

Cover System Investigation Work Plan

NYSDEC Site # C932134

Location: 1501 College Avenue,
Niagara Falls, New York 14304

Prepared for: Reworld Niagara
Holding, Inc.

LaBella Project No. 2250425

April 2025



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INTRODUCTION

This work plan has been prepared by LaBella Associates, D.P.C. (“LaBella”) on behalf of Reworld Niagara Holdings, Inc. (f/k/a Santarosa Holdings, Inc.) to conduct an investigation of the cover system at the 1501 College Ave. New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) site (Site No. C932134). The investigation is proposed in response to NYSDEC’s February 21, 2024 comment letter on the Corrective Measures Work Plan (CMWP) prepared by EnSol, Inc. dated January 2024. EnSol Inc. (EnSol) previously prepared and submitted a Cover System Investigation Work Plan dated September 23, 2024. The NYSDEC provided comments on October 24, 2024. A meeting was held at the Site on December 4, 2024 including representatives from Reworld, LaBella, and the NYSDEC to discuss the site and potential paths forward. The site meeting was followed with email correspondence consisting of a summary of the items discussed during the meeting that required further clarification, and additional questions. The email was sent on December 18, 2024 with a response letter received on January 17, 2025. The NYSDEC response letter is included as Attachment 1.

To fully address the Department’s request for a revised CMWP, it is necessary to obtain a detailed understanding of cover system conditions within the BCP site boundary. Potential deficiencies include intermixing of materials that compose the cover system, potential insufficient cover system thickness based on observed erosion of sections of the perimeter berm, ponding areas across the site, surface cracking of concrete and asphalt cover systems, an approximate 3-foot breach of the cover system near the smokestack, and storage of materials on the site limiting the ability to inspect the entire cover system. Also, as you know, there is a solid waste management facility (SWF) operating at the site with its own compliance requirements regarding material storage and roadways. This work plan describes investigation activities required to fully assess the existing condition of the cover system for the purpose of developing an appropriate and comprehensive restoration plan.

COVER SYSTEM INVESTIGATION OBJECTIVES

The following objectives have been identified for this cover system investigation work plan:

- Determine whether and to what extent unapproved materials (including the Department’s belief that fiber was applied to portions of the site berms and materials from stockpiles placed over unconsolidated cover surfaces) are intermixed with the cover system,
- Determine the current thickness and integrity of the approved cover system above the demarcation layer, and
- Collect sufficient information to prepare a plan for removal of the intermixed materials, as needed, and the restoration of the cover system.

RELOCATION OF STORED MATERIALS

To conduct the cover system investigation, materials and equipment currently located within the BCP site boundary will be moved to market, disposed, or relocated either off the BCP site to the adjacent portion of the permitted SWF or to previously inspected and approved sections of the hardscaped areas of the BCP site as the investigation progresses. Some consolidation and cleanup of materials has already begun.



- Recyclable metal associated with the SWF were removed from the BCP site and sent to Niagara Metal. This included tire wire and tire beads located near the southeast corner of the BCP site;
- Other materials related to the SWF, consisting primarily of chipped tires, were moved off the BCP site to the adjacent portion of the permitted SWF;
- Metal roll-off containers were organized and consolidated to the area in front of the existing building on the BCP site;
- Other miscellaneous metal items and equipment were sorted into usable and unusable equipment. Unusable equipment and miscellaneous metal were taken offsite for recycling. Usable equipment was consolidated into an area along the southern berm on the BCP site. The 6,340-gallon (24,000-L), aboveground storage tank that was located near the existing smokestack has been relocated to the usable equipment area. According to Reworld personnel, this tank had held water and is currently empty. An approximate 1,000-gallon, above-ground diesel storage tank with secondary containment was relocated off of the BCP site;
- The Maintenance Area defined by stacked shipping containers in a U-shape, was relocated off the BCP site to the adjacent SWF;
- Recycled concrete stockpiles and the C&D Waste stockpile have been properly disposed of offsite;
- The two asphalt millings stockpiles were consolidated into a single pile; and
- The five crushed concrete stockpiles were consolidated into three separate piles

Materials and structures remaining on the BCP site's cover and the plan for relocation in the near and long term include the following:

- The Steel pavilion and other more permanent structures related to the processing area of the permitted SWF will remain in-place during the investigation;
- The remaining concrete block bunkers will remain in-place and tire chips and other materials will be temporarily relocated during the cover inspection. Areas with stored material stockpiles will be inspected at the time stockpiles are moved or removed during facility operations to accommodate inspections for future periodic review reports;
- The crushed concrete stockpiles were consolidated on areas of the concrete/asphalt cover system that were investigated according to the procedure below and determined to be competent. These piles will remain in place during the remainder of the investigation and will be used, as approved by NYSDEC on August 21, 2023, for the remediation of the recycled concrete and/or recycled concrete/block sections of the original cover system as shown in Figure 2 if necessary;
- The millings stockpile will be relocated temporarily to an area on the BCP site that has been already investigated and deemed suitable. LaBella will receive concurrence with the NYSDEC that the relocation area has been sufficiently investigated and is suitable prior to moving the stockpile. It is intended to be used as base material for new or remediated asphalt cover areas to be determined once the investigation is complete;
- One stockpile onsite, identified in Figures 2 as the "Soil Pile" is potentially composed of materials that have been present onsite since remediation activity in 2012. The pile appears to be a heterogenous mix of materials that are not related to operations at the SWF nor appropriate for use in the BCP cover system remediation. For this reason, this pile will be sampled for waste characterization and disposed of at an appropriately permitted solid waste management facility prior to cover investigation in that area. The debris stockpile appears to be similar material and will be handled the same as the soil pile; and,



- The Metal roll off containers and usable equipment and employee vehicles are easily movable and will be relocated temporarily during the cover investigation in that area.

Stored materials and structures on the Site are depicted on Figure 4. A summary of material types, volumes, waste characterization records, and final destinations including sales or disposal receipts associated with the relocation of stored materials will be included in the updated CMWP. The final destinations for any materials that were relocated for the cover investigation but remain onsite will be included in the CMWP as well.

COVER INVESTIGATION PROCEDURES AND LOCATIONS

As shown in Figure 2, the cover system consists of several types of cover material including unconsolidated material surfaces (soil/clay, recycled concrete/block), and hardscaped surfaces (concrete and asphalt). In all non-hardscaped areas of the system, a minimum of 12 inches of approved cover overlays a demarcation layer consisting of orange plastic mesh. Investigation procedures differ depending on the surface type.

Hardscaped and Recycled Concrete Block Cover Surfaces

Once the stored materials have been relocated, hardscaped surfaces and recycled concrete block areas must be cleaned first with a street sweeper, or equivalent, to allow for inspection. Hardscaped surfaces and recycled concrete block areas will be visually inspected for deficiencies which have potential to expose underlying soils. Minor cracks in the concrete will not require repairs, per NYSDEC comments on Jan. 17, 2025. Where it has been determined that the hardscape surfaces or recycled concrete block areas of the cover system have been breached (i.e. cover material removed down to expose underlying site materials), the deficiency shall be identified on a site map and photographed. Cracks of sufficient size to allow physical contact with underlying materials will be documented. Repairs will be made with material compatible with the area of use. Repairs to the cover system will be proposed in a separate work plan to be submitted for NYSDEC review and approval as further discussed in the Updated CMWP Section below.

Of special interest for the hardscaped surfaces is the approximate 3-foot breach of the concrete cover system near the smokestack. The approximate location of the breach is identified in Figure 2. During the investigation, the plan area of the breach will be outlined on the site map. This area will be well-documented including depth of breach, a description of the exposed materials below the concrete, the condition of the concrete at the perimeter of the breach, and any other useful information that could be used to assist in developing an appropriate method to restore this deficiency.

Unconsolidated Material Surfaces

Using a 150-foot grid layout, a hand auger, or other hand tools, will be utilized on the soil/clay and recycled concrete areas of the cover system to determine the cover thickness and investigate for evidence of intermixed materials. This approach results in 19 investigation locations. The approximate soil/clay and recycled concrete cover system investigation locations are depicted on Figure 3. The soil/clay cover locations will be bored with a hand auger or similar down to the demarcation layer or approximately one foot below ground surface. Borings will not extend below the demarcation layer. If intermixed materials are observed, additional investigation locations may be advanced in that area. The determination for additional investigation locations will be dependent on field observations, site conditions, and consultation between LaBella, Reworld, and the NYSDEC. If



hand augers are determined to not be effective in advancing through and observing the cover systems, direct-push soil borings may be utilized in their place. Auger cuttings will be returned to the boring hole once completed and fully documented.

The north and south perimeter berms will be visually inspected for evidence of areas of erosion, disturbance, or intermixed materials. Hand augers will be advanced in any areas observed with evidence of erosion, disturbance, or intermixed materials to confirm cover thickness and presence of intermixed materials. Borings will not extend below the demarcation layer. The berm inspections will be documented with photographs and any areas of concern and investigation locations identified on a site map. Areas with deficient cover thickness will be supplemented and areas with intermixed materials will be removed and replaced with appropriate approved cover materials during the corrective measure activities.

During the investigation, the QEP will perform soil screening using visual, olfactory, and instrument-based methods. The monitoring instruments employed will include a photo-ionization detector (PID), which is capable of monitoring volatile organic compounds (VOCs) in the range of 0 – 1,000 ppm.

A log, including photographs, will be prepared for each soil boring, documenting material characteristics, total depth, depth to demarcation layer (if observed), extent of intermixed materials, if present, and any other field observations of note (e.g., staining, odors, etc.). Soil borings will be located on a site map developed during the field investigation. Areas where the cover material is intermixed with unapproved materials, or the cover layer is less than one foot thick, or both, will be delineated using field markers keyed to whichever condition is present. These areas will be located via a survey or GPS technology and documented on the site map.

The investigation results will be utilized to determine corrective actions for areas with deficient cover systems. Based on the result of the investigation, additional soil borings may be warranted to further delineate deficient cover areas. During corrective measures actions, areas of the soil/clay or recycled concrete block with insufficient cover thickness will be supplemented with appropriate cover material or a concrete or asphalt cover will be established. Areas of the cover identified with intermixing materials will either be (1) sampled and tested to ensure the NYSDEC Part 375 Industrial Use Soli Cleanup Objectives (SCOs) are met, (2) materials will be removed and disposed of accordingly at a Part 360 permitted landfill and the cover system restored, or (3) a concrete or asphalt cover will be established over the existing material. Areas of the cover system identified with sufficient cover thickness and no evidence of intermixed materials will require no additional action during the Corrective Measures. If any construction and demolition debris is found to be intermixed with the cover system material, such will be removed and disposed at a Part 360 landfill. In the event that it is determined that a new concrete or asphalt cover system is desired to be installed at the Site, such will be included in the updated CMWP to be provided to the NYSDEC for review and approval prior to the start of work.

During the investigation activities, visual observations will be made and recorded relative to the potential generation of significant amounts of fugitive dust. In the event that dust is observed leaving the work area, the material will be wetted until there is sufficient moisture content to maintain soil adhesion and to keep dust down.



WORKER PROTECTION

Proper personal protective equipment (PPE) and safety procedures listed in the Health and Safety Plan (HASP) will be followed for fieldwork activities, i.e., field observation and soil borings at the site. According to the Site's Health and Safety Plan (HASP), Appendix C to the Site's SMP, the planned intrusive (hand auger soil borings) and non-intrusive activities described herein require the same level of protection, i.e., Level D. The following required PPE is specified in Table 3 of the HASP:

- Clothing – Work Uniform or Tyvek
- Gloves – Double-gloved, with latex inner glove and nitrile outer glove
- Shoes – Steel-toed safety shoes
- Other – Hard hat and safety glasses

Community air monitoring will not be required as the investigation and intrusive activities will not extend beyond the demarcation layer within the cover systems and manual investigation methods are proposed. In the event that direct-push soil borings are utilized and the demarcation layer is penetrated, the Community Air Monitoring Program from the SMP will be implemented.

SCHEDULE AND NOTIFICATIONS

Reworld anticipates beginning execution of this Cover Investigation Work Plan within 60 days of receiving approval from the NYSDEC and NYSDOH.

The Department will be notified of the anticipated schedule prior to the start of implementing this Work Plan. Notification will be provided via email to the NYSDEC and NYSDOH Project Managers.

Once initiated, the work is expected to be completed within one to two weeks. Notification will be provided via email to the NYSDEC and NYSDOH Project Managers when all work onsite is complete. An updated CMWP that addresses the necessary cover system repairs will be submitted to the NYSDEC within 60 days of completing the work outlined in this Work Plan.

UPDATED CMWP

Upon completion of the investigation activities described above, a summary will be prepared and incorporated into the CMWP. The summary will include soil boring logs, photos, and a written summary of the work that was performed. From this information, a site map depicting the various cover system conditions, an estimated volume of material to be removed, and an updated proposed cover system map can be prepared.

Based on the findings of the investigation, LaBella will prepare a work plan for the removal of the unacceptable materials and restoration of the cover system above the demarcation layer. Removal limits will encompass all locations where intermixed materials were found. The restoration work plan will be submitted to NYSDEC as part of the updated CMWP.

**Attachments**

Figure 1: Site Location Map Cover System Investigation Plan

Figure 2: Site Cover System Plan

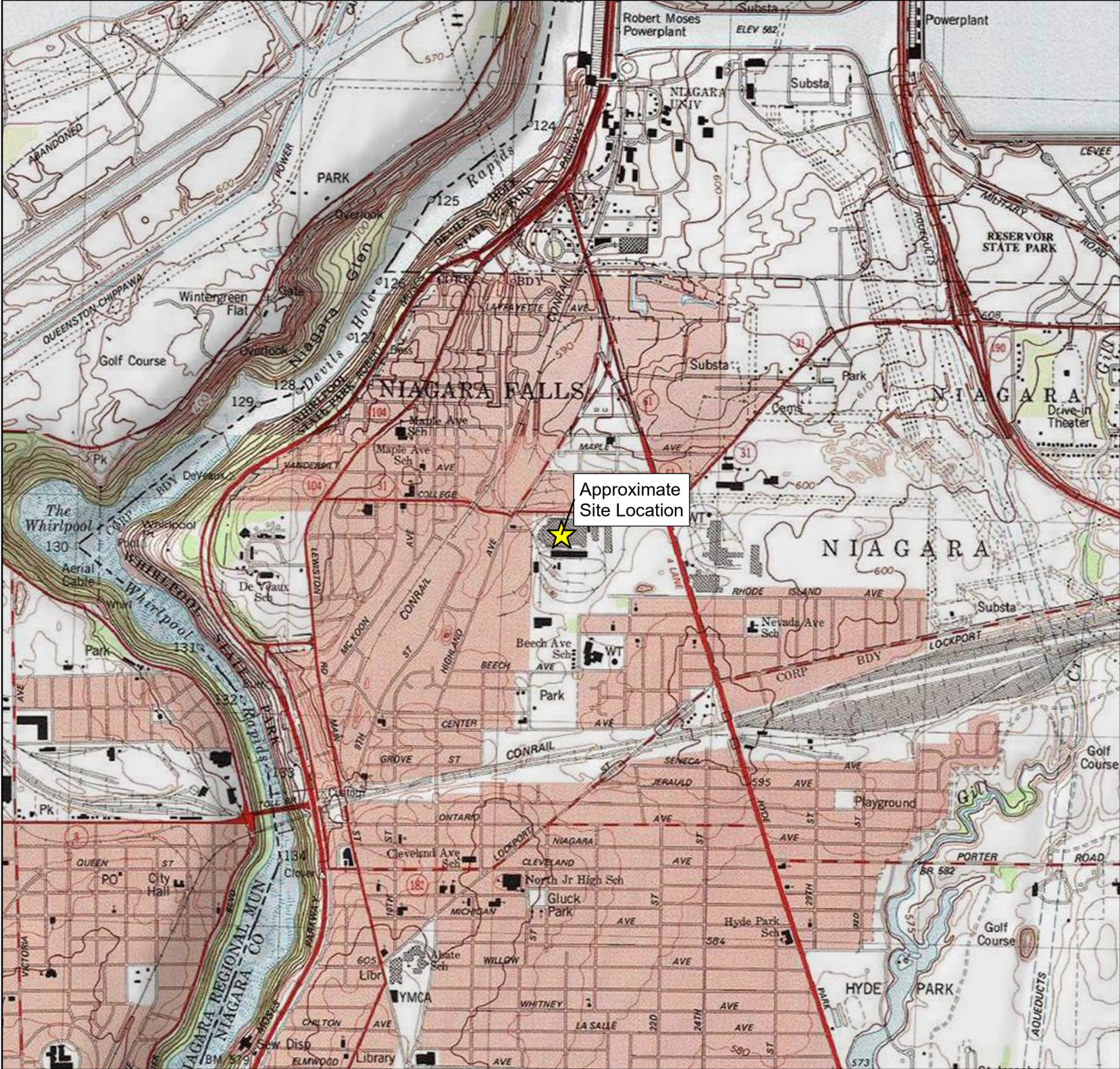
Figure 3: Proposed Investigation Locations

Figure 4: Stored Materials Relocation Plan

Attachment 1: NYSDEC Response Letter

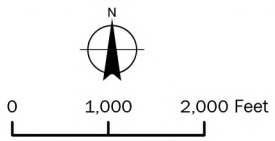
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FIGURES



**1501 College Ave
BCP Cover Investigation
Work Plan**

1501 College Street
City of Niagara Falls, NY 14305



Legend

Approximate Site Location

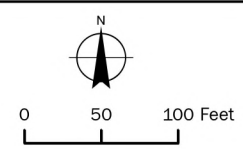
**Site Location Map
Figure 1**

LaBella Project No: 2250425
Date: 3/10/2025

Sources: Bing 2025, Regrid 2024, LaBella 2025.

**1501 College Ave
BCP Cover Investigation
Work Plan**

**1501 College Street
City of Niagara Falls, NY 14305**



Legend

- Approximate Location of Breach in Cover System
- Soil
- Debris
- Tax Parcel
- Approved Soil/Clay
- Approved Recycled Concrete/Block
- Approved Recycled Concrete
- Berm Location
- Existing Concrete/Asphalt

**Site Cover System
Figure 2**

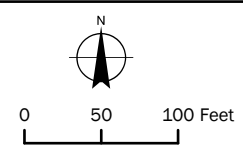
**LaBella Project No: 2250425
Date: 3/10/2025**

Sources: Bing 2025, Regrid 2024, LaBella 2025.



**1501 College Ave
BCP Cover Investigation
Work Plan**

**1501 College Street
City of Niagara Falls, NY 14305**



Legend

- 150' x 150' Grid Lines
- Tax Parcel
- Investigation Location in Recycled Concrete Cover Areas
- Investigation Locations in Soil Cover Areas
- Approved Soil/Clay
- Approved Recycled Concrete/Block
- Approved Recycled Concrete
- Berm Location
- Existing Concrete/Asphalt

**Proposed Investigation
Locations**

Figure 3

LaBella Project No: 2250425
Date: 4/22/2025

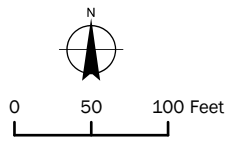
Sources: Bing 2025, Regrid 2024, LaBella 2025.





**1501 College Ave
BCP Cover Investigation
Work Plan**

1501 College Street
City of Niagara Falls, NY 14305



Legend

- Smokestack
- Material Storage/Piles
- Useable Equipment Area
- Steel Pavilion
- Office
- Tax Parcel

**Stored Materials
Relocation Plan**

Figure 4

LaBella Project No: 2250425
Date: 4/22/2025

Sources: Bing 2025, Regrid 2024, LaBella 2025.

ATTACHMENT 1

NYSDEC Response Letter



January 17, 2025

Aaron Santarosa
Reworld Niagara Holdings, Inc.
445 South Street
Morristown, New Jersey 07960

Dear Aaron Santarosa:

**Site Management (SM) –
1501 College Avenue Site, Site No.: C932134
Niagara Falls, Niagara County**

The New York State Department of Environmental Conservation (“NYSDEC”) attended a site visit on December 4, 2024, with Reworld and LaBella Associates to the subject site. LaBella Associates’ email dated December 18, 2024, containing questions asked during the site visit. The NYSDEC provides the following responses:

1. *Question: The cover system at the Site was installed to prevent contact with remaining contaminated soil; however, the intent of the cover system is not to prevent water infiltration. Given the intended purpose of the cover, cracks in the concrete cover do not compromise the integrity of the cover system in our opinion (similar to using crushed concrete, soil or gravel). As such, future inspections would document and assess changes over time but not indicate a need to repair the cover for cracks. We would like to confirm this is acceptable.*

NYSDEC Response: Minor cracks in the concrete do not need to be repaired, however larger cracks that could expose underlying soil do need to be repaired. The NYSDEC would allow the cracked concrete to be filled with crushed concrete or other approved granular material as a component of the cover system so long as that is compatible with the use of the area.

2. *Question: As an alternative to sampling the current soil cover system areas, would the addition of a secondary demarcation layer and additional cover material (3 to 6 inches of gravel or recycled concrete, or asphalt pavement) to act as a ‘cover buffer’ be acceptable? This would bolster the cover thickness and provide a buffer to prevent future damage to the original cover. If acceptable we would assess where this makes sense operationally and show on a figure for review.*

NYSDEC Response: Only adding 3 to 6 inches of gravel is not sufficient to demonstrate that one foot of soil cover is present and meets the commercial soil cleanup objectives (SCOs) in those areas. In this scenario it would also need to be demonstrated that the upper 6 to 9 inches of soil still meet the commercial SCOs.

If asphalt pavement is to be installed, investigating the current soil conditions would not be required. The asphalt paving system would need to be designed to meet the anticipated use of the area(s).

3. *Question: Does the cover need to be inspected under all stockpiles during the annual inspection?*

NYSDEC Response: If the area below the stockpiles is not accessible during the inspections it should be noted in the Periodic Review Report (PRR) when summarizing the cover inspection activities. Procedures should be added to the CMWP and/or the Site Management Plan for inspecting such areas if/when the stockpiles are moved. Any stockpile area on top of soil cover will require verification of the soil cover thickness after the stockpile is removed and that there is no solid waste mixed into the cover.

4. *Question: Would the placement of a secondary demarcation layer and additional clean cover material be acceptable for areas of the site perimeter berm identified to have intermixed materials?*

NYSDEC Response: During the November 1, 2023, site visit, it was noted that C&D waste became intermixed with the cover system. C&D waste is considered a solid waste and cannot be used in on-site covers or as backfill. The intermixed materials will need to be removed and disposed of accordingly at a Part 360 permitted landfill. The soil cover areas need to be restored to meet the soil cleanup objectives (SCOs) in the upper one foot for commercial use.

The top one foot of soil cover on the berms needs to be comprised of clean soil. An additional demarcation layer and one foot of soil may be added to the on-site berms to meet this requirement, but any intermixed materials (i.e. a solid waste) should be removed prior to the placement of the additional soil.

5. *Question: The 2023 annual inspection was conducted in January 2024. Is an additional inspection and/or an IC/EC form required to be submitted for the 2024 reporting period? Given the time of year and the next site inspection may not be feasible until the Spring of 2025. We could submit a formal extension if needed.*

NYSDEC Response: As the site is in corrective measures, a PRR should not be submitted until the corrective measures are completed. Annual site inspections should still occur during corrective measures and can occur any time throughout the certifying period. If any additional deficiencies are noted during the annual inspections, the NYSDEC Project Manager should be notified.

6. Question: *Please confirm that the steel canopy and concrete blocks that are part of the SWF operation are considered permanent structures and do not need to be moved as part of the current cap investigation or during annual inspections.*

NYSDEC Response: Permanent structures such as the steel canopy and concrete blocks do not need to be moved to inspect the cover system. The inspection should be conducted to inspect all accessible areas on-site.

7. Question: *Placement of millings on roadways are part of the SWF permit. The millings are placed and compacted and essentially become an asphalt cover. We feel this is appropriate cover material and request that the DER and DMM programs confer and provide guidance on the use of millings on the BCP.*

NYSDEC Response: The SWF permit requires that areas used for vehicular traffic must be paved with either concrete, asphalt, compact millings, or concrete pads (that are leveled and secured) with appropriate drainage. 6 NYCRR Part 360.12 3(ix) also allows for the use of asphalt millings in the construction of asphalt pavement or in other paved surfaces. Considering the permit requirements the use of asphalt millings is acceptable in the site cover for these roads.

Please take notice that if asphalt millings are used to construct the roads they must be maintained in good condition and not generate significant dust from either wind or vehicle traffic. This may require regular inspection of the roads and repair to maintain the design thickness of the roads. Given the large equipment used at the facility it is not clear that asphalt millings are the best material for these traffic areas/roadways.

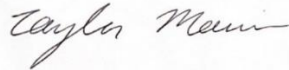
8. Question: *We anticipate conducting hand augers for assessing cover in some areas. We would like to confirm if CAMP is required. We feel it is not necessary or a concern given the Site use (industrial), industrial uses in area, minor disturbance of soil, and all disturbance would only be into the cover material until the demarcation layer is encountered. As an alternative to CAMP, we can wet the locations prior to and during hand auger advancement.*

NYSDEC Response: As long as the excavations are above the demarcation layer in clean cover, the Excavation Work Plan (EWP) procedures do not need to be followed. Once excavations go below the demarcation layer the EWP will need to be followed. Additionally, manual sampling methods (e.g. hand augers, etc.) are not typically required to follow the CAMP in the EWP.

Please submit a revised Cover System Investigation Work Plan to the NYSDEC by March 10, 2025.

If you have any questions or would like to set up a call to discuss this letter, feel free to contact me at (716) 851-7220 or email: taylor.monnin@dec.ny.gov.

Sincerely,

A handwritten signature in cursive script that reads "Taylor Monnin".

Taylor Monnin
Assistant Engineer

TM/slr

ec: Benjamin McPherson, NYSDEC
Efrat Forgette, NYSDEC
Michael Pawlowski, NYSDEC
Sara Bogardus, NYSDOH
Renata Ockerby, NYSDOH
Brian Aerne, Reworld Niagara Holdings, Inc.
Dan Noll, LaBella Associates
Andrew Benkleman, LaBella Associates