March 27, 2024

Mr. Brian L. Rath, P.E.
Environmental Engineer Senior
IDNR – Land Quality Bureau
Wallace State Office Building
502 East 9th Street
Des Moines, Iowa 50319

HLW Engineering Group
Engineering Management

RE: SEMI-ANNUAL INSPECTION – SPRING 2024
POWESHIEK COUNTY SLF
CLOSURE PERMIT NO. 79-SDP-1-73C
HLW P.N. 6011-23A.750

Dear Mr. Rath:

In accordance with the Special Provisions of the Closure Permit, a semi-annual inspection was conducted the morning of March 13, 2024. Lyle Brehm, P.E., Poweshiek County Engineer, was notified of the results of the inspection on March 27, 2024. Weather conditions at the time of the inspection were sunny, calm and temperatures in the 60's.

HLW Engineering takes semi-annual water level measurements in Monitoring Wells during the annual sampling episodes and during the semi-annual gas monitoring episodes (as per Permit Amendment #14, dated January 3, 2019). Water levels, monitoring well testing results, and explosive gas monitoring results for 2024 will be included in the Annual Water Quality Report, which will be submitted to IDNR by November 30, 2024.

STATUS OF THE PERMIT

The Closure Permit for the Poweshiek County SLF expires on March 2, 2025. Permit Amendments received since 2015 are as follows:

Permit Amendment #10, January 20, 2016. This permit amendment included the following:

- Approved and incorporated into the permit the well plugging record (dated November 16, 2015) for MW-11.
- Approved and incorporated into the permit the well construction records (dated November 16, 2015) for MW-11R.
- Approved and incorporated into the permit the management of the soil stockpile located on the landfill cap detailed in the "Response Letter to IDNR Letter Dated July 20, 2015" (Doc #84777).
- Detailed the temporary changes to the HMSP required in calendar year 2016. Future sampling requirements will be determined based on the results of the sampling in 2016.

Permit Amendment #11, December 21, 2016. This permit amendment included the following:

- Approved the correlation between total suspended solids and turbidity detailed in the HLW letter dated November 18, 2016 (Doc #87797).
- Detailed the temporary changes to the HMSP required in calendar year 2017. Future sampling requirements will be determined based on the results of the sampling in 2017.

Permit Amendment #12, December 26, 2017. This permit amendment included the following:

- Detailed the temporary changes to the HMSP required in calendar year 2018. Future sampling requirements will be determined based on the results of the sampling in 2018.

Permit Amendment #13, October 9, 2018. This permit amendment included the following:

- Reduced the frequency of gas monitoring in site structures from quarterly to semi-annually.

Permit Amendment #14, January 3, 2019. This permit amendment included the following:

- Detailed the permanent changes to the HMSP and GMSP. Subsurface gas monitoring from the vadose zone is required semi-annually moving forward.

Permit Amendment #15, May 24, 2019. This permit amendment included the following:

- Approved the construction documentation forms for subsurface gas probes GP-1 and GP-2 and amended the semi-annual gas monitoring requirements to include monitoring at GP-1 and GP-2.

ANNUAL WATER QUALITY REPORT

The 2023 Annual Water Quality Report (AWQR) was received by IDNR on November 28, 2023 (Doc #108823). IDNR comments on the 2023 AWQR have not been received to date.

All monitoring wells observed during the inspection were locked.

GENERAL CONDITIONS

The entrance to the closed SLF is separated from the Poweshiek County Transfer Station entrance. The south gate (main gate) and east gate were locked during the inspection.

Former landfill maintenance buildings remain on the site. The buildings are used by Poweshiek County for equipment storage. This area is also sometimes used for County staff training activities or Contractor staging.

The wetlands mitigation project completed in the eastern portion of the site was viewed. Over 1,000 trees were planted in association with this project. Vegetation is well established around the wetlands limiting sediment migration to the wetland areas. This work is located outside the waste boundary and does not impact the landfill cap. The wetland areas provide wildlife habitat and an excellent visual barrier along the east side of the site.

AREAS CLOSED WITH A 2'CAP

Those portions of the SLF closed with a 2' soil cap were closed in accordance with the rules in effect at the time of the closure. The vegetative cover is well established with no significant rill erosion.

The surface runoff diversion terrace and ditch along the north perimeter are in fairly good condition. Ponding was not observed during the inspection at the east end of this terrace where previous inspections have noted ponded water. The terrace has a good stand of vegetation present.

AREAS CLOSED WITH A 4' CAP

The portion of the SLF closed in 1994 was capped with 2' of compacted clay soil and a 2' vegetative layer. The vegetative cover is well established with no significant rill erosion.

The terraces on the south half of the site are located on areas closed with a 2' cap as well as areas closed with a 4' cap. The terrace channels are in fairly good condition with no ponding noted in the terrace channels.

The flowline of the terrace letdown ditch on the south slope was stabilized with rock several years ago. The rock has limited further erosion in this area. Saplings are routinely removed from the letdown and there were no saplings in the letdown during this inspection.

There were several linear areas on the crest of the landfill where sparse vegetation growth and minor settlement has been noted starting with the Fall, 2021 inspection. These areas were also noted during this inspection. The majority of the facility was operated using the trench fill landfilling method. It appears that the areas may be associated with the historic trench fills. Note that the settlement has not led to ponding or drainage issues on the cap to date.

STATUS OF THE SOIL STOCKPILE

County staff previously stockpiled soil at the end of the access road at the approximate location shown on Figure 1. The soil is available for use in future repairs at the landfill if necessary. As noted during past correspondence, a portion of the original stockpile

was located on the landfill cap. Details on the management of the portion of the stockpile located over the landfill cap were included in the "Response Letter to IDNR Letter Dated July 20, 2015" (Doc #84777). This document was approved by IDNR in Permit Amendment #10 (January 20, 2016). The steps outlined in the work plan in Doc #84777 will be followed and the required documentation submitted to IDNR when the entire stockpile has been removed from the landfill cap area. Based on observations during this inspection no material was removed from the stockpile since the Fall, 2023 inspection.

A temporary stockpile of recycled asphalt has been placed along the access road to the west of the soil stockpile. This stockpile appears to outside of the waste boundary to the east but may infringe on the south side of Trenches 9-11. The approximate location of the temporary stockpile is shown on Figure 1. Mr. Brehm reported that this stockpile would be utilized by a Contractor on a county road improvement project and would be removed this year.

2023 SEEP REPAIR AREAS

As documented in the December 7, 2023 letter (Doc #108401), two (2) potential seep areas were repaired by County staff in November, 2023. Figure 1 is attached illustrating the referenced repair areas.

The areas of repair were observed during this inspection. At the time of inspection vegetation had not established on the disturbed soil areas adjacent to the rock and fabric repair areas.

Review of the north repair area indicated that the perimeter of the repair was dry and no moisture was observed.

Review of the south repair area indicated that the south side (downslope side) of the repair was moist but that there was no flow.

MONITORING WELL MAINTENANCE PERFORMANCE REEVALUATION

The Monitoring Well Maintenance Performance Reevaluation was submitted to IDNR for review and approval on September 30, 2021 (Doc #101329). The report recommended no significant modifications to the Hydrologic Monitoring System Plan or monitoring wells. The next evaluation is due in 2026.

ADDITIONAL COMMENTS

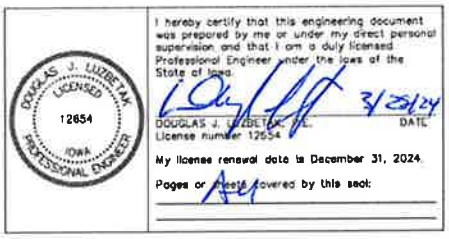
No trees were noted on the cap.

The majority of the cap was mowed in 2023 and the majority of vegetation on the cap is in excellent condition.

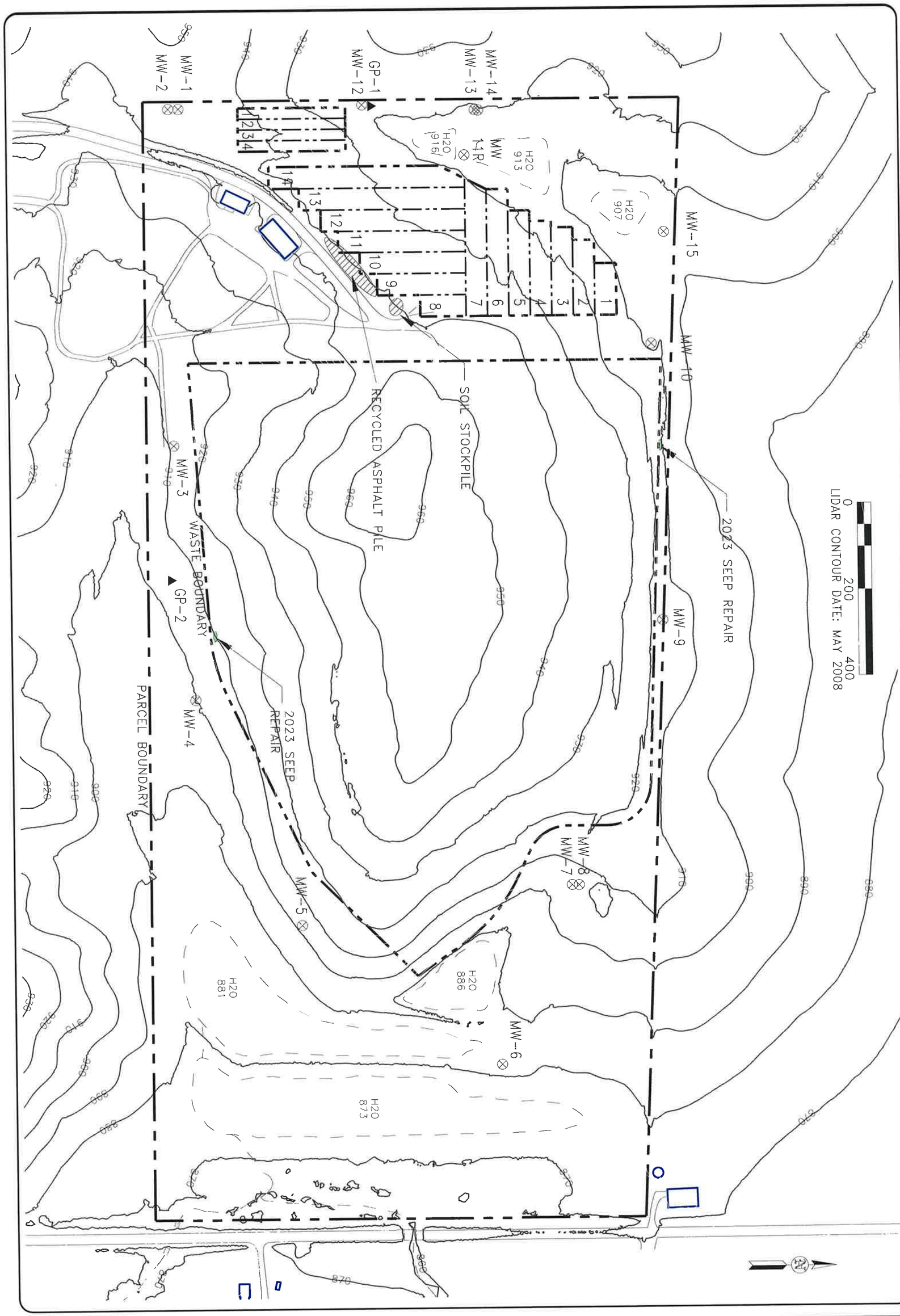
The overall appearance of the closed landfill is excellent.

RECOMMENDATIONS

1. Remove the temporary asphalt stockpile during 2024.
2. Continue to monitor the soil stockpile.
3. Continue to monitor the repaired seep areas.
4. Continue to remove trees from the cap and terrace letdown ditch.
5. Continue to monitor settled areas for signs of ponding or drainage issues.
6. Continue to monitor the terrace channels for evidence of ponding or overtopping. Regrade terrace channels to eliminate ponding as necessary.
7. Continue to monitor vegetation and erosion and repair as necessary.
8. Continue to monitor diversion and drainage systems and repair as necessary.



cc: Lyle Brehm, P.E., Director, Poweshiek County Sanitary Landfill Commission (electronic copy)



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SPRING 2024 INSPECTION

POWESHIEK COUNTY SANITARY LANDFILL
POWESHIEK COUNTY, IOWA

FIGURE: 1

REVISION	NO.	DATE
DRAWN JGH	PROJECT NO. 6011-23A	DATE 3/27/24