

# C.T. MALE ASSOCIATES

Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.

50 Century Hill Drive, Latham, NY 12110  
518.786.7400 FAX 518.786.7299 [ctmale@ctmale.com](mailto:ctmale@ctmale.com)



April 30, 2018  
(Revised June 7, 2018)

*\*Via Email*

Mr. Scott Deyette  
Project Manager  
New York State Department of Environmental Conservation  
Remedial Bureau C  
Division of Environmental Remediation  
625 Broadway, 11th Floor  
Albany, NY 12233-7014  
[scott.deyette@dec.ny.gov](mailto:scott.deyette@dec.ny.gov)

**RE: *Interim Remedial Measures Work Plan  
Cottage Place Gardens Phase 5 Parcel Site  
City of Yonkers, Westchester County  
BCP Site ID No.: C360161  
C.T. Male Project No.: 16.6669***

Dear Mr. Deyette:

This Interim Remedial Measures (IRM) Work Plan has been prepared by C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture, & Geology D.P.C. (C.T. Male) on behalf of 178 Warburton Limited Partnership. This work plan is applicable to non-emergency IRMs that are contemplated within western portions of the Cottage Place Gardens Phase 5 Parcel addressed as 178 Warburton Avenue (the Site). The Site currently contains a vacant, slab on grade single-story concrete block building that was formerly used for automotive repair. The remainder of the Site is covered with gravel and vegetation. A Site Location and Site Features Map are included in Attachment A.

178 Warburton Limited Partnership intends to demolish the Site building and apply temporary asphalt binder to the portion of the Cottage Place Gardens Phase 5 Parcel addressed as 178 Warburton Avenue. The building slab will remain in place. Application of the temporary asphalt binder will be for the purpose of providing a stable base for the temporary storage of modules that will be used for the construction of the multi-family building within the Cottage Place Gardens Phase 3 Parcel. It is anticipated that the proposed work will be completed prior to the initiation of the remedial action within this portion of the Site. The temporary asphalt binder will be removed as necessary to accommodate remedial actions, once determined, for the Cottage Place Gardens Phase 5 Parcel.

# C.T. MALE ASSOCIATES

*April 30, 2018*

*(Revised June 7, 2018)*

*Mr. Scott Deyette*

*Page - 2*

The IRMs contemplated for the Site include 1) profiling and disposal of the contents of a tank, drums and containers located in and around the building, 2) possible replacement and decommissioning of monitoring wells, and 3) community air monitoring during potential ground intrusive activities that may include disturbance of soils during grading to level the Site for application of asphalt binder, excavations to abandon/shut-off existing utilities, and building demolition. Each IRM is discussed in more detail in the following sections.

## **Contents of Aboveground Tank, Drums and Containers**

One (1) 275-gallon heating oil tank, five (5) 55-gallon drums and approximately 10 containers ranging in size from one (1) quart to five (5) gallons are located within and at the immediate exterior of the Site building. An environmental contractor will be retained to profile, characterize and transport the contents of the tank, drums and containers to an off-site permitted disposal/reclamation facility. The environmental contractor will also inspect the building and grounds for any other vessels whose contents are of environmental concern that may require profiling, characterization and transportation for off-site disposal. Once the contents have been removed, the empty tank, drums and applicable containers will be disposed of off-site as solid waste and/or disposed of at a recycling facility. The profiling and characterization of any material in the tank, drums and containers will be conducted prior to the disturbance and/or moving of these items. Results of the characterization and the proposed disposal facilities will be provided to the DEC Project Manager for review and approval prior to removal from the Site.

An inspection will be conducted following the removal of the tank, drums and applicable containers to document the integrity of the surface underneath these vessels, and any potential field evidence of contamination in the surface associated with the vessels (e.g. heavy staining in the concrete slab or adjacent floor drain, etc.). Any pooled liquids observed on the building's concrete slab that originate from the vessels will be cleaned up by the environmental contractor using speedi-dry, sorbent pads or other means and disposed of off-site with the other wastes. Any staining that remains on the concrete slab and/or any impacts observed in the floor drain will be addressed during the remedial action.

An inventory documenting the size, type, condition, and content of any tank, drums or containers encountered at the Site (inclusive of photographs) and associated field and/or analytical data will be provided to the Remedial Engineer (RE) prior to off-site disposal for review. In addition, disposal documentation will be provided to the RE for review and inclusion in the Construction Completion Report (CCR).

# C.T. MALE ASSOCIATES

*April 30, 2018  
(Revised June 7, 2018)  
Mr. Scott Deyette  
Page - 3*

## **Demolition of the Site Building**

The Site building will be demolished as a component of this IRM in order to facilitate access to underlying fill/soil that will be required to be remediated during the remedial action. Only the aboveground portions of the building will be demolished and the building slab will remain. The building slab will be removed as necessary to address future remedial actions, once determined. In the event that any components of the building come into contact with the Site's soils during demolition, the soils will be removed from these components and returned in-kind to the area where the building components came into contact with them.

## **Site Re-Grading**

The Site's soils may be re-graded to level the Site for application of asphalt binder and during excavations to abandon/shut-off existing utilities to enable the building demolition. Any stained soil encountered during re-grading and/or excavations will be subjectively assessed employing visual, organoleptic and PID headspace analyses. If the soils appear impacted employing these methods, the soils will be placed in DOT approved 55-gallon drums that will be staged in a secure location pending characterization and off-site disposal at a permitted disposal facility.

## **Monitoring Wells**

There are five (5) permanent monitoring wells within the Site that were installed in 2017 during a Phase II Environmental Site Assessment (ESA) (4 wells) and the Remedial Investigation (1 well). The wells are protected by flush-mounted curb boxes. A temporary four (4) inch diameter monitoring well may also be present within the western portion of the Site. The temporary well was installed during a site investigation that was undertaken pursuant to the closure by removal of several underground tanks in 2008/2009.

Any monitoring wells that are damaged during the IRM will be replaced in-kind. Any damaged wells will be decommissioned in accordance with the NYS Department of Environmental Conservation (NYSDEC) CP-43: Groundwater Monitoring Well Decommissioning Policy (Date Issued: November 3, 2009). If the proposed building demolition, surface grading, paving and utility excavation activities will not impact the wells, the wells will be decommissioned as a function of the Site's remedial action.

# C.T. MALE ASSOCIATES

*April 30, 2018*

*(Revised June 7, 2018)*

*Mr. Scott Deyette*

*Page - 4*

## **Community Air Monitoring**

The Site's soils may be disturbed during grading to level the Site for application of asphalt binder, during excavations to abandon/shut-off existing utilities, and during building demolition.

A Community Air Monitoring Plan (CAMP) will be followed during ground intrusive activities. The intent of the CAMP 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. The CAMP is not intended for use in establishing action levels for worker respiratory protection. The CAMP will monitor the air for dust and volatile organic compound (VOC) vapors at the downwind perimeter of the work area. In areas where soil disturbances will take place within 20 feet of occupied buildings, VOC and particulate monitoring will be conducted in accordance with the Special Requirements CAMP. The CAMP and Special Requirements CAMP are included in Attachment B.

### Particulate Monitoring

Two (2) real-time particulate monitors capable of continuously measuring concentrations of particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) will be utilized. The instruments will be placed inside environmental enclosures at temporary monitoring stations based on the prevailing wind direction each work day, one (1) upwind and one (1) downwind of the designated work areas. If the remedial action is taking place within 20 feet of occupied structures, monitoring will be conducted opposite the walls of the occupied structures or next to the structures' air intake vents.

Each particulate monitor will be equipped with a telemetry unit capable of transmitting real-time particulate data to the Project Manager and/or field representative. The particulate monitoring instruments will be capable of displaying and transmitting the short term exposure limit (STEL) or 15 minute averaging period, which will be compared to the NYSDOH Generic and Special Requirements Community Air Monitoring Plan action levels for particulates, as listed below. The instruments are programmed to alarm at preset action levels. At the end of each day, the readings for each instrument will be downloaded to a PC and retained for future reference and reporting.

- If the downwind and/or occupied structures PM-10 particulate level is 100 micrograms per cubic meter (mcg/m<sup>3</sup>) 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

## C.T. MALE ASSOCIATES

*April 30, 2018*

*(Revised June 7, 2018)*

*Mr. Scott Deyette*

*Page - 5*

techniques provided that the downwind and/or occupied structures PM-10 particulate levels do not exceed 150 mcg/m<sup>3</sup> above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, the downwind and/or occupied structures PM-10 particulate levels are greater than 150 mcg/m<sup>3</sup> 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 and/or occupied structures PM-10 particulate concentration to within 150 mcg/m<sup>3</sup> of the upwind level and in preventing visible dust migration.

In the event of poor weather such as heavy rain, particulate monitoring will not be performed for protection of instrumentation. These weather conditions would limit the effectiveness of the sensitive monitoring equipment and likely suppress particulate generation. Work activities will be halted if fugitive dust migration is visually observed for a sustained period of time during poor weather conditions.

### Volatile Organic Compound Air Monitoring

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work areas and/or occupied structures with a MiniRAE 3000 VOC monitor or equal. The VOC monitor will be placed in the downwind and/or occupied structures environmental enclosure containing a particulate monitor. The downwind VOC monitor will be equipped with a telemetry unit capable of transmitting real-time VOC data to the Project Manager and/or field representative. The VOC monitoring instrument will be capable of displaying and transmitting the short term exposure limit (STEL) or 15 minute averaging period, which will be compared to the NYSDOH Generic and Special Requirements CAMP action levels for VOCs, as listed below. The downwind and/or occupied structures VOC STEL readings will be downloaded to a PC and retained for future reference and reporting.

Upwind VOC STEL concentrations will be measured at the start of the work day and periodically thereafter employing a handheld MiniRae 3000 VOC monitor to evaluate the Site's background conditions. Background VOC readings will be obtained in the occupied structures prior to commencement of the planned work. Any unusual background readings will be discussed with NYSDOH prior to commencement of the work. The upwind VOC STEL readings will be manually recorded for future reference and reporting.

- If the ambient air concentration of total organic vapors opposite the walls of occupied structures exceeds 1 ppm above background for the 15-minute average, work activities

# C.T. MALE ASSOCIATES

*April 30, 2018*

*(Revised June 7, 2018)*

*Mr. Scott Deyette*

*Page - 6*

will be temporarily halted and monitoring will be conducted within the occupied structure.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone (not including the occupied structures) 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 (not including the occupied structures) 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. Work activities will then be evaluated to determine the source of the organic vapors and the engineering controls required to reduce/eliminate the organic vapors.

## **Health and Safety**

C.T. Male personnel involved in the IRM field work will adhere to the June 2017 (Revised January 2018) Health and Safety Plan that was developed by C.T. Male for the Remedial Investigation of the Cottage Place Gardens Phase 5 Parcel Site. The environmental contractor(s) will be responsible for adhering to their own site specific health and safety plans.

## **Reporting**

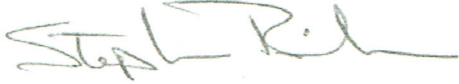
The summary and results of the IRMs will be presented in a CCR in accordance with Section 5.8 of DER-10. The CCR will be certified by a New York State Professional Engineer and will be included as an Exhibit to the Remedial Investigation (RI) Report.

Should you have any questions regarding this IRM Work Plan, please do not hesitate to contact the undersigned at [s.bieber@ctmale.com](mailto:s.bieber@ctmale.com) and/or 518-860-9737.

# C.T. MALE ASSOCIATES

April 30, 2018  
(Revised June 7, 2018)  
Mr. Scott Deyette  
Page - 7

Respectfully submitted,  
C.T. MALE ASSOCIATES



Stephen Bieber, CHMM  
Qualified Environmental Professional

I, Rosaura Andújar-McNeil, P.E., certify that I am a NYS registered professional engineer and that this Interim Remedial Measures Work Plan was prepared in accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) dated May 3, 2010.

097844  
NYS Professional Engineer #

06/21/2018  
Date

Rosaura Andújar-McNeil  
Signature

## Attachments

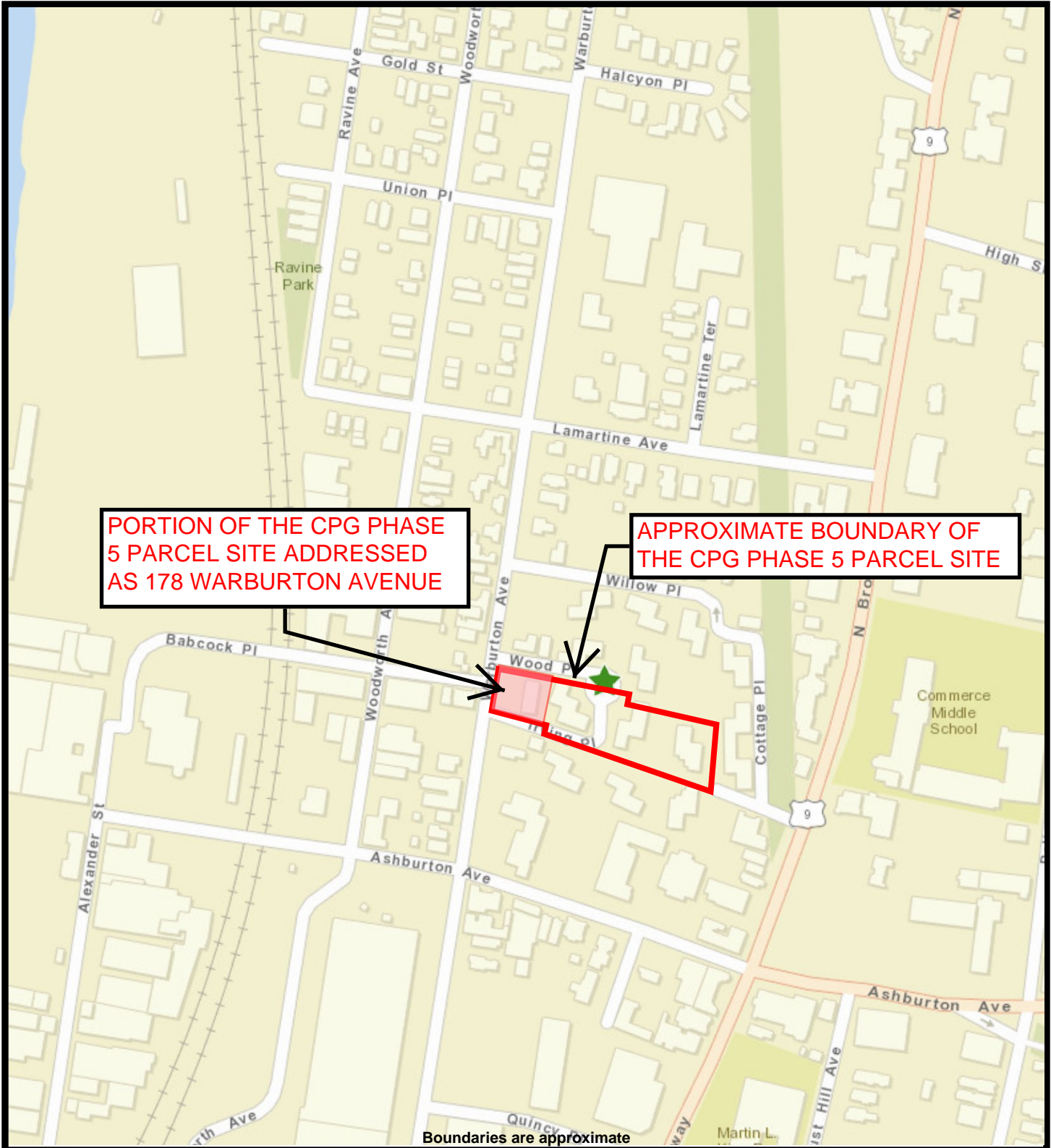
ec: Sue McCann, The Community Builders, Inc.  
Jesse Batus, The Community Builders, Inc.  
Lauren Hauck, The Community Builders, Inc.  
Eric Lehto, The Community Builders, Inc.  
Kirk Moline, C.T. Male Associates  
Rosaura Andújar-McNeil, P.E., C.T. Male Associates



C.T. MALE ASSOCIATES

**ATTACHMENT A**  
**FIGURES**





Not to Scale

Figure 1

SITE LOCATION MAP  
COTTAGE PLACE GARDENS  
PHASE 5 PARCEL  
WESTCHESTER COUNTY, NEW YORK







C.T. MALE ASSOCIATES

**ATTACHMENT B**

**CAMP & SPECIAL REQUIREMENTS CAMP**

## Appendix 1A

### New York State Department of Health Generic Community Air Monitoring Plan

#### Overview

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

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

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

#### Community Air Monitoring Plan

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

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

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

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

#### VOC Monitoring, Response Levels, and Actions

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

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

#### Particulate Monitoring, Response Levels, and Actions

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

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) 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  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ mcg}/\text{m}^3$  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  $150 \text{ mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

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

December 2009

## **SPECIAL REQUIREMENTS COMMUNITY AIR MONITORING PROGRAM**

### **Special Requirements for Work within 20 feet of Potentially Exposed Individuals or Structures**

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are likely to be lower, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m<sup>3</sup>, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m<sup>3</sup> or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary for each site.

### **Special Requirements for Indoor Work with Co-Located Residences or Facilities**

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential

vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evening) when building occupancy is at a minimum.