particular remedial state. The Scoping Sheet also summarizes information about the surround community, including demographics, special needs, etc.

Superfund
The common name for the Federal program established by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended in 1986. The Superfund law authorizes the U.S. Environmental Protection Agency to investigate and clean up sites nominated to the **National Priorities List.**

Title 3 Project
Remediation of a municipally owned site through the State Superfund Title 3 Program whereby New York State pays 75 percent of eligible costs for remediation and the municipality pays 25 percent.

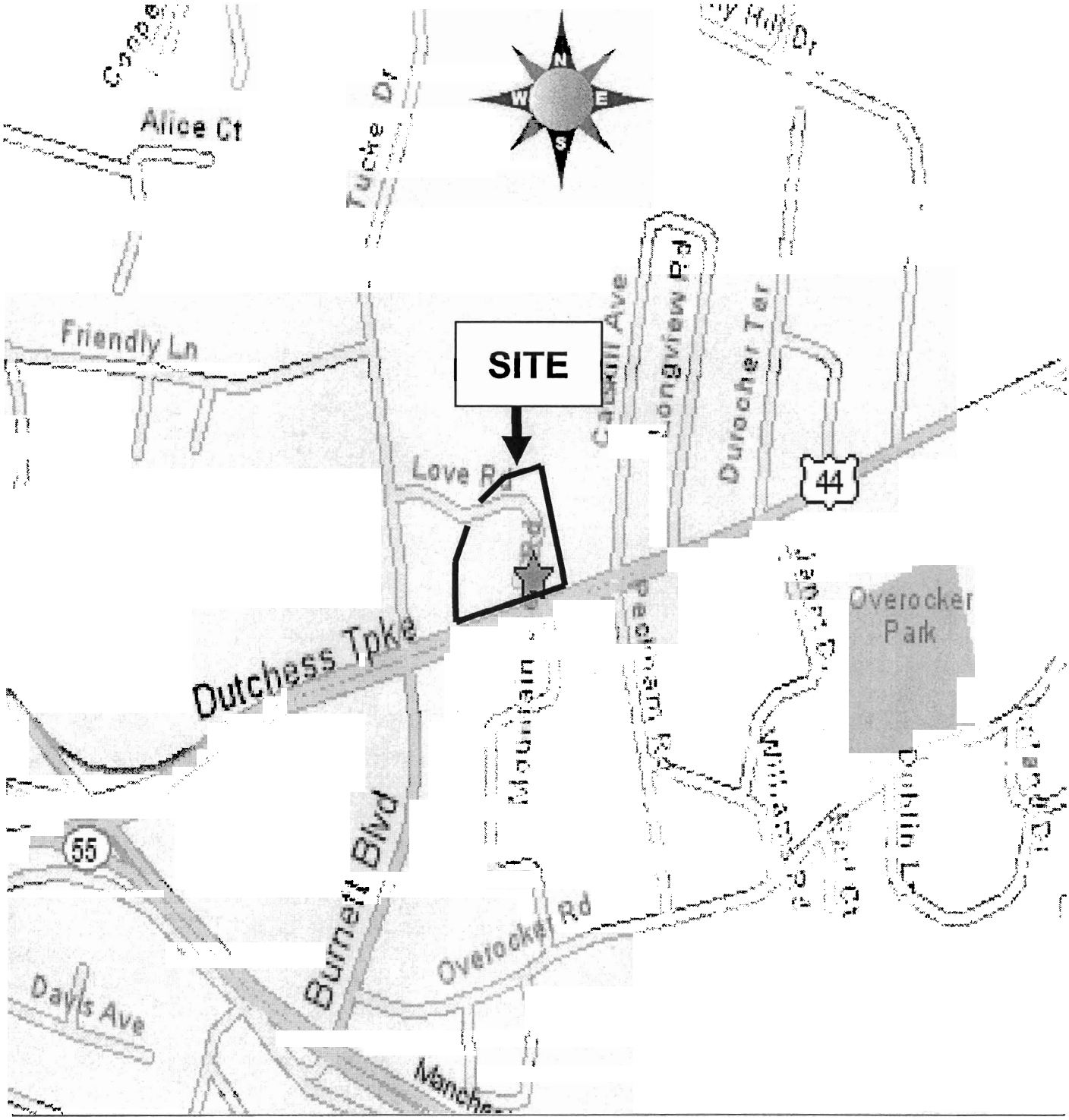
Toll-Free "800" Number
An information line maintained by the Division of Environmental Remediation to provide convenient access for people who have questions, concerns or information about hazardous waste sites and their remedial programs.

Acronyms

AG	New York State Attorney General's Office
ARAR	Applicable, Relevant and Appropriate Requirement
C&D	Construction and Debris
CERCLA	Comprehensive Environmental Response, Compensation and Liability act of 1980
CO	Consent Order
CP	Citizen Participation
CPP	Citizen Participation Plan
CPS	Citizen Participation Specialist
CQC/CQA	Construction Quality Control/Construction Quality Assurance
DEE	Division of Environmental Enforcement
DER	Division of Environmental Remediation, formerly the Division of Hazardous Waste Remediation
DHWR	Division of Hazardous Waste Remediation, now the Division of Environmental Remediation
DOD	Department of Defense
DOL	Department of Law
DOW	Division of Water
ENB	Environmental Notice Bulletin
EQBA	1986 Environmental Quality Bond Act
EPA	Environmental Protection Agency
F&W	Division of Fish and Wildlife
FDA	Food and Drug Administration
FSF	Federal Superfund
FOIL	Freedom of Information Law
FS	Feasibility Study

FY	Fiscal Year
GPM	Gallons per Minute
HeLP	Health Liaison Program
IRM	Interim Remedial Measure
Mg/kg	milligrams per kilogram
NAPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PAH	Poly-Aromatic Hydrocarbon
PCB	Poly-Chlorinated Biphenyl
PM	Project Manager
ppm/ppb/ppt	parts per million/parts per billion/parts per trillion
PRAP	Proposed Remedial Action Plan
PRP	Potentially Responsible Party
PRS	Priority Ranking System
PSA	Preliminary Site Assessment
QA/QC	Quality Assurance/Quality Control
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFP	Request for Proposals
RHWRE	Regional Hazardous Waste Remediation Engineer
ROD	Record of Decision
RP	Responsible Party
SI	Site Investigation
SIAA	Site Investigation and Alternatives Analysis Work Plan
SSF	State Superfund
TAGM	Technical and Administrative Guidance Memorandum
TCLP	Toxicity Characteristic Leading Procedure
TSDF	Treatment, Storage and Disposal Facility
Ug/l	micrograms per liter
USGS	U.S. Geological Service
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compound

FIGURES



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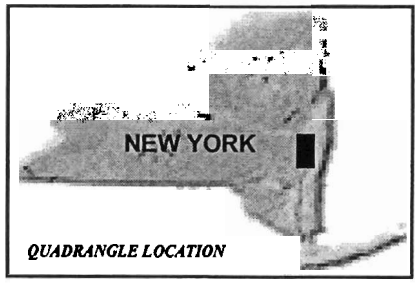

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GRAPHIC SCALE
SCALE: 1"=1km

FUSS & O'NEILL of New York, PC
80 Washington Street
Poughkeepsie, New York 12601
(845) 452-6801
www.FandO.com

Herb Redl
SITE LOCATION MAP
2 LOVE ROAD

NEW YORK

PROJ. No:
DATE:

Figure 1

APPENDIX A

PROPOSED WORK SCHEDULE

Love Road Proposed Work Schedule:

1. May 2005 Perform Site Investigation.
   A. Investigation
      a. 50 test pits
      b. soil borings
      c. sediment sampling
      d. well installation and groundwater monitoring
   B. Sample collection
      a. Collect soil, water, and sediment samples
      b. Send samples to lab for analysis

2. June 2005 Prepare Report and Alternatives Analysis.
   A. Analyze data from site investigation
   B. Map subsurface contamination
   C. Remedial Alternatives

3. July 2005 Remedial Work Plan if necessary.

4. September 2005 Remedial Action Work Plan.

5. October 2005, Construction Begins..

Appendices:

Appendix A

Contact list for interested/affected public

Brownfield Site Contact List

The Brownfield Site Contact List (BSCL) (below) summarizes at a minimum all persons to be contacted about the ESA Phase III remediation proposed for the Former City of Poughkeepsie Sewage Treatment Plant.:

FEDERAL REPRESENTATIVES

Senator Charles E. Schumer 757 3rd Avenue, Suite 1702 New York, NY 10017	Senator Hillary Rodham Clinton 780 3rd Avenue, Suite 2601 New York, NY 10017-2024
Congresswoman Sue Kelly, 19th District 21 Old Main Street Room 107 Fishkill, NY 12524	

STATE REPRESENTATIVES

Assemblyman Joel M. Miller 102nd District 3 Neptune Road Suite A19E Poughkeepsie, NY 12601	Senator Stephen M. Saland 41st District 3 Neptune Road, Suite A19B Poughkeepsie, NY 12601

)UTCHESS COUNTY REPRESENTATIVES/OFFICIALS:

Chairman of Legislature Bradford Kendal 27 Market Street Poughkeepsie, NY 12601	Clerk of Legislature Patricia J. Hohmann 22 Market Street Poughkeepsie, NY 12601
District 5 - Town of Poughkeepsie Honorable Richard Keller-Coffey-D 11 Manor Way Poughkeepsie, NY 12603 (H) 462-0157; (Fax) 486-2113 E-Mail: rkellercoffey@aol.com	District 6 - Town of Poughkeepsie Honorable James T. Hammond-R 11 North Jackson Drive Poughkeepsie, NY 12603 (H) (845) 462-0456; (Fax) (845) 486-2113 E-Mail: jthammond@att.net

District 8-City/Town of Poughkeepsie Honorable Robert G. Rolison-R 4 Arnold Boulevard, Poughkeepsie, NY 12603 (H) 454-8733 (Cell) 914-456-4518 (pager) 387-9959 E-Mail: roli213@aol.com	District 15 - Towns of Poughkeepsie/Wappinger Honorable Roger Higgins - Minority Leader (D) 49 Point Street New Hamburg, NY 12590 (H) (845) 297-8757 ;(B) (845) 298-5110 ; (Fax) (845) 486-2113 E-Mail: rogerhig@optonline.com
County Clerk Colette Lafuente-R 22 Market Street Poughkeepsie, NY 12601 (845) 486-2120Health Dr. Michael C. Caldwell, Commissioner 22 Market Street, Poughkeepsie, NY 12601 (845) 486-3400 Toll- Free (800) 218- 2799	County Executive William R. Steinhaus-R 22 Market Street Poughkeepsie, NY 12601 (845) 486-2000
Health Dr. Michael C. Caldwell, Commissioner 22 Market Street, Poughkeepsie, NY 12601 (845) 486-3400 Toll- Free (800) 218- 2799Public Works Michael P. Murphy, Commissioner 22 Market Street, Poughkeepsie, NY 12601 (845) 486-2121	Planning and Development Roger P. Akeley, Commissioner 22 Market Street, Poughkeepsie, NY 12601 (845) 486-2450
Public Works Michael P. Murphy, Commissioner 22 Market Street, Poughkeepsie, NY 12601 (845) 486-2121	Water and Wastewater Authority Scott Chase, Manager 27 High Street, Poughkeepsie, NY 12601 (845) 486-3601
Economic Development Ronald W. Coan, Director 3 Neptune Road, Poughkeepsie, NY 12601 (845) 486- 3600	

TOWN OF POUGHKEEPSIE REPRESENTATIVES/OFFICIALS

Supervisor Joseph Davis Town of Poughkeepsie One Overocker Road Poughkeepsie, NY 12603	Town Clerk Susan Miller Town of Poughkeepsie One Overocker Road Poughkeepsie, NY 12603
Town of Poughkeepsie Water Department 168 Cedar Ave Poughkeepsie, NY 12603	Jon Baisley, First Ward 33 Merrywood Road Wappingers Falls 12590
Dominic Seminara, Second Ward 115 Sutton Park Road Poughkeepsie 12603	Thomas Bauer, Third Ward 89 Van Wagner Road Poughkeepsie 12603
Michael Cifone, Fourth Ward 94 Fairview Avenue Poughkeepsie 12601	Stephan Krakower, Fifth Ward 646 South Road Poughkeepsie 12601
Todd Tancredi, Sixth Ward 9 Hogan Drive Poughkeepsie 12603	

CITY OF POUGHKEEPSIE REPRESENTATIVES/OFFICIALS

Nancy Cozean, Mayor City of Poughkeepsie P.O. Box 300 Poughkeepsie, NY 12602	City Clerk City of Poughkeepsie P.O. Box 300 Poughkeepsie, NY 12602

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND NEW YORK STATE DEPARTMENT OF HEALTH

Marc Moran, Regional Director NYSDEC 21 S. Putt Corners Road New Paltz, NY 12561	Wendy Rosenbach Public Affairs Officer NYSDEC 21 S. Putt Corners Road New Paltz, NY 12561
Richard Baldwin NYSDEC 21 South Putt Corners Rd. New Paltz, NY 12561	Ram Pergadia NYSDEC 21 S. Putt Corners Road New Paltz, NY 12561
Denise D'Ambrosio, Esq. NYSDEC 200 White Plains Road, 5th floor Tarrytown, NY 10591-5805	Richard Morse Legislative Program Counsel Staff NYS Assembly Agency Bldg. 4, Fifth Floor

	Albany, NY 12224
Gary Litwin NYSDOH 547 River Street Troy, NY 12180	Harold Evans NYSDEC 625 Broadway Albany, NY 12233
Mary vonWergers, Esq. NYSDEC 625 Broadway Albany, NY 12233	Sal Ervolina NYSDEC 625 Broadway Albany, NY 12233
Mary Young NYSDEC 625 Broadway Albany, NY 12233	John Miller Project Manager NYSDEC 625 Broadway Albany, NY 12233
Michael J. Knipfing Citizen Participation Specialist NYSDEC 21. S. Putt Corners Road New Paltz, NY 12561	Ms. Kristin Kulow Public Health Specialist II NYS Department of Health Oneonta District Office 28 Hill Street, Suite 201 Oneonta, NY 13820-9804 NYSDOH PROJECT MANAGER
Carl J. Obermeyer NYS Department of Health Monticello District Office 50 North St., Suite 2 Monticello, NY 12701	

DUTCHESS COUNTY ENVIRONMENTAL GROUPS

Scenic Hudson 1 Civic Center Plaza Poughkeepsie, NY 12601	Clearwater, Inc. 112 Market Street Poughkeepsie, NY 12601
Greenway Conservancy Capitol Building Capitol Station, Rm 254 Albany, NY 12224	The Nature Conservancy Eastern NY Chapter 19 N. Moger Avenue Mt. Kisco, NY 10549
Karl Coplan, Esq. Pace/Riverkeeper	Hudson River Keeper P.O.Box 130

78 N. Broadway White Plains, NY 10603	Garrison, NY 10525 Environmental Citizens Coalition 33 Central Avenue Albany, NY 12210
Laura Haight NYPIRG 107 Washington Ave. Albany, NY 12210	Executive Director Dutchess County EMC 2715 Route 44, Suite 2 Millbrook, NY 12545
Environmental Citizens Coalition 33 Central Avenue Albany, NY 12210	

MEDIA OUTLETS

The Weekly Beat 316 Main Street Poughkeepsie, New York 12601	City Editor Hudson Valley Business Journal 86 E. Main Street Wappinger's Falls, NY 12590
City Editor Poughkeepsie Beat 1 Garden Street Poughkeepsie, NY 12601	City Editor East Fishkill Record P.O.Box 608 Mahopac, NY 10541
News Director WBNR/WHUD/WLNA/WSPK P. O. Box 310 Beacon, NY 12508	Dan Shapley Poughkeepsie Journal P.O.Box 1231 Poughkeepsie, NY 12602
Hank Gross Mid Hudson News Network 42 Marcy Lane Middletown, NY 10941	City Editor Daily Freeman 79-97 Hurley Avenue Kingston, NY 12401
News Director WKIP/WRNQ 20 Tucker Drive Poughkeepsie, NY 12603	City Editor Taconic Press P.O.Box 316 Millbrook, NY 12545

News Director WRWD/WBWZ 80 Washington St., Suite 300 Poughkeepsie, NY 12601	News Director WEOK/WPDH/WCZX P.O.Box 416 Poughkeepsie, NY 12602
Lisa Phillips, Bureau Chief WAMC 44 Main Street Kingston, NY 12401	News Director WHVW 316 Main Mall Poughkeepsie, NY 12603
News Director women's e news 395 Hudson Street New York, NY 10014	News Director Time Warner Cable 2 Reservoir Square Poughkeepsie, NY 12601
Bill Connors 686 Traver Road Pleasant Valley, NY 12569	

ADJACENT PROPERTY OWNERS

Kimco Development 3333 New Hyde Park Road Suite 100 PO Box 5020 New Hyde Park, New York 11402-0020	Dutchess County Executive 22 Market Street Poughkeepsie, New York 12601
Planet Wings of Poughkeepsie 24 Sunnyside Avenue Middletown, New York 10940	BVS Poughkeepsie, LLC 1720 Post Road Fairfield, Connecticut 06430
Rocket Dog, LLC 668 Dutchess Turnpike Poughkeepsie, New York 12603	Blockbuster Video Dutchess Turnpike, Dutchess Center Poughkeepsie, New York 12603
Feng Buffet 2000 Route 44, Dutchess Center Poughkeepsie, New York 12603	K Mart Route 44, Dutchess Center Poughkeepsie, New York 12603
Payless Shoes Route 44, Dutchess Center	Raphael's and Company Route 44, Dutchess Center

Poughkeepsie, New York 12603	Poughkeepsie, New York 12603
The Laundry Basket Route 44, Dutchess Center Poughkeepsie, New York 12603	Radio Shack 51 Burnett Boulevard Poughkeepsie, New York 12603
Walgreen's Route 44, Dutchess Center Poughkeepsie, New York 12603	Burger King Route 44, Dutchess Center Poughkeepsie, New York 12603
Goodyear Tire 44 Plaza Shopping Center Poughkeepsie, New York 12603	Big Lots 71 Dutchess Turnpike Poughkeepsie, New York 12603
Super Stop & Shop 59 Burnett Boulevard Poughkeepsie, New York 12603	Ulster Savings Bank 44 Plaza Poughkeepsie, New York 12603
DOT Federal Credit Union 21 Burnett Boulevard Poughkeepsie, New York 12603	Subway 21 Burnett Boulevard Poughkeepsie, New York 12603
Bank of New York 44 Plaza Poughkeepsie, New York 12603	Vinny's Brick Oven Restaurant 51 Burnett Boulevard Poughkeepsie, New York 12603
H & R Block 44 Plaza Poughkeepsie, New York 12603	44 Plaza Liquors 44 Plaza Poughkeepsie, New York 1260
LB's Taste Sensation 44 Plaza Poughkeepsie, New York 12603	Quiktex 1 Hour Photo 44 Plaza Poughkeepsie, New York 12603
Gold N Gift Jewelers 44 Plaza Poughkeepsie, New York 12603	B & B Pretty Nails 44 Plaza Poughkeepsie, New York 12603
Sally Beauty Supply 44 Plaza	Dollar Tree 75 Dutchess Turnpike

Poughkeepsie, New York 12603	Poughkeepsie, New York 12603
Game Stop 47 Burnett Boulevard Poughkeepsie, New York 12603	Hennessy & Co. 44 Plaza Poughkeepsie, New York 12603
Jubilee Book Store 47 Burnett Boulevard Poughkeepsie, New York 12603	No. 1 Chinese Restaurant 44 Plaza Poughkeepsie, New York 12603
Curves for Women 75 Dutchess Turnpike Poughkeepsie, New York 12603	Cool N Hip 44 Plaza Poughkeepsie, New York 12603
Colortyme 44 Plaza Poughkeepsie, New York 12603	44 Laundromat 44 Plaza Poughkeepsie, New York 12603

OTHER INTERESTED PARTIES

ADRIANCE Memorial Library 93 Market Street Poughkeepsie, NY 12601 Attn: Jean Hojnacki-Head of Reference Desk	

APPENDIX B

SITE HEALTH AND SAFETY PLAN

Fuss & O'Neill of New York, PC

SITE HEALTH AND SAFETY PLAN

DATE PREPARED: April 2005

PREPARED FOR: 2 Love Road Brownfield Cleanup Program Site;
Poughkeepsie, New York

PREPARED BY: Fuss & O'Neill of New York, PC
80 Washington Street
Suite 301
Poughkeepsie, NY 12601

FUSS & O'NEILL, INC. DOES NOT GUARANTEE THE HEALTH OR SAFETY OF ANY PERSON ENTERING THE SITE. DUE TO THE POTENTIAL HAZARDS OF THIS SITE AND THE ACTIVITY OCCURRING THEREON, IT IS NOT POSSIBLE TO DISCOVER, EVALUATE AND PROVIDE PROTECTION FOR ALL POSSIBLE HAZARDS WHICH MAY BE ENCOUNTERED. STRICT ADHERENCE TO THE HEALTH AND SAFETY GUIDELINES SET FORTH HEREIN WILL REDUCE, NOT ELIMINATE, THE POTENTIAL FOR INJURY AT THIS SITE. THE SITE-SPECIFIC INFORMATION IN THE PLAN WAS PREPARED SPECIFICALLY FOR THIS SITE AND SHOULD NOT BE USED ON ANY OTHER SITE WITHOUT PRIOR RESEARCH AND EVALUATION BY TRAINED HEALTH AND SAFETY SPECIALISTS.

This note applies to all Fuss & O'Neill personnel legally required to be covered under this HASP pursuant to OSHA regulation 29 CFR 1910.120 and 29 CFR 1926.65, as determined by their employer. Those personnel working within the Exclusion Zone as defined by the HASP must be trained and engaged in a medical surveillance program in accordance with the requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

SITE HEALTH & SAFETY PLAN
Love Road; Future Guardian Self Storage
Poughkeepsie, New York

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1.0 GENERAL

1.1 Introduction

This Site Health and Safety Plan (HASP) was developed to address contact with potentially hazardous materials or substances that may be encountered during the Brownfield Cleanup Program (BCP) investigation and remediation of the 2 Love Road Project. This HASP addresses specific health and safety precautions and action to be taken during field work to be conducted at this BCP site.

This HASP has been developed for Fuss & O'Neill personnel. All on-site contractors not associated with Fuss & O'Neill must develop their own HASP, applicable to their work activities.

The procedures and protocols in this plan have also been established to provide a mechanism to protect project personnel from potential exposure to known site contaminants encountered during site activities. This plan addresses activities conducted by Fuss & O'Neill and its direct associates. It is not intended to include other site personnel or subcontractors not directly employed by Fuss & O'Neill. Compliance with this HASP is required of all authorized Fuss & O'Neill project personnel who enter the working areas of this project. Fuss & O'Neill will provide resources and personnel for the implementation of this HASP. As such, Fuss & O'Neill may make recommendations to those personnel not working under contract with Fuss & O'Neill. No one may enter an established exclusion zone without meeting the requirements of an appropriate HASP.

This HASP meets applicable requirements of Occupational Safety and Health Administration (OSHA) safety and health standards: OSHA 29 CFR 1926 Construction Industry and OSHA 29 CFR 1910 General Industry. This HASP is designed to cover those special and/or unique health and safety procedures arising from actual or potential contact with contaminated materials and those requirements pursuant to OSHA 29 CFR 1910.120 and 1926.65, Final Rule "Hazardous Waste Operations and Emergency Response".

The content of this HASP may change or undergo revision based upon additional information made available to health and safety (H&S) personnel, monitoring results, or changes in the technical scope of work. Any changes proposed must be reviewed by designated Fuss & O'Neill and other Project Personnel as specified in the pertinent contract.

1.2 Project Personnel

Project Personnel - refers to all Fuss & O'Neill operations and project management personnel, including Fuss & O'Neill subcontractors whose responsibilities are to conduct construction activities within the work site.

Project Personnel are divided into two categories: Contact Project Personnel and Non Contact Project Personnel.

Contact Project Personnel - Refers to Project Personnel who may come into contact with hazardous materials (contaminated soil & water which may pose an unacceptable health risk potential). The specific job task will be evaluated to determine personnel classifications. The Health and Safety Manager (HSM) and/or the Health and Safety Supervisor (HSS) will assist with this determination.

Non Contact Project Personnel - Refers to Project Personnel who are not expected to come into contact with hazardous materials. The specific job task will be evaluated to determine personnel classifications. The HSM and/or the HSS will assist with this determination.

Project Support Personnel and Visitors - refers to all other persons who may enter the work site such as truck drivers, public officials, public utility workers, and emergency crews (police, fire, ambulance) as well as any other personnel designated as a project visitor.

Project Personnel Assignments

Fuss &O'Neill (845) 452-6801

Fuss & O'Neill of New York, P.C. Project Manager:

- Shelley Mertens, P.E.: (845) 452-6801 (Ext. 4207)

Fuss & O'Neill of New York, P.C.: Project Director/Health and Safety Manager (HSM):

- James D. McIver, Jr.: (845) 452-6801 (Ext. 4205)

Fuss & O'Neill, Inc. Corporate Health and Safety Officer

- Kevin W. Miller, Ph.D.: (860) 646-2469 (Ext. 5201)

Fuss & O'Neill, Inc. Site Health and Safety Supervisor:

- Gregory Toothill, EIT: (845) 452-6801 (ext. 4203)

Site Contact:

- Gregory Toothill, EIT: (845) 452-6801 (ext. 4203)

Medical Consultant:

CorpCare Occupational Health Center, an affiliate of Manchester Memorial Hospital, located in Manchester, Connecticut.

1.3 Emergency Phone

Fuss & O'Neill of New York, PC Site Phone: To be determined

Emergency		911
Local Police		911
Fire Department:		911
EMS:		911
Hospital:	Saint Francis Hospital 241 North Road Poughkeepsie, NY 12601	845-486-9012

Poison Control Center:	1-800-343-2722
USCG/DOT National Response Center:	1-800-424-8802

Route maps for the listed emergency facility are provided in Appendix A.

2.0 HEALTH AND SAFETY PERSONNEL

2.1 Health and Safety Personnel Designations

The following briefly describes the health and safety designations and general responsibilities which may be employed for this project.

2.2 Site Health and Safety Manager (HSM) – Jim McIver

The Project Director is, by designation, the Site Health and Safety Manager and will be the single point of contact for the project. The HSM has overall responsibility for the development and implementation of the site-specific HASP in conjunction with the other Fuss & O'Neill project personnel. Although the writing of the HASP may be delegated to another member of the team, the HSM shall approve any changes in the plan.

The HSM is also responsible for the following:

1. Discussing any unusual safety and health concerns with the Company Health and Safety Officer prior to completion of the HASP.

2. Assuring that all personnel on-site have been made aware of the potential hazards and are provided appropriate personal protective equipment.

3. Monitoring the performance of personnel and the compliance with this HASP on a periodic basis, and correcting deficiencies.

4. Submit all project reports, including: progress, accident, incident and contractual. A copy of the Supervisor's Report of Accident Investigation form is located in Appendix B.

2.3 Site Health and Safety Supervisor (HSS) – Gregory Toothill

The Site Health and Safety Supervisor (HSS) will also be the field engineer involved in the on-site activities. The HSS shall be on-site for all work covered by this HASP. He will supervise activities at every phase of work taking place on the project. He will establish and maintain lines of communication at the job site. Before Fuss and O'Neill personnel may work in designated exclusion zones, he will make certain that the appropriate documentation meeting the medical and health and safety training requirements specified in OSHA 29 CFR 1910.120 and 1926.65 (Hazardous Waste Operations and Emergency Response) are on file.

The HSS has the stop-work authorization which he will execute upon his determination of an imminent safety hazard, emergency situation, or other potentially dangerous situations, such as extreme weather conditions. Authorization to proceed with work will be issued by the HSM after such action. The HSS will initiate and execute all contact with support facilities and personnel when this action is appropriate.

The HSS responsibilities will include:

1. Overall responsibility for oversight and day to day enforcement of this HASP.

2. Conduct the initial site specific training of project personnel.

3. Evaluating air monitoring data and recommending changes to engineering controls, work practices and PPE.

4. Daily review of safety operations on-site and completion of a daily record of site activities. A copy of the Daily Record of Site Activities form is located in Appendix C.

5. Reporting and investigation of all accidents or incidents occurring on the site. Reporting of any unsafe acts or conditions. All incidents must be reported to the HSM.

6. Follow up of any corrective action required to reduce identified hazards.

2.4 Site Health and Safety Officer (HSO)

The Site Health and Safety Officer (HSO) may be appointed by the HSM or HSS to conduct some of the daily duties of the HSS.

2.5 Corporate Health and Safety Officer

The Corporate Health and Safety Officer helped develop the health and safety plan. The corporate health and safety officer will provide support and guidance to other project personnel on health and safety issues during the completion of site work.

2.6 Medical Consultant (MC)

The MC meets the requirements of OSHA 29 CFR 1910.120 and 1926.65. The MC will be available to consult with local emergency medical services and will be available, as necessary, to provide medical examinations of project personnel.

3.0 SITE HISTORY AND PHYSICAL DESCRIPTION

3.1 Site History and Physical Description

Little information was readily available regarding the site history and a reasonable effort will be made to expand our knowledge of the historic operations at the facility. The site was formerly occupied by Love/Effron petroleum bulk storage (PBS) facility, a lumber/building supply yard, and a gasoline service station.

The PBS facility closed in the late 1980's. The PBS tanks were reportedly cleaned and abandoned in the early 1990's by the former owner/operator. No information was available documenting closure activity other than the letter from Luzon Environmental Services, which is attached to the Site Investigation and Alternative Analysis Work Plan.

Prior to Love/Effron's ownership, the property was owned and operated as Clay's Service Station, an automobile repair and service station. However, the portion of the site that operated as a service station was buried beneath NYS Route 44 when the road was widened approximately 40 to 50 years ago. The Love/Effron PBS facility operated at this location until the 1970's.

One partially demolished building exists in the center of the site. Another abandoned, dilapidated wooden building is located on the southeast corner of the property. The foundation of the partially demolished building will be incorporated into the proposed redevelopment. The abandoned wooden building will be demolished and removed from the property, as warranted.

The property is located near the base of a slight hill that rises to the east. The property itself is terraced on two levels. The terraces are probably manmade, but not enough information is available to verify landforms at this point in time. The land surface slopes towards the northwest.

3.2 Site Air Monitoring

Field activities associated with the removal and disposal at the site may pose hazardous conditions, such as the release of hazardous substances into the workers' breathing zone. These substances may be in the form of vapors, dusts, or mists that can enter the body through ingestion, inhalation, or direct contact with the skin or eyes. If the Health and Safety Officer, relying on observations and odor, determines that a condition exists in which workers may be exposed to airborne hazardous materials, monitoring will be performed to determine appropriate personal protective measures.

The following describes the monitoring parameters to be evaluated during the initial walk-through. All instruments to be used during site activities will meet the established requirements set forth by OSHA, NIOSH, and state agencies where applicable.

3.2.1 Initial Determinations

Observations will be made during the site walk-through with direct reading organic vapor meters, combustible gas indicators, and/or oxygen detectors as necessary to assess the background or initial conditions.

All site monitoring will be conducted by or under the direction of the Site Health and Safety Officer or designated representative. All readings obtained will be recorded in a dedicated site notebook maintained by the Field Operations Leader/HSS. The Field Operations Leader/HSS will maintain all monitoring instruments throughout the site investigation to maintain their reliability and proper operation.

3.3 Scope of Work

The following Scope of Work has been generated using available technical guidance including the requirements outlined in the NYSDEC TAGM 4007- Phase II Investigation Generic Work Plan, DER-10, Technical Guidance for Site Remediation, December 2002 and the USEPA Guidance for conducting RI/FS investigations under CERCLA. The sampling and analytical protocols used during this project will be in conformance with the specific guidelines established in the BCP guidance document and DER-10. Where applicable, data collection/analysis levels (e.g. ASP Level B) will be established in conjunction with the NYSDEC through the work plan review process.

No Fish and Wildlife Resource Impact Analysis nor Ecological Impact Assessment will be performed because there are no ecological areas of concern on or near the site.

The site investigation will include digging between 40 and 60 test pits in the vicinity of the former bulk storage tank area and gas station. Between 10 and 20 shallow soil borings will be installed throughout the site to characterize geologic and hydrogeologic conditions. Between five and ten of the shallow soil borings will be converted to small diameter monitoring wells to facilitate groundwater sampling and determine flow direction. The shallow wells will be sampled to characterize groundwater quality and an

existing production well will be sampled to determine if the bedrock aquifer has been impacted.

The project area has been broken down into two different study areas, identified as the Southern Zone (former gasoline station area), and Northern Zone (PBS facility). Proposed sampling locations within each study area are presented on the attached site plan (Figure 4). Further details regarding the sampling procedures are included under separate cover in the QAPP prepared for the site. The proposed scope of work includes the following:

- Notifications to the Underground Facility Protection Organization (UFPO) of New York
- Excavation and sampling of up to 60 test pits to define the nature and extent of petroleum impacts
- Installation and sampling of up to 20 soil borings with direct push drilling methods
- Installation and collection of groundwater samples from approximately 10 on-site monitoring wells
- Collection of one groundwater sample fro the abandoned on-site water supply well
- Collection of two sediment samples from the on-site detention pond
- GPS Survey to identify the horizontal locations of the test pits and monitoring wells and a level run to determine the monitoring well elevations
- A summary report of the findings including a discussion of the alternatives

3.4 Results of Past Investigations

Past investigations have revealed that the subsurface beneath the site may be contaminated with petroleum hydrocarbons, and select metals. Some possible chemical contaminants at the site and the exposure limit for each contaminate of concern are presented in Appendix D.

Symptoms of exposure to hazardous wastes and in particular to the contaminants above will be reviewed with all site personnel. Symptoms of both acute and chronic exposures will be covered. In addition, the on-site coordinators will be advised to watch for outward evidence of changes in workers' health. These outward symptoms may include fatigue, loss of appetite, nervousness or irritability, skin irritation or discoloration, eye irritation, or muscular soreness.

Note that the number and nature of potential contaminants mandate that contact of waste materials with the exposed skin must not be allowed to occur under any circumstances.

4.0 HAZARD ASSESSMENT

4.1 Introduction

As discussed previously in Section 3.4, there may be areas where contaminated soil or water may be encountered. The probability of worker exposure to a chemical hazard varies with the job task. The job tasks that involve contact with potentially contaminated soil are expected to have a greater potential for exposure than job tasks that do not come into contact with the soil. Site workers may be exposed to chemicals by inhalation, ingestion, and/or dermal contact. To protect potentially exposed personnel, zones will be established, dust control measures may be implemented, respirators and personal protective equipment may be worn, personal and area air monitoring will be conducted and decontamination procedures will be followed.

The following is a general discussion of the hazards that may be encountered on-site. A list of specific compounds detected on-site is found in Appendix D.

4.2 Task Specific Hazard Assessment

Because the potential for coming into contact with contaminated site media will vary with each job task, the probability of exposure will be assessed on an individual task basis. To simplify the hazard assessment two categories will be established; it is anticipated each job task will fit in one of the two categories. The site HSS will assist with determinations as necessary.

Category 1 Construction Activities; Limited Soil Contact:

It is anticipated that the following activities require minimal contact with contaminated media, and presents a low risk of exposure to potentially contaminated site media. These activities should not require additional health and safety considerations beyond good practices already in place for this type of construction project. These tasks may include:

* Test Pit Excavation
* Boring
* Geoprobe
* Air sampling
* Delivery of Supplies
* Site Walkovers

Potential exposure to contaminated site media is not anticipated, however these operations will be will be evaluated and monitored by the HSS. Access to the work zone is limited to Project Personnel, Project Support Personnel, and Authorized Visitors. Initially, exclusion zones will not be established for such activities. However, exclusion zones will be established if visual evidence of contamination is seen and/or instrument readings exceeding the action levels are detected.

TASK DESCRIPTION	POTENTIAL CHEMICAL HAZARDS
Environmental Sampling for Soil	*Inhalation and absorption hazards associated with contacting contaminated soil.*
Soil Excavation and displacement	*Inhalation and absorption hazards associated with contacting contaminated soil.*

Personnel must meet the training requirements as defined in this HASP. Personal protective clothing will not be required unless exclusion zones are established or as determined by the HSS.

Category 2 Construction Activities; Contact with Soil and/or Groundwater:

It is anticipated that personnel working in the following activities have some reasonable potential to come into contact with potentially contaminated site media. These activities may include:

* Excavation
* Environmental Sampling - Soil, Water, Containers.
* Decontamination of Equipment and Personnel
* GeoPush
* Drilling
* Soil Gas Surveys

These activities may result in potential exposures to contaminated site media. These activities will be evaluated and monitored by the HSS and exclusion zones established as required. All Contact Project Personnel required to work in designated exclusion zones must meet the training requirements for working in an exclusion zone as outlined in this HASP. Personal protective clothing will be worn as determined by the HSS.

5.0 ZONES/SITE CONTROL

5.1 Site Control

Three zones will be used to restrict access to construction areas where potential contamination may be present and to prevent the accidental spread of contaminated materials. The three zones are identified as 1) the construction work zone, 2) the construction exclusion zone, and 3) the contamination reduction zone (CRZ). Initially, exclusion zones will not be established for the site construction activities. Exclusion zones will be established if certain conditions are met, including the exceeding of project air monitoring action levels or the encountering of odorous or visibly contaminated materials. The designation of project zones will be by the HSS. If used, these zones will be monitored by the HSS.

5.2 Construction Work Zone (Restricted Area)

The construction work zone is the entire project work area or construction area. All project work activities will be conducted within the construction work zone. The construction work zone is restricted to project (contact and non contact) personnel, and project support personnel and visitors as defined in this document. Unauthorized people will be prohibited from entering the site.

All personnel (project personnel, project support personnel, visitors) entering the construction work zone will be briefed by the HSS prior to their initial entry. All Contact Project Personnel entering the construction work zone must meet the Training and Medical requirements as outlined in Sections 9.0 and Section 14.0. The protective work clothing and equipment to be worn is defined in Section 6.0 or as required by the HSS. All Contact Project Personnel and equipment exiting the construction work zone must clean-up before leaving the site or as determined by the HSS. These are general good health and safety work practices.

Activities defined as Category 1 will be performed within the construction work zone. The HSS will monitor those activities which may have an unacceptable hazard potential. Construction exclusion zones will be established for these operations by the HSS or designee if the action levels listed in Section 7.0 are exceeded, if there are visible signs of contamination and/or if there are changes in operations or the knowledge of the site, which would increase the probability of worker exposure.

5.3 Construction Exclusion Zones

A Construction Exclusion Zone will be established within the construction work zone for 1) tasks and operations occurring on or around areas of known or suspected contamination, 2) operations that significantly disturb the subsurface soil, and 3) operations where personnel will come into contact with the subsurface soil and or groundwater. Construction Exclusion Zones will be established during all Category 2 activities and/or as designated by the HSM or HSS. The HSS will monitor all construction exclusion zone activities.

Exclusion Zones will be established around work areas where there is a realistic probability of exposure to hazardous contaminants.

The area will be marked and isolated using orange snow fence, barriers, tape, or other appropriate markers. Entry to this area will be only through the contamination reduction zone (CRZ). Air monitoring will take place in all exclusion zones as described in Section VII. All personnel working in an exclusion zone must meet the training and medical requirements as outlined in Section 10.0 and Section 15.0. All personnel and equipment exiting the exclusion zone will go through field decontamination (Section 12.0) before exiting the exclusion zone and the contaminant reduction zone. Once the

excavation or designated operation has been completed, the exclusion zone may be removed by the HSS pursuant to the air monitoring protocols in Section 7.0.

Access to a construction exclusion zone will be limited to Contact Project Personnel that meet the Training and Medical requirements as outlined in Section 10.0 and Section 15.0. All Contact Project Personnel entering the construction exclusion zones will be briefed by the HSS prior to their initial entry into the exclusion area.

The protective work clothing and equipment to be worn is defined in Section VI or as required by the HSS. All personnel and equipment exiting the construction exclusion zone will be decontaminated (Section 12.0) in the CRZ as exiting the construction exclusion zone or as the HSS determines is necessary.

Once the excavation or designated operation has been completed, the construction exclusion zone will be removed by the HSS or designee.

5.4 Contamination Reduction Zone (CRZ)

The CRZ is the transition area between the contaminated area and the clean area. The CRZ is marked off as a corridor between the exclusion zone and the support zone where personnel go through decontamination. There is one Access Control Point where personnel enter and exit the exclusion zone through the CRZ. When personnel exit the exclusion zone, they must go through field decontamination which is set up in the CRZ. Access to this zone will be limited to Contact Project Personnel exiting the Construction Exclusion Zone and Decontamination Technicians assisting with decontamination.

6.0 PERSONNEL LEVELS OF PROTECTION

6.1 General

In accordance with 29 CFR 1910.120 and 1926.65(g) (5), Fuss & O'Neill, Inc. has developed a written Personal Protective Equipment (PPE) program which addresses the elements listed in the regulation. This document is attached as Appendix E. A Respiratory Protection Program which meets the requirements of 29 CFR 1910.134 and 1926.103 can be found in Appendix E. The level of protection to be utilized is determined by the task-specific hazard and will be determined by the HSS. It is expected that initially all site work where the employee may come into contact with potentially contaminated soil or ground water will be performed utilizing Modified Level D protection in an exclusion zone.

Safety equipment and protective clothing shall be used as directed by the Site Health and Safety Officer. All such equipment and clothing will be cleaned and maintained in proper condition by the personnel. The Site Health and Safety Officer will monitor the maintenance of personnel protective equipment.

Modified Level D is the minimum accepted level of protection for this site. Modified Level D provides minimal dermal protection. Respiratory protection is optional unless air-monitoring data indicated otherwise. Modified Level D includes:

Shirt
Tyvek suits (optional)
Nitrile, PVC, or vitron gloves (when water or soil contact)
Boots/shoes, leather or chemical resistant (steel toe and shank optional)
Approved industrial safety glasses or chemical splash goggles
Hard hat (during drilling and when overhead fall or bump hazard exist)
Hearing protection (during drilling or jack hammering operations)

If circumstances warrant upgrading to Level C, the following is required:

Full-face, air purifying respirator with a combination type acid/gas/organic vapor and particulate filter
Chemical resistant coveralls
Gloves (outer), chemical resistant
Gloves (inner), chemical resistant
Boots (inner), leather work shoe with steel toe and shank.
Boots (outer), chemical resistant
Hard Hat (during drilling and when overhead fall or bump hazard exist)
Taping between suit and gloves, and suit and boots

Action levels found in Table 1 in Section 7.0 determine levels of respiratory protection only. The level of protection of PPE for each job task is determined visually by the HSS.

Procedures for the proper donning and doffing of PPE are provided in Appendix E.

Tasks or locations which require level A or B protection will not be entered by Fuss & O'Neill employees.

The On-Site Safety Officer may make changes to the levels of protection required based on the identification of known substances and any required changes to the scope of work. The Site Safety Officer will revise those levels of protection, up or down, based on air monitoring results and on-site assessment of actual exposures.

6.2 Definition of Levels of Protection

Respirators:

Level D: No respirator is required.

Level D Modified: No respirator is required

Level C:	Full face, Air Purifying Respirator (APR) with combination HEPA (dusts, fumes, aerosols) and organic vapor/acid gas cartridges.

***PPE*:**

Level D:	Coveralls/dedicated work clothing
	Gloves
	Boots/shoes*
	Hardhat
	Safety Glasses or chemical splash goggles

*May be substituted with work boots with chemically resistant outer boots or chemically resistant rubber boots.

Level D Modified:	Tyvek disposable coveralls or equivalent
	Coveralls/dedicated work clothing
	Boots/shoes inner
	Boots outer, chemically resistant (may be disposable)
	Gloves inner, surgical
	Gloves outer, chemically resistant
	Hardhat
	Safety glasses or chemical splash goggles

Level C:	Polytyvek disposable coveralls or equivalent
	Coveralls/dedicated work clothing
	Boots/shoes inner
	Boots outer, chemically resistant (may be disposable)
	Gloves inner, surgical
	Gloves outer, chemically resistant
	Hardhat
	Safety glasses or chemical splash goggles

7.0 MONITORING PROCEDURES AND ENGINEERING CONTROLS

7.1 Monitoring Procedures

Atmospheric air monitoring results are used by the HSS to provide data in determining when exclusion zones are established and when certain levels of personal protective equipment are required. For all instruments there are site specific action level criteria which are used by the HSS as guidelines in making field health and safety determinations. Other data, such as the visible presence of contamination and/or the steady state nature of air contaminant concentration, is also used by the HSS in making field health and safety decisions. Therefore it is possible that the HSM and HSS may establish exclusion zones and/or require a person to wear a respirator even though atmospheric air contaminant concentrations are below established action levels. HASP action levels are located in Table 1

Monitoring will be performed by the HSS or designee. Air monitoring instrumentation will be utilized in all site work areas to monitor the worker breathing zone. Personal air sampling for specific airborne contaminants may be performed at the direction of and under the supervision of the HSS. The types of instruments used and the contaminants they can detect are illustrated in Table 2. All air monitoring will be recorded on the Field Air Monitoring Logs located in Appendix F. This information will also be recorded daily by the HSS in the Daily Record of Site Activities in Appendix C.

Table 1. Instrumentation Action Levels:

INSTRUMENT	ACTION LEVEL	LEVEL OF PROTECTION OR ACTION REQUIRED
PID	>Bkgd - <5 ppm (5 min)**	Level D Respiratory Protection
PID	5 ppm - <30 ppm (5 min)**	Level C Respiratory Protection, establish an exclusion zone[a].
PID	>30 ppm**	Leave the area, monitor continuously.
O_2	<19.5%**	Leave the area; provide ventilation.
HAM	>1.5 mg/m^3 (5 min)	Implement dust control measures or Level C Respiratory Protection.

Sampling Locations
* samples taken at the excavation area.
** samples taken at the breathing zone relative to organic interference.
*** samples taken next to sources of ignition.
NOTE[a]- If a zone has not yet been established.

Table 2. Air Monitoring Instrumentation

Air Monitoring Instrument Name	Acronym	Contaminant(s) Monitored
Detector Tubes		Gases, Organic vapors, others
HNu Photoionization Detector	PID(OVM)	Organic Vapors
Handheld Aerosol Monitor	HAM	Dust, Particulate Material
Flame Ionization Detector	FID(OVA)	Organic Vapors

Exclusion Zone Monitoring

The frequency of real-time monitoring in exclusion zone work areas will be determined by the HSS and/or according to the task being conducted and whether potentially hazardous soil or contaminated groundwater will be contacted/disturbed. Real-time monitoring in the exclusion zone work areas will be conducted daily and minimally under the following conditions: during an activity which would have the highest probability of worker exposure as determined by the HSS; visible presence of contamination; or at the discretion of the HSS. Engineering controls as discussed in Section 7.2 may be implemented to reduce worker exposure potential in the exclusion zones.

Construction Work Zone (Restricted Area)

The frequency of real-time monitoring in restricted zone work areas will be determined by the HSS. Real-time monitoring in restricted zone work areas will be conducted under the following conditions: prior to the beginning of any new job task; prior to the beginning of a job task in any new area; periodically for a long-term job task; during an activity which would have the highest probability of worker exposure as determined by the HSS; visible presence of contamination; or at the discretion of the HSS.

Background Monitoring

Real-time monitoring will occur at locations such as in the main staging area as part of determining atmospheric background levels. Background levels will be established before conducting real-time monitoring in any restricted or exclusion zone work area.

Instrument Calibration and Maintenance

All monitoring equipment will be calibrated minimally once per day before each day's use. The calibration results will be recorded using the Calibration Log in Appendix F. Monitoring equipment will be maintained on a schedule corresponding to the manufacturer's suggested maintenance schedule.

7.2 Engineering Controls

When airborne contaminants are detected in the breathing zone of workers or when LEL readings on the CGI are greater than 10%, engineering controls may be utilized to reduce the exposure potential to the worker and to prevent shutting down an operation. Various types of engineering controls may be utilized on a project such as this. Some available methods are listed below; however, this list does not provide the only types of engineering controls that **may** be available. Other methods may be implemented that are more effective and/or efficient than the ones listed below.

Utilization of water to soak down area to minimize dust
Utilization of polysheeting to cover stockpiles
Utilization of calcium chloride

It is more desirable to reduce employee exposure potential than to increase levels of employee personal and respiratory protection. The implementation of engineering controls will reduce employee exposure potential and not require a greater level of protection of workers.

7.3 Dust Suppression Techniques

Dust suppression may include utilization of a water. The exclusion zone areas and access roads can be wetted when required by visible reference or as an action level is approached or exceeded.

During intrusive activities, such as soil sampling, project team members will conduct air monitoring in the working zone utilizing a NHu photoionization detector (PID). If PID readings in the work zone indicate concentrations of volatile organic vapors of 5 parts per million for a sustained period of 5 minutes, that activity will be shut down until field conditions stabilize and mitigation arrangements can be made to upgrade to an appropriate safety level. If warranted, field personnel will don splash protective clothing, including tyvek suits, chemical resistant gloves and boot covers, and safety glasses equipped with side shields.

Dust control measures including applying water to work areas will be implemented to control dust levels.

The approach for air monitoring and the establishment of appropriate action levels will be determined prior to commencement of work at the site.

8.0 SAFETY EQUIPMENT AND COMMUNICATIONS

8.1 Safety Equipment

Basic emergency and first aid equipment will be available at each exclusion zone. This shall include at a minimum: first aid kit; emergency eyewash; and fire extinguisher.

8.2 Communications

Communications will be maintained between work being performed in the exclusion zones and the restricted zone utilizing hand-held radios, cellular phone, or other appropriate form of communications. Public telephones are available at within the facility. Field offices if used will have phones available.

9.0 COMMUNITY AIR MONITORING PROGRAM

This section describes activities, equipment, and procedures employed to combat hazards to the health and safety associated with the site as they pertain to local residents, tenants of the site, and nearby businesses.

9.1 Ground Intrusive Activities

For on-site ground intrusive activities, including drilling, jack-hammering with a geoprobe, and any activity disturbing normal surface and subsurface conditions, the following air monitoring activities will be conducted to assess potential emissions to the ambient air, which may impact local residents, tenants of the site, and nearby businesses in addition to site workers.

Volatile organic compounds: Volatile organic compounds must be monitored at the downwind perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 parts per million (ppm) above background levels, work activities must be halted and monitoring continued under the provisions of a Vapor Emission Response Plan (Section 9.3). All readings must be recorded and be available for State (NYSDEC and NYSDOH) personnel to review.

Particulates: Particulates should be monitored continuously upwind, downwind, and within the work area at temporary particulate monitoring stations. If the downwind particulate level is 150 ug/m^3 greater than the upwind particulate level, then dust suppression techniques must be employed. All readings must be recorded and be available for State (NYSDEC and NYSDOH) personnel to review.

9.2 Non-Intrusive Activities

For non-intrusive activities on-site, with the exception of drilling, jack-hammering with a geoprobe, and any activity disturbing normal surface and subsurface conditions, air

monitoring activities will be conducted to assess emissions to the ambient air, which may impact local residents, tenants of the site, and nearby businesses in addition to site workers.

All procedures, identified under the ground intrusive activities to this section, apply except that volatile organic compounds must be monitored at the downwind perimeter of the work area daily at 2 hour intervals (as opposed to continuously).

9.3 Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background levels at the perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background levels, work activities can resume. If the organic vapor levels are greater than 5 ppm above background levels but less than 25 ppm above background levels at the perimeter of the work area, activities can resume provided:

The organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm above background levels.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring, as directed by the HSO, will be implemented to assess vapor emission, which may impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Major Vapor Emission: If any organic levels greater than 5 ppm above background levels are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If following the cessation of the work activities, or as the result of an emergency, organic levels persist above background levels 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if the following levels persist for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect; if organic vapor levels are approaching 5 ppm above background levels.

However, the Major Vapor Emission Response Plan shall immediately be placed into effect if organic vapor levels are greater than 10 ppm above background levels.

Major Vapor Emission Response Plan: Upon activation, the following activities will be undertaken:
Emergency services will be notified. Emergency phone numbers are identified in the Emergency Services section on page 2 of this Plan.

The local police authorities will immediately be contacted by the HSO and advised of the situation.

Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the HSO.

10.0 TRAINING

10.1 Basic Training Required

All contact project personnel that are required to work within exclusion zones are required to have received a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor pursuant to OSHA 29 CFR 1910.120(e) and 1926.65. Non contact personnel are not required to meet these initial training requirements unless directed otherwise by the HSS.

All personnel above are required to have successfully completed refresher training requirements pursuant to OSHA 29 CFR 1910.120(e) and 1926.65. All "supervisory" personnel as identified by Fuss & O'Neill will be required to have successfully met the supervisory training requirement pursuant to OSHA 29 CFR 1910.120(e) and 1926.65.

Fuss & O'Neill personnel shall have completed 40 hours of OSHA training and be current with their 8 hour refreshers in accordance with 29 CFR 1910.120. On–site personnel must also be familiar with the procedures and requirement of this HASP. In the event of conflicting safety procedures/requirements, personnel must implement those safety practices that afford the highest level of protection.

The objectives of the training program are to: communicate the potential hazards workers may encounter; provide the knowledge and skills necessary to perform the work with minimal risk to worker's health and safety; communicate the purpose and limitations of safety equipment; and communicate an emergency plan.

All employees and contractors engaged in site field work must sign an acknowledgement form to indicate that they have read this HASP, understand the content of this HASP, and agree to abide by the precautionary measures stated in this HASP. The Project Manager, Field Operations Leader, and Health and Safety Officer shall also sign-off on this HASP to verify that the content is factual.

Documentation of theses employees training certificates are to be maintained by F&O.

10.2 Site-Specific Training

10.2.1 Initial

All project personnel are required to have initial site-specific training while the potential for exclusion zone activities exist. This training will be provided on-site for all project personnel by the HSS prior to commencement of on-site field activities. The training will address the activities, procedures, monitoring, and equipment for the site operations. It will include site layout, chemical hazards (identification of, detection of, and physiological responses to), physical hazards and emergency services at the site, and will detail all provisions contained within this HASP.

All personnel **must** sign the Field Team Member form in Appendix G following the site specific training and review of the HASP. Personnel who do not receive initial site training will not be permitted to enter the restricted, CRZ or exclusion, zones.

10.2.2 Periodic Safety Briefings

The HSS will conduct daily safety briefings for site workers conducting operations in the restricted zone or in any exclusion zone. These informal briefings will generally be held in the support areas of the designated work areas. The content of these briefings will change as directed by the HSS and will generally include relevant health and safety topics affecting that day's operations.

11.0 PHYSICAL HAZARDS AND SAFETY CONSIDERATIONS FOR SITE OPERATIONS

11.1 Weather

The site activities may proceed through all seasons; therefore, precautions are to be taken to address both heat and cold stress. Monitoring of site personnel for the symptoms associated with each will be continuous.

If severe weather occurs that may affect the safety of site workers, the HSS shall stop such field operations. The HSS will resume operations when weather conditions improve to acceptable levels.

11.2 Heat Stress/Cold Stress

Heat and/or cold stress may be a potential problem for this project. The HSS may implement heat and cold stress programs and recommend that adequate rest breaks and liquid (i.e., water, Gatorade) consumption occur. The heat and cold stress program is in Appendix H.

The proposed work/rest schedule will be dependent upon the weather conditions encountered and the level of personal protective equipment being utilized by on-site personnel. There will be a designated break area. The work/rest schedule will be established and adjusted by the HSS.

11.3 Slip, Trip and Fall Hazards

In any work area it is expected that the ground may be uneven, with platforms and other obstacles existing in the midst of the work environment. Therefore, the potential for slipping, tripping and falling is high, especially considering that respirators may be used, which can impede vision.

11.4 Confined Space

If entering a confined space is required at any time during this project, but not anticipated at this time, the HSS will ensure that appropriate confined space entry procedures are followed by appropriately trained confined space individuals in accordance with OSHA 29 CFR 1910.146 (Appendix I).

11.5 Electrical Hazards

To control the potential for electrical hazards, procedures will be followed in accordance with OSHA 29 CFR 1926 Subpart K.

Ground-Fault Circuit Interrupters (**GFCI**) shall be used on all sites that have temporary wiring or a power supply per 29 CFR 1926.400 (h)(2). All 120-volt, single-phase 15- and 20-ampere receptacle outlets on-sites, which are not part of the permanent wiring of the building or structure **and are in use by Fuss & O'Neill employees or subcontractors to Fuss & O'Neill** shall have UL® approved GFCI for personal protection.

11.6 Trenching, Shoring and Excavations

Excavations will be in accordance with OSHA 29 CFR 1926 Subpart P. Prior to excavating, utility companies and other responsible authorities will be contacted to locate and mark the locations of underground installations.

11.7 Traffic

Different types of traffic (delivery vehicles and heavy equipment) may be present at the job site. All work will be performed in accordance with State and Federal laws.

Vehicular traffic may be a hazard during the work covered by this HASP. Traffic cones will be used to block off areas around roadways to protect personnel and equipment. All signs shall meet the State and Local regulations regarding traffic safety. During work

along highways or congested roadways, personnel shall wear orange safety vests and hard hats.

11.8 Pathogens

Although not expected, if pathogenic wastes (i.e. suspect medical wastes, sharps) are encountered during this project, workers will stop work in that area and inform the HSS.

11.9 Explosives

Although not expected, if explosives are encountered during this project workers will immediately stop work and qualified explosive handling personnel will be contacted.

11.10 Smoking Policy

Under no circumstances will smoking be permitted inside any established Exclusion Zone.

11.11 Hearing Protection

Hearing protection will be available to all site workers/visitors.

11.12 Drum/Container Handling

The procedures utilized for the movement and disposal of drums will comply with 29 CFR 1910.120(j) and 1926.65 should they be encountered or used for hazardous waste temporary storage. This section specifies that drums and other containers of hazardous materials be handled in a manner to reduce possible rupture and minimize the potential for a spill.

11.13 Guarding of Machinery and Equipment

Machinery and equipment guarding will be installed and maintained in accordance with 29 CFR 1910 and 1926. Various OSHA standards specify machine and equipment guarding that must be in place to reduce potential injuries. All manufacturer's machine guards will remain intact and not be removed by any employee. Any damaged or missing guard will be replaced and the equipment will not be operated until the proper protection is provided.

11.14 Illumination

If work activities occur before sunrise or after sunset, sufficient lighting will be provided to meet the requirements of 29 CFR 1910.120(m) and 1926.65. Table H-120.1 - Minimum Illumination Intensities in Foot-Candles should be used as a guide for providing proper lighting in site operations. These minimums range from 3 to 30 foot-candles, depending on the area or operation performed.

11.15 Spill Cleanup

If a spill occurs the HSS will immediately notify the HSM. Immediate containment actions will be implemented to minimize the effects of a leak or spill. All cleanup procedures will be in accordance with applicable local, state and federal regulations. Spill clean up kits will be available on-site.

11.16 Boring and other Underground Operations

The HSM shall contact as required by law, the UFPO state-wide underground utility locating service will be contacted prior to commencement of subsurface sampling activities to mark the location of public underground utilities within the project area.

As a courtesy to the Town of Poughkeepsie, Fuss & O'Neill will provide to the Town of Poughkeepsie Building Department a verbal description of the work to be performed and the dates that work will be performed.

Documentation of the UFPO list, confirmation #, date, time and the person who called should be recorded on the form in Appendix J.

12.0 DECONTAMINATION/WASH-UP PROCEDURES

This section can be classified into four areas: 1) procedures for decontaminating heavy equipment that has entered exclusion zones; 2) decontamination procedures for personnel exiting exclusion zones; 3) wash-up procedures for all personnel; and 4) instrument decontamination.

12.1 Heavy Equipment Decontamination

Heavy equipment that has entered exclusion zones shall be clean on arrival and will be decontaminated prior to leaving the site. A stone-lined decontamination pad or equivalent, will be installed at the site for the purpose of cleaning the machinery and other field equipment. The equipment or machinery will be placed on the pad and sprayed with water. The water that is generated as part of decontamination may be allowed to drain back into the pre-existing site soil (not onto the clean soil). Water that has visible contamination (i.e.; oily free product) will be collected into drums and disposed appropriately offsite. The decontamination area will be located in a known contaminated area of the site so clean sand previously placed on the site will not be contaminated by the decontamination process or during disposal of decontamination water. All field equipment that has been in contaminated areas of the project site will be decontaminated before leaving the project site.

12.2 Personnel Field Decontamination

Personnel field decontamination facilities will exist at the exits to all established exclusion zones in contamination reduction zones (CRZs). If possible, these field decontamination facilities will be located upwind of the exclusion zone. The field decontamination facilities will be under the control of the HSS. The detailed extent of the decontamination will be a site-specific decision by the HSS based on the extent of personnel contamination.

Full field decontamination procedures will require all personnel exiting exclusion zones to go through a wash and a rinse process and remove their PPE. This will consist minimally of three tubs on the ground, one wash tub and two rinse tubs on a plastic surface. Personnel exiting the exclusion zones will be required to wash their outer boots, outer gloves and protective clothing.

This will be accomplished with a soapy water solution and scrub brushes. Personnel will then proceed to the next two stations, each of which consisting of a rinse tub containing clean water and a water sprayer. Personnel will stand in the tub and spray off their gloves, boots, and protective clothing with clean water from the sprayer. After the double rinse, personnel will then remove their outer boots, outer gloves, protective clothing and respiratory protection, if worn.

Once removed, disposable PPE will be collected at the field decontamination-site in a drum or large plastic bag. The drum or plastic bag will be secured in order to prevent the accidental spread of contamination. Disposable PPE that has been worn in an exclusion zone must be removed and placed in the disposal container before leaving the CRZ. Disposable PPE may not be re-used.

Contaminated wash water will be collected in drums at the field decontamination area or it will be disposed onsite as appropriate (i.e.; placed in vehicle decontamination pad or other approved methods).

Cold weather field decontamination procedures (if applicable) will require the prevention of decontamination liquids (e.g.. soap and water) from freezing. This may be accomplished by adding salt or other equivalent substance to the soap solution. The plastic decontamination pad may be covered with gravel or salt or other equivalent material to prevent slips, trips or falls during freezing temperatures.

12.3 Wash-up Facility

A portable wash-up apparatus and/or facility will exist in the main support area of the construction work zone. The facility will be under the control of the HSS.

After exiting a field decontamination facility, personnel may now use the "wash up" setup. All personnel working at the site must wash their hands and faces prior to eating,

drinking or smoking and practice good personal hygiene. Potable water will be available at the site.

12.4 Instrument Decontamination

Instruments will be decontaminated whenever they have contacted soil or dust. Instrument decontamination will occur in the same area for personnel decontamination and will consist of the removal of any dust or soil from the surfaces of the instruments.

13.0 DISPOSAL PROCEDURES

13.1 General

A waste staging area will be located on-site in an area approved by Fuss & O'Neill This area will be segregated from the support areas to control the potential for waste migration beyond the perimeter of this area. The area will be considered an exclusion zone requiring periodic air monitoring as deemed necessary and the appropriate level of protection pursuant to the protocols in this plan.

All waste materials shall be handled in such a way to avoid potentially spreading contamination, creating a hazard or littering the site. All disposable PPE will be placed in drums during decontamination and site activities for transportation to the waste staging area and disposal area.

All disposal will be in accordance with local, state, and federal hazardous waste regulations, as well as the Resource Conservation and Recovery Act (RCRA).

13.2 Soil/Sludge

Soil excavated during test pit activities will be put back into the excavation. Stockpiling of contaminated soil will not occur during the SI characterization. Should any soils encountered during sampling have visible signs of contamination they will be classified by the HSS as potentially contaminated material and will be stockpiled. The stockpiled soil will remain in place until the analytical results of samples collected by Fuss & O'Neill are made available to the Contractor. Within 30 days of waste classification finding the soil unsuitable for re-use the soil will be removed and disposed.

13.3 Water

All personnel decontamination and dewatering liquids will be containerized, stored in the staging area and/or disposed onsite if appropriate. Waste classifications will be made by F&O. The liquids will be disposed of or treated with methods approved by F&O.

14.0 EMERGENCY PLAN

14.1 General

All operations required have the potential to create an emergency situation. Emergency situations can be characterized as a Fire or Explosion; Environmental Release (spill or cloud); or Accident and/or Injury to one of the field personnel.

14.2 Site Emergency Coordinator

The Site Emergency Coordinator is: HSS

The emergency coordinator or alternate will be on-site during all working hours. The emergency coordinator shall implement the emergency plan whenever conditions at the site warrant such action. The coordinator will be responsible for assuring the evacuation, emergency treatment, emergency transport of site personnel as necessary, and notification of emergency response units and the appropriate project and management staff designated in Section 1.0.

14.3 Evacuation

In the event of an emergency situation, a specific emergency signal (such as air horn blasts) will sound and all personnel in all work zones will evacuate and assemble near the entrance of the construction work zone or other support area location determined prior to the beginning of the daily operating tasks.

For efficient and safe site evacuation and assessment of the emergency situation, the emergency coordinator will have authority to initiate proper action when outside services are required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the construction work zone once the emergency signal has been given. The emergency coordinator will ensure that access for emergency equipment is provided and that all combustion apparatus (e.g.; operating machinery) has been shut down once the alarm has been sounded. The emergency coordinator will notify the Fire Department and other emergency response organizations by telephone of the emergency.

The emergency coordinator or designee will make a headcount of all site personnel at the assembly point. If a worker or site visitor is unaccounted for, the emergency coordinator will report this information to the emergency responders. The site evacuation plan shall be rehearsed as part of the overall training program for site operations.

14.4 Incipient Firefighting

Fire extinguishers will be located at every exclusion zone Appropriate contractor project personnel will be trained in the use of fire extinguishers. All fire extinguishers will be inspected daily to make sure it is fully charged and in working order.

Fuss & O'Neill employees may fight incipient fires (small, just starting that can be extinguished easily with a portable fire extinguisher, like a garbage can fire) and clean up incidental spills (usually less than 1 gallon) that occur while working on-site. If a fire or spill of this type becomes larger and there is a potential for a hazardous substance release, Fuss & O'Neill employees will sound the emergency alarm and evacuate the area immediately. Emergency Coordinator will contact the responsible party in the event the emergency response is beyond their competency level.

14.5 Emergency Response Coordination

The emergency coordinator or designee will report any emergency immediately to the local emergency response organizations and will be available to brief them immediately upon their arrival as to the location of the emergency, nature and extent of the emergency, personnel involved, hazardous substances involved, and any other pertinent information.

14.6 Personnel Injury/Personnel Exposure/First Aid

Any minor cuts or abrasions are to be washed and treated immediately. First aid shall be given on-site as deemed necessary. If needed the individual will be decontaminated and transported to the nearest medical facility. The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. In any life-threatening situation, the life-saving treatment of personnel is the immediate priority. The emergency coordinator or designee will be available to brief the rescue squad immediately upon their arrival as to the location of the injured person(s), nature and extent of the injury(ies), personnel involved, hazardous substances involved, and any other pertinent information. The HSS will supply medical data sheets and chemical hazard information to appropriate medical personnel and complete an incident report on the accident or injury.

In case of personnel exposure, the following procedures are to be provided:

SKIN CONTACT: Use copious amounts of water. Wash/rinse affected area thoroughly, then provide appropriate medical attention. Eyes should be thoroughly rinsed with water.

INHALATION: Move to fresh air and/or, if necessary decon/transport to hospital.

INGESTION: Decontaminate and transport to emergency medical facility.

PUNCTURE WOUND OR LACERATION: Decontaminate, if possible and transport to emergency medical facility.

15.0 MEDICAL SURVEILLANCE:

All contact project personnel that are designated to work in the exclusion zones outlined in section V are required to meet the medical surveillance requirements of OSHA 29 CFR 1910.120 and 1926.65 and OSHA 29 CFR 1926.103 (respiratory protection), and to furnish documentation to that effect. In addition, a medical data sheet in Appendix K must be completed prior to beginning work on the site. The medical data sheet shall be kept on-site with the HSS and will accompany the employee whenever medical treatment is required.

All examining physicians must meet the requirements of 1910.120 and 1926.65. The physician performing medical examinations will determine the specific requirements of the physical. The employees must be given the results of their examination. Attached as Appendix K is Fuss & O'Neill Written Medical Surveillance Program.

16.0 RECORDKEEPING

The HSS will maintain Health and Safety Records for the site. The following information will be recorded on the Daily Record form in Appendix C):

- Weather conditions (temp., wind speed and direction, precipitation)
- Air monitoring equipment calibration records
- Air monitoring results (date, time, location, data, instrument, person conducting sampling)
- Description of operation(s)
- Level of PPE
- Non-compliance with the HASP
- Personnel exposure incidents
- Description of accident(s) (OSHA 200 log)

All accidents and personnel exposures, regardless of the extent, will be reported to the HSS, who will complete a Supervisor's Report (Appendix B) on the incident.

17.0 AUTHORIZATIONS

Personnel authorized to enter the construction work zones and construction exclusion zones at this site must be approved by the HSS. Authorization will involve completion of appropriate training courses and medical examination requirements as stipulated by this HASP, and review and approval of this HASP. .

18.0 SIGNATURES

This plan was reviewed and approved by:

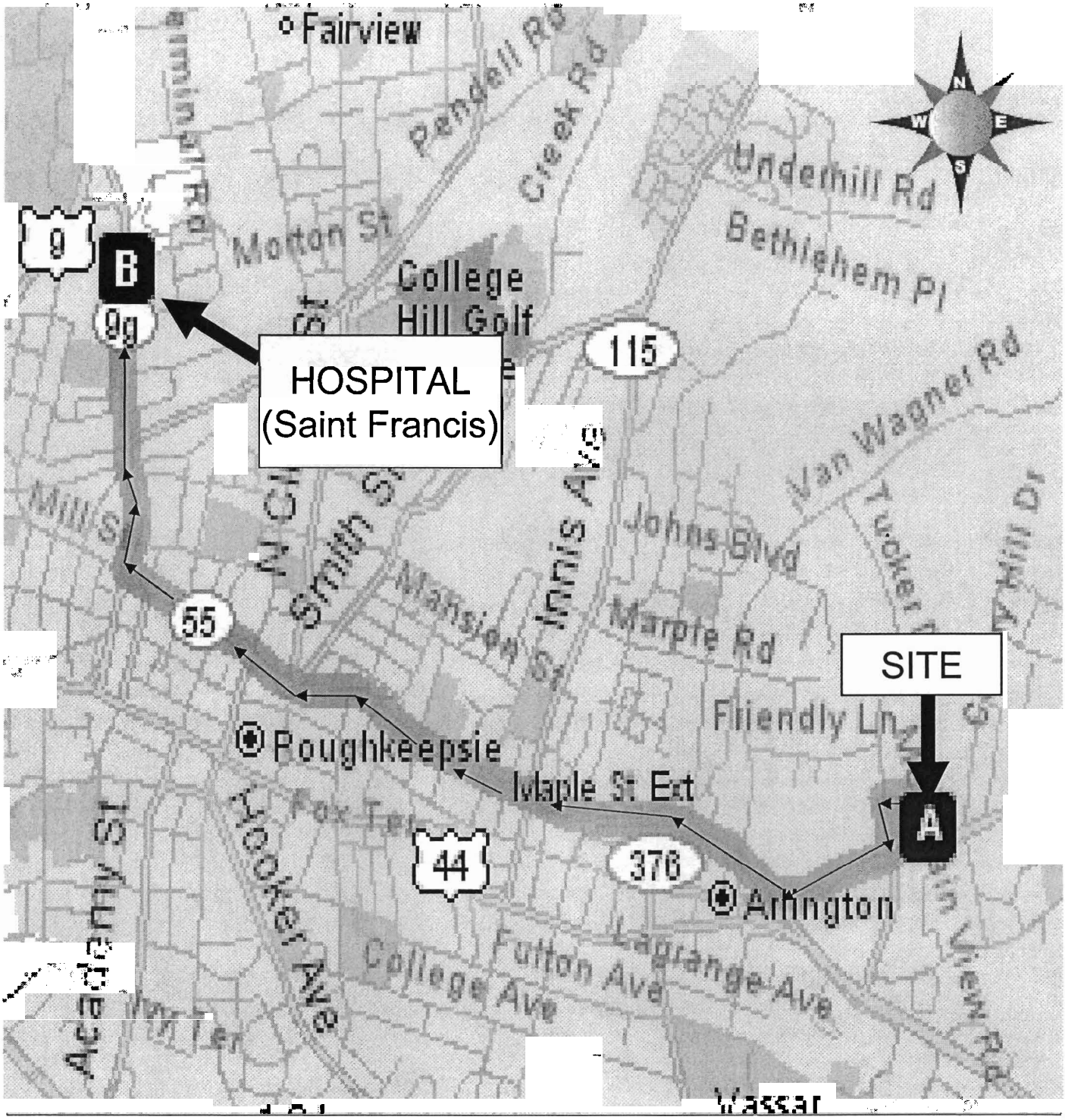
Project Director – James D. McIver, Jr. Date:

Project Manager – Shelley Mertens, PE Date:
HSS - Gregory Toothill, EIT Date:

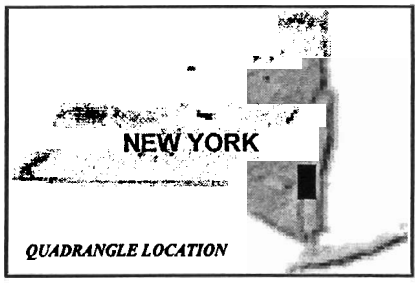
Corporate Health and Safety Officer – Date:
Kevin W. Miller, Ph.D.

APPENDIX A

SITE MAPS



MAP REFERENCE:
THIS MAP WAS PREPARED FROM THE FOLLOWING
2004 Yahoo! Inc. Digital Map Finder
NAVTEC 2004



APPENDIX A HASP

0 1.0 3.0
GRAPHIC SCALE
SCALE: 1"=1km

FUSS & O'NEILL of New York, PC
80 Washington Street
Poughkeepsie, New York 12601
(845) 452-6801
www.FandO.com

HEALTH AND SAFTEY PLAN
(Driving Directions to Nearest Hospital)
LOVE ROAD SITE

POUGHKEEPSIE NEW YORK

PROJ. No:
DATE:

APPENDIX

APPENDIX B

SUPERVISOR'S REPORT OF ACCIDENT INFORMATION

SUPERVISOR'S (HSS) REPORT OF ACCIDENT INVESTIGATION

Injured Employee _____ Date of Report _____
Occupation _____ Age _____ Sex _____
Length of Employment Years _____ Months _____
Date of Accident _____ Time of Accident _____
Exact Location? _____

Description of Accident (Detail what employee was doing and what tools, equipment, structures or fixtures where involved.)

_____
_____
_____
_____

Description of Injuries _____
_____
_____

Date Reported to Supervisor and First Aid _____

Date First Aid Received _____

Delayed? _____Yes _____No
If Yes, Why? _____
_____

Type of First Aid Received? _____

Circle Accident Cause Listed Below that Apply:

Struck by/Against
Slip, Trip and/or Fall
Caught in/by

Chemical Contact/Burn
Lifting/Lowering
Motor Vehicle Accident

What would you recommend to prevent the recurrence of this type of accident in the future?

_____
_____
_____
_____
_____
_____

SUPERVISOR'S (HSS) REPORT OF ACCIDENT INVESTIGATION CONTINUED

Are recommendations above being implemented? _____

_____

Supervisor's Comments: _____

_____

_____

_____

_____

Supervisor's Signature _____

Date: _____

APPENDIX C

DAILY RECORD OF SITE ACTIVITIES

DAILY RECORD OF SITE ACTIVITIES

SITE: _____ DATE: _____

PROJECT NO.: _____
TASK PERFORMED: _____

_____

PERSONNEL ON-SITE: _____

A. WEATHER CONDITIONS: _____

_____

_____

B. EQUIPMENT LIST (TYPE OF INSTRUMENT(S), PERSON(S) CONDUCTING SAMPLING AND DATA COLLECTION): _____

_____

_____

_____

_____

_____

C: LEVEL OF PPE:

_____

_____

D. TASK:

_____

_____

E. NONCOMPLIANCE TO THE HASP GUIDELINES:

_____

_____

_____

_____

F. PERSONNEL EXPOSURE INCIDENTS:

_____

_____

G: ACCIDENT DESCRIPTION (if any):

_____

_____

_____

APPENDIX D

CONTAMINATION CHARACTERIZATION

Chemical

Arsenic
Benzene
Beryllium
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Cadmium
Chromium
Copper
Ethylbenzene
Isopropylbenzene
Gasoline
Lead
Mercury
Methyl-tert-butyl-benzene
Methyl-tertiary-butyl-ether
Napthalene
Nickel
n-Propylbenzene
Selenium
Silver
Toluene
Tetrachloroethene (PCE)
Trichloroethylene (TCE)
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Xylenes

APPENDIX E

PERSONAL PROTECTIVE EQUIPMENT PROGRAM

PERSONAL PROTECTION PROGRAM

Overview

Personal Protective Equipment (PPE), such as, clothing and respiratory protection help control on-site workers from coming in contact with contaminants and other hazards. It is imperative that PPE be appropriate to protect against the known potential hazards for each investigation and each work site. The selection of PPE will be based upon the types, concentrations, and routes of personal exposure that may be encountered. The appropriate level of protection for initial site entry will be based upon a conservative assessment of the best available site contamination information. The NIOSH Pocket Guide to Chemical Hazards is supplied to the HSS and field scientists that have completed the 40-hour and 8-hour health and safety training courses for use as a source of general industrial hygiene and medical surveillance information. The responsibility of selecting the proper PPE, including respiratory protection, is that of the HSM and HSS. During field activities, the HSS has the authority to upgrade or downgrade the current PPE and respiratory protection.

In responding to an incident where the type(s) and concentration(s) in the ambient atmosphere of substances injurious to human health are unknown, a determination must first be made by the HSM and HSS if it is necessary to have personnel enter the site (close proximity to the potential source of exposure). A requirement for on-site operations necessitates that personnel initially enter the site to characterize and define the hazardous environment that potentially exists.

Until qualitative and quantitative information is available for assessing the ambient atmosphere at a site, levels of protection may have to be based on the site hazard Assessment and gross measurements from portable instruments for organic vapor analysis (i.e. photoionizer detector (PID), organic vapor analyzer or monitor (OVA or OVM), gas chromatograph (GC)). A Field Air Monitoring Log and Air Monitoring Instrument Calibration Log to be completed at the site.

The following criteria will be used as a Guide to determine the level of PPE. It is emphasized that the following values should not be the sole criteria for selecting levels of protection. The level should be selected case-by-case, with special emphasis on potential exposure and chemical and toxicological characteristics of the known or suggested material. These criteria are established from prior experience at the site under investigation and current assessments of site hazards.

- Level C: If ambient breathing zone background concentrations are background to five (5) ppm (one (1) ppm for benzene or vinyl chloride) and meet the level C criteria listed in this document.

- Level D: If ambient background concentrations are at background. Total atmospheric vapor/gas concentrations are used for determining the appropriate level of protection. The background concentration will be measured prior to the commencement of field operations each day, and checked periodically through the day in the support zone to account for any variation resulting from the weather or other external factors.

There are four levels of personal protection recommended by the United States Environmental Protection Agency (USEPA). They range from Level D, used when little or no potential for exposure to contaminants exist; upgrading to Level C, when contamination levels require protection levels from bodily contact and the filtering of breathing air; to Level B when contamination requires protection from bodily contact and the use of a supplied breathable air source; to Level A, which is used when the contamination levels require the highest available protection from bodily contact, respiratory and eye irritation. F&O personnel are supplied with equipment for Levels C and D. If conditions on site require upgrading to Levels A or B, personnel will be required to leave the area. The criteria for Levels C and D are provided below.

Level D

Level D protection is primarily a work uniform, though Tyvek™ could be used if conditions are i.e. muddy, dusty. Dust respirators are available if dusty conditions (modified level D) exist on site.

Level D Equipment

a) Coveralls;

b) Leather or chemical-resistant boots or shoes, steel toe and shank;

c) Hard hat (face shield optional);

d) Options as required:

1) Gloves (nitrile, neoprene);
2) Disposable overboots (latex);
3) Safety glasses or chemical splash goggles.

Criteria for Use

a) No indication of airborne health hazards present.

b) Frequent air monitoring with field instrument(s) to confirm ambient background concentrations.

c) Frequent visual observations of field personnel to prevent against i.e. heat stroke.

d) Normal work operations are not expected to create splashes, immersion or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

Level C

Level C protection will be selected when the types and concentrations of respirable material are known, or reasonably known not to exceed the equipments rated/NIOSH approval capabilities, and exposure to the unprotected areas of the body (i.e. neck and back of head) is unlikely to cause harm.

A range of background to greater than 5 ppm (1 ppm if benzene or vinyl chloride is present) above ambient background breathing zone concentrations of vapors/gas (non-methane) in the atmosphere has been established as guidance by USEPA for selecting Level C protection. Concentrations of unidentified total vapors/gases approaching or exceeding 5 ppm in the breathing zone would warrant upgrading respiratory protection to a self-contained breathing apparatus (Level B) or shut down and evacuation. Wind direction and atmospheric conditions (i.e. humidity) should be established prior to taking background readings with the field instrument(s).

Level C Equipment

a) Full-face piece or half-face, though USEPA recommends full-face, air-purifying canister equipped respirator with appropriate chemical cartridge (i.e. organic vapor/acid gas/HEPA/dust/mist) that is MSHA/NIOSH approved. Splash shield and/or goggles if half-face respirator is used.

b) Tyvek™ clothing or polylaminated Tyvek™, if liquid splash is an issue, with long sleeves and elastic at the wrists and ankles.

c) Inner disposable gloves (i.e. vinyl or nitrile) and outer chemical-resistant gloves (i.e. nitrile or neoprene).

d) Leather or chemical-resistant boots or shoes, steel toe and shank.

e) Hard hat

f) Options as required:

1. Coveralls
2. Disposable overboots (i.e. latex)

Criteria for Use

a) Site is known to contain potential hazards not to exceed:

1) Atmospheric contaminants, liquid splashes, or other direct contact that will not adversely affect or be absorbed through any exposed skin.

2) Types and classes of air contaminants have been identified, concentrations measured, and an approved canister respirator is available that can remove the contaminants.

3) Well-documented, reliable history of site or prior entry.

4) No evidence of acute or chronic effects to exposed personnel.

5) All criteria for the use of air-purifying respirators are met (i.e. no IDLH, no oxygen deficiency).

Total vapor readings are between 0 ppm and 5 ppm (0 ppm to 1 ppm for benzene or vinyl chloride) above ambient background concentrations on field instruments (i.e. PID, FID, gas chromatograph) as measured in the breathing zone.

Frequent air or personnel monitoring should occur while wearing Level C protection.

Respirator Maintenance Program

Respirators shall be inspected after each use by checking the condition of the face piece and all its parts. Parts should be inspected for pliability and signs of deterioration. Once a respirator has been used the wearer must clean it. All detachable parts such as straps, valves and gaskets are removed and cleaned separately. Cartridges cannot be cleaned. They can be used again if their service life has not been exhausted; however, it is recommended that on hazardous waste sites, worn cartridges be discarded at the end of each day.

The parts should go through two water rinses and left to air dry. When dry, parts are reassembled and the respirator is put in a clean plastic bag and stored where it will be protected from conditions that could alter the shape of the mask, such as extreme temperatures or very dusty environments. DO NOT store respirators in direct sunlight or the trunk of a vehicle. At times when the above maintenance cannot be performed, the face piece and other parts can be washed with respirator cleansing wipes provided in individual packs.

Only a trained person with proper tools and replacement parts should work on respirators. No one should ever attempt to replace components or make adjustments or repairs beyond the manufacturer's recommendations. Any parts that require replacement will be returned by F&O to the manufacturer for repair. The manufacturer's instructions furnished with each respirator shall be read prior to field use.

APPENDIX F

FIELD AIR MONITORING LOG AND CALIBRATION LOG

FIELD AIR MONITORING LOG

DATE: _____ SITE: _____ PAGE ___OF ___
SITE SAFETY OFFICER: _____
SAFETY MONITORS: _____
WEATHER CONDITIONS: _____
INSTRUMENTATION CONDITION: _____

ACTIVITY/REASON FOR MONITORING	LOCATION	TIME	READING	INITIALS

AIR MONITORING INSTRUMENT CALIBRATION LOG

Page _____of _____

PROJECT NAME: _____ JOB NUMBER: _____
PROJECT LOCATION: _____
INSTRUMENT TYPE: _____ INSTRUMENT NUMBER: _____

Date Name	Cal Gas Conc.	Instrument Reading	Adjusted (Y/N/)	New Setting	New Reading	Maintenance Notes

APPENDIX G

FIELD TEAM MEMBER FORM

FIELD TEAM MEMBER FORM

Each field team member shall sign this section following review of the HASP and site training before being permitted to work on site.

I have read and understand the HASP and had the required health and safety training pursuant to OSHA 1910.120 and will comply with the provisions contained herein.

NAME PRINTED	SIGNATURE	DATE

APPENDIX H

HEAT AND COLD STRESS PROGRAM

THERMAL EXPOSURE

Overview

Adverse weather conditions are important considerations in planning and conducting site operations. Extremes in hot and cold weather can cause physical discomfort, loss of efficiency, and personal injury.

Heat Stress

Heat stress can result from working in a hot environment both indoors and outdoors whether protective clothing is or is not worn. Working under various levels of personal protection may require the wearing of low permeability disposable suits, gloves and boots. This type of clothing will prevent most natural body ventilation thereby causing discomfort due to increased sweating and eventually heat stress. Recommendations to reduce heat stress are to:

a) Drink plenty of fluids (water or Gatorade™) to replace loss through sweating, and eat light foods.

b) Wear cotton undergarments to act as a wick to absorb moisture and maximize natural cooling.

c) Make adequate shelter available for taking rest breaks in order to cool off.

d) The HSS shall develop an adequate and appropriate work and rest schedule for the field crew as needed.

For extremely hot weather, these additional recommendations should be followed:

a) Install portable showers or hose down field crew to cool clothing and body.

b) Shift working hours to early morning and early evening thereby avoiding the hottest part of the day.

c) Rotate field crews wearing the protective clothing into a work versus rest schedule.

d) Wear cooling devices to aid in ventilation (the additional weight may affect efficiency).

Some guidelines:

Ambient Temperature (°F)	Action Work Time (min/hr) Level C Clothing
75 or less	50
80	40
85	30
90	20
100	0

The following discusses the three types of heat stress: 1) Heat Exhaustion; 2) Heat Cramps; and 3) Heat Stroke.

Heat Exhaustion

Heat Exhaustion is brought about by the concentration of blood in the vessels of the skin. This condition may lead to an inadequate return of blood to the heart, and eventually, to physical collapse. The symptoms are:

- General weakness
- Excessive perspiration
- Dizziness
- Pale and clammy skin
- Weak pulse
- Rapid and shallow breathing
- Appearance of having fainted

To treat for heat exhaustion, place the individual in a cool place and remove as much clothing as possible. The individual should drink cool water, Gatorade™ drink, or similar liquids. The individual should be fanned; however, do not over cool or allow chilling. Treat the individual for shock and remove to a medical facility if condition persists.

Heat Cramps

Heat Cramps are usually caused by loss of salt when an individual has perspired a great deal. Cramps usually in the leg and abdominal muscles can also be caused by drinking iced liquids quickly or in large amounts. The symptoms of cramps are as follows:

- Pain and cramps in legs or abdomen
- Faintness
- Profuse perspiration

Heat Stroke

Heat Stroke is a breakdown of the body's heat-regulating mechanism causing high fever and collapse. This condition, which is an IDLH (Immediately Dangerous to Life and Health) condition, can result in unconsciousness, convulsions, and even death. Persons in poor physical condition or of advanced age are particularly susceptible. The symptoms of heat stroke are:

- Muscle twitching or convulsions
- Dry hot skin
- Flushed skin
- High body temperature
- Loss of consciousness
- Deep breathing, then shallow or absent
  Dilated pupils

Heat stroke is a medical emergency situation. Medical emergency personnel should be contacted immediately in order that the person can be transported to a medical facility. In the interim, steps can be taken by the HSS. The individual should be removed to a cool environment and the body temperature reduced immediately by dousing the body with water or by wrapping in a wet sheet. If ice is available, it should be placed under arms and around the neck and ankles. If the victim is conscious, Gatorade™ drink or other similar liquids containing electrolytes should be provided. Intake of these liquids will be monitored by the HSS so as not to be excessive. Steps should be taken to protect the victim from injury in the event of convulsions, such as removing any objects in the area of the victim.

To avoid problems from heat stress during conditions of high temperature and humidity, the HSS should assure that the field crew drink plenty of electrolyte fluids before and during field activities, breaks should be provided pursuant to the schedule outlined by the HSS, and should revise work schedules as necessary to take advantage of the cooler parts of the day.

Cold Exposure

Cold exposure can occur in temperatures at or below freezing. If prolonged exposure to cold occurs without proper protection, the effects of cold exposure can occur in temperatures above freezing. Exposure to cold can cause severe injury (frostbite) or overall drop in body temperatures (hypothermia). The extremities (fingers, toes and ears) are most susceptible to frostbite.

Both the outdoor temperature and the wind velocity play a part in cold injuries. Wind chill is used to describe the chilling effect of moving air in combination with low temperatures. Cold exposure can be a serious threat to a field crew that removes protective clothing and exposes perspiration soaked underclothing to the cool air. Water conducts heat 240 times faster than air, thus rapidly cooling the body. Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperatures. Cold exposure symptoms (hypothermia) are usually seen in the following five stages:

1) Shivering
2) **Apathy, li**stlessness, sleepiness and rapid body cooling
3) Unconsciousness, glassy stare, slow pulse and respiratory rates
4) Freezing of the extremities
5) Death

Recommended actions to avoid suffering the effects of cold exposure are:

a) Wear cotton, or even better, wool or synthetics (polypropylene) undergarments to absorb perspiration from the body.

b) Wear additional layers of light clothing as needed for warmth. The layering effect holds in air, trapping body heat, and some layers could be removed as the temperature rises during the day.

c) Pay close attention to body signals and feelings (hypothermia symptoms), especially to the extremities. Correct any problem indications by breaking from the work activity and moving to a rest area to warm up and add additional clothing.

d) Install a wind break at the drill site to minimize cold winds from blowing directly at the drilling crew.

e) Maintain good eating and drinking habits enabling the body to operate at top capacity.

f) Provide a sheltered area for resting and warming up.

APPENDIX I

CONFINED SPACE ENTRY PROCEDURE

CONFINED SPACE ENTRY PROCEDURE

1) OSHA defines a "Permit-Required" confined space as:

   - An area large enough for an employee to enter and perform work;
   - An area with limited or restricted means for entry or exit; and,
   - An area that is not designed for continuous human occupancy.

2) The characteristics of a Permit-Required confined space are:

   - The space or area contains, or has a known potential to contain, a hazardous atmosphere;

     The space or area contains a material with the potential to engulf an entrant;

   - The area has an internal configuration such that an entrant could be trapped by inwardly converging walls or a floor that slopes downward and tapers to a smaller cross-section; and,
   - The area contains any other recognized serious hazard.

Upon establishing that the area is a confined space or Permit-Required confined space and may contain one or more of the above characteristics, initial and subsequent atmospheric monitoring of the confined space shall be implemented prior to entry.

Monitoring shall be conducted using instruments that measure gases. Examples would be an oxygen meter and explosimeter. The need for respiratory protection and other protective equipment such as head protection, retrieval systems or self-contained or airline supply breathing apparatus shall be established through air monitoring.

1) Evaluation - This includes the initial monitoring of a confined space for harmful gases or vapors with instruments that measure gases in the area. Evaluation also includes determining how monitoring will be performed by employees and if any respiratory protection is required. Additional protective equipment may include head protection, retrieval systems or self-contained or airline supply breathing apparatus.

2) Control - This step involves the design of a confined space area. Industries with a permit-required confined space may want to consider controlling the space by changing its design, if possible. For example, a company could add ventilation to improve air quality in spaces that contain hazardous gases.

3) Monitoring - Ongoing monitoring is needed to assess the atmospheric quality for workers in confined spaces. Through monitoring, industries can verify the results of their initial evaluations to ensure worker protection.

Monitoring shall be conducted in the order listed:

1) Measure oxygen deficiencies. OSHA's standards call for a minimum oxygen (O_2) level of 19.5% by volume and a maximum of oxygen (O_2) level 23.5%.

2) Measure combustible gases. OSHA standards state that employees must not enter a confined space containing more than 10% of the lower explosive limit (LEL). Note that for combustible gases to cause an explosion, the vapors must be within the limits of the LEL and the upper explosive limit (UEL).

NOTE: Even if a combustible level is below the 10% LEL, the combustible gas can still present a toxic hazard. To help ensure a combustible gas measurement is correct, it is important to take oxygen measurements first, since low levels of oxygen, below approximately 10% by volume, can cause erroneous combustible gas readings. This level is far below what are safe atmospheric conditions for human life.

Safety equipment needed for confined space entry may include the following:

a) Confined Space Entry Permit
b) Oxygen Deficiency Meter (Gastec)
c) Hardhat with Flashlight
d) Ladder (folding)
e) **Tripod with recovery system, Body** Harness and Safety Line
f) Propane powered blower and ventilation duct work

Safety procedures before entering a confined space:

1) Check oxygen (O_2), carbon monoxide (CO), lower explosive limit levels (LEL) and hydrogen sulfide (H_2S) in the confined space by lowering the meter or sampling tube as low as possible to the bottom of the space.

2) Record in a field book and on the Confined Space Entry Permit form.

Record: Time, Readings: % Oxygen _____; % LEL ____; carbon monoxide _____ PPM; and hydrogen sulfide _____ PPM;
If % LEL and carbon monoxide values are 0.0, record 0.

3) Remove sampling tube from the confined space, take a reading in ambient air and record values.
4) One person is to remain out of the confined space (attendant) at all times to observe and watch the person(s) (entrant) working in the confined space.

5) Instrument (oxygen meter) is to be left operating while entrant(s) is(are) in the confined space.
6) If a problem arises, the person(s) working in the confined space must leave immediately.

7) If work has ceased within the confined space for more than 15 minutes, repeat Steps 1 through 3 above to insure that no harmful gases/vapors have collected in the confined space before entering again.

8) At the end of the work shift, submit a copy of the air monitoring test information and Confined Space Entry Permit to the HSS and/or HSS.

NOTE: For confined space entry work conducted at a facility that has a confined space entry program, the HSS shall insure compliance with that program.

APPENDIX J

NY DIG SAFELY

Confirmation No._____
Date_____
Time_____
Person Called_____

NY Dig Safely

These companies shall be called in case of an **EMERGENCY. DO NOT CALL,** NY Dig Safely. NY Dig Safely may dictate additional and/or different utility companies than listed. The list below is intended as guidance only.

UTILITY COMPANY	
ELECTRIC COMPANY	
TELEPHONE	
GAS	
CABLE TV	
LOCAL WATER AND SEWER	
Local Water Co.	
Municipal Depart. Of Public Works	
On-Site Utility Clearance	

APPENDIX K

MEDICAL SURVEILLANCE PROGRAM
MEDICAL DATA SHEET

MEDICAL SURVEILLANCE PROGRAM

Federal regulations and F&O policy require all employees who participate in field activities in situations where there is a potential exposure to hazardous materials, with or without a respirator, 30 days or more per year must undergo physical examinations, including a base and termination exam. At a minimum, the physical exam complies with the requirements of OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.

The following tests are performed under the supervision of a licensed physician:

a) Physical exam
b) Hearing (base and as needed)
c) Chest x-ray (base and as deemed necessary by the attending physician)
d) Electrocardiogram (base and as needed)
e) Pulmonary function (base and as needed)
f) Urine analysis
g) Complete blood count

In the event F&O personnel are exposed to hazardous constituents, the person(s) would immediately go through the necessary exams for those particular constituents. An arranged physical exam pursuant to OSHA 29 CFR 1910.120 program has been developed between F&O and A medical data sheet, attached, must be completed by all company field personnel prior to working on-site. One copy of the form should be kept by the HSS, and a second copy by the HSS. Field personnel must be informed of the location of the medical data sheet while working on-site. Copies of employee physical exam reports are maintained at F&O by the HSM CorpCare Occupational Health Center, an affiliate of Manchester Memorial Hospital, located in Manchester, Connecticut.

MEDICAL DATA SHEET

This brief Medical Data Sheet will be completed by all on-site personnel and kept at the site during field operations. This data sheet must accompany personnel when medical assistance is needed or if transport to hospital facilities is required.

PROJECT NAME: _____

PROJECT LOCATION: _____

NAME: _____
HOME TELEPHONE: _____
ADDRESS: _____
AGE: _____
HEIGHT: _____ WEIGHT: _____

IN CASE OF EMERGENCY, NOTIFY:

SPOUSE OR FAMILY CONTACT: _____
PHONE: _____
SPOUSE OR FAMILY CONTACT: _____
PHONE: _____

ALLERGIES INCLUDING PRESCRIPTION MEDICATION: _____
_____

PARTICULAR SENSITIVITIES: _____
_____

DO YOU WEAR CONTACTS: _____

ANY PREVIOUS ILLNESSES OR EXPOSURE TO HAZARDS CHEMICALS (EXPLAIN):
_____
_____

PERSONAL PHYSICIAN:
NAME: _____
PHONE: _____
ADDRESS: _____
_____

I am the individual described above:

_____ _____
Signature Date