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27 June 2017

Mr. Tom Brodell
GDNR Environmental Protection Division
2 Martin Luther King Jr. Dr. SE, Suite 1456
Atlanta, GA 30334

Subject: Progress Report for Voluntary Remediation Program (VRP) for Berkeley Lake Village Gwinnett County, Georgia

Dear Mr. Brodell:

On behalf of the Berkeley Lake Village Owners Association (BLVOA), Geosyntec Consultants (Geosyntec) has prepared this fourth progress report for the facility located at 3351 North Berkeley Lake Road NW in the City of Duluth, Gwinnett County, Georgia as part of its participation in the Voluntary Remediation Program Application (VRPA). Berkeley Lake Village is part of a larger multi-parcel site designated as the North Berkeley Lake Road Site (NBLRS) by the Georgia Environmental Protection Division (EPD). Geosyntec has prepared this report specifically for the parcels described below and referred to as Berkeley Lake Village (BLV) or hereafter referred to as "the site".

The site, located in Gwinnett County, consists of several parcels (latitude 33.9834; longitude -84.1702).

- Parcel ID 6290 232 and 6267 030: 5.3 acres. These parcels include the parking lot and common areas between the on-site building footprints and the area to the southwest consisting of some landscaped areas and detention basin (**Figure 1**).
    - Within Parcel ID 6290 232 there are eight additional subdivided parcels. Six of these correspond to the footprints of multi-story commercial buildings. These structures effectively preclude exposures to the soil beneath them. BLVOA understands that these buildings will need to be included in any potential restrictive covenants and maintenance/monitoring plans that may be required under the VRP at a future date. The two remaining Parcel IDs (6290 242 and 6290 243) correspond to the locations of future building footprints.

- Parcel ID 6290 230 and 6290 231: 9.9 acres. These parcels are the undeveloped corner tract and the parcel that runs parallel to Peachtree Industrial Boulevard. The VRP Application Form was revised with the Progress Report dated 25 July 2016 to include these parcels.

The site property is bounded to the east by North Berkeley Lake Road NW and the Gwinnett Regional Distribution Center (GRDC) (commercial/warehousing), and to the west by Peachtree Industrial Boulevard. The Gwinnett County Fire Department Station No. 19 is located directly to the south. The general area surrounding the BLV site is heavy commercial and industrial use. An aerial photograph of the site is shown on **Figure 2.**

Geosyntec conducted field investigations of site soils in January and December 2015. The field investigations confirmed the presence of arsenic at concentrations greater than the notification concentration of 41 mg/kg. The arsenic concentrations ranged from 35.3 mg/kg to 239.7 mg/kg and are described fully in previous VRP documents. Note that the field investigations performed were limited to the eastern portion of the site (i.e., the original site footprint).

This progress report serves to provide an update to EPD regarding the Montessori School as well as to provide a sampling plan to complete the horizontal delineation of arsenic at the site. Previous investigations were limited to those parcels included in the 25 February 2014 Hazardous Site Inventory listing letter. The sampling plan described below incorporates the additional parcels that are owned by BLVOA and added to the site in the 25 July 2016 progress report.

Site Status Update

Greater Atlanta Montessori School (GAMS)

As of May 31, 2017, the school is no longer occupying the premises within BLV. As previously communicated to EPD, BLVOA had to pursue a protracted legal action to remove this tenant from the site. The following bullets provide a brief timeline of recent events:

- July 7, 2016: A hearing on eviction was scheduled, but counsel for GAMS failed to appear. The hearing was rescheduled to August 8, 2016.
- August 7, 2016: Counsel for GAMS filed a demand for jury trial.
- August 8, 2016: The judge instructed BLVOA to file a motion for summary judgment.
- September 20, 2016: Counsel for BLVOA filed a motion for summary judgment.

- October 24, 2016: A response to BLVOA's motion was filed by GAMS.
- November 15, 2016: A reply brief was filed by BLVOA.
- April 25, 2017: Settlement agreement signed and consent order filed with court.
- May 31, 2017: Montessori School vacated property.
- July 31, 2017: Playground equipment removal date, per settlement agreement

BLVOA intends to file the appropriate environmental covenants to restrict such uses/activities in the future.

Arsenic Bioavailability Update

Arsenic presents its primary risk via the soil ingestion pathway. Key to evaluating the potential risk from this pathway is understanding the bioavailable fraction of the arsenic in site soils. Since the bioavailable fraction is less than 1, using total arsenic concentrations as an indicator of risk tends to be an overestimate. The United States Environmental Protection Agency (EPA) has published a laboratory method that measures the portion of arsenic in soil that is solubilized by ingestion, i.e., *in vitro* bioaccessibility (IVBA). The IVBA method can be used to predict the portion of arsenic in a sample that could result in risk to human health. Chris Saranko of Geosyntec has discussed this topic with EPD's Risk Assessment Unit Coordinator, Shanna Alexander during recent meetings of a stakeholder group advising EPD on potential revisions to the Hazardous Site Response Act. Proposed rule revisions that EPD will release for public notice in the very near future include provisions for the use of site-specific IVBA for arsenic. BLVOA will likely collect several soil samples (described below) for IVBA evaluation to refine the risk assessment conducted at the site.

Sampling Plan

Additional soil sampling is necessary to assess if elevated arsenic concentrations are present in the additional parcels. These data will allow for a better understanding of the site conditions as well as the development of a more complete risk assessment and remedial scope. The scope as currently developed is intended to reduce uncertainty in the understanding of the distribution of arsenic in soils and to assist the BLVOA in its decision-making process relative to environmental conditions at the property.

In order to characterize the recently added site parcels, approximately 60 new surface soil samples (0-1 ft bgs) will be collected from throughout the new parcels, as well as a few from the existing parcels. Geosyntec personnel will use hand tools (e.g., trowel and hand augers) to collect XRF readings from approximately 60 surface locations within the BLVOA property. A handheld portable X-ray fluorescence (XRF) analyzer will be used to provide rapid, on-site measurements of arsenic contamination in soil. The analyzer's X-ray tube offers simultaneous analysis of a variety of metals, including arsenic, by simple "point and shoot" of the instrument at a representative soil sample. Samples corresponding to a range of concentrations as measured by the XRF will be submitted to a fixed-base analytical laboratory verify the accuracy of the XRF data at varying concentrations.

The majority of these samples will be collected from parcels 6-290-231 and 6-290-230, which are outlined in yellow on **Figure 3**. Several additional soil samples will be collected from the previously sampled areas to further refine the delineation on the parcels previously sampled. The actual locations will be recorded by marking locations on a site map, as well as with a GPS with sub-meter accuracy (e.g., Trimble GeoXH). Soil sample locations will be in easy-to-access areas such as exposed soil or "soft" landscape cover.

The surface soil samples discussed above are appropriate to assess a direct contact exposure scenario for a range of commercial and residential scenarios. In addition, under the VRP, it is necessary to assess the risks to construction workers who may excavate soils. Select locations, depending upon soil type and XRF results, will be assessed at deeper intervals (1 – 2 ft and 2 – 4 ft below ground surface [bgs]), if it is possible to hand-auger to such depths (soil texture and density can limit viable hand-augering depths, as can the potential presence of buried utilities).

Environmental investigations of this nature lead to the generation of small quantities of Investigative-Derived Waste (IDW). For this scope, the IDW will be soil cuttings from sampling and decontamination water (water used to clean sampling equipment between locations to avoid confounding results). Soil cuttings will be returned to the borehole. Wastewater generated during the cleaning of sampling equipment will be containerized and temporarily stored onsite. Pending the results of laboratory analysis, the container (i.e., 55-gallon drum) will be properly disposed.

All sampling records, soil boring logs, and field notes for this planned field work and past field work will be provided in the next progress report.

Schedule

Due to the reorganization of the BLVOA and the protracted legal issues, progress within the VRP is somewhat delayed; however, BLVOA is committed to addressing EPD's concerns regarding arsenic in the soils at the site.

Soil sampling will be conducted during the next reporting period. Based on the results of the that data, future progress reports will evaluate the removal and/or capping of soil with elevated arsenic concentrations to achieve a site-wide average concentration that will meet the appropriate risk reduction standards. Various scenarios for removal of surface soils and/or capping will be evaluated. Portions of the site are already capped by the presence of asphalt parking lots and buildings. BLVOA is currently considering the installation of building slabs on Parcel IDs 6290 242 and 6290 243 to preclude exposures. BLVOA has also had an initial discussion about the possibility paving/capping other areas of the site with the City of Berkeley Lake

The results of the arsenic data will also be used to locate an additional monitoring well at the site. The information from the site wells and nearby sites will be used to generate a groundwater potentiometric map to better understand groundwater movement in the area. This information will be addressed further in future progress reports. Future progress reports will also address EPD comments received to date.

We look forward to continuing to work with EPD on this important environmental project. Should you have any questions or need additional information please do not hesitate to contact us.

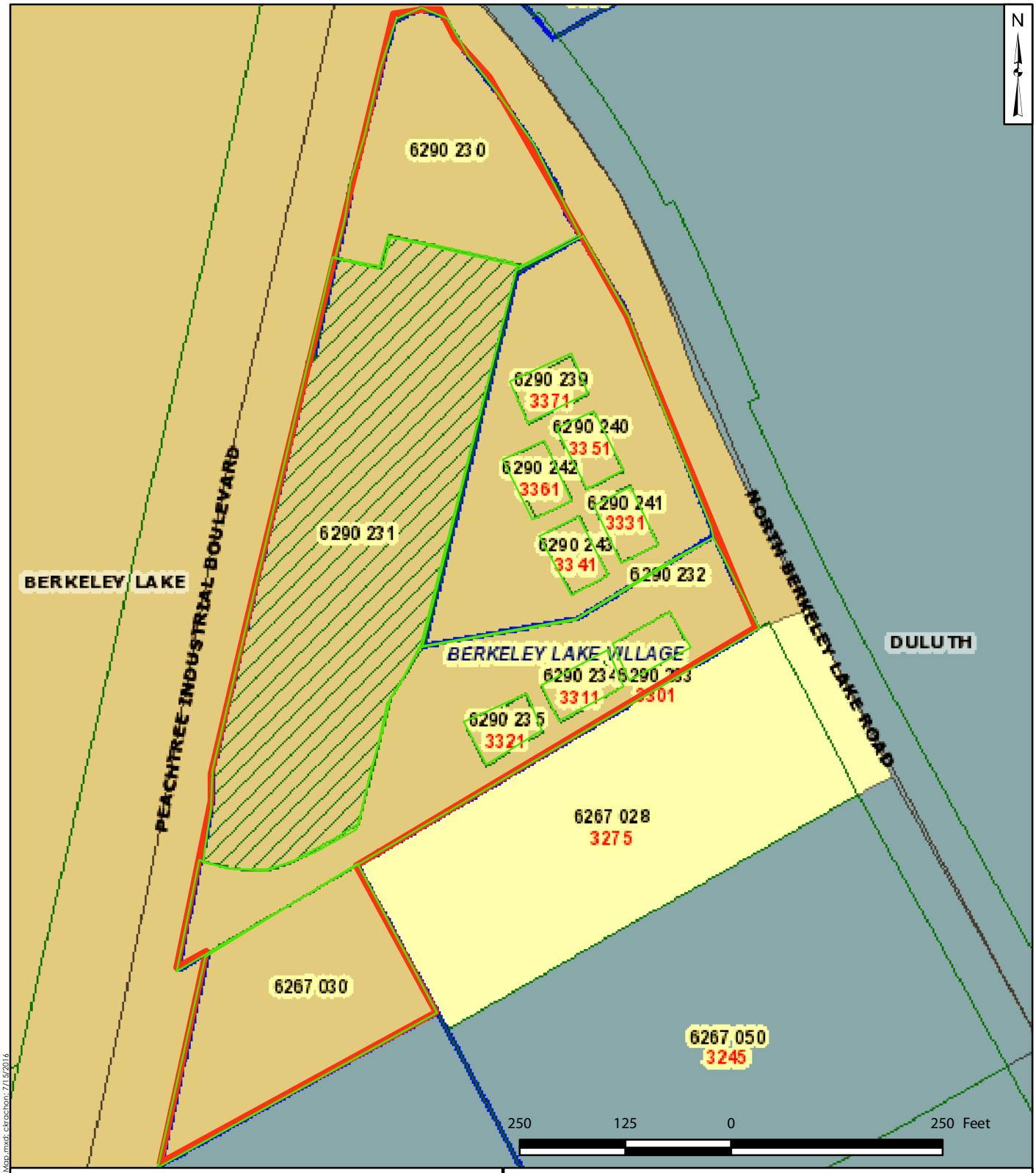
Sincerely,

Cristin Krachon, BCES
Project Scientist

Peter J. de Haven, P.E.
Senior Principal

Attachments: Figures

FIGURES



Legend

- Tax Parcels
- Updated Site Boundary

Gwinnett County Tax Parcel Map

Berkeley Lake Village
Duluth, Georgia

Geosyntec consultants

Kennesaw, Georgia

July 2016

Figure 1

N:\N\Northside Bank\Berkeley Lake Village\GIS\mxd\Property Map.mxd; ckrochon; 7/15/2016

0 250 500 Feet

BLV Site

North Berkeley Lake Road Site
HSI Number 10844

Berkeley Lake Village
Duluth, Georgia

Geosyntec consultants

Kennesaw, Georgia

December 2016

Figure **2**

N:\N\Northside Bank\Berkeley Lake Village\GIS\mxd\NBLRS aerial.mxd CKrachon 12/19/2016

Legend

- Additional soil samples
- Additional parcels
- Original site boundary

Arsenic in Soil (mg/kg)

- 0-41 (Type 3 RRS)
- 41-100
- 100-150
- 150-250

North Berkeley Lake Road Site
Additional planned soil sampling

Berkeley Lake Village
Duluth, Georgia

Geosyntec consultants

Kennesaw, Georgia

June 2017

Figure 3

N:\N\Northside Bank\Berkeley Lake Village\GIS\mxd\Additional sampling area.mxd; ckrochon; 9/23/2016