Penn E&R
Environmental & Remediation, Inc.

January 27, 2026
4000-PA010152-003

VIA EMAIL

Mr. Brad Davison
Solid Waste & Contaminated Sites Section
Iowa Department of Natural Resources
Henry A. Wallace Building
502 East 9th Street
Des Moines, IA 50319-0034

Subject: Leachate Control System Performance Evaluation Report – 2025
WDC Acquisition LLC Landfill
Creston, Iowa

Dear Mr. Davison:

Penn Environmental & Remediation, Inc. (Penn E&R) is pleased to submit this Leachate Control System (LCS) Performance Evaluation Report for calendar year 2025 for the landfill currently operated at the WDC Acquisition LLC (WDC) facility in Creston, Iowa. This performance evaluation is being submitted in fulfillment of the requirements specified in Section X.7 of the Sanitary Disposal Project Closure Permit No. 88-SDP-4-86 (Permit) issued December 16, 2024.

BACKGROUND

WDC currently operates a manufacturing facility located in Creston, Iowa, as shown in **Figure 1**. The plant produces aluminum and magnesium metal sand-mold casts of parts. The parts are then machined to specification. Industrial wastes such as reclaimed foundry sand, baghouse waste/dust, and treated magnesium dross are generated and were previously disposed in the adjacent landfill, as shown in **Figure 2**.

As part of the operation of the landfill, an LCS consisting of collection trenches, a pump station, piping, and filtration system operates to control the groundwater level within the landfill. Piezometers within the boundaries of the landfill monitor the groundwater elevation. The actual treatment portion of the LCS consists of filtration, storage, sampling, and discharge, as shown in **Figure 3**. The LCS operates based on the level of leachate accumulated in the pump station draining the collection trenches. Leachate is transferred through a filter to the holding tank where it is periodically sampled and discharged. In 2025, the system generally operated by discharging on a continuous basis.

ANALYTICAL RESULTS AND MAINTENANCE

Monthly performance results are recorded for operation of the LCS, including generated volumes and analytical data. A summary of the volumes collected through the LCS is presented in **Table 1**. For evaluation year 2025 (November 2024 through October 2025), approximately 1,225,696 gallons of leachate were collected, treated, and discharged to the City of Creston Publicly Owned Treatment Works (POTW). For 2025, the LCS was typically operated daily, with daily monitoring and monthly sampling (weekly sampling for lead). The results from the monthly analytical sampling are presented in **Table 2**, along with the POTW discharge limits. No exceedances were identified in the 2025 evaluation year.

It should be noted that WDC's leachate discharge is evaluated for compliance by the POTW using the mass loading for the volume of leachate discharged *the day* the monthly sample was taken. In this report, the concentrations of

constituents in the monthly sample are used with the average and maximum daily leachate discharge volumes for *the month* to determine the mass loadings shown in **Table 2**.

The treatment system's Mag-style meter was installed in 2023 and has been working without issue. During any times when the flow meter is not functioning correctly, the flows are calculated using the total effluent discharge readings, which include leachate flows, and multiplying the recent percentage of leachate flows compared to total effluent flows.

In July 2023 constrictions in leachate piping from the pump lift station to the collection tank inside the building resulted in low to no leachate flow. The piping was subsequently hydro jet cleaned to remove residual buildup and normal operations resumed in August 2023. Iowa Administrative Code (IAC) 567.115.26(11)a(8) requires the LCS be cleaned at least once every three years.

COMPLIANCE WITH MAXIMUM LEACHATE HEAD

In Section X.7. of the Permit, two regulatory references are cited. First, IAC 567.115.26(11)a(1) is cited which requires that *"The leachate collection system shall be designed to allow not more than one foot of head above the top of landfill liner. The collection system must include a method for measuring the leachate in the landfill at the lowest areas(s) of the collection system."* Second, IAC 567.115.26(12)b(2) is cited which requires that *"Existing fill areas must address the design standards of subrule 115.26(11), except paragraph "a", subparagraphs (1) to (4). The leachate collection system must be designed to achieve the lowest possible leachate head above the landfill liner and must include a method of measuring the leachate head."*

The locations of the piezometers used to monitor leachate elevations within the boundaries of the landfill are shown in **Figure 2**. **Table 3** summarizes the leachate elevation data for these piezometers. As recommended in the 2002 LCS Performance Evaluation Report, top of casing elevations of the subject piezometers was resurveyed in April 2003 by Mid-State Surveying & Consulting, Inc. of Creston, Iowa. This was done to confirm the elevations used in the past (Howard R. Green Company March 1999 Existing Topography) and to verify that past piezometer extensions have been accounted for. WDC previously adjusted top of casing elevations to account for casing reductions during previous net removal of waste material from the landfill and more recent surveys. This has ceased since the landfill is now closed. The most current top of casing elevations, which are assumed final, are noted in **Table 3**.

Information obtained from the January 5, 1993, Hydrogeologic Investigation Report was used to more accurately reconstruct the base of landfill elevations at the piezometer locations. The results of this analysis indicate that the base of the landfill (based on the information available at the piezometer locations) lies at an elevation of approximately 1,255.50 feet above mean sea level, with a high at LPZ-21 of 1,258.34 feet and a low at LPZ-24 of 1,253.08 feet.

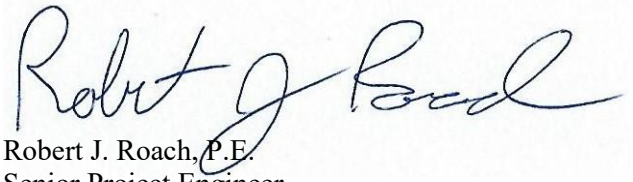
By using the current piezometer elevations to compute the elevation of the leachate within the landfill during 2025, it was found that leachate levels varied from a maximum of 5.02 feet above the landfill base (LPZ-26, November 2024) to a low of 3.63 feet above the landfill base (LPZ-23, October 2025).

The evaluation of leachate elevations within the landfill demonstrates that more than 1 foot of head exists above the projected landfill base. However, as noted in IAC 567.115.26(12)b(2), the 1-foot requirement is intended for new landfills and is specifically exempted for existing fill areas. The leachate collection system in place at the landfill is intended to achieve the lowest possible leachate head above the landfill base by collecting leachate via the perimeter collection trenches. Continued tracking of leachate levels within the landfill, utilizing current top of piezometer elevations, will determine whether leachate levels are maintained at the lowest levels possible. Overall, the leachate levels within the landfill are comparable to past levels.

CONCLUSIONS

In accordance with Section X.7. of the Permit, effective control of leachate is defined as compliance with IAC 567.115.26(11)a(1) and IAC 567.115.26(12)b(2), and the maintenance of surface and groundwater quality standards at compliance monitoring points. As stated above, leachate levels within the landfill indicate that more than 1 foot of head exists above the projected landfill base. Continued evaluation of leachate levels within the landfill will determine whether leachate levels are maintained at the lowest possible levels; leachate elevations are comparable to past levels. The Annual Water Quality Report for 2025 Sampling Data provides details of groundwater quality standards for several parameters at several site monitoring wells, consistent with data from previous annual reports.

Respectfully submitted,
PENN ENVIRONMENTAL & REMEDIATION, INC.



Robert J. Roach, P.E.
Senior Project Engineer

RJR:cdb

Enclosures

cc: M. Thelen/WDC
P. Murrow/USEPA
C. Denton/B&T
R. Doumont/Penn E&R

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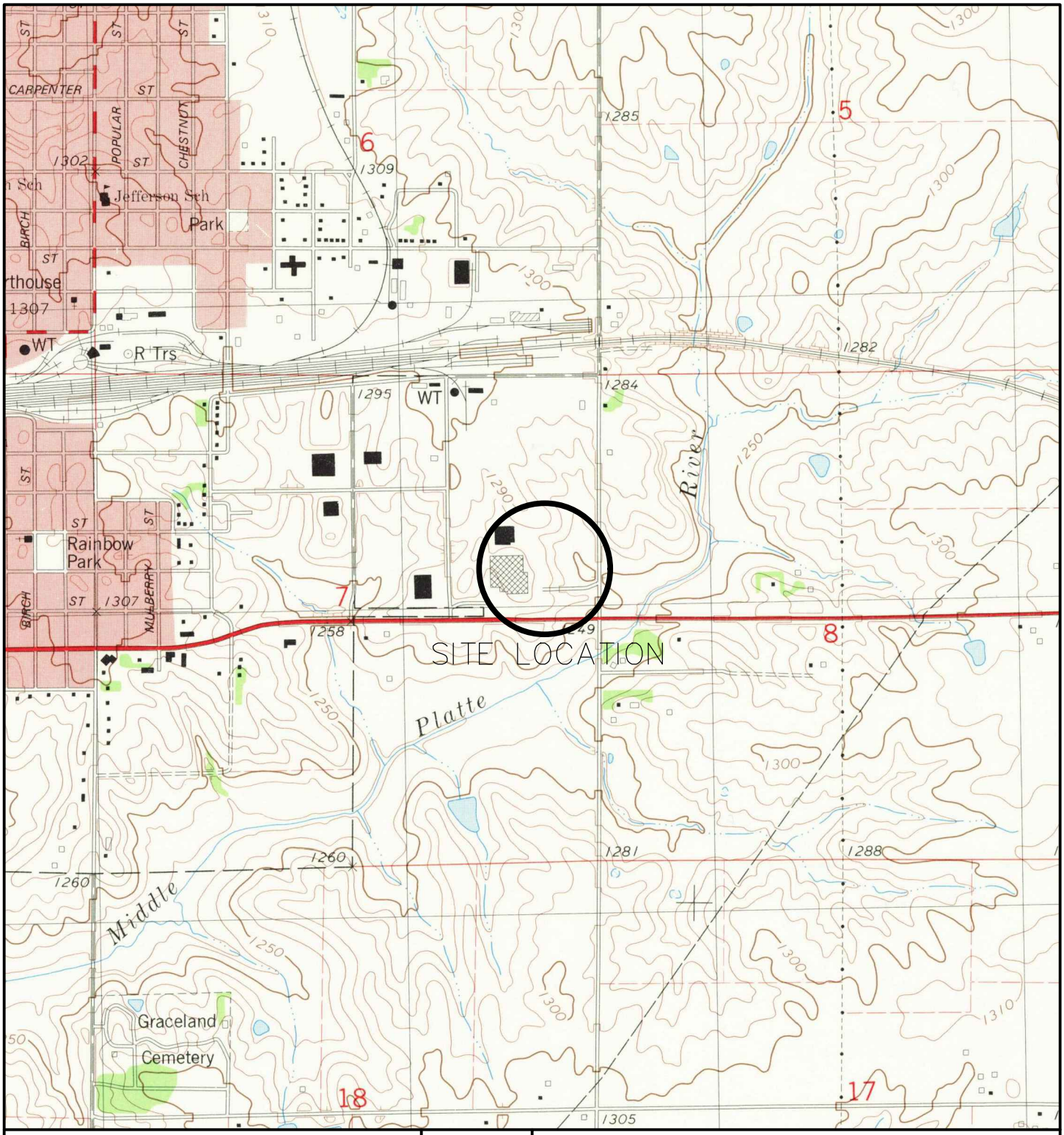
FIGURES



S:\PROJECT FILES\4000-PA008981 WDC OPS 2022\2022 LCSPE\REFERENCE\FIGURE 1 - PA008641001.DWG,1/25/2023 12:02 PM

SCALE – FEET

0 2000

REFERENCE
USGS 7.5–MIN TOPOGRAPHIC QUADRANGLE CRESTON EAST, IOWA, DATED 1980 SCALE 1:24000.

NORTH

FIGURE 1
SITE LOCATION MAP

WDC ACQUISITION LLC FACILITY
CRESTON, IOWA

PREPARED FOR
WDC ACQUISITION LLC
CRESTON, IOWA

APPROVED	RJR 01/26/2023
CHECKED	RFD 01/26/2023
DRAWN	CAC 11/24/2021
PROJECT NO.	4000–PA008641

DRAWING NUMBER
PA008641001

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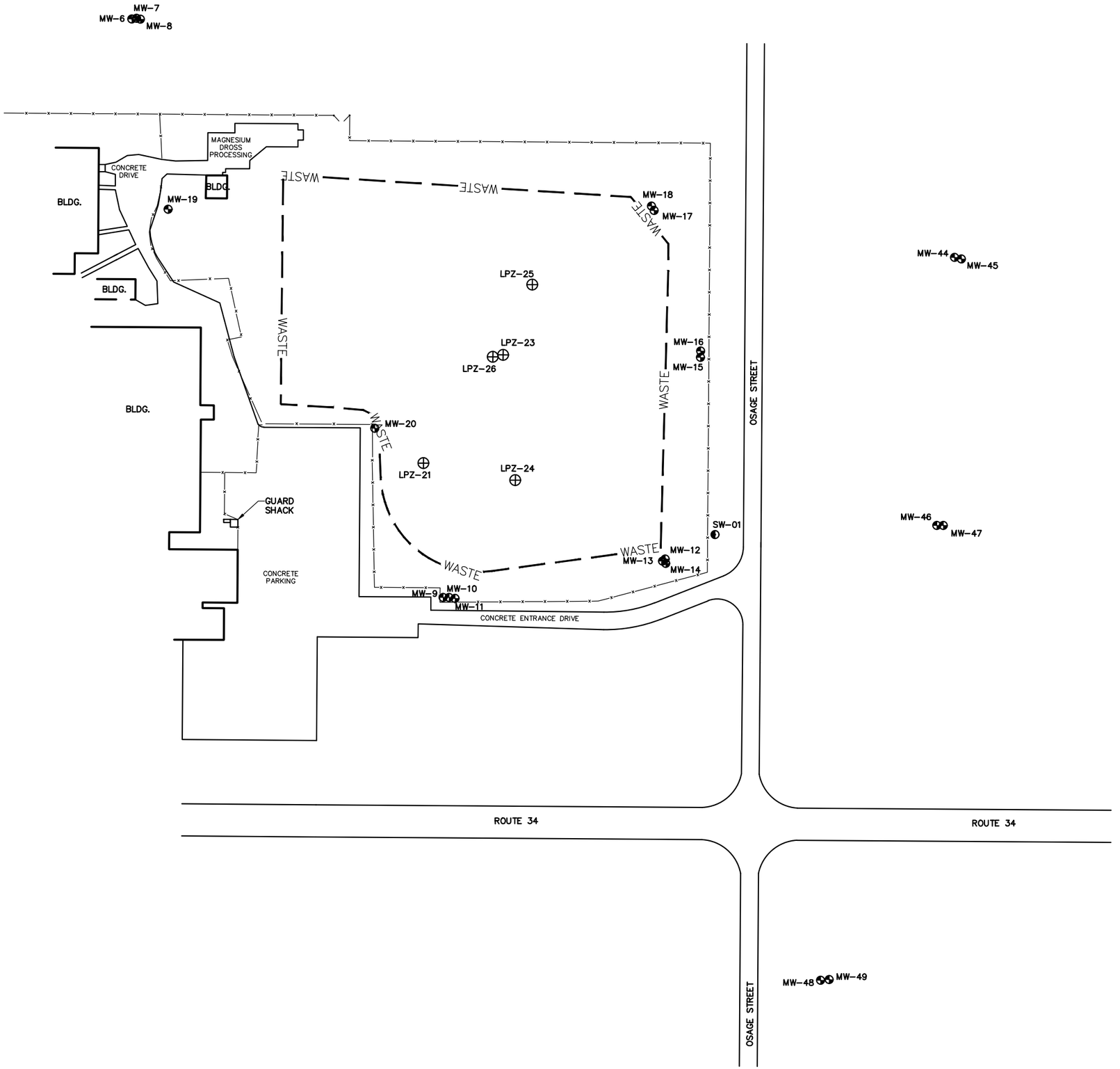
Environmental & Remediation, Inc.



S:\PROJECT FILES\4000-PA008981 WDC OPS 2022\2022 LCSPE\REFERENCE\FIGURE 2 - PA008641201.DWG, 1/25/2023 11:22:53 AM

LEGEND

SW-01	SURFACE WATER MONITORING POINT (APPROXIMATE LOCATION)
MW-16	MONITORING WELL
LPZ-21	LEACHATE PIEZOMETER
WASTE	APPROXIMATE LANDFILL BOUNDARY
	CHAIN LINK FENCE

REFERENCE:
1. TAKEN FROM GREEN ENVIRONMENTAL SERVICES, INC. "HYDROGEOLOGIC INVESTIGATION REPORT" JANUARY 25, 1993.
2. TOPOGRAPHIC AND ELEVATION SURVEY BY GARDEN & ASSOCIATES, LTD., JUNE 13, 2018.

NORTH

SCALE – FEET

0 150 300 450

REVISION	DATE	DESCRIPTION

FIGURE 2
SITE PLAN

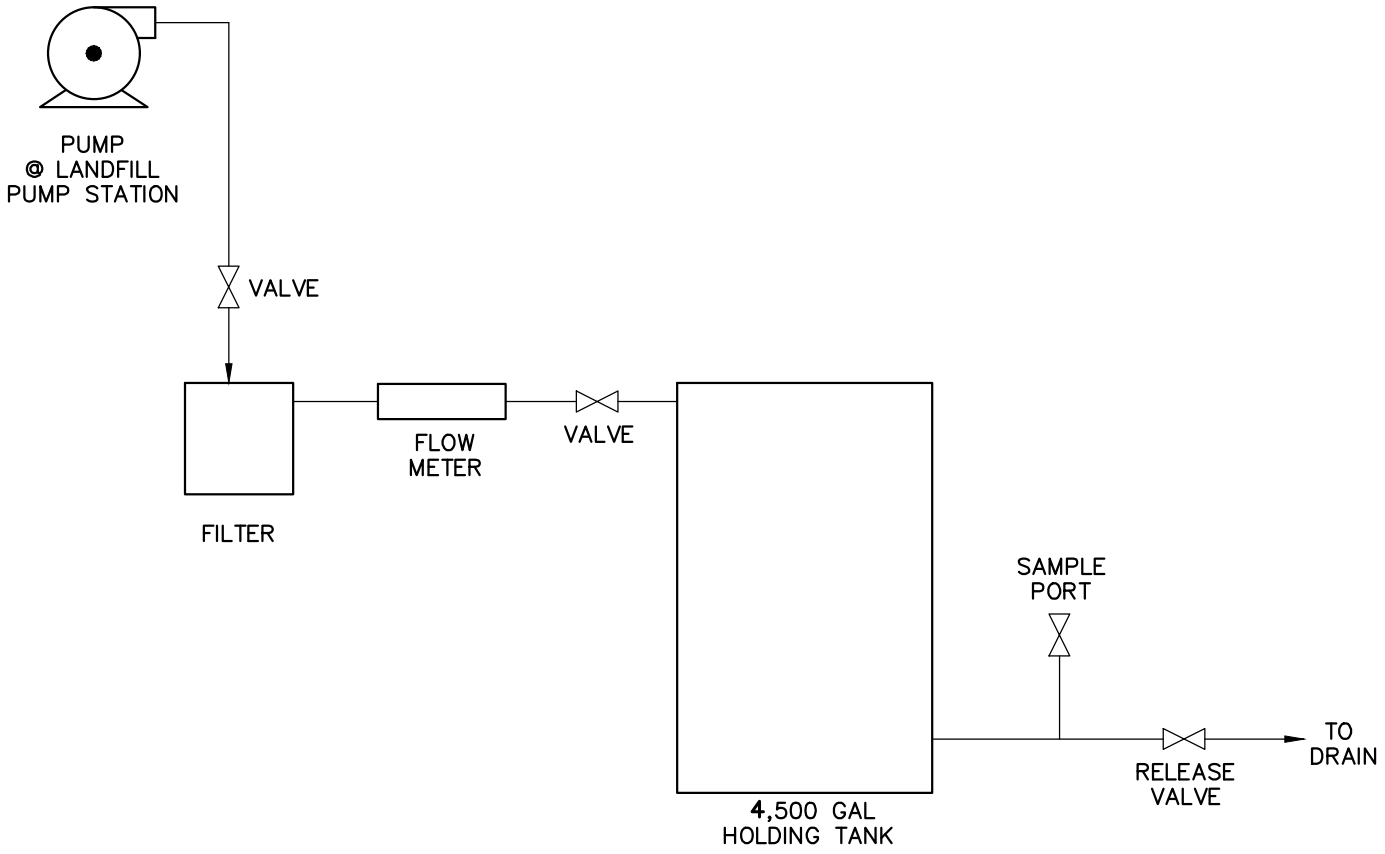
WDC ACQUISITION LLC FACILITY
CRESTON, IOWA

PREPARED FOR
WDC ACQUISITION LLC
CRESTON, IOWA

APPROVED	RJR 01/26/2023
CHECKED	RFD 01/26/2023
DRAWN	CAC 11/24/2021
PROJECT NO.	4000-PA008641

DRAWING NUMBER
PA008641201

Penn E&R
Environmental & Remediation, Inc.



DRAWING NOT TO SCALE

FIGURE 3
LEACHATE CONTROL SYSTEM
TREATMENT FACILITY
WDC ACQUISITION LLC
CRESTON, IOWA

PREPARED FOR
WDC ACQUISITION LLC
CRESTON, IOWA

APPROVED	RJR 01/26/2023
CHECKED	RFD 01/26/2023
DRAWN	CAC 11/24/2021

DRAWING NUMBER
PA008641003

Penn E&R
Environmental & Remediation, Inc.

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TABLES

Table 1
Monthly Performance Results
WDC Acquisition LLC Landfill
Creston, Iowa
Calendar Years 2024 - 2025

Sample Date	Average Daily Discharge in Gallons[(1)]	Max Daily Discharge in Gallons	Monthly Discharge in Gallons	Cumulative Discharge in Gallons
November 2024	5,464	7,053	163,915	163,915
December 2024	4,323	9,014	134,000	297,915
January 2025	3,712	6,167	115,087	413,002
February 2025	3,309	4,912	92,643	505,645
March 2025	3,388	6,040	105,025	610,670
April 2025	3,047	3,774	91,413	702,083
May 2025	2,743	4,620	85,025	787,108
June 2025	3,227	8,901	93,581	880,689
July 2025	3,540	5,604	109,734	990,423
August 2025	3,046	5,152	94,440	1,084,863
September 2025	2,345	2,900	70,342	1,155,205
October 2025	2,274	2,901	70,491	1,225,696

[(1)] Average calculated based on discharge days for the month, not calendar days.

Table 2
Discharge Limits and Analytical Sampling Results
WDC Acquisition LLC Landfill
Creston, Iowa
Calendar Years 2024 and 2025

Sample Date	Max. BOD (lbs/day) [1]	Max. Hexavalent Chromium (lbs/day) [1]	Max. Fluoride (lbs/day) [1]	*Ave.Fluoride (lbs/day) [2]*	Max. Ammonia Nitrogen (lbs/day) [1]	Max. O&G (mg/l)	Max. Phenols (lbs/day) [1]	Max. TSS (lbs/day) [1]	Max. Chromium (lbs/day) [1]	Max. Lead (lbs/day) [1]	*Ave. Lead (lbs/day) [2]*	Max. Zinc (lbs/day) [1]	*Ave. Zinc (lbs/day) [2]*
November 2024	0.1766	0.0006	2.89	2.24	0.51	2.5000	0.0006	2.77	0.0003	0.00001	0.00001	0.0006	0.0005
December 2024	0.4513	0.0008	3.71	1.78	0.64	2.7000	0.0007	2.69	0.0005	0.00002	0.00001	0.0008	0.0004
January 2025	0.1544	0.0005	2.56	1.54	0.46	2.9000	0.0005	1.04	0.0003	0.00001	0.00001	0.0005	0.0003
February 2025	0.2459	0.0004	2.19	1.47	0.37	2.5000	0.0004	0.89	0.0002	0.03220	0.01298	0.0004	0.0003
March 2025	0.1512	0.0005	2.46	1.38	0.34	2.5500	0.0005	0.50	0.0001	0.00005	0.00004	0.0005	0.0003
April 2025	0.0945	0.0003	1.60	1.29	0.22	2.5000	0.0003	0.37	0.0001	0.00001	0.00001	0.0003	0.0003
May 2025	0.0578	0.0004	1.92	1.14	0.31	2.5000	0.0004	0.54	0.0001	0.00001	0.00001	0.0004	0.0002
June 2025	0.1114	0.0007	3.75	1.36	0.58	2.5000	0.0007	1.09	0.0002	0.00001	0.00001	0.0007	0.0003
July 2025	0.0701	0.0005	1.46	0.92	0.31	2.4500	0.0005	0.61	0.0001	0.00001	0.00001	0.0005	0.0003
August 2025	0.2580	0.0004	2.10	1.24	0.34	2.4000	0.0004	0.47	0.0001	0.00001	0.00001	0.0004	0.0003
September 2025	0.0363	0.0002	0.63	0.51	0.23	2.6500	0.0002	0.68	0.0001	0.00001	0.00000	0.0002	0.0002
October 2025	0.0363	0.0002	1.24	0.98	0.25	2.4000	0.0009	0.73	0.0002	0.00001	0.00019	0.0002	0.0002
Average Permitted Release (lbs/day)	**25**	**0.05**	**40**	**40**	**1.5**	**50 (mg/L)**	**0.3**	**25**	**0.25**	**0.025**	**0.025**	**0.25**	**0.25**
Maximum Permitted Release (lbs/day)	**40**	**0.15**	**60**	**60**	**3**	**75 (mg/L)**	**0.3**	**40**	**0.75**	**0.075**	**0.075**	**0.75**	**0.75**

Notes:
[1] Table uses maximum discharge flow/day for the month in calculation of mass flow discharges unless otherwise noted.
[2] Based on average discharge flow/day for the month (per discharge day not calendar day), unless otherwise noted.
[3] Red shaded cells indicate exceedances based on POTW limits.
[4] Blue shaded cells are calculated/reported using concentrations at one-half the reporting limit (ref: IDNR letter to Wellman dated May 9, 2013).

Table 3
Leachate Elevations
WDC Acquisition LLC Landfill
Creston, Iowa
Calendar Years 2024 and 2025

				November		December		January		February		March		April		May		June		July		August		September		October	
Well I.D.	TOC Elev.11/2018 (ft MSL)[1,2]	TOC Elev.01/2019 (ft MSL)	TOC Elev.09/2019 (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)	Depth to GW (ft)	GW Elev (ft MSL)
LPZ-21[3]	NA[4]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LPZ-23	1281.24	1281.24	1277.24[5]	17.61	1259.63	17.7	1259.54	17.92	1259.32	18.13	1259.11	18.35	1258.89	18.25	1258.99	18.30	1258.94	18.27	1258.97	18.32	1258.92	18.30	1258.94	18.30	1258.94	18.40	1258.84
LPZ-24[3]	1273.87	1273.87	1273.87[5]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LPZ-25[3]	1277.81	1277.81	1277.81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LPZ-26	1281.33	1281.33	1277.83[5]	18.32	1259.51	18.42	1259.41	18.7	1259.13	18.91	1258.92	19.18	1258.65	19.21	1258.62	19.1	1258.73	19.00	1258.83	18.90	1258.93	18.99	1258.84	18.97	1258.86	19.15	1258.68

Notes:
[1] TOC = Top of inner casing.
[2] ft MSL = Feet above mean sea level.
[3] Damaged, not functional.
[4] NA = Not available.
[5] TOC elev. revised September 2019 due to resurvey.

Well I.D.	Orig. TOC 1993 HIR Report (ft MSL)	Well Depth to LF Base 1993 HIR Report (ft)	Elev LF Base 1993 HIR Report (ft MSL)
LPZ-21	1273.36	15.02	1258.34
LPZ-23	1272.96	17.75	1255.21
LPZ-24	1270.18	17.1	1253.08
LPZ-25	1274.49	18.6	1255.89
LPZ-26	1273.69	19.2	1254.49

		November		December		January		February		March		April		May		June		July		August		September		October	
Well I.D.	Elev LF Base 1993 HIR Report (ft MSL)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)	GW Elev (ft MSL)	Depth above LF Base (ft)
LPZ-21	1258.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LPZ-23	1255.21	1259.63	4.42	1259.54	4.33	1259.32	4.11	1259.11	3.90	1258.89	3.68	1258.99	3.78	1258.94	3.73	1258.97	3.76	1258.92	3.71	1258.94	3.73	1258.94	3.73	1258.84	3.63		
LPZ-24	1253.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LPZ-25	1255.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LPZ-26	1254.49	1259.51	5.02	1259.41	4.92	1259.13	4.64	1258.92	4.43	1258.65	4.16	1258.62	4.13	1258.73	4.24	1258.83	4.34	1258.93	4.44	1258.84	4.35	1258.86	4.37	1258.68	4.19		