



## **Appendix H**

Health and Safety Plan



Imagine the result

**General Motors LLC**

**Appendix F – Site-Specific Health and Safety Plan**

Former General Motors Assembly Plant  
West Parcel Site  
Sleepy Hollow, New York  
NYSDEC Site No. C360070

December 2013

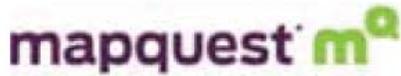
## Emergency Information

**Site Address:** 199 Beekman Avenue  
Sleepy Hollow, NY 12996

|   |                      |
|---|----------------------|
| Local Police -Sleepy Hollow –   | 911 and 914.631.0800 |
| Local Ambulance/EMS –   | 911 and 914.631.1962 |
| Local Fire Department – Sleepy Hollow   | 911 and 914.366.5119 |
| Local Hospital – Phelps Memorial Hospital<br>(Emergency Room)   | 914.366.3570         |
| Local Weather Data  | weather.com          |
| Poison Control (New York Regional)  | 800.222.1222         |
| NYS Spill Hotline (all reportable spills in New York)   | 800.457.7362         |
| National Response Center (all spills in reportable quantities,<br>including spills to surface waters) | 800.424.8802         |
| Underground Utilities Notification Service  | 811 or 800-962-7962  |
| Project-Specific Health and Safety Administrator ( <b>specify</b> )                                   |                      |

## Route to Phelps Memorial Hospital

701 N. Broadway Sleepy Hollow, NY 10591



Trip to:

**Phelps Memorial Medical Center**

**701 N Broadway**

Sleepy Hollow, NY 10591

9143663000Emergency9143663590

1.93 miles / 5 minutes

Notes



**199 Beekman Ave, Sleepy Hollow, NY 10591-2403**



1. Start out going northeast on Beekman Ave toward Clinton St. [Map](#)

**0.3 Mi**

*0.3 Mi Total*



2. Turn left onto Pocantico St. [Map](#)

**0.3 Mi**

*0.6 Mi Total*



3. Turn left onto US-9 / N Broadway. [Map](#)

**1.4 Mi**

*1.9 Mi Total*



4. 701 N BROADWAY is on the left. [Map](#)

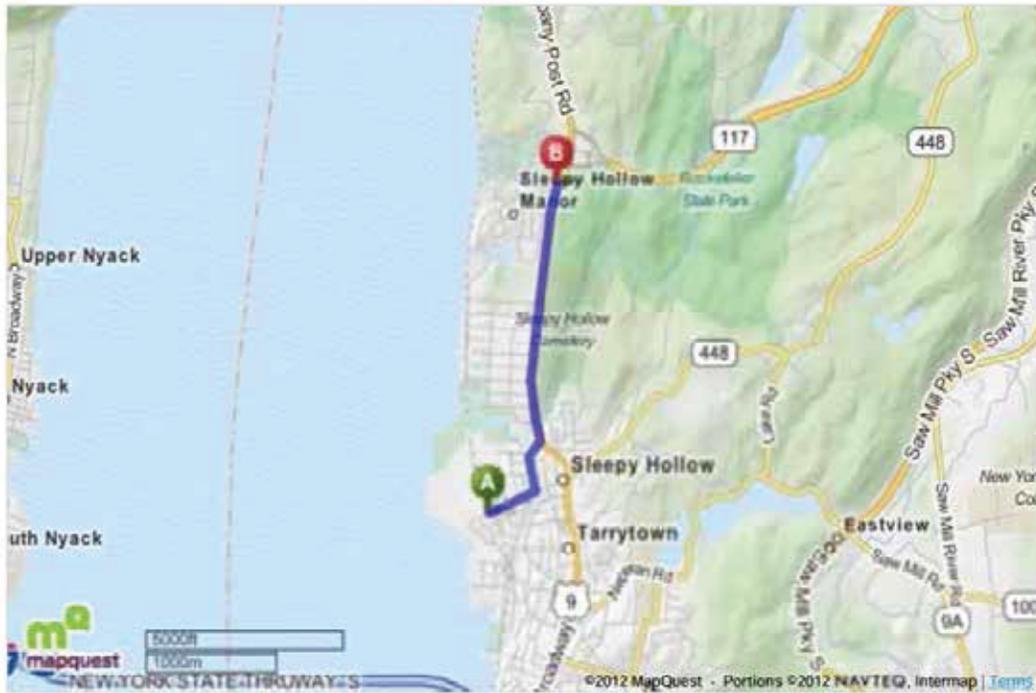


**Phelps Memorial Medical Center**

**701 N Broadway, Sleepy Hollow, NY 10591**

9143663000Emergency9143663590

Total Travel Estimate: 1.93 miles - about 5 minutes



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**General Information**

**Site Type: (Check as many as applicable)**

|   |          |   |              |   |             |   |            |  |                 |
|---|----------|---|--------------|---|-------------|---|------------|--|-----------------|
| X   | Active   |   | Secure       | X | Industrial  |   | Landfill   |  | Service station |
|   | Inactive | X | Unsecured    | X | Commercial  |   | Well field |  | Water work      |
|   |          |   | Uncontrolled | X | Residential | X | Railroad   |  | Undeveloped     |
| Other specify: The Hudson River borders the West parcel of the Site. Easements exist for sewer pipelines that cross the Site. |          |   |              |   |             |   |            |  |                 |

**Surrounding Area and Topography (select one):**

- Surrounding area and topography are presented in the Site Management Plan
- Surrounding area and topography (*briefly describe*):

**Site Background (select one):**

- Site background is presented in the Site Management Plan
- Site background (*briefly describe*):

**Project Tasks**

The following tasks are identified for this project:

*Examples: "Drilling/soil sampling", "Surveying", "Inspections"*

- 1 Driving
- 2 Construction Observation
- 3 Surveying
- 4 Earthwork/Excavation
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_

| Supporting Document(s)              |                                     |                          |                          |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| JLA                                 | Field H&S Handbook                  | STAR Plan or TCP         | Other (specify below)    |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |

Subcontractor supplied H&S information is attached  
 Print any relevant JLAs for this scope of work and attach.  
 FHSB and/or applicable STAR Plan/TCP are required to be on site even if not referenced above.  
 Other (state document and if attached):

Utility clearance required?

**Roles and Responsibilities**

| Name    | Role  | Additional Responsibilities |
|---------|-------|-----------------------------|
| 1 _____ | _____ | _____                       |
| 2 _____ | _____ | _____                       |
| 3 _____ | _____ | _____                       |
| 4 _____ | _____ | _____                       |
| 5 _____ | _____ | _____                       |
| 6 _____ | _____ | _____                       |

**Training**

|   |  |
|---|--|
| <p><i>All ARCADIS employees are required to have the following training:</i></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> 40 hr HAZWOPER w current refresh.</li> <li><input type="checkbox"/> 24 hr HAZWOPER</li> <li><input type="checkbox"/> 10 hr Construction</li> <li><input type="checkbox"/> HazMat #1 (Ground/Air/MOT)</li> <li><input type="checkbox"/> HazMat #4 (MOT)</li> <li><input type="checkbox"/> HazCom/Emergency Action Plan</li> <li><input type="checkbox"/> LPS (classroom); or</li> <li><input checked="" type="checkbox"/> LPS (on-line)</li> <li><input checked="" type="checkbox"/> PPE</li> <li><input type="checkbox"/> Respiratory protection</li> <li><input type="checkbox"/> Smith System (hands on)</li> <li><input checked="" type="checkbox"/> Smith System (on-line)</li> <li><input type="checkbox"/> OTS/eRailsafe</li> <li><input type="checkbox"/> Client specific:</li> <li><input type="checkbox"/> Other: _____</li> </ul> | <p><i>Selected ARCADIS employees are required to have the following additional training:</i></p> <p style="text-align: right;">Names or Numbers from above</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Not applicable</li> <li><input checked="" type="checkbox"/> First aid/CPR/BBP</li> <li><input type="checkbox"/> 30 hr Construction _____</li> <li><input type="checkbox"/> 10 hr Construction _____</li> <li><input type="checkbox"/> HazMat #1 (Gr./Air/MOT) _____</li> <li><input type="checkbox"/> HazMat #4 (MOT) _____</li> <li><input type="checkbox"/> Confined space entrant _____</li> <li><input type="checkbox"/> Confined space rescue _____</li> <li><input type="checkbox"/> Excavation CP _____</li> <li><input type="checkbox"/> Electrical (NFPA 70E) _____</li> <li><input type="checkbox"/> Lockout/Tagout _____</li> <li><input type="checkbox"/> LPS (classroom) _____</li> <li><input type="checkbox"/> OTS/eRailsafe _____</li> <li><input checked="" type="checkbox"/> Smith Sys. (hands on) _____</li> <li><input type="checkbox"/> Boating safety _____</li> <li><input type="checkbox"/> Other: _____</li> </ul> |
|---|--|

ARCADIS subcontractors are also required to have the above training applicable to all employees

## Hazard Analysis

Rank the hazards using HIGH (H), MEDIUM (M) or LOW (L) based on current site knowledge. For hazards that are not applicable, leave blank.

Rank the hazards using the chart below:

|          | Consequence     |   | Probability |        |            |        |          |
|----------|-----------------|---|-------------|--------|------------|--------|----------|
|          | Property Damage | Injury  | Frequent    | Likely | Occasional | Seldom | Unlikely |
| Severity | > \$100,000     | Fatality  | H           | H      | H          | H      | M        |
|          | > \$10,000      | Injury Requiring Hospitalization                    | H           | H      | H          | M      | L        |
|          | > \$1000        | Injury Requiring Medical Treatment Beyond First Aid | H           | M      | M          | L      | L        |
|          | < \$1000        | Injury Requiring First Aid                          | M           | L      | L          | L      | L        |

Identify and rank relevant hazards expected to be encountered on this project:

|                    |                         |                        |                                   |                           |                          |
|--------------------|-------------------------|------------------------|-----------------------------------|---------------------------|--------------------------|
| <b>Biological</b>  |                         | <b>Mechanical</b>      |                                   | <b>Chemical/Radiation</b> |                          |
|                    | Biting/stinging insects |                        | Cuts on equipment/tools           |                           | Not applicable           |
|                    | Biting animals          |                        | Pinch points on equipment         |                           | General                  |
|                    | Poisonous plants        |                        | Burns from equipment              |                           | Dusts, toxic             |
|                    | Phys. damaging plants   |                        | Struck by equipment               |                           | Dusts, nuisance          |
|                    |                         |                        |                                   |                           | Chemicals, ARCADIS use   |
| <b>Driving</b>     |                         | <b>Motion</b>          |                                   |                           |                          |
|                    | Night driving           |                        | Lifting/awkward body positions    |                           | Chemicals, corrosive     |
|                    | Off-road driving        |                        | Struck by vehicle/traffic         |                           | Chemicals, explosive     |
|                    | Urban driving           |                        |                                   |                           | Chemicals, flammable     |
|                    | All terrain vehicle     | <b>Personal Safety</b> |                                   |                           | Chemicals, oxidizing     |
|                    | Boat                    |                        | Working late/night                |                           | Chemicals, toxic         |
|                    |                         |                        | Working alone                     |                           | Chemicals, reactive      |
|                    |                         |                        | High crime area                   |                           | Radiation, ionizing      |
| <b>Electrical</b>  |                         |                        |                                   |                           |                          |
|                    | Wet environments        |                        |                                   |                           | Radiation, non-ionizing  |
|                    | Electrical panels       | <b>Pressure</b>        |                                   | <b>Compound Specific</b>  |                          |
|                    | Electric utilities      |                        | Utilities (gas, water, etc)       |                           | PCBs                     |
|                    | Electric power tools    |                        | Compressed gas cylinders          |                           |                          |
|                    |                         |                        | Compressed air/aerosols           |                           | Chromium                 |
| <b>Environment</b> |                         |                        |                                   |                           |                          |
|                    | Heat                    |                        | Hydraulic systems                 |                           | Copper                   |
|                    | Cold                    | <b>Sound</b>           |                                   |                           | Lead                     |
|                    | Lightning               |                        | Equipment noise                   |                           | Mercury                  |
|                    | Inclement weather       |                        | Tool noise                        | <b>Gravity</b>            |                          |
|                    | High wind               |                        | Traffic noise (vehicle/train/etc) |                           | Slip, trip, fall         |
|                    |                         |                        |                                   |                           | Fall from height         |
|                    |                         |                        |                                   |                           | Ladders or scaffolds     |
|                    |                         |                        |                                   |                           | Struck by falling object |

**Hazard Communication (HazCom)**

List the chemicals anticipated to be used on this project subject to HazCom requirements.

| List the chemicals anticipated to be used on project subject to HazCom requirements. |                   |         |                          |                              |          |
|--|-------------------|---------|--------------------------|------------------------------|----------|
| (Modify quantities as needed)  |                   |         |                          |                              |          |
| Acids/Bases  |                   | Qty     | Decontamination          |                              | Qty      |
| <input type="checkbox"/>   | Not applicable    |         | <input type="checkbox"/> | Not applicable               |          |
| <input type="checkbox"/>   | Hydrochloric acid | <500 ml | <input type="checkbox"/> | Alconox                      | ≤ 5 lbs  |
| <input type="checkbox"/>   | Nitric acid       | <500 ml | <input type="checkbox"/> | Liquinox                     | ≤ 1 gal  |
| <input type="checkbox"/>   | Sulfuric acid     | <500 ml | <input type="checkbox"/> | Acetone                      | ≤ 1 gal  |
| <input type="checkbox"/>   | Sodium hydroxide  | <500 ml | <input type="checkbox"/> | Methanol                     | ≤ 1 gal  |
| <input type="checkbox"/>   | Zinc acetate      | <500 ml | <input type="checkbox"/> | Hexane                       | ≤ 1 gal  |
| <input type="checkbox"/>   | Ascorbic acid     | <500 ml | <input type="checkbox"/> | Isopropyl alcohol            | ≤ 4 gal  |
| <input type="checkbox"/>   | Acetic acid       | <500 ml | <input type="checkbox"/> | Nitric acid                  | ≤ 1 L    |
| <input type="checkbox"/>   | Other:            |         | <input type="checkbox"/> | Other:                       |          |
| Fuels  |                   | Qty.    | Kits                     |                              | Qty.     |
| <input type="checkbox"/>   | Not applicable    |         | <input type="checkbox"/> | Not applicable               |          |
| <input type="checkbox"/>   | Gasoline          | ≤ 5 gal | <input type="checkbox"/> | Hach (specify):              | 1 kit    |
| <input type="checkbox"/>   | Diesel            | ≤ 5 gal | <input type="checkbox"/> | DTECH (specify):             | 1 kit    |
| <input type="checkbox"/>   | Kerosene          | ≤ 5 gal | <input type="checkbox"/> | EPA 5035 Soil (specify kit): | 1 kit    |
| <input type="checkbox"/>   | Propane           | 1 cyl   | <input type="checkbox"/> | Other:                       |          |
| <input type="checkbox"/>   | Other:            |         |                          |                              |          |
| Remediation  |                   | Qty.    | Other:                   |                              | Qty.     |
| <input type="checkbox"/>   | Not applicable    |         | <input type="checkbox"/> | Not applicable               |          |
| <input type="checkbox"/>   | Other:            |         | <input type="checkbox"/> | Spray paint                  | ≤ 6 cans |
| <input type="checkbox"/>   | Other:            |         | <input type="checkbox"/> | Bentonite                    |          |
| <input type="checkbox"/>   | Other:            |         | <input type="checkbox"/> | Concrete patch               |          |
| <input type="checkbox"/>   | Other:            |         | <input type="checkbox"/> | Pipe primer                  | ≤ 1 can  |
|  |                   |         | <input type="checkbox"/> | Mineral spirits              | ≤ 1 gal  |

Material safety data sheets (MSDSs) must be available to field staff. Manufacturer supplied MSDSs are preferred, however, if the manufacturer's MSDS cannot be located, use the source provided below. Indicate below how MSDS information will be provided:

- Not applicable
- Printed copy in company vehicle
- Printed copy in the project trailer/office
- Printed copy attached
- Electronic copy on field computer

Bulk quantities of the following materials will be stored:

Contact the project H&S contact for information in determining code and regulatory requirements associated with bulk storage of materials.

**Monitoring**

Chemical air monitoring is not required for this project.

For projects requiring air monitoring, list the relevant constituents representing a hazard to site workers.

| Constituent                                   | Max. Conc. | TWA   | STEL                              | IDLH                                | LEL/UEL  | VD                          | VP   | IP   |  |
|---|------------|-------|-----------------------------------|-------------------------------------|--|-----------------------------|--|------|--|
|   |            | Units | Units                             | Units                               | Units (%)  | Air=1                       | (mm Hg)  | (eV) |  |
| None  |            | ppm   | -                                 | -                                   | -  |                             |  |      |  |
| None  |            | ppm   | -                                 | -                                   | -  |                             |  |      |  |
| None  |            | ppm   | -                                 | -                                   | -  |                             |  |      |  |
| None  |            | ppm   | -                                 | -                                   | -  |                             |  |      |  |
| None  |            | ppm   | -                                 | -                                   | -  |                             |  |      |  |
| None  |            | ppm   | -                                 | -                                   | -  |                             |  |      |  |
| Notes: TWAs are ACGIH 8 hr-TLVs unless noted. |            |       | p-ppm<br>s- skin<br>r- respirable | m-mg/m3<br>c-ceiling<br>i-inhalable | c2- ceiling (2 hr)<br>"9999" - NA<br>N-NIOSH 10 hr REL | se-sensitizer<br>O-OSHA PEL | #NA" -Constituent is not in database, manually enter information |      |  |

**Monitoring Equipment and General Protocols**

Air monitoring is required for any task or activity where employees have potential exposure to vapors or particulates above the TWA. Action levels below are appropriate for most situations. Contact the project H&S contact for all stop work situations. Check instruments to be used.

*Monitoring Frequency:*

| Instrument  |                             | Actions   |
|---|-----------------------------|---|
| <input type="checkbox"/> Photoionization Detector   | <                           | Continue work   |
|   | -                           | Sustained >5 min. continuous monitor, review eng. controls and PPE, proceed with caution  |
| Lamp (eV):  | >                           | Sustained >5 min. stop work, contact SSO  |
| <input type="checkbox"/> Flame Ionization Detector (FID)                                    | <                           | Continue work   |
|   | -                           | Sustained >5 min. continuous monitor, review eng. controls and PPE, use caution   |
|   | >                           | Sustained >5 min. stop work, contact SSO  |
| <input type="checkbox"/> LEL/O2 Meter   | 0-10% LEL                   | Continue work   |
|   | >10-25% LEL                 | Continuous monitor, review eng. controls, proceed with caution  |
|   | >25% LEL                    | Stop work, evacuate, contact SSO  |
|   | 19.5%-23.5% O2              | Normal, continue work   |
|   | <19.5% O2                   | O2 deficient, stop work, evacuate, cont. SSO  |
|   | >23.5% O2                   | O2 enriched, stop work, evacuate, contact SSO   |
| <input type="checkbox"/> Colorimetric Indicator Tube (CIT)                                  | ≤PEL/TLV                    | Continue work   |
| Compound(s):  | >PEL/TLV                    | Stop work, review eng. controls and PPE, contact SSO  |
| <input type="checkbox"/> Sound Level Meter or Dosimeter                                     | >80 dBA, sustained          | Monitor continuously, continue work   |
|   | >85 dBA, sustained          | Review controls, use hearing protection   |
|   | Result dBA-(NRR-7dBA)>90dBA | Stop work, contact SSO  |
| <input type="checkbox"/> Particulate Monitor (mists, aerosols, dusts in mg/m <sup>3</sup> ) | < 2.5                       | Continue work   |
|   | 2.5 - 5.00                  | Use engineering controls, monitor continuously  |
|   | > 5.00                      | Stop work, review controls, contact SSO   |
| <input type="checkbox"/> Radiation Survey Meter   | Specify:                    | Specify:  |
| <input type="checkbox"/> Other: Visual monitoring for dust                                  | Specify:                    | Specify: If dust is observed, actions will be taken to minimize the visible dust (i.e., modifying construction activities, utilizing a water truck) |

**Personal Protective Equipment (PPE)**

|   |   |  |               |
|---|---|--|---------------|
| Level D or Level D Modified:                |   |  | Specify Type: |
| <input type="checkbox"/> Hard hat           | <input type="checkbox"/> Snake chaps/guards | <input type="checkbox"/> Coveralls:              |               |
| <input type="checkbox"/> Safety glasses     | <input type="checkbox"/> Briar chaps        | <input type="checkbox"/> Apron:                  |               |
| <input type="checkbox"/> Safety goggles     | <input type="checkbox"/> Chainsaw chaps     | <input type="checkbox"/> Chem. resistant gloves: |               |
| <input type="checkbox"/> Face shield        | <input type="checkbox"/> Sturdy boot        | <input type="checkbox"/> Gloves other:           |               |
| <input type="checkbox"/> Hearing protection | <input type="checkbox"/> Steel toe boot     | <input type="checkbox"/> Chemical boot:          |               |
| <input type="checkbox"/> Rain suit          | <input type="checkbox"/> Metatarsal boot    | <input type="checkbox"/> Boot other:             |               |
| <input type="checkbox"/> Other:             |   | <input type="checkbox"/> Traffic vest:           |               |
|   |   | <input type="checkbox"/> Life vest:              |               |

Task specific PPE: A Personal Flotation Device/Life Vest will be required to be worn by workers who are working within 10 feet of the water.

Comments:

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

**Medical Surveillance (check all that apply)**

|  |
|--|
| <input type="checkbox"/> Medical Surveillance is not required for this project.                                  |
| <input type="checkbox"/> HAZWOPER medical surveillance applies to all site workers on the project.               |
| <input type="checkbox"/> HAZWOPER medical surveillance applies to all subcontractors on the project.             |
| <input type="checkbox"/> HAZWOPER medical surveillance applies to all site workers on the project except:        |
| <br>   |
| <input type="checkbox"/> Other medical surveillance required (describe type and who is required to participate): |
| <br>   |
| <input type="checkbox"/> Client drug and/or alcohol testing required.  |

**Hazardous Materials Shipping and Transportation (check all that apply)**

|   |
|---|
| <input type="checkbox"/> Not applicable, no HazMat will be transported or shipped               |
| <input type="checkbox"/> A Shipping Determination has been reviewed and provided to field staff |
| <input type="checkbox"/> A Shipping Determination is attached                                   |
| <input type="checkbox"/> All HazMat will be transported under Materials of Trade                |
| <input type="checkbox"/> Other (specify):   |
| <br>  |

**Roadway Work Zone Safety (check all that apply)**

|  |
|--|
| <input type="checkbox"/> Not applicable for this project.                        |
| <input type="checkbox"/> All or portions of the work conducted under a TCP       |
| <input type="checkbox"/> All or portions of the work conducted under a STAR Plan |
| <input type="checkbox"/> TCP or STAR Plan provided to field staff                |
| <input type="checkbox"/> TCP or STAR Plan attached                               |
| <input type="checkbox"/> Other (specify):  |
| <br>   |

**Commercial Motor Vehicles (CMVs)**

|   |
|---|
| <input type="checkbox"/> This project will <b>not</b> utilize CMV drivers |
| <input type="checkbox"/> This project will utilize CMV drivers            |

**Site Control (check all that apply)**

- Not applicable for this project.
- Site control protocols are addressed in JLA or other supporting document (attach)
- Maintain an exclusion zone of \_\_\_\_\_ ft. around the active work area
- Site control is integrated into the STAR Plan or TCP for the project
- Level C site control - refer to Level C Supplement attached
- Other (specify):  
Existing project controls in place. Additional fencing may be added to control vehicle access to staging area.

**Decontamination (check all that apply)**

- Not applicable for this project.
- Decontamination protocols are addressed in JLA or other governing document (attach)
- Level D work- wash hands and face prior to consuming food, drink or tobacco.
- Level D Modified work- remove coveralls and contain, wash hands and face prior to consuming food, drink or tobacco. Ensure footwear is clean of site contaminants
- Level C work - refer to the Level C supplement attached.
- Other (specify):

**Sanitation (check all that apply)**

- Mobile operation with access to off-site restrooms and potable water
- Restroom facilities on site provided by client or other contractor
- Project to provide portable toilets (1 per 20 workers)
- Potable water available on site
- Project to provide potable water (assume 1 gal./person/day)
- Project requires running water (hot and cold, or tepid) with soap and paper towels

**Safety Briefings (check all that apply)**

- Safety briefing required daily
- Safety briefing required twice a day
- Safety briefings required at the following frequency: \_\_\_\_\_
- Subcontractors to participate in safety briefings
- Participate in client/contractor safety briefings
- Other (specify):

**Safety Equipment and Supplies**

**Safety equipment/supply requirements are addressed in the JLA for the task being performed.** If work is not performed under a JLA, the following safety equipment is required to be present on site in good condition (Check all that apply):

- |   |  |
|---|--|
| <input type="checkbox"/> First aid kit            | <input type="checkbox"/> Insect repellent    |
| <input type="checkbox"/> Bloodborne pathogens kit | <input type="checkbox"/> Sunscreen           |
| <input type="checkbox"/> Fire extinguisher        | <input type="checkbox"/> Air horn            |
| <input type="checkbox"/> Eyewash (ANSI compliant) | <input type="checkbox"/> Traffic cones       |
| <input type="checkbox"/> Eyewash (bottle)         | <input type="checkbox"/> 2-way radios        |
| <input type="checkbox"/> Drinking water           | <input type="checkbox"/> Heat stress monitor |
| <input type="checkbox"/> Other:                   |  |

**Signatures**

I have read, understand and agree to abide by the requirements presented in this health and safety plan. I understand that I have the absolute right to stop work if I recognize an unsafe condition affecting my work until corrected.

| Printed Name | Signature | Date  |
|--------------|-----------|-------|
| _____        | _____     | _____ |
| _____        | _____     | _____ |
| _____        | _____     | _____ |
| _____        | _____     | _____ |
| _____        | _____     | _____ |
| _____        | _____     | _____ |
| _____        | _____     | _____ |
| _____        | _____     | _____ |

Add additional sheets if necessary

Subcontractor Acknowledgement Form attached

**You have an absolute right to STOP WORK if unsafe conditions exist!**

|       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

**Attachment H-1**

Tailgate Meeting Checklist

# TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

|                      |              |                        |                                 |  |  |
|----------------------|--------------|------------------------|---------------------------------|--|--|
| <b>Project Name:</b> |              |                        | <b>Project Location:</b>        |  |  |
| <b>Date:</b>         | <b>Time:</b> | <b>Conducted by:</b>   | <b>Signature/Title:</b>         |  |  |
| <b>Client:</b>       |              | <b>Client Contact:</b> | <b>Subcontractor companies:</b> |  |  |

## Tailgate Meeting

Tasks (list the tasks for the day):

|         |         |         |
|---------|---------|---------|
| 1 _____ | 3 _____ | 5 _____ |
| 2 _____ | 4 _____ | 6 _____ |

**Other Hazardous Activities** - Check the box if there are any other party activities that may pose hazards to operations

If there are none, write "None" here: \_\_\_\_\_

If yes, describe them here: \_\_\_\_\_

How will they be controlled? \_\_\_\_\_

**Pre-work Authorization** - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

|  | <u>Doc #</u> |  | <u>Doc #</u>                                  |
|--|--------------|--|---|
| <input type="checkbox"/> Not applicable <u>Doc #</u> _____ |              | <input type="checkbox"/> Working at Height _____           | <input type="checkbox"/> Confined Space _____ |
| <input type="checkbox"/> Energy Isolation (LOTO) _____     |              | <input type="checkbox"/> Excavation/Trenching _____        | <input type="checkbox"/> Hot Work _____       |
| <input type="checkbox"/> Mechanical Lifting Ops _____      |              | <input type="checkbox"/> Overhead & Buried Utilities _____ | <input type="checkbox"/> Other permit _____   |

**Discuss following questions** (for some review previous day's post activities). **Check if yes :**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Incidents from day before to review?   | <input type="checkbox"/> Lessons learned from the day before?    | <input type="checkbox"/> Topics from Corp H&S to cover?         |
| <input type="checkbox"/> Any corrective actions from yesterday? | <input type="checkbox"/> Will any work deviate from plan?        | <input type="checkbox"/> Any Stop Work Interventions yesterday? |
| <input type="checkbox"/> JLAs or procedures are available?      | <input type="checkbox"/> Field teams to "dirty" JLAs, as needed? | <input type="checkbox"/> If deviations, notify PM & client      |
| <input type="checkbox"/> Staff has appropriate PPE?             | <input type="checkbox"/> Staff knows Emergency Plan (EAP)?       | <input type="checkbox"/> All equipment checked & OK?            |
|   |  | <input type="checkbox"/> Staff knows gathering points?          |

Comments: \_\_\_\_\_

**Recognize the hazards** (check all those that are discussed) (Examples are provided) and **assess the risks** (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Gravity (i.e., ladder, scaffold, trips) (L M H) _____ | <input type="checkbox"/> Motion (i.e., traffic, moving water) (L M H) _____  | <input type="checkbox"/> Mechanical (i.e., augers, motors) (L M H) _____    |
| <input type="checkbox"/> Electrical (i.e., utilities, lightning) (L M H) _____ | <input type="checkbox"/> Pressure (i.e., gas cylinders, wells) (L M H) _____ | <input type="checkbox"/> Environment (i.e., heat, cold, ice) (L M H) _____  |
| <input type="checkbox"/> Chemical (i.e., fuel, acid, paint) (L M H) _____      | <input type="checkbox"/> Biological (i.e., ticks, poison ivy) (L M H) _____  | <input type="checkbox"/> Radiation (i.e., alpha, sun, laser) (L M H) _____  |
| <input type="checkbox"/> Sound (i.e., machinery, generators) (L M H) _____     | <input type="checkbox"/> Personal (i.e. alone, night, not fit) (L M H) _____ | <input type="checkbox"/> Driving (i.e. car, ATV, boat, dozer) (L M H) _____ |



**Attachment H-2**

PPE Checklist

R = Equipment required to be present on the site. O = Optional equipment. Subcontractors must have the same equipment listed here as a minimum.

| Description<br>(Put Specific Material or Type in Box)                                   | Level Of Protection |   |   |
|---|---------------------|---|---|
|   | D                   | C | B |
| <b>Body</b>   |                     |   |   |
| Coveralls   |                     |   |   |
| Chemical Protective Suit<br>(include type in cell, e.g., Tyvek, Saranex, PVC, etc.)     |                     |   |   |
| Splash Apron  |                     |   |   |
| Rain Suit   |                     |   |   |
| Traffic Safety Vest (reflective) or Reflective T-Shirt                                  |                     |   |   |
| <b>Head</b>   |                     |   |   |
| Hard Hat (if does not create other hazard)  |                     |   |   |
| Head Warmer (depends on temperature and weather conditions)                             |                     |   |   |
| <b>Eyes &amp; Face</b>  |                     |   |   |
| Safety Glasses (incorporate sun protection as necessary)                                |                     |   |   |
| Goggles (based on hazard)   |                     |   |   |
| Splash Guard (based on hazard)  |                     |   |   |
| <b>Ears</b>   |                     |   |   |
| Ear Plugs   |                     |   |   |
| Ear Muffs   |                     |   |   |
| <b>Hands and Arms</b>   |                     |   |   |
| Outer Chemical Resistant Gloves<br>(specify the type of glove based on chemical hazard) |                     |   |   |
| Inner Chemical Resistant Gloves<br>(specify the type of glove based on chemical hazard) |                     |   |   |
| Insulated Gloves  |                     |   |   |
| Work Gloves*  |                     |   |   |
| <b>Foot</b>   |                     |   |   |
| Safety Boots (steel toe and shank)  |                     |   |   |
| Rubber, Chemical Resistant Boots  |                     |   |   |
| Rubber Boots  |                     |   |   |
| Disposable Boot Covers  |                     |   |   |
| <b>Respiratory Protection</b>   |                     |   |   |
| 1/2 Mask APR  |                     |   |   |
| Full Face APR   |                     |   |   |
| Dust Protection   |                     |   |   |
| Powered APR   |                     |   |   |
| SCBA  |                     |   |   |
| Air Line  |                     |   |   |



## **Appendix I**

Community Air Monitoring Plan

**General Motors LLC**

## **Community Air Monitoring Plan**

Former General Motors Assembly Plant  
West Parcel Site  
Sleepy Hollow, New York

December 2013



## **Community Air Monitoring Plan**

Former General Motors Assembly  
Plant  
West Parcel Site  
Sleepy Hollow, New York

Prepared for:  
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Our Ref.:  
B00644.64462 #10

Date:  
December 2013

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- I-3 Community Air Monitoring Log
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## Appendix I – Community Air Monitoring Plan

Former General Motors  
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### 1. Introduction

This Community Air Monitoring Plan (CAMP) describes the air monitoring that will be conducted for particulates (i.e. dust) and volatile organic compounds (VOCs) at the perimeter of the work area for future intrusive work at the former General Motors Assembly West Parcel Plant Site located in Sleepy Hollow, New York (site). This CAMP does not establish action levels for worker respiratory protection: the construction contractor will be required to implement air monitoring in the worker breathing zone for the purposes of worker protection in accordance with a contractor's Health and Safety Plan (HASP). Rather, the intent of this CAMP is to provide a measure of protection for potential downwind community receptors, including residences, businesses, and people not directly involved with the remedial activities. If action levels specified in this CAMP are exceeded, then increased monitoring, corrective actions to abate emissions, and/or work shutdown will be required. This CAMP provides mechanisms to monitor air quality at the work area perimeter and includes criteria for implementing dust/vapor controls in order to meet specific action levels.

This CAMP draws upon the New York State Department of Health (NYSDOH) Generic *Community Air Monitoring Plan* (provided as Attachment I-1), and the New York State Department of Environmental Conservation (NYSDEC)'s program for *Fugitive Dust Suppression and Particulate Monitoring* (provided as Attachment I-2). These documents provide guidance for developing and implementing an air monitoring program for community protection.

#### 1.1 Site Description

The site is situated on the eastern shore of the Hudson River and occupies an area of approximately 66.67 acres within the Village of Sleepy Hollow (Figure 1). It comprises of the former main assembly plant area (approximately 64.99 acres) and former salaried employee parking lot (approximately 1.68 acres).

#### 1.2 Summary of Site Activities

The site has been remediated for restricted residential use. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix A to the SMP. Any work conducted pursuant to the EWP must also be



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conducted in accordance with the procedures defined in the site HASP and this CAMP prepared for the site. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan.

### **1.3 Potential Air Emissions Related to Site Activities**

Activities with the potential to impact air quality include, but may not be limited to, the following:

- Construction activities may expose historic fill
- Installation and removal of waterfront structures
- Staging and handling of excavated material, concrete millings and BUD materials
- Relocation and grading of excavated material, concrete millings and BUD materials
- Loading trucks or containers for onsite relocation or offsite disposal
- Site restoration activities



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### 2. Air Monitoring Activities

Ambient air monitoring will be implemented at the site for total VOCs and particulate matter less than 10 microns in diameter (PM<sub>10</sub>) during the intrusive activities listed in Section 1.3. Ambient air monitoring will also be conducted whenever excavated material piles are exposed to wind, and will continue until such material is under temporary (polyethylene tarps) or interim (e.g., concrete millings or gravel) cover, or placed under the final cover system (e.g., soil cap, building or pavement). In the event that excavated material piles cannot be covered at the end of the work shift, ambient air monitoring will be performed continuously until covering is completed during a subsequent work shift. Additional ambient air monitoring may be conducted at other times and locations, as needed.

Total VOCs and PM<sub>10</sub> levels in ambient air will be continuously measured in real-time using portable instruments. The sample location rationale, sampling methods, action levels, and abatement procedures are discussed below.

#### 2.1 Monitoring Locations

A minimum of three work area perimeter monitoring locations will be selected (one upwind and two downwind) based on the established work areas, proximity to potential community receptors, and prevailing wind direction. This pattern will facilitate upwind and downwind monitoring, and will be adaptable to potential changes in wind direction. The upwind and down wind air monitoring locations will be designated daily, based on changes in prevailing wind direction. Additional monitoring stations may be utilized to monitor the downwind work areas based on the extent of work activities. Potential air monitoring locations are shown in Figure 2, and will include more than three possible locations as the work expands.

#### 2.2 Monitoring Methods

Total VOCs in ambient air will be monitored and recorded using a portable photoionization detector (PID) with data-logging capabilities (MiniRae 2000 or equivalent). The PID will be housed in a watertight shelter attached to a tripod and set at a height of approximately five feet above the ground. Total VOC levels will be measured continuously and recorded at 15-minute average intervals.

Particulate monitoring will involve daily real-time monitoring performed using a MIE dataRAM Model DR-2000 or 4000 (DR), MIE dataRAM Model pDR-1000 (pDR), Met



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One E-BAM, or equivalent with data logging capabilities for measuring airborne particulates. Each monitor will be equipped to monitor and record concentrations of particulate matter with a diameter less than 10 micrometers. PM<sub>10</sub> levels will be measured continuously and recorded at 15-minute average intervals.

VOC and PM<sub>10</sub> levels at the community air monitoring stations will be checked periodically and notifications from the monitoring levels when action levels are exceeded will be responded to immediately. Initial and maximum action levels, as well as the required response actions, are Specified in Section 2.3. If the action levels are exceeded, the appropriate actions will be taken to reach allowable VOC and/or PM<sub>10</sub> levels. When it is determined that vapor or dust control measures are adequate and allowable airborne contaminant levels have been obtained, work activities will resume. Notification and reporting to NYSDEC and NYSDOH will be conducted as described in Section 3.0. As a result of sensitivity to moisture, the monitors will be carefully observed during humid or rainy weather. During sustained steady rain events, community air monitoring stations will not be operable, due to sensitivity to moisture. During these sustained rain events the precipitation will act as a control measure for offsite migration of contaminants and community air monitoring will not be conducted.

In addition, monitoring for airborne particulates provides a qualitative assessment regarding the potential for other airborne contaminants, such as metals in the excavated materials. Metals are relatively non-volatile, so that the most likely route of migration for these constituents during the performance of the work is via wind-blown airborne particulates. Therefore, daily monitoring for airborne particulates is generally sufficient to assess potential off-site migration.

### 2.3 Action Levels

The site perimeter action levels provided below for VOCs and particulates are based on the values provided in the NYSDOH generic CAMP (NYSDOH, 2002; also provided as Attachment I-1) and will be used to initiate response actions, if necessary, based on real-time monitoring.

#### 2.3.1 Total VOC Action Levels

The following total VOC action levels and responses will be implemented at the site during intrusive construction activities that may generate emissions:

- If the ambient air concentration of total VOCs at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background (upwind location) for the 15-minute average, intrusive site activities will be temporarily halted while monitoring continues. If the total VOC concentration readily decreases (through observation of instantaneous readings) below 5 ppm above background, then intrusive site activities will resume with continuous monitoring.
- If the ambient air concentrations of total VOCs at the downwind perimeter of the work area persist at levels in excess of 5 ppm above background, but less than 25 ppm above background, intrusive site work activities will be halted, the source of the elevated VOC concentrations identified, corrective actions to reduce or abate the emissions undertaken, and air monitoring will continue. Once these actions have been implemented, intrusive site work activities will resume provided the following two conditions are met.
  - The VOC concentration at half the distance to the nearest residential or occupied commercial building or parkland (in no case less than 20 feet) is below 5 ppm above background for the 15-minute average.
  - The VOC level 200 feet downwind of the work area or half the distance to the nearest occupied parkland 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 ambient air concentrations of total VOCs are above 25 ppm above background at the perimeter of the work area, intrusive site activities will stop and emission control measures will be implemented.

### 2.3.2 PM<sub>10</sub> Action Levels

The following PM<sub>10</sub> action levels and responses will be implemented at the perimeter of the work area during remedial activities that may generate emissions and are designed to be protective of off-site receptors for metals:

- If the ambient air concentration of PM<sub>10</sub> at one (or more) of the sampling locations is noted at levels in excess of 100 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) above background (upwind location) for the 15-minute average, or if airborne dust is observed leaving the work area, intrusive site activities will be

temporarily halted. The source of the elevated PM<sub>10</sub> concentration is to be identified, corrective actions to reduce or abate the emissions will be undertaken, and air monitoring will continue. Work may continue following the implementation of dust suppression techniques provided the PM<sub>10</sub> levels do not exceed 150 µg/m<sup>3</sup> above background for the 15-minute average and provided that no visible dust is migrating from the work area.

- If after implementation of dust suppression techniques, PM<sub>10</sub> levels are greater than 150 µg/m<sup>3</sup> above background, work will stop and site activities will be re-evaluated. Work will resume after dust suppression measures and other controls are implemented and PM<sub>10</sub> levels are less than 150 µg/m<sup>3</sup> above background and no visible dust is migrating from the work area.

#### **2.4 Emission Control Measures**

The following emission control measures may be used if action levels are exceeded during remedial activities:

- Applying water to exposed excavated material piles
- Covering excavated material piles with poly sheeting or other appropriate material
- Reducing surface area of exposed material areas
- Excavating, loading, handling, and backfilling materials in a manner that minimizes dust generation
- Periodically removing dirt/debris from access roads and active vehicle transportation routes
- Spraying water on access roads and active vehicle transportation routes
- Hauling excavated materials and clean backfill materials in properly tarped/covered vehicles
- Restricting vehicle speeds on access roads and active vehicle transportation routes

#### **2.5 Meteorological Monitoring**

Meteorological monitoring of wind direction and temperature will be conducted at an established onsite station located in accordance with industry practice. A wind sock or anemometer will be used to measure wind direction, and a thermometer will be used for temperature readings. Meteorological readings will be recorded at a minimum of



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once per hour. Alternatively, an electronic weather station will be established to measure and record onsite wind direction and temperature. Regional weather conditions will be obtained from online weather sources.

### **2.6 Instrument Calibration**

The VOC and PM<sub>10</sub> instruments will be calibrated in accordance with each of the equipment manufacturer's calibration and quality assurance requirements. Each equipment calibration event will be recorded in a logbook or electronically.



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### **3. Reporting and Notification**

Air monitoring data will be collected continuously from VOC and PM<sub>10</sub> monitors during intrusive site activities via real-time monitoring devices. The daily recorded ranges will be summarized in a daily Community Air Monitoring Log (Attachment I-3).

The NYSDEC will be notified if a maximum VOC or PM<sub>10</sub> action level is exceeded during construction activities. The notification should include: 1) the community air monitoring data; 2) the suspected cause of exceedances; and 3) corrective actions implemented or to be implemented as a result of the exceedance. An Exceedance Notification Report (Attachment I-4) will be completed to document the notification.

Air monitoring data and reports will be made available for NYSDOH and NYSDEC personnel for review..



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### 4. Acronyms and Abbreviations

|                   |   |
|-------------------|---|
| CAMP              | Community Air Monitoring Plan                           |
| EWP               | Excavation Work Plan                                    |
| GM                | General Motors Corporation                              |
| HASP              | Health and Safety Plan                                  |
| NYSDEC            | New York State Department of Environmental Conservation |
| NYSDOH            | New York State Department of Health                     |
| OVA               | organic vapor analyzer                                  |
| PID               | photoionization detector                                |
| PM <sub>10</sub>  | particulate matter less than 10 microns in diameter     |
| ppm               | part per million  |
| µg/m <sup>3</sup> | micrograms per cubic meter                              |
| VOC               | Volatile Organic Compound                               |



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### **5. References**

NYSDEC. 1989. Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites. Technical and Administrative Guidance Memorandum (TAGM 4031). New York State Department of Environmental Conservation. October 1989.

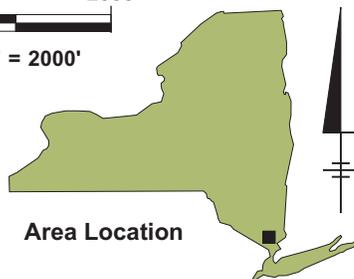
NYSDOH. 2002. Generic Community Air Monitoring Plan. New York State Department of Health. December 2002.



**Figures**



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., WHITE PLAINS, NY, 1967, PHOTOREVISED 1979.



Area Location

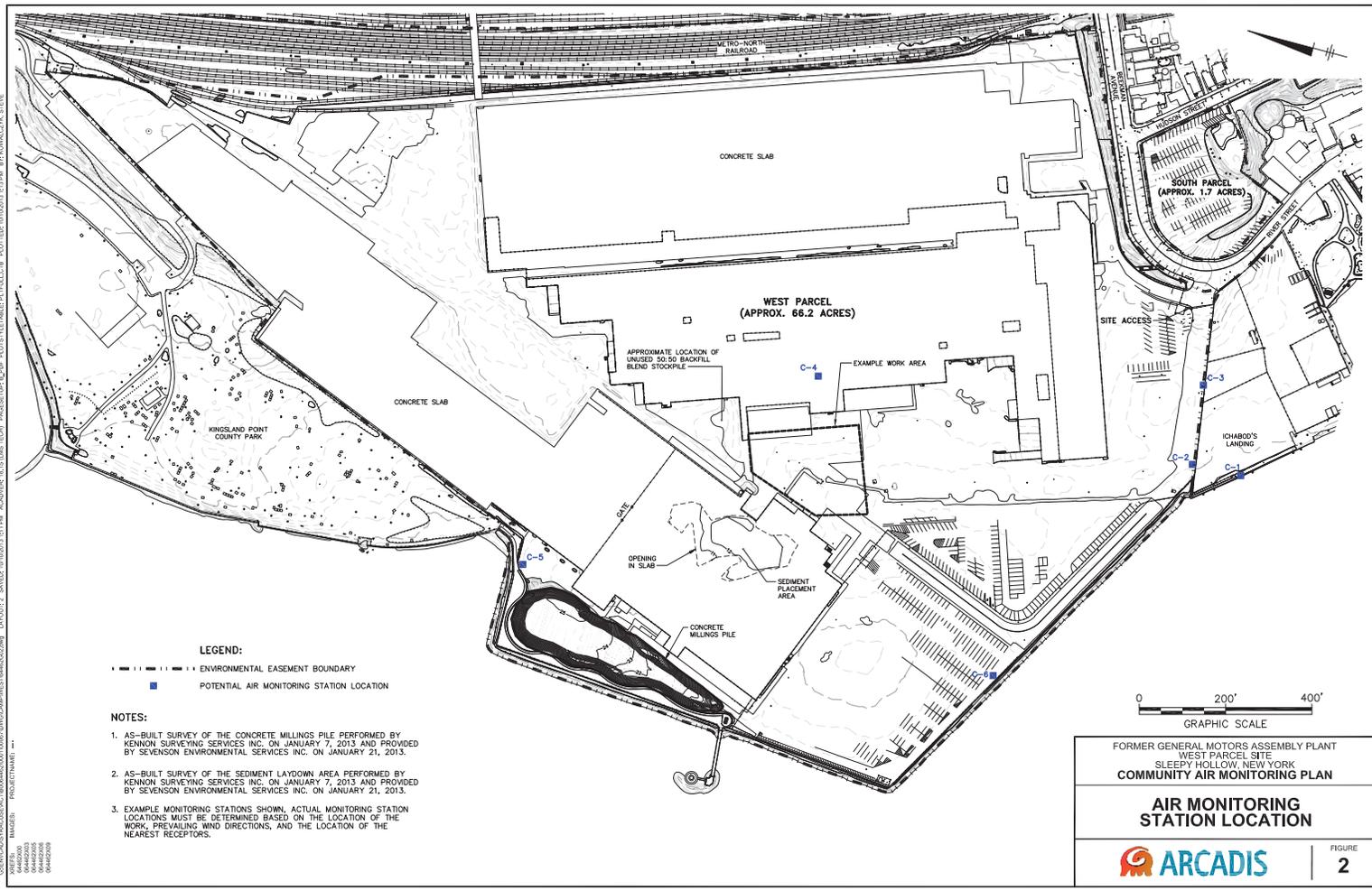
FORMER GENERAL MOTORS ASSEMBLY PLANT  
 WEST PARCEL SITE  
 SLEEPY HOLLOW, NEW YORK  
**COMMUNITY AIR MONITORING PLAN**

**SITE LOCATION MAP**



FIGURE  
**1**

CITY OF SLEEPY HOLLOW, ENVIRONMENTAL SERVICES DIVISION, 100 SLEEPY HOLLOW DRIVE, SLEEPY HOLLOW, NY 10987  
 PROJECT: AIR MONITORING PLAN FOR THE WEST PARCEL, SLEEPY HOLLOW, NY  
 DRAWING: AIR MONITORING PLAN FOR THE WEST PARCEL, SLEEPY HOLLOW, NY  
 DATE: 01/21/2013

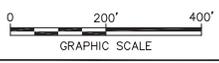


**LEGEND:**

- ENVIRONMENTAL EASEMENT BOUNDARY
- POTENTIAL AIR MONITORING STATION LOCATION

**NOTES:**

1. AS-BUILT SURVEY OF THE CONCRETE MILLINGS PILE PERFORMED BY KENNON SURVEYING SERVICES INC. ON JANUARY 7, 2013 AND PROVIDED BY SEVENSON ENVIRONMENTAL SERVICES INC. ON JANUARY 21, 2013.
2. AS-BUILT SURVEY OF THE SEDIMENT LAYDOWN AREA PERFORMED BY KENNON SURVEYING SERVICES INC. ON JANUARY 7, 2013 AND PROVIDED BY SEVENSON ENVIRONMENTAL SERVICES INC. ON JANUARY 21, 2013.
3. EXAMPLE MONITORING STATIONS SHOWN. ACTUAL MONITORING STATION LOCATIONS MUST BE DETERMINED BASED ON THE LOCATION OF THE WORK, PREVAILING WIND DIRECTIONS, AND THE LOCATION OF THE NEAREST RECEPTORS.



FORMER GENERAL MOTORS ASSEMBLY PLANT  
 WEST PARCEL SITE  
 SLEEPY HOLLOW, NEW YORK  
**COMMUNITY AIR MONITORING PLAN**

**AIR MONITORING  
 STATION LOCATION**

**ARCADIS** | FIGURE 2



## **Attachment I-1**

New York State Department of Health  
Generic Community Air Monitoring  
Plan (Appendix 1A of DER-10)

## Appendix 1A

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

#### Overview

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

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

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

#### Community Air Monitoring Plan

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

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

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

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

### VOC Monitoring, Response Levels, and Actions

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

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

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

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

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

### Particulate Monitoring, Response Levels, and Actions

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

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) 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



## **Attachment I-2**

Fugitive Dust Suppression and  
Particulate Monitoring (Appendix 1B  
of DER-10)

## **Appendix 1B**

### **Fugitive Dust and Particulate Monitoring**

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

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:
  - (a) Objects to be measured: Dust, mists or aerosols;
  - (b) Measurement Ranges: 0.001 to 400 mg/m<sup>3</sup> (1 to 400,000 :ug/m<sup>3</sup>);
  - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m<sup>3</sup> for one second averaging; and +/- 1.5 g/m<sup>3</sup> for sixty second averaging;
  - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
  - (e) Resolution: 0.1% of reading or 1g/m<sup>3</sup>, whichever is larger;
  - (f) Particle Size Range of Maximum Response: 0.1-10;
  - (g) Total Number of Data Points in Memory: 10,000;
  - (h) Logged Data: Each data point with average concentration, time/date and data point number
  - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
  - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
  - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
  - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
  - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m<sup>3</sup> (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m<sup>3</sup>, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m<sup>3</sup> above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m<sup>3</sup> continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM<sub>10</sub> at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

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

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

Experience has shown that the chance of exceeding the 150ug/m<sup>3</sup> action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

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



**Attachment I-3**

Community Air Monitoring Log

## Daily Air Monitoring Report

|   |                     |   |                                      |                                  |
|---|---------------------|---|--------------------------------------|----------------------------------|
| <b>Project:</b><br><br><b>Contractor Company:</b><br><b>Contractor On-site Representative:</b><br><b>Engineer Company:</b><br><b>Engineer On-site Representative:</b> |                     | <b>Project Number:</b><br><b>Task Number:</b><br><b>Date:</b><br><b>Day of Week: S M T W T F S</b><br><b>CAMP Daily Report Number:</b><br><b>Report By:</b> |                                      |                                  |
| <b>Weather Conditions</b>   | <b>Temperature</b>  | <b>Humidity</b>   | <b>Wind</b>                          | <b>Precipitation<sup>1</sup></b> |
|   | Low: °F<br>High: °F | Low: %<br>High: %   | Direction:<br>Degrees:<br>Speed: mph | inches                           |

**Work Day Morning (0700 to 1200) Perimeter Air Monitoring Data Summary**

| Station ID | Upwind/Downwind | TVOC Min Avg* <sup>2</sup> | TVOC Max Avg* <sup>2</sup> | PM-10 Min Avg* <sup>2</sup> | PM-10 Max Avg* <sup>2</sup> |
|------------|-----------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| C-1        |                 |                            |                            |                             |                             |
| C-2        |                 |                            |                            |                             |                             |
| C-3        |                 |                            |                            |                             |                             |
| C-4        |                 |                            |                            |                             |                             |
| C-5        |                 |                            |                            |                             |                             |
| C-6        |                 |                            |                            |                             |                             |

**Work Day Afternoon (1200 to 1700) Perimeter Air Monitoring Data Summary**

| Station ID | Upwind/Downwind | TVOC Min Avg* <sup>2</sup> | TVOC Max Avg* <sup>2</sup> | PM-10 Min Avg* <sup>2</sup> | PM-10 Max Avg* <sup>2</sup> |
|------------|-----------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| C-1        |                 |                            |                            |                             |                             |
| C-2        |                 |                            |                            |                             |                             |
| C-3        |                 |                            |                            |                             |                             |
| C-4        |                 |                            |                            |                             |                             |
| C-5        |                 |                            |                            |                             |                             |
| C-6        |                 |                            |                            |                             |                             |

**Post-Work Day (If Required) Perimeter Air Monitoring Data Summary**

| Station ID | Upwind/Downwind | TVOC Min Avg* <sup>2</sup> | TVOC Max Avg* <sup>2</sup> | PM-10 Min Avg* <sup>2</sup> | PM-10 Max Avg* <sup>2</sup> |
|------------|-----------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| C-1        |                 |                            |                            |                             |                             |
| C-2        |                 |                            |                            |                             |                             |
| C-3        |                 |                            |                            |                             |                             |
| C-4        |                 |                            |                            |                             |                             |
| C-5        |                 |                            |                            |                             |                             |
| C-6        |                 |                            |                            |                             |                             |

\* - Volatile Organics reported in parts per million (ppm)

<sup>1</sup> - Daily precipitation information obtained from www.weather.com

\*\* - Particulates reported in micrograms per cubic meter (µg/m³)

<sup>2</sup> - Averages are based on a rolling 15-minute time weighted average

**CAMP Action Level Alerts :**

**Number of Alerts Exceeding Maximum Action Levels:**

**Actions Taken in Response to Alerts:**

**Attachments:**

Daily CAMP Stations Map  
Exceedance Notification Report

**Certification:**

Representative completing report: \_\_\_\_\_

Date: \_\_\_\_\_



**Attachment I-4**

Exceedance Notification Report

**EXCEEDANCE NOTIFICATION REPORT**  
**COMMUNITY AIR MONITORING PROGRAM**  
**FORMER GM ASSEMBLY PLANT SITE – SLEEPY HOLLOW, NY**

EXCEEDANCE DATE: \_\_\_\_\_

**I. Maximum Action Levels Exceeded**

| <i>Time/Time Range</i> | <i>TVOC &gt; 25 ppm<br/>15-min average</i> | <i>PM10 &gt;150 µg/m<sup>3</sup><br/>15-min average</i> | <i>Total Duration<br/>Minutes</i> |
|------------------------|--|---|-----------------------------------|
|                        |  |   |                                   |
|                        |  |   |                                   |
|                        |  |   |                                   |
|                        |  |   |                                   |
|                        |  |   |                                   |

What was the cause (nature) and location of the exceedance(s)?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contractor Representative(s) Notified: \_\_\_\_\_ Time: \_\_\_\_\_

NYSDEC Representative(s) Notified: \_\_\_\_\_ Time: \_\_\_\_\_

**II. Corrective Action(s)**

Action Taken:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time of Action: \_\_\_\_\_

**III. Verification of Corrective Action(s)**

Monitoring Data Confirming Corrective Action: \_\_\_\_\_ Time: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Representative completing report: \_\_\_\_\_ Date: \_\_\_\_\_