Groundwater
& Environmental Services, Inc.

495 Aero Drive, Suite 3 • Cheektowaga, New York 14225 • TEL (800) 287-7857 • Fax (716) 706-0078

June 10, 2013

Mr. Gregory Sutton
NYSDEC Region 9
270 Michigan Avenue
Buffalo, New York 14203

Re: Site Characterization Work Plan
Former Nash Road Landfill
Town of Wheatfield
Niagara County, New York
NYSDEC Site #932054

Dear Mr. Sutton:

Groundwater & Environmental Services, Inc. (GES) has prepared this *Site Characterization Work Plan* for the Former Nash Road Landfill located in the Town of Wheatfield in Niagara County, New York. The purpose of this work plan is to further characterize and delineate impacts previously discovered on-site, to assist NYSDEC in determining if the site poses a significant threat to public health and the environment from the possible exposure of industrial wastes that were reportedly disposed at the site. The scope of work will involves a site walk over, review of historical data and site information, the collection of surface samples, groundwater samples, surface water samples and installation of additional soil borings and monitoring wells. A site map illustrating the site layout has been included in **Figure 1**.

Work Plan

Site Walkover

GES will perform a site walkover to identify and map major site features including: ponds, creeks, existing monitoring wells, utility locations, and other pertinent site features. As this site is undeveloped, GES will utilize a GPS locator to collect GPS coordinates of the site features and sample locations. The GPS data will be incorporated into available aerial maps, which will be used for all site activities and reports.

Collection of Surface Soil & Water Samples

Based on initial site visits with NYSDEC and NYSDOH, and historical information about the site, it has been determined that a series of surface soil and surface water samples will be collected from the site in accordance with the sampling matrix provided in **Table 1**. Surface soil samples will be biased where exposed waste has been observed on the ATV trails, and two locations near the electrical right-of-way to evaluate exposure to nearby residences.

Groundwater Sampling of Existing Shallow Wells

GES will gauge, purge and sample the existing shallow monitoring wells (OW-1, OW-1, OW-11, OW-13, OW-14B, and OW-16). Due to inactivity and age of the monitoring wells, silt has accumulated inside the wells. The wells will be re-developed. The wells will be surged and pumped. A Horiba U-52 will be used

to monitor groundwater chemistry to determine when the wells have been sufficiently developed. Purge water will be treated through carbon and discharged to the surface.

Soil Borings and Additional Well Installation

GES will conduct a subsurface investigation, focused in the northeast area of the site. The purpose of the investigation is to re-characterize and delineate any subsurface impacts from the former dumping site where it has been reported industrial materials have been buried and covered with stone fill. Additional details are described below:

- A public utility mark-out will be conducted prior to drilling.

- Four to eight soil borings will be completed using a direct push Geoprobe rig with capability of advancing 4 ¼" hollow stem augers.

- During drilling, soil samples will be collected in approximately 2-foot intervals via macro-core sampling. Soil samples will be logged by GES personnel for color, moisture content, grain size, and visual evidence of hydrocarbon impact. The samples will be placed in plastic bags and screened for organic vapors using a photo-ionization detector (PID) equipped with a 10.6eV lamp and calibrated to 100 parts per million by volume (ppmv) isobutylene standard.

- The soil sample from each soil boring exhibiting the highest PID measurement will be selected for laboratory analysis in accordance with the sampling matrix provided in **Table 1**. If no elevated PID readings are observed, the soil sample from the vadose zone/saturated zone interface will be analyzed. Samples will be placed in laboratory-supplied glassware, stored on ice, and shipped under chain of custody to Test America Laboratories, Inc. in Amherst, New York.

- Installation of 4-8 two inch diameter monitoring wells at selected soil boring locations. The wells will be constructed with 2" ID PVC flush-threaded pipe. The wells will be installed to approximately 10-15 feet below grade in the sandy water-bearing zone identified in the previous Phase II reports. The screen openings will be 0.01 inch machine slotted, and no greater than 5 feet of screen. The wells will be completed with a sand filter pack surrounding the wells annulus to a height of 6-12" above the top of the screen, followed by a 2 foot bentonite seal. The remaining well annulus will be sealed with a bentonite-portland cement grout to near grade. The wells will have a stick up of approximately 2-3 feet and completed with stick up protective casings.

- All soil borings and monitoring wells will be staked, and GPS coordinates will be collected for use on the site map and for future locating.

- Soil cuttings will be drummed and sampled for landfill disposal. Due to the isolated and terrain on-site, a skid steer will be utilized to transport the drums to a suitable staging location for later disposal.

- All installed monitoring wells will be developed and sampled in the same manner as the existing monitoring wells.

A report documenting the results of the fieldwork, laboratory analytical results, and recommendations for further action will be submitted to the NYSDEC following completion of the fieldwork and receipt of analytical results.

If you have any questions or comments, please contact GES at your convenience.

Sincerely,
GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Eric D. Popken
Project Manager

Attachments

Figure 1 – Site Map
Table 1 – Sample Matrix

Nash Road Landfill
NYSDEC Site #932054
Town of Wheatfield, NY

Table 1
Sample Matrix

Sample Media	Purpose	Quantity	Analysis	Method
Surface Soil	Evaluate for potential exposure of contaminants to pedestrian traffic through site via surface soil within interior of the site, biased towards walking and ATV paths where there is obvious evidence of exposed waste from the former dumping activities.	12	SVOCs	8270
			RCRA-8 Metals	6010B
	Evaluate sediment where waters can leave site toward direction of pond on adjacent property.	1	SVOCs	8270
			RCRA-8 Metals	6010B
	Evaluate for potential exposure of contaminants to pedestrian traffic through site via surface soil along the power line corridor.	2	SVOCs	8270
			RCRA-8 Metals	6010B
Surface Water	Evaluate for potential exposure of contaminants in the pond water to the public, primarily at the former dumping site in the northeast area of the site.	6	SVOCs	8270
			VOCs	8260
			Pesticides	8081
			Herbicides	8151
	Evaluate water leaving the site the site toward direction of pond on adjacent property.	1	SVOCs	8270
			VOCs	8260
			Pesticides	8081
			Herbicides	8151
Subsurface Soil	Re-characterization/delineation of any subsurface impacts from the formmer dumping site in the northeast corner of the site.	8	SVOCs	8270
			VOCs	8260
			RCRA-8 Metals	6010B
			Pesticides	8081
			Herbicides	8151
Groundwater	Collect groundwater samples from the existing shallow monitoring wells to evaluate current potential impact of the dumping activities to groundwater on-site.	6	SVOCs	8270
			VOCs	8260
			RCRA-8 Metals	6010B
			Pesticides	8081
			Herbicides	8151
	Collect groundwater samples from newley installed shallow monitoring wells to evaluate current potential impact of the dumping activities to groundwater on-site.	8	SVOCs	8270
			VOCs	8260
			RCRA-8 Metals	6010B
			Pesticides	8081
			Herbicides	8151