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GEOTECHNICAL ENVIRONMENTAL ECOLOGICAL WATER CONSTRUCTION MANAGEMENT

GZA GeoEnvironmental of NY 300 Pearl Street Suite 700 Buffalo, NY 14202 T: 716.685.2300 F: 716.248.1472 www.gza.com October 6, 2023 File: 21.0056983.00

Mr. George Streit george.streit@nrgenergy.com Huntley Power LLC 3500 River Road Tonawanda, NY 14150

Re: CCR Landfill 2023 Annual Inspection Report Huntley Generating Station Tonawanda, New York

Dear Mr. Streit:

GZA GeoEnvironmental of New York (GZA) presents this 2023 Annual Landfill Inspection report to Huntley Power LLC (Huntley) for the existing coal combustion residuals (CCR) landfill units at the Huntley Generating Station landfill located in Tonawanda, New York (Site). This annual inspection is required by the United States Environmental Protection Agencies (USEPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, as presented in the Federal Register Volume 80 No 74 dated April 17, 2015. In accordance with the CCR Rule (40 CFR 257.84), owners/operators of CCR landfill units are required to be inspected on a periodic basis by a qualified professional engineer to check the design, construction, operation and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards.

#### **Document Review**

The required periodic inspections presented in the CCR Rule are intended for open and active landfills and are not required for closed or inactive landfills. As such, the active/open ash waste cells for the Huntley Power Site are identified as upper portions of Cells A and D, and all of Cell C. The remaining landfill cells at the Site are considered inactive (i.e., closed) and are not included with this annual inspection report. The limits of the active cells requiring this annual inspection report are shown on the attached figure prepared by Wendel for the 2022 fill progression survey (see **Figure 1**). Areas designated as future Cell B (located between Cells A and C) and Cell E (located south of Cell A) have not yet been constructed.

The Huntley Power landfill is currently permitted (ID#9-1464-00089/000010) with the New York State Department of Environmental Conservation (NYSDEC) to accept residual coal ash waste generated from the Huntley Power facility through January 3, 2023. We note that the Huntley Power plant has ceased electrical generation operations and is in the process of being shut down. A review of Wendel's 2022 (most recent) fill progression report for the Cells A, C and D indicates the following information.



Landfill Cell	Waste Received in 2021 (cy)	Current Ash Volume (cy)	Volume Remaining (cy)
A	0	509,264	196,276
C	0	415,685	363,358
D	0	537,869	47,791
Totals for A, C & D	0	1,462,818	607,425*

cy = cubic yards

\*The Wendel report identified a total volume change from the previous year and included the note "Records and conversations with Site employees indicate no material was transported into or out of Cells A and D, approximately 42.5 tons of material was placed in Cell C. The additional cell volume reported for Cell A is likely due to a combination of material compacting in place and acceptable measurement uncertainty (<0.4%).

The 2023 weekly landfill inspection forms prepared by Huntley Power Site personnel did not identify any concerns or complaints related to the operation and/or maintenance of the active ash landfill cells.

## Site Observations

GZA visited the Huntley CCR Landfill Site on September 29th, 2023, to make observations of the active portions of landfill Cells A, C and D. The following is a summary of our observations made at each active cell.

<u>Cell A</u>: This area was previously covered with topsoil and seeded for use as a temporary cover and no areas of exposed CCR waste were observed. The Cell A side slopes at the lower elevations were observed with final cover systems previously constructed in general accordance with its intended design (side slopes not exceeding 33% or 3 Horizontal: 1 Vertical (3H:1V)) and included intermittent benches and rip-rap lined drainage channels at select locations of the cell. The upper elevations were observed generally consisting of a vegetated temporary cover system with approximate 5% slopes. In general, although there have been slight modifications to the grades and upper slopes of the Cell A, no deficiencies or structural concerns were observed.

<u>Cell C</u>: During our 2023 Site visit, the side slopes and upper portions of the waste areas were observed to be in similar condition to observations made in 2022 with a vegetated cover (similar to the upper portions of Cell A) with no observable areas of exposed CCR waste. The previous regrading and vegetated temporary cover system appears to be in general accordance with intended designs and overall appears to be stable without evidence of structural instability issues (e.g., slumps, cracks, settlement, etc.). The cell side slopes were observed to be no steeper than 3H:1V and no evidence of rainfall runoff erosion rills were observed.

<u>Cell D</u>: The temporary soil cover system observed on Cell D generally appears similar to observations made in 2022 with no observable areas of exposed CCR waste. The previously completed regrading activities and vegetative growth within the cell appears to be in general accordance with intended designs and overall appears to be stable without evidence of structural instability issues (e.g., slumps, cracks, settlement, etc.). The northern, eastern and southern side slopes of Cell D were observed having final cover systems, including interim benches and drainage features. The cell side slopes were observed to be no steeper than 3H:1V. NRG personnel indicated that drainage ditch modifications that were completed in the fall of 2021 have improved stormwater runoff collection and drainage for the area.



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Overall, the work face areas of the active cells appeared to be graded in general accordance with the proposed design configurations. The side slopes and other areas were observed covered with a sufficient vegetative cover of which portions appeared to have been recently mowed and the slopes were observed in good condition with no evidence of actual, or potential for, structural instability or erosion or unsafe conditions. Similar to the most recent annual inspection made at the end of 2022, this inspection identified no areas of concern or areas evident of structural instability. No significant changes pertaining to the design, operation and maintenance have been made to the active landfill cells within the last year. In general, the ongoing maintenance (grass cutting) and temporary cover system over the CCR waste appear to be in compliance with the cell design and permit requirements. No areas of exposed CCR waste were observed within Cells A, C and/or D during our 2023 site visit.

## **PROFESSIONAL ENGINEER CERTIFICATION**

The undersigned registered professional engineer is familiar with the requirements of §257.84 and has visited and examined the Huntley Station Landfill or has supervised examination of the facilities by appropriately qualified personnel. The undersigned registered professional engineer attests that this Annual Inspection Report has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of §257.84, and that this Report is adequate for the Huntley Station. This certification was prepared as required by §257.84(b)(2).

Name of Professional Engineer: Daniel J. Troy, P.E.

Company: GZA GEOENVIRONMENTAL OF NEW YORK

Signature: Date: October 6, 2023 PE Registration State: New York PE Registration Number: 081139-1 Professional Engineer Seal:

We trust this information satisfies your needs for this project.

Sincerely,

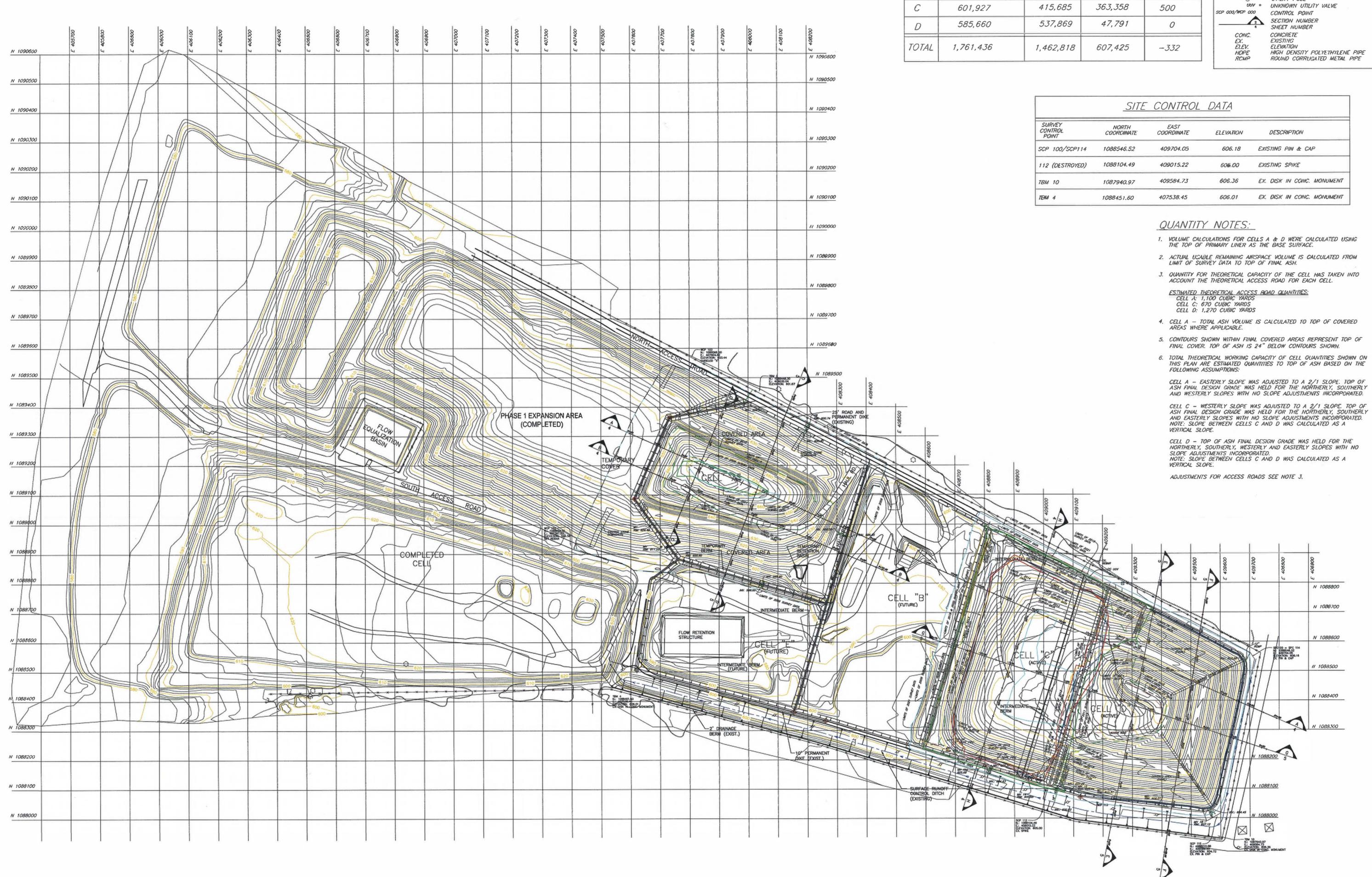
GZA GEOENVIRONMENTAL OF NEW YORK

Daniel J. Troy, P.E. Senior Project Manager



Bart A. Klettke, P.E. Principal

Attachments: Figure - 2022 Huntley Fill Progression Survey – General Plan



# GENERAL NOTES:

- EXISTING TOPOGRAPHY SHOWN FROM MAPS PREPARED BY STERNS & WHELER, LLC 1. ENVIRONMENTAL ENGINEERS AND SCIENTISTS. PROVIDED BY NRG
- 2. UPDATED TOPOGRAPHY IN CELLS C AND D IS BASED ON FIELD SURVEY PERFORMED BY WENDEL IN NOVEMBER 2022.
- 3. HORIZONTAL & VERTICAL CONTROL REFERENCED TO SITE DATUM(S) PROVIDED BY NRG. 4. RECORDS AND CONVERSATIONS WITH HUNTLEY EMPLOYEES INDICATE NO MATERIAL WAS TRANSPORTED INTO OR OUT OF CELLS A AND D, APPROXIMATELY 42.5 TONS OF MATERIAL WAS PLACED IN CELL C. THE ADDITIONAL CELL VOLUME REPORTED FOR CELL A IS LIKELY DUE TO A COMBINATION OF MATERIAL COMPACTING IN PLACE AND ACCEPTABLE MEASUREMENT UNCERTAINTY (<0.4%).

CELL	TOTAL THEORETICAL WORKING CAPACITY OF CELLS AT PRESENT DEVELOPMENT STAGE (CUBIC YARDS)	TOTAL ASH VOLUME IN CELL (CUBIC YARDS)	ACTUAL USABLE REMAINING AIRSPACE AFTER DEVELOPMENT OF ADJACENT CELLS (CUBIC YARDS)	ASH RECEIVED IN 2020 (CUBIC YARDS) (SEE NOTE #4)
A	573,849	509,264	196,276	-168
С	601,927	415,685	363,358	500
D	585,660	537,869	47,791	0
TOTAL	1,761,436	1,462,818	607,425	332

	LEGEND:		
	LIMIT OF 2022 SURVEY DATA LIMIT OF 2021 SURVEY DATA		
	LIMIT OF ASH 2019 & 2020 SURVEY DATA		
	LIMIT OF ASH 2018 SURVEY DATA		
	LIMIT OF ASH 2016 & 2017 SURVEY DATA		
<u></u>	LIMIT OF ASH 2015 SURVEY DATA		
	LIMIT OF ASH 2014 SURVEY DATA		
	LIMIT OF ASH 2013 SURVEY DATA		
	LIMIT OF 2012 SURVEY DATA		
	LIMIT OF 2009 SURVEY DATA		
	LIMIT OF 2006 SURVEY DATA		
000	10' CONTOUR INTERVAL (MAJOR)		
	2' CONTOUR INTERVAL (MINOR) SURFACE RUNOFF CONTROL DITCH		
	DITCH		
MH 10 e	MANHOLE		
MH 10 @	CULVERT		
	SLOPE DOWN		
	BRUSH ROW		
-0-	UIILITY POLE		
UUN O	UNKNOWN UTILITY VALVE		
CP 000/WCP 000	CONTROL POINT		
	SECTION NUMBER SHEET NUMBER		
CONC. EX: ELEV. HOPE	CONCRETE EXISTING ELEVATION HIGH DENSITY POLYETHYLENE PIPE		
RCMP	ROUND CORRUGATED METAL PIPE		

A

SURVEY CONTROL POINT	NORTH COORDINATE	EAST COORDINATE	ELEVATION	DESCRIPTION
SCP 100/SCP114	1088546.52	409704.05	606.18	EXISTING PIN & CAP
112 (DESTROYED)	1088104.49	409015.22	605.00	EXISTING SPIKE
TBM 10	1087940.97	409584.73	606.36	EX. DISK IN CONC. MONUMENT
1BM 4	1088451.60	407538.45	606.01	EX. DISK IN CONC. MONUMENT

- 6. TOTAL THEORETICAL WORKING CAPACITY OF CELL QUANTITIES SHOWN ON THIS PLAN ARE ESTIMATED QUANTITIES TO TOP OF ASH BASED ON THE

CELL C - WESTERLY SLOPE WAS ADJUSTED TO A 2/1 SLOPE. TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE NORTHERLY, SOUTHERLY AND EASTERLY SLOPE'S WITH NO SLOPE ADJUSTMENT'S INCORPORATED. NOTE: SLOPE BETWEEN CELLS C AND D WAS CALCULATED AS A



