TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

REMEDIAL ACTION –
COMMUNITY AIR MONITORING PLAN

AUGUST 2006

Prepared For:

Town of Oyster Bay
Department of Public Works

H2MGROUP

HOLZMACHER, McLENDON & MURRELL, P.C.
575 Broad Hollow Road
Melville, New York 11747-5076

Engineers • Architects • Scientists • Planners • Surveyors

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COMMUNITY AIR MONITORING PLAN

1.0 OBJECTIVE

The intent and objective of environmental/ambient air monitoring during this project is to monitor air quality during soil excavation activities at Bethpage Community Park, Bethpage, New York in order to provide a measure of protection for the community from potential airborne contaminant releases as a result of remedial work activities. Air monitoring for Volatile Organic Compounds (VOCs) and particulates (particulate matter less than 10 microns in size) (PM-10) will be conducted upwind of work areas (exclusion zone) to establish background conditions and downwind of the exclusion zone to monitor possible contaminant migration. Environmental air monitoring and observations of visible emissions during excavation activities will be performed according to methods contained in this specification.

2.0 AIR MONITORING METHODOLOGY

2.1 Daily Monitoring Guidelines

Air monitoring will be performed continually at the site for the duration of the remediation project whenever site activity involves ground intrusive activity, which as outlined in the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (attached as Appendix A), is defined to include, but not limited to soil/waste excavation and handling, trenching or test pits and the installation of soil borings or monitoring wells. For the remedial project at Bethpage Community Park, intrusive activity shall include site clearing (i.e., overburden removal), soil excavation, soil handling or any activity with the potential to emit VOCs or PM-10.

Prior to each days work, the environmental consultant will enter the exclusion zone(s) to identify areas of high emission potential, i.e., areas of excavation, soil handling, etc., and

to collect temperature and wind direction readings. Once wind direction and areas of high emission potential have been established, the environmental consultant will set up the upwind and downwind monitoring equipment. At this point, collection of real-time readings for VOCs and particulates will be initiated at both the upwind and downwind monitoring locations. Depending on the planned daily site work, up to two downwind monitoring stations will be utilized. Site work may commence after air monitoring has been initiated.

Once excavation work begins, the environmental consultant will evaluate the work areas for visible particulates in the air and suppression measures being applied by the excavation contractor. This is in addition to the mechanical and regular data logging of VOC and particulate levels. Based on the air monitoring results, the environmental consultant may order a stoppage of the work or require modified work practices to reduce emissions.

Periodically throughout the day the location of excavation work or the general wind direction may change. When this occurs a new exclusion zone evaluation must be conducted. This would include an evaluation of wind direction in order to establish upwind and downwind directions, and continuous monitoring of VOCs and particulates in upwind and downwind locations.

2.2 Air Sampling Methodology and Equipment

Air Monitoring for VOCS and particulates will be performed at upwind and downwind locations. One upwind and two downwind monitoring stations will be employed, as necessary, to provide sufficient coverage of intrusive activities that have the potential to emit volatile organics or dust. Each monitoring station will comprise real-time air monitoring instruments. The specific air monitoring equipment is summarized in Table 2.2.1. The equipment, which will be field calibrated prior to each days use, will be capable of calculating 15-minute running average or less concentrations for comparison to appropriate action levels.

Table 2.2.1. Air Monitoring Equipment

Analyte	Sampling Method	Duration	Comments
VOCs	MultiRAE Plus PID	Continuously, upwind and downwind of exclusion zone during work hours.	Real Time Analysis
Particulates (PM-10)	TSI DustTRAK Aerosol Monitor	Continuously, upwind and downwind of exclusion zone during work hours.	Real Time Analysis

As shown in Table 2.2.1, each air monitoring station will include a MultiRAE Plus PhotoIonization Detector (PID) and Multigas Meter for VOCs and TSI DustTRAK Aerosol Monitor for particulates. The upwind monitoring station will also include a Davis Vantage Pro2 Weather Station to record wind speed, wind direction, rainfall, temperature and humidity. All monitoring instruments will be connected with radiofrequency (RF) transmitters (Campbell Scientific CR206). An RF receiver will be located in the on-site field office trailer connected with a computer running Campbell Scientific LoggerNet 3.3 software for datalogging.

3.0 AIR MONITORING DATA EVALUATION

3.1 Air Quality Action Levels and Responses

Action levels for VOC concentrations will be based on the NYSDOH Generic Community Air Monitoring Plan. The initial threshold for VOC action is 5 parts per million (ppm). If the ambient air concentration of total VOCs at the downwind perimeter of the exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases below 5ppm over background, work activities can resume with continued monitoring.

If total VOC levels at the downwind perimeter of the work area of exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must

be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After this, work activities can resume provided that the total VOC concentration downwind of the exclusion zone is below 5 ppm over background for the 15-minute average. If the VOC level is above 25 ppm at the downwind monitoring location, activities will be shut down.

Particulate (PM-10) concentrations will also be compared to Action levels and responded to, as outlined in the (NYSDOH) Generic Community Air Monitoring Plan. The initial threshold for particulate/dust action is 100 micrograms per cubic meter (ug/m^3). If the downwind particulate level is 100 ug/m^3 greater than the background (upwind) level for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind particulate levels do not exceed 150 ug/m^3 above the upwind level and provided that no visible dust is migrating form the work area.

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

All 15-minute averages will be datalogged at one-minute intervals and maintained for review by New York State Department of Environmental Conservation (NYSDEC) and NYSDOH personnel.

3.2 Notification

The NYSDEC will be promptly notified prior to any modification of the CAMP and of any corrective actions required for CAMP compliance, and VOC and particulate monitoring.

APPENDIX A

New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan

New York State Department of Health
Generic Community Air Monitoring Plan

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

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

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

Community Air Monitoring Plan

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

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate

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

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

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

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

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

Particulate Monitoring, Response Levels, and Actions

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

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

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

All readings must be recorded and be available for State (DEC and DOH) personnel to review.