

May 3, 2024

Mr. Geoffrey Spain  
Environmental Engineer  
IDNR – Land Quality Bureau  
Wallace State Office Building  
502 E. 9th Street  
Des Moines, Iowa 50319



**RE: Response to IDNR Letter dated April 9, 2024 (Doc #109785)  
Boone County Sanitary Landfill - IDNR Permit No. 08-SDP-01-75P**

Dear Mr. Spain:

This response related to GU-3 is prepared as requested in the April 9, 2024 IDNR Letter (Doc #109785).

**Description**

GU-3 is an underdrain outlet sampled as part of the HMSP. A Statistically Significant Increase (SSI) for Volatile Organic Compounds (VOC) at GU-3 was reported in the 2021 Annual Water Quality Report for the Boone County SLF dated January 24, 2022 (Doc #102107).

In response to the SSI, a Passive Engineered Conveyance Structure (PECS) was installed in 2022 to volatilize organic compounds in water discharged from GU-3 (following discharge and prior to entering a water of the State). The Construction Certification for the PECS (designated PECS-3) is included in Attachment A.

**Performance of Treatment System (the PECS)**

The water quality at GU-3 is impacted by VOC and this is not anticipated to cease in the future. In 2022, the PECS was constructed in lieu of connecting GU-3 to the leachate collection system as allowed by IDNR in the August 10, 2012 Memorandum of Understanding issued by the IDNR (Attachment A).

Water quality results at GU-3 for 2021 and 2022 are summarized in Attachment B and confirm the on-going presence of VOC at GU-3.

Water quality testing from the outfall of the treatment system (the PECS monitored at PEC-3) is limited. There is only one (1) testing event completed after completion of the PECS (sample results for 4/18/2022). Water quality results for PECS-3 are included in Attachment C.

The single sampling event illustrated that the PECS does effectively treat the GU-3 discharge. However, we recognize the stated IDNR concern related to the unknown status of the performance of the PECS in the treatment of the GU-3 discharge water.

Both GU-3 and the PECS-3 sampling points were consistently submerged below standing water trapped in the sedimentation basin below both GU-3 and PECS-3 during 2023 and the Spring of 2024. Neither GU-3 or PECS-3 could be sampled during this period of time.

### **Proposed Response**

It is recognized that the ability to collect samples from both GU-3 and PECS-3 is paramount in documenting that the discharge from GU-3 is fully treated within the PECS prior to release from the treatment system at PECS-3.

It is proposed that the current condition of the sedimentation basin be improved by excavating the stored sediment to restore flow conditions in the standpipe. This in turn will allow the sedimentation basin to perform as designed and eliminate the long-term storage of water in the basin.

When there is no longer pooled water in the sedimentation basin, then the GU-3 sampling point (end-of-pipe) and the PECS-3 sampling point (discharge from the PECS) will be exposed and free-flowing.

The outflow elevation of GU-3 is 957.9, while the PECS-3 outfall is located at elevation 956.2. The as-constructed elevation of the base of the sedimentation basin is 954.0. This demonstrates that when the sediment basin is maintained at an operational elevation near the base (below elevation 956.2), the PECS will perform as designed.

Boone County Sanitary Landfill is in the process of renting a long-reach excavator to remove the sediment currently filling the sedimentation basin, to expose GU-3, and to reestablish the flowline of the PECS.

### **Proposed Schedule**

It is proposed that the sedimentation basin clean-out and the re-establishment of sampling points GU-3 and PECS-3 be completed prior to July 30, 2024.

It is further proposed that immediately upon completion of the work, water quality samples from GU-3 and PECS-3 will be collected and analyzed to confirm the performance of the PECS thus far in 2024. Additionally, it is proposed that the sedimentation basin be maintained and cleaned on a routine, more frequent, basis to preserve the integrity of sampling points GU-3 and PECS-3 moving forward. It is recognized that continued operation of the PECS is granted dependent upon the consistent demonstration that the PECS is effectively treating the GU-3 discharge.

Please let me know whether the proposed response is acceptable.

Respectfully Submitted,  
**HLW Engineering Group**



Todd Whipple, CPG.  
Project Manager

cc: John Roosa, Administrator, Boone County SLF