# Draft Onondaga Lake 2011-2012 Construction Community Health and Safety Plan

Another important milestone will be reached in 2011-2012 as work to restore Onondaga Lake continues. This work will include the construction of shoreline support areas for cleanup activities and the construction of a pipeline that will transport material removed from the lake to an area where the materials will be consolidated. Furthermore, as described below, the construction of the water treatment plant and the sediment consolidation area which began in 2010 will continue in 2011 and 2012.

Community health and safety measures outlined in the final July 2010 Water Treatment Plant Preloading and Sediment Consolidation Area 2010 Construction Community Health and Safety Plan will continue. This health and safety plan includes those measures as well as health and safety measures for the additional construction activities.

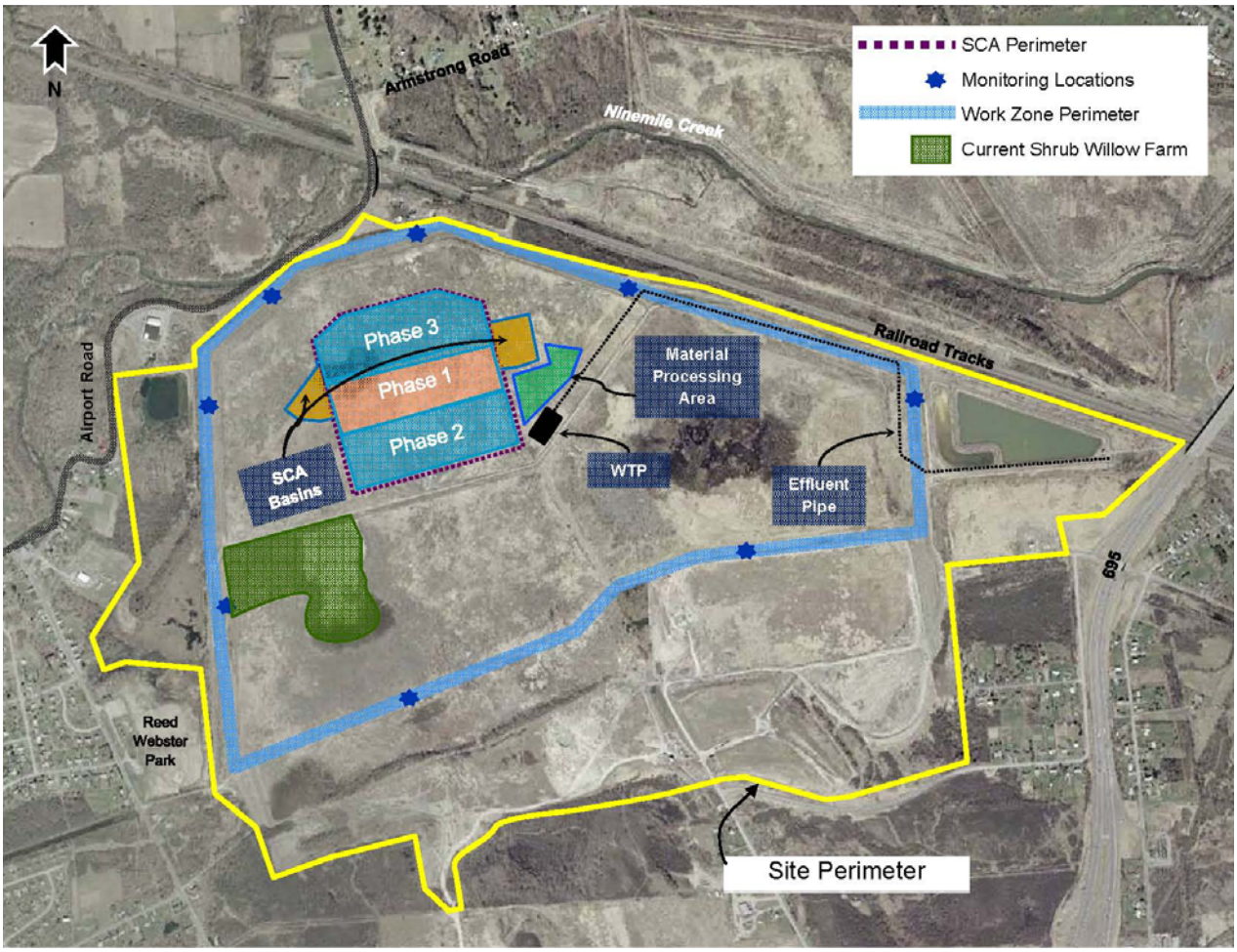
A separate community health and safety plan (*Onondaga Lake Remedial Operations Community Health and Safety Plan*) will be developed for sediment dredging and related work scheduled to begin in 2012. These activities will include the removal, transport, drying, and storage of lake materials, lake-bottom capping and habitat restoration.

*A new water treatment plant will be constructed in 2011-12 near the consolidation area. The plant will be similar to the Willis Avenue Groundwater Treatment Plant, pictured here, that was constructed by Honeywell in 2005.*

## 2011-12 CONSTRUCTION

### Sediment Consolidation Area

Construction of the water treatment plant and the sediment consolidation area started in 2010 and will continue in 2011 and 2012. New activities include construction of a material processing area (preparing the ground and installing utilities and equipment) and building lined water storage basins, which will help to temporarily store water, mainly during storms. The work will also include construction of the SCA composite liner system (e.g., clean low permeability soil, geomembrane liner, geotextiles, and gravel drainage layer).The figure below shows the locations of these additional construction activities.




Most construction activities will take place on top of the existing ground. However, short-term excavation activities will include excavation to install various waterlines such as a drinking water line and the effluent (i.e., treated water) pipeline. This work will include digging shallow trenches, installing the pipes, and backfilling the trenches.

## Lakeshore Support Area for Cleanup Operations

Construction at the lakeshore will include infrastructure to support the dredging and capping activities, such as storage for equipment, docks, and a booster pump. The figure below outlines these areas.

This construction will be primarily on the existing ground surface and will require limited excavation. Activities that require excavation will last only a short time and will include installing underground utilities and preparing for the installation of trailers and equipment.

## Transport Pipeline

The material dredged from the lake will be transported through a double-walled pipeline to the sediment consolidation area. This 3.5-mile-long pipeline, in addition to pumps that will move the material through the pipe, will be constructed in 2011. The graphic on page 4 outlines the pipeline and booster locations.

Most of the pipeline will be constructed on the ground, with supports and anchors installed in specific areas. Construction will consist of placing the pipe on the ground and welding the pieces together. In several locations shown in the graphic above, it will be necessary to install the pipeline underground to cross under roadways and rail lines.

## MANAGEMENT AND MONITORING

Management and monitoring will be implemented for the following:

- Air quality
- Traffic
- Noise
- Spills from vehicles and/or equipment
- Site security

## AIR QUALITY

The New York State Department of Environmental Conservation (NYSDEC), the New York State Department of Health (NYSDOH), and the United States Environmental Protection Agency (USEPA) approved an air quality monitoring program for the 2010 activities. Air quality criteria were established for that program, which follow the guidelines established by the NYSDOH Generic Community Air Monitoring Plan for remediation programs (2000). In addition to the guidance values, which have been established as work perimeter limits for this project, lower levels have been established (investigation and control levels) which provide additional assurance that the criteria will not be exceeded. These air quality criteria will be in place for the 2011-2012 construction, and are presented in the table below:

*One of the eight air monitoring stations located at the sediment consolidation area site perimeter. See page 2 for the locations.*

| | Air Quality Criteria | | |
|---|---|---|---|
| Target Compound | Investigation Level | Control Level | Work Perimeter Limit |
| Total VOC | 2 ppm | 3 ppm | 5 ppm |
| Dust (as $PM_{10}$) | 100 µg/m³ | 100 µg/m³ | 150 µg/m³ |
| Odors | 7OU | 7OU | 7OU* |

Criteria represent 15 minute averages above background levels
Investigation Level – Evaluate reading with background, identify source
Control Level – Apply controls/countermeasures
Work Perimeter Limit – Restrict/stop operations and reassess work
* - No New York State established odor limit, self-imposed limit applied

The levels presented in the chart above remain the same as were outlined in the 2010 Community Health and Safety Plan. However, the descriptions have been updated to more accurately describe the response.

### Sediment Consolidation Area

The air monitoring program initiated in 2010 will continue to operate during the 2011/2012 construction activities. This program evaluates air quality at the work zone perimeter (shown as a blue line in the graphic on page 2). During construction, the air is continuously monitored for dust and volatile organic compounds (VOCs) to ensure that concentrations at the perimeter remain below the work perimeter limits established for this project. In addition, odor levels are monitored at each location.

Air monitoring results are publicly available on Honeywell's website, www.onondaga-lake-initiatives.com. Honeywell can also be reached at 315-552-9784, if there are questions on the air monitoring results posted on the website, or if there are other questions regarding on-going construction activities.

The air monitoring system will operate continuously during the construction workday unless affected by inclement weather[1].

The eight fixed monitoring locations that encircle the work zone will continue to monitor activities. Air monitoring results are continuously monitored by on-site personnel and reviewed regularly to ensure that the criteria are not exceeded by construction activities. Data from meteorological monitoring stations located in proximity to the work zone are used to evaluate daily weather conditions.

Dust Monitoring

Dust is monitored to ensure that concentrations at the work zone perimeter remain below the air quality criteria.

Air quality criteria for dust of 150 $\mu g/m^3$ above background levels has been established as the work perimeter limit for the project. To provide additional assurance, a lower control level (100 $\mu g/m^3$ above background levels) has also been established.

If this lower level is exceeded for a 15-minute period, additional dust suppression measures (such as increasing the use of water or reducing equipment speeds) will be implemented. If the perimeter limit is exceeded, on-site activities that generated the dust will be stopped and there will be a re-evaluation of the activities.

VOC Monitoring

Air is monitored continuously to ensure that total VOC concentrations at the work zone perimeter do not exceed the air quality criteria.

Air quality criteria for total VOCs of 5 parts per million above background levels has been established as the work perimeter limit for this project. To provide additional assurance, a lower investigation level of 2 ppm and control level of 3 ppm have also been established. Should the air monitors detect VOC concentrations exceeding the investigation level for a 15-minute period, the source of the emissions will be investigated and evaluated. Should the air monitors detect VOC concentrations exceeding the control level for a 15-minute period, measures including covering the excavation or applying foam will be implemented. If a 15-minute average of 5 ppm is exceeded because of on-site activities, work will be stopped until corrective measures are implemented.

VOC monitoring equipment consists of photo-ionization detectors (PIDs) that measure total VOC concentrations continuously during all construction activities. The equipment logs real-time data, calculates a 15-minute average, and sends a notification to the on-site technicians if investigation levels, control levels, or perimeter limits are reached.

[1] Dust monitoring results may be affected by high humidity and condensation and will be noted on the website. VOC monitoring results may be affected by high humidity and rain and will be noted on the website.

*Trained observers will use field olfactometers to monitor odors.*

Odor Monitoring

Odor monitoring will be performed with a Nasal Ranger field olfactometer by a trained odor observer twice per day at each of the eight fixed monitoring stations (see map page 2) to ensure compliance with control levels which have been established for this stage of the project. Measurements will be collected as per manufacturer's recommendations.

Because there are no federal or New York State standards for odor monitoring, 7 odor unit (OU) will be used because it is the odor monitoring standard for several other states.

If the measured OU is more than 7 OUs, additional measurements at the site perimeter, and beyond as appropriate, will be performed. If additional measurements are greater than the control level of 7 OU, the source will be investigated. If the control level is exceeded because of construction activities, control/countermeasures will be implemented. Measures to address odors may include fire hoses to wet-down excavations, application of foaming agents, or rescheduling of intrusive activities for days with weather conditions less conducive for generating VOCs or odor emissions.

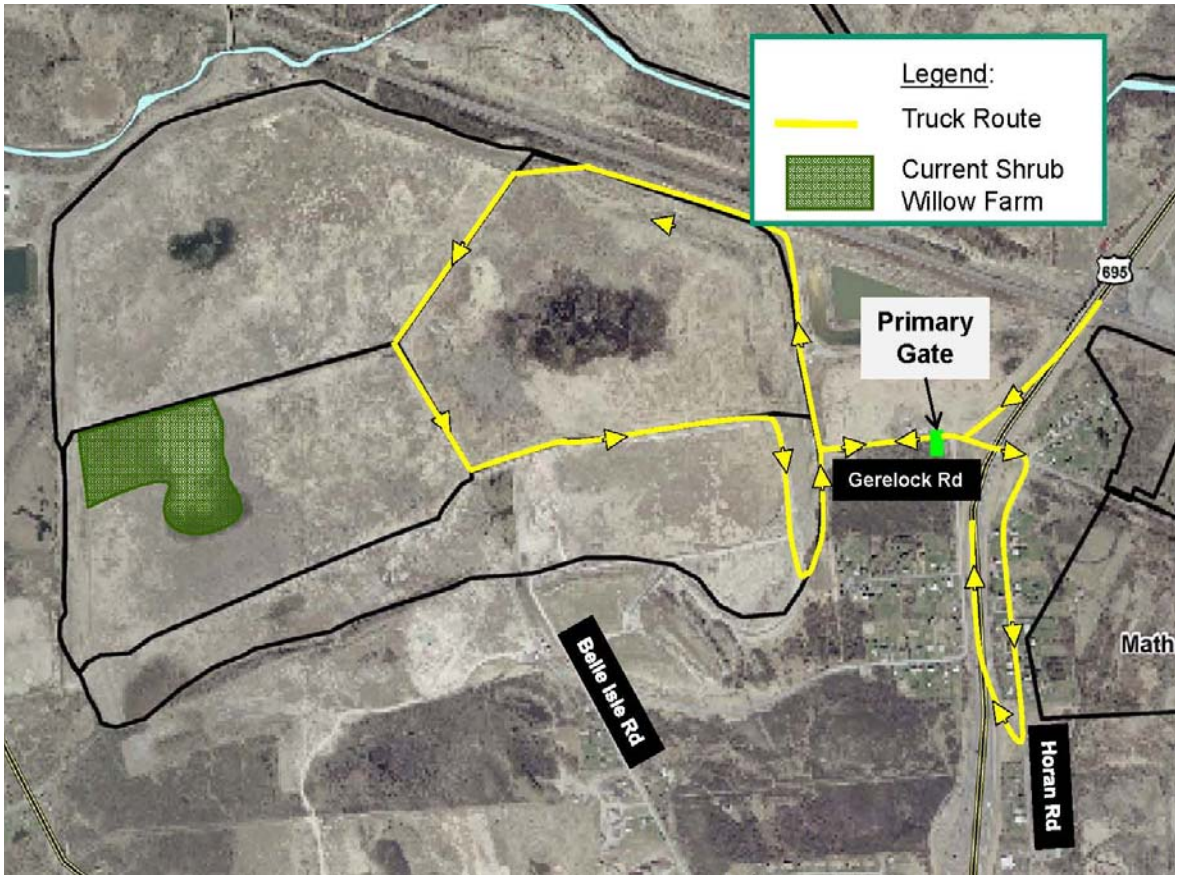
**Lakeshore and Transport Pipeline Construction**

As described on pages 3 and 4, there will be several short-term activities at the lakeshore and for the construction of the pipeline, which will take place outside of the air monitoring station perimeter. These short-term activities will take place primarily on the existing ground surface. Air will be continuously monitored when there is work taking place that may result in emissions or dust.

Air monitoring at these locations will be consistent with air monitoring conducted at the sediment consolidation area, as described above. Monitors will measure air concentrations at both upwind and downwind locations (which will be selected by NYSDEC and Honeywell prior to construction activities at a given location) to ensure that concentrations of dust and VOCs remain below site-specific criteria identified in the table on page 5. Exceedances of site-specific criteria for dust, VOCs, or odors, will be addressed consistent with the procedures described on page 6, and above. Once activities at a particular location are complete, monitoring will be stopped.

## TRAFFIC

The truck route for construction of the sediment consolidation area will remain the same as the 2010 construction route. The main entrance to the site is through the Honeywell gate at Gerelock Road. Once on-site, the traffic follows existing on-site roads to and from the sediment consolidation area. Signs are posted on the other gate entrances around the site to direct deliveries to the appropriate entrance. The route is illustrated below with traffic flow directions.




Construction along the lakeshore will require an additional traffic route. This work may extend to the NYSDOT property off of I-690.

The truck route is the same route that was used during the construction of the underground barrier wall and is illustrated in the figure on page 9. The site is accessible from the Exit 7 ramp from I-690 west bound.

Outgoing traffic will access I-690 from State Fair Blvd. Because of traffic from the New York State Fair and nearby businesses, the lakeshore construction traffic is expected to have minimal impact on the surrounding community.

Installation of the pipeline and booster stations (see the figure on page 4) will begin in 2011. Access to these locations will be primarily from State Fair and Honeywell property. Only one public access point will be used, which is State Fair Boulevard adjacent to Nine Mile Creek. Traffic associated with construction of the pipeline and booster stations will be

minor, and will not result in significant traffic impacts (e.g., road/lane closures), or affect surrounding residential areas.

## NOISE

Noise monitoring will be conducted to demonstrate that noise from construction activities falls within the established limits and does not negatively impact the surrounding community. NYSDEC's "Assessing and Mitigating Noise Impacts" establishes guidance values for ambient noise levels of 55 dBA as being protective of public health and welfare (www.dec.ny.gov/permits/6224.html). The guidance document also notes that the addition of any noise source, in a non-industrial setting, should not raise the ambient noise level above a maximum of 65 dBA.

Evaluations have been completed to assess the potential noise impacts from construction equipment that will be used for this project. Based on the results of these evaluations, noise levels are not anticipated to exceed 65 dBA at the property boundary or 55 dBA in residential areas around the site.

A sound-level meter will be used at the eight locations along the work zone perimeter of the sediment consolidation area site, to measure noise generated from construction activities. Measurements will be conducted twice a day to ensure compliance with NYSDEC guidance level of 65 dBA established for this stage of the project. If this guidance level is exceeded, increased monitoring will identify and confirm the cause of the noise. Changes will be made to existing equipment or operations, and follow-up monitoring will be conducted to ensure noise levels remain below the established limit. If project noise criteria continue to be exceeded, the associated work with the activities causing the noise will be restricted or stopped until the cause of the noise has been addressed.

An evaluation has been completed to assess potential noise impacts associated with the installation of the pipeline, including locations where horizontal drilling will be necessary. Based on these evaluations, noise levels associated with these activities, which will only be conducted during daytime work hours, are not anticipated to exceed 55 dBA in residential areas in the vicinity of the pipeline route. Noise monitoring will be conducted during excavation and drilling activities along the pipeline to ensure noise levels remain below the established limit.

Noise monitoring will not be conducted at the lakeshore support area, as there are no residential receptors in that vicinity.

## PREVENTING SPILLS FROM VEHICLES AND/OR EQUIPMENT

Preventing spills from vehicles and construction equipment is necessary at all construction sites. Procedures that will be in place to prevent spills during construction are listed below. In the unlikely event that a spill does occur, site workers will take the appropriate response and reporting actions as indicated below.

Petroleum-based fuels and oils will be used on the site for operation of heavy equipment. Fuels will be brought onto the site by a fuel tanker and stored on-site in portable storage tanks. On-site fuel storage tanks will have secondary containment and comply with the National Fire

Protection Association (NFPA) 30 “Flammable and Combustible Liquids Code” and Occupational Safety and Health Administration (OSHA) 1910.106.

The following are material management practices that will be used to reduce the risk of spills:

1. Materials will be stored in a neat, orderly manner in their appropriate containers.
2. Products will be kept in their original containers with the original manufacturer’s label.
3. Substances will not be mixed with one another unless recommended by the manufacturer.
4. Whenever possible, product will be used up or packages resealed before proper disposal of contents and containers off-site.
5. Manufacturers’ recommendations for proper use and disposal will be followed.
6. Inspection will be made for proper use and disposal of materials during periodic inspections and recorded on an inspection form.
7. On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage of petroleum products. Petroleum products will be stored in closed containers that are clearly labeled. Used oils will be disposed of properly.
8. Materials will be brought on-site in quantities that limit or minimize the amount of on-site storage.
9. Paint containers will be tightly sealed and properly stored when not required for use. Excess paint, solvents, etc., will not be discharged to the storm sewer facilities but will be properly disposed of according to manufacturer’s instructions, or state and local regulations.

*Fuel tankers will safely transport fuels and oils to the site. This is typical for most construction projects.*

### Spill Response

A spill response kit will be on-site at all times. Used spill containment and absorbent materials will be properly contained, labeled, and disposed of in accordance with state and local regulations.

*A spill response kit will be available at all times at the work site.*

### Spill Reporting

All reportable petroleum spills and hazardous materials spills within New York State must be reported to DEC hotline (1-800-457-7362) within 2 hours of discovery.

## SITE SECURITY

Access to the sediment consolidation area site will be restricted. The existing 8-foot tall fence that surrounds the area will prevent unauthorized personnel from entering the site. A security firm will also be present to control access.

As described on page 3, some construction activities will take place on the NYSDOT property, adjacent to I-690 exit 7. This area is normally accessible to the public and is sometimes used by the public as a lake access point for small boats. Honeywell will sequence the construction activities to allow continued public access to this area to the extent possible. However, sometimes the nature and extent of construction activities will require access to this area to be restricted or closed. During these periods, highly visible barriers and signage will inform the public of the closure, will suggest alternative lake access points, and will also communicate the schedule for when the area will be re-opened to the public.

## REFERENCES

Parsons. 2010. *Community Health and Safety: Sediment Consolidation Area Construction and Initial Work for the Water Treatment Plant*. Prepared for Honeywell, Morristown, NJ. July 2010.