November 17, 2025

Mr. Brad Davison, Environmental Specialist
Land Quality Bureau
Iowa Department of Natural Resources
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321

HLW Engineering Group
Engineering Management

RE: Post-Closure Care - Reduction Termination Plan
Proposed End to Regulation under IAC 567, Chapter 103
Proposed End to the Closure Permit
Poweshiek County Sanitary Landfill, IDNR Permit #79-SDP-01-73C

Dear Mr. Davison:

Poweshiek County is requesting the termination of the Closure Permit for the Poweshiek County Sanitary Landfill (79-SDP-01-73C) issued March 2, 1995 (Doc #56228), and the end of regulation of the facility under historic Iowa Administrative Code (IAC) 567, Chapter 103.

This Post-Closure Care Reduction-Termination Plan (PCC RTP) is offered to satisfy the requirements set forth by IDNR to address Iowa Administrative Code 567, Chapter 113, even though the rule does not specifically apply to this closed facility. Figure 1, Site Plan, is attached illustrating the site features, monitoring wells, and gas probes.

In lieu of regulation under historic IAC 567, Chapter 103 and the associated Closure Permit, Poweshiek County proposes that the limited on-going maintenance items warranted at the facility can be appropriately supervised and managed by Poweshiek County. Poweshiek County understands that certain legal instruments will be required to facilitate the end of IDNR regulation of the facility.

The basis of this proposal is rooted in the observed condition of the facility and the lack of perceived risk-based concerns associated with the facility as it exists in its current condition.

CURRENT CONDITIONS

Leachate Management

As per Special Provision X.13 of the Closure Permit (Doc #56228), the site is conditionally exempt from providing and operating a leachate collection system. A leachate collection or management system does not exist at this site.

As reported in past semi-annual Engineer's inspection reports, leachate seeps have been repaired and improvements to the cap have been constructed in the area of the historic persistent seeps.

Poweshiek County is both willing to and capable of effectively performing continued cap maintenance tasks related to infiltration and erosion control and thereby controlling leachate generation and potential seeps.

Gas Control

Landfill gas was historically monitored in the breathing zone at the site perimeter. In the fall of 2017, monitoring in the well head air space was initiated. In April 2019, subsurface monitoring points GP-1 and GP-2 were installed. Between April, 2019 and the present, subsurface landfill gas has been monitored in the headspace of dedicated subsurface gas monitoring probes GP-1, GP-2, and in site monitoring wells MW-2, MW-5, MW-8, MW-9, and MW-10. Subsurface gas monitoring has been performed semi-annually since 2017.

Since subsurface monitoring began in 2017 (as percent of the lower explosive limit) no explosive gas has been detected to date at any subsurface monitoring point at the site. The concentrations of subsurface gas monitoring are all reported as 0% LEL in the dedicated gas probes/monitoring wells during each monitoring episode. Water level measurements collected at the time of gas monitoring indicates that subsurface probes are typically open to the vadose zone.

Gas generation curves typically illustrate gas generation peaking in the second or third decade of waste burial (e.g. EPA LMOP studies), it is anticipated that landfill gas generation will decrease with time.

Throughout the closure period shallow passive gas vents have been installed through the cap of the landfill in order improve landfill cap vegetation.

The potential for gas migration is mitigated based on the absence of detectable gas concentrations in the subsurface around the perimeter of the site. Poweshiek County is both willing to and capable of effectively performing maintenance tasks on gas vents and the landfill cap/vegetation in order to provide long-term control over subsurface landfill gas migration.

Dissolved methane was detected in water collected from MW-4 on September 2, 2025. Passive venting in the vicinity of MW-4 may facilitate additional source control related to water quality, however, the detectable build-up of landfill gas has not been documented in site structures, monitoring wells, or subsurface gas probes. The venting to control gas migration has not been justified.

Ground Water Quality

The 2025 Annual Water Quality Report (AWQR), which was submitted to IDNR on November 14, 2025 (Doc #114735) is cited in support of the interpretation of the water quality.

Groundwater has been monitored at perimeter monitoring wells at the site since at least the early 1990's. At the Poweshiek County Sanitary Landfill, the following monitoring wells exist and are routinely monitored (currently on an annual frequency).

MW-2 (background)
MW-3 (downgradient)
MW-4 (downgradient – supplemental well)
MW-5 (downgradient)
MW-9 (downgradient)
MW-16 (downgradient - AZPOC to MW-4)

MW-4 has been documented to be impacted by cobalt. A groundwater quality assessment was performed near MW-4 in 2025 and resulted in the establishment of MW-16 as step-out well to MW-4. The remedy, which was implemented long ago under historic IAC 567, Chapter 103, is natural attenuation. The monitoring of the remedy was initiated in 2024 at MW-16.

Based on routine monitoring of water quality at MW-16, the remedy is considered complete since all 95% LCL values at MW-16 are below GWPS. Natural attenuation has assuredly been occurring beyond MW-4 during the entirety of the post-closure period. Success has been monitored over the past year. Iowa Administrative Code (113.10(9)"e"(2)) requires that the remedy be successful for at least three (3) consecutive years. *Historic IAC 103 has no such requirement.* It is our interpretation that the remedy can be considered complete at this time under historic IAC 103 based on the fact that the remedy has been continuously function for the past 30 years and has been documented to be successful for the past year.

Moving forward there is no indication (based on stable and static site conditions) that water quality will change appreciably. More specifically, site data indicates that water quality changes over time at the supplemental well located in the limited area of impact (MW-4) will be slow, controlled, and positive (improving). The site is regulated under historic Iowa Administrative Code (IAC) 567, Chapter 103, but it is noted that the remedy would be considered complete under rule (113.10(9)"e"(2)), since MW-16 is within limits. The other monitoring points on site demonstrate compliance with water quality standards and support interpretations of the highly controlled nature of the isolated impact at MW-4.

Since water quality is within rule requirements and the remedy is documented as complete, there does not appear to be any rule requirement for on-going maintenance of monitoring wells by Poweshiek County once an environmental covenant has been established.

Storm Water Quality

The site closure (completed 1995) has well established vegetation, well maintained erosion controls, and maintained diversion structures in place. Previous leachate seeps are documented to be repaired. Stormwater impacts would be minimal, and surface water sampling was never required by the Provisions of the March 2, 1995 Closure Permit (Doc #56228).

Final Cover Condition (settlement/ponding/slope stability) and Maintenance

The final cover and site closure were completed in 1995 in accordance with the approved plans. Landfill Inspections have been conducted semi-annually since the closure permit was issued. Settlement over the past 20 years has not resulted in undue ponding, terrace flowline failures, or diversion let-down failures. Diversion and drainage systems are in good shape with no evidence of erosion.

A soil stockpile was previously placed over a portion of the landfill cap. IDNR required a "work plan for reclamation of the cap" in the letter dated July 20, 2015 (Doc #83911). A response was submitted to IDNR on November 23, 2015 (Doc #84777). IDNR approved the response in

Permit Amendment #10 dated January 20, 2016. The steps in the approved work plan will be implemented prior to completing the Environmental Covenant.

Vegetation

The landfill vegetation is in good condition and is mowed annually to control the growth of undesirable vegetation and saplings. Some bare spots and thin vegetation were noted in previous inspections. Ongoing observation of the vegetation, mowing, and soil amendment is needed moving forward. Poweshiek County is both willing to and capable of effectively performing continued vegetation maintenance and enhancement tasks in order to improve the climax vegetation.

POST-CLOSURE CARE REDUCTION-TERMINATION PLAN (PCC RTP)

Leachate Management

No actions are required as part of the PCC RTP. A leachate collection system does not exist at this site.

Gas Control

No actions are required as part of the PCC RTP. Gas control is considered complete.

Ground Water Quality

No actions are required as part of the PCC RTP. Water Quality remedy and control are considered complete and comply with rule.

Storm Water Quality

No actions are required as part of the PCC RTP.

Final Cover Condition (settlement/ponding/slope stability) and Maintenance

Document that the steps in the approved work plan (Doc #84777) related to the soil stockpile are completed. No actions are required as part of the PCC RTP. Ongoing maintenance will be required under an Environmental Covenant.

Vegetation

No actions are required as part of the PCC RTP. Ongoing maintenance and enhancement of vegetation will be required under an Environmental Covenant.

ENVIRONMENTAL COVENANT DEVELOPMENT

Based on observations recorded during the recent inspections, the facility is in general conformance with the expectations of the Closure Permit and conditions at the site continue to improve. The site can be managed under an Environmental Covenant.

Poweshiek County understands that on-going inspection and maintenance of the cap, the diversion systems, the drainage systems, and the vegetation are necessary moving forward. These tasks are merely maintenance items necessary for the perpetuation of the well-established and enduring cap/cover features. Now established, these features do not warrant on-going regulation by the State, rather warrant management by Poweshiek County. Poweshiek County is both willing to and capable of effectively performing the required maintenance tasks moving forward.

Conclusions

Poweshiek County seeks a pathway to end regulation of the facility under historic IAC 567, Chapter 103, while providing the IDNR the appropriate assurances that the facility maintenance tasks will be on-going, as appropriate, to maintain the facility in conformance with the risk-based decision to end IDNR oversight.

Poweshiek County appreciates your consideration of this PCC RTP, and we look forward to your reply. Please consider whether you believe the proposed PCC RTP is sufficient and whether completion of the PCC RTP will make Poweshiek County a candidate to successfully file an Environmental Covenant in coordination with IDNR's participation.

Please contact the HLW Engineering Group office at (515) 733-4144 with any questions you may have or to schedule and coordinate a site visit with Poweshiek County and HLW staff.

Sincerely,
HLW Engineering Group

Todd D. Whipple, CPG.
Project Manager

cc: Lyle Brehm, P.E., Poweshiek County Engineer