

OR

PROJECT: WC,CY25 Env Comp&On- DATE: 2/20/2025
Call,Loess Hills,IA
27225095.01

SUBJECT: Loess Hills Sanitary Landfill - 65- TRANSMITTAL ID: 00001
SDP-01-72P - HMSP and Gas
Monitoring Plan Upsate

PURPOSE: For Record VIA: Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
Ben Madson OR	SCS Engineers	BMadson@scsengineers.com	

TO

NAME	COMPANY	EMAIL	PHONE
Mike Smith 502 East 9th Street Des Moines IA 50319- 0034 United States	Iowa, State of	mike.smith@dnr.iowa.gov	515-725-8200

REMARKS: Good morning,

SCS Engineers, on behalf of Iowa Waste Services, LLC., is submitting the attached document in response to the Iowa Department of Natural Resources requirement (Doc # 112202) to update the Hydrologic Monitoring System Plan (HMSP) and review the Landfill Gas Monitoring Plan, both for the Loess Hills Regional Sanitary Landfill. If you have any questions or comments regarding the submittal, you may contact me using the information below. Additionally, if there is an issue with the document transmittal, let me know and I will resend the document as soon as possible.

Thank you,
Benjamin Madson
(515) 776-9255
bmadson@scsengineers.com

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	2/20/2025	Loess Hills Regional Sanitary Landfill - 65-SDP-01-72P - HMSP and Gas Monitoring Plan Update v0.1.pdf	

COPIES:

Transmittal

DATE: 2/20/2025
TRANSMITTAL ID: 00001

Kelly.Danielson@WasteConnections.com

Rachel Hanigan

Bret Stephens

Chaz.Roberts@WasteConnections.com

Becky Jolly

Tim Buelow

(Waste Connections, Inc. (99))

(Waste Connections, Inc. (99))

(SCS Engineers)

February 20, 2025
File No. 27225095.01

Mr. Mike Smith, P.E.
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Avenue
Des Moines, Iowa 50321

**Re: HMSP and Gas Monitoring Plan Update/Response
Loess Hills Regional Sanitary Landfill
Permit No. 65-SDP-01-72P**

Dear Mike:

SCS Engineers, on behalf of Iowa Waste Services, LLC. (IWS), is responding to the Iowa Department of Natural Resources (DNR) requirement (Doc # 112202) to update the Hydrologic Monitoring System Plan (HMSP) and review the Landfill Gas Monitoring Plan, both for the Loess Hills Regional Sanitary Landfill (Landfill). The HMSP update is required as a result of the redesign of the groundwater underdrain system beneath Cells H, I, and J (see Doc # 111219, dated October 31, 2024) and approved on December 5, 2024 (Doc # 111430). The Landfill Gas Monitoring Plan review is required as a result of the installation of subsurface gas monitoring probes (see Doc # 112226, dated February 5, 2025). These two items are addressed individually below.

HMSP Update

The currently approved HMSP was included as Appendix 9 of the Comment Response – Permit Amendment Application: Lateral and Vertical Expansion dated December 22, 2022 (Doc # 105511) and approved on March 1, 2023 (Doc # 105975). The approved HMSP contained the following tables:

- Table 3-1: HMSP Monitoring Points and Statistical Method
- Table 3-2: MSWLF Unit HMSP Monitoring Points by Phase

The monitoring points included in the HMSP associated with Cells H, I, and J under which the groundwater underdrain was redesigned include the following:

1. Monitoring Well MW-17 (currently a background well).
2. Groundwater Underdrain Point GU-2 associated with Cell H.
3. Groundwater Underdrain Point GU-3 associated with Cell I.
4. Groundwater Underdrain Point GU-4 associated with Cell J.
5. Groundwater Underdrain Point GU-C1 becoming the combined GU-2, GU-3, and GU-4 discharge point.

These monitoring points are listed in HMSP Table 3-1. Cells H, I, and J were summarized in HMSP Table 3-2 as a single HMSP monitoring network change. As indicated in HMSP Table 3-2, monitoring points MW-48, GU-2, GU-3, GU-4, and GU-C1 are proposed to be added to the HMSP monitoring network and monitoring well MW-17 is scheduled to transition from a background monitoring well to a compliance monitoring well with the completed buildout of all three Cells H, I, and J.



Cells H, I, and J are projected to be constructed sequentially with Cell H being constructed this spring. Consequently, the aggregated Cells H, I, and J cell constructions in the HMSP may be separated to provide a more granular schedule of HMSP monitoring network changes affecting the monitoring well MW-48 installation schedule and the monitoring well MW-17 transition. Monitoring well MW-48 was to be installed near the Landfill entrance off of Highway 34 as a new background monitoring well to replace the background function of monitoring well MW-17. Monitoring well MW-17 is located south of future Cell J and can continue to remain as a background monitoring well until the construction of Cell J. Therefore, the installation of new background monitoring well MW-48 is not needed at this time and should be installed prior to the construction of Cell J.

As listed in HMSP Table 3-1, the combined sampling point (GU-C1) for the Cells H, I, and J groundwater underdrains was included as an HMSP monitoring point. The October 2024 groundwater underdrain redesign combined the groundwater underdrains of Cells H, I, and J into a single discharge point (see Drawing No. A1 of Doc # 111219), and that single discharge point will be installed as part of the construction of Cell H (see Request for Approval to Construct – Cell H, dated January 31, 2025, Drawing No. C3.0 (Doc # 112168)). Consequently, future HMSP monitoring points GU-2, GU-3, and GU-4 will not be constructed and can be removed from the HMSP. With the removal of these three points, it is recommended that existing monitoring well MW-16 on the south side of Cell H be added to the HMSP.

In summary, the proposed changes to the HMSP include the following:

1. Remove monitoring points GU-2, GU-3, and GU-4.
2. Add existing monitoring well MW-16.

The above changes are reflected in updated HMSP Tables 3-1 (Revised) and 3-2 (Revised) included in Attachment A. Additionally, the monitoring programs of the existing HMSP monitoring points have been updated to reflect the current program as of January 2025. Figure 3-1 (Revised) in Attachment B shows the existing and proposed HMSP monitoring network with the above changes incorporated.

The collection of five background samples from monitoring well MW-16 will occur over the next approximately 12 months. Sampling of groundwater from groundwater underdrain discharge point GU-C1 will begin following installation and substantial completion of Cell H construction and prior to placement of waste in the new cell with four additional background samples collected over the subsequent approximately 12 months.

Landfill Gas Monitoring Plan Review

The previously approved Landfill Gas Monitoring Plan was included as Appendix 8 of the Comment Response – Permit Amendment Application: Lateral and Vertical Expansion dated December 22, 2022 (Doc # 105511) and approved on March 1, 2023 (Doc # 105975). The previously approved Landfill Gas Monitoring Plan contained Table A-1 – Landfill Gas Monitoring Plan Monitoring Points that listed the existing and future landfill gas monitoring points. The Landfill Gas Monitoring Plan monitoring points were modified as documented in correspondence dated August 7, 2023 (Doc # 107406) and approved in the permit revision dated August 11, 2023 (Doc # 107455). Table A-1 – Revised was included in the August 7, 2023, correspondence that delineated the proposed changes to the landfill gas monitoring points.

As documented in correspondence dated February 5, 2025 (Doc # 112226), ten new perimeter subsurface gas monitoring probes were installed in accordance with August 11, 2023, permit revision. As indicated in the February 5, 2025, correspondence, updated landfill gas monitoring in

Mr. Mike Smith, PE
February 20, 2025
Page 3

accordance with the approved modifications will begin with the first quarter of 2025. No updates to Landfill Gas Monitoring Plan are needed at this time.

If you have any questions or need clarification, please contact Tim Buelow at (515) 681-5455 or Ben Madson at (515) 776-9255.

Sincerely,



Timothy C. Buelow, P.E.
VP - Senior Project Advisor
SCS Engineers



Ben Madson
Staff Professional
SCS Engineers

Enclosure

copy: Ms. Rachel Hanigan, Iowa Waste Services, LLC.
Mr. Chaz Roberts, Iowa Waste Services, LLC.
Mr. Bret Stephens, Iowa Waste Services, LLC.
Mr. Kelly Danielson, Iowa Waste Services, LLC.

Table 3-1 (Revised)
HMSP Monitoring Points and Statistical Method

Monitoring Point	Status	Monitoring Program ⁽¹⁾	Statistical Method ⁽²⁾
Current HMSP Monitoring Points			
MW-7	Existing	Assessment	Interwell
MW-8R	Existing	Corrective Action	Interwell
MW-10R	Existing	Assessment	Interwell
MW-11R	Existing	Corrective Action	Interwell
MW-14	Existing	Background	NA
MW-17 ⁽³⁾	Existing	Background/Detection	NA/Intrawell
MW-16	Existing	Detection	Intrawell
MW-25	Existing	Assessment	Interwell
MW-26R	Existing	Corrective Action	Interwell
MW-27R	Existing	Corrective Action	Interwell
MW-28	Existing	Corrective Action	Interwell
MW-29	Existing	Detection	Interwell
GU-1	Existing	Treated with Leachate	Intrawell
SW-4	Existing	Detection	Intrawell
Future HMSP Monitoring Points			
MW-21	Existing	Detection	Intrawell
MW-48	Future Install	Background	NA
GU-5	Future Install	Detection	Intrawell
GU-6	Future Install	Detection	Intrawell
GU-7	Future Install	Detection	Intrawell
MW-49	Future Install	Detection	Intrawell
GU-C1	Future Install	Detection	Intrawell
GU-8	Future Install	Detection	Intrawell
GU-9	Future Install	Detection	Intrawell
GU-10	Future Install	Detection	Intrawell
GU-11	Future Install	Detection	Intrawell
MW-50	Future Install	Background	NA
GU-12	Future Install	Detection	Intrawell
GU-C2	Future Install	Detection	Intrawell
GU-13	Future Install	Detection	Intrawell
MW-51	Future Install	Detection	Intrawell
GU-14	Future Install	Detection	Intrawell
GU-15	Future Install	Detection	Intrawell
MW-52	Future Install	Detection	Intrawell
GU-16	Future Install	Detection	Intrawell
GU-17	Future Install	Detection	Intrawell

Notes:

- 1) For existing wells, the monitoring program is based on the 2024 Annual Water Quality Report designation. Future wells/points will begin in the detection monitoring program.
- 2) Interwell indicates background data is derived from a separate background well unaffected by a release from the MSWLF unit. Intrawell indicates background data is derived from the compliance monitoring point itself. NA indicates Not Applicable.
- 3) Monitoring well MW-17 will transition from an upgradient monitoring well to a compliance monitoring well during the development progression of the MSWLF unit.

**Table 3-2 (Revised)
MSWLF Unit HMSP Monitoring Points by Phase**

Cell Constructions	HMSP Network Change	HMSP Network ^(1,6)
Unlined, A, C, D-East, D-West, E-East, F-East, E&F-West (Phase 1), E&F-West (Phase 2), G-East, G-West, M, N	Existing Network	MW-14(u), MW-17(u), MW-7, MW-8R, MW-10R, MW-11R, MW-25, MW-26R, MW-27R, MW-28, MW-29, GU-1, and SW-4
H, I, J	Add: MW-48, GU-C1, MW-16 Transition: MW-17 ⁽²⁾	MW-14(u), MW-16, MW-17, MW-7, MW-8R, MW-10R, MW-11R, MW-25, MW-26R, MW-27R, MW-28, MW-29, MW-48, GU-1, GU-C1, and SW-4
O, P, Q	Add: GU-5, GU-6, GU-7 Include: MW-21 ⁽³⁾ Remove: MW-28	MW-14(u), MW-16, MW-17, MW-7, MW-8R, MW-10R, MW-11R, MW-21, MW-25, MW-26R, MW-27R, MW-29, MW-48, GU-1, GU-C1, GU-5, GU-6, GU-7, and SW-4
R, Y	Add: MW-49, GU-8, GU-C2 ⁽⁴⁾ , GU-9, GU-10 Remove: MW-21, MW-29, GU-5, GU-6, GU-7, SW-4 Relocate: GU-1	MW-14(u), MW-16, MW-17, MW-7, MW-8R, MW-10R, MW-11R, MW-25, MW-26R, MW-27R, MW-48, MW-49, GU-1, GU-C1, GU-8, GU-C2, GU-9, GU-10
S, T	Add: MW-50, GU-11, GU-12, GU-C3 Remove: MW-49 ⁽⁵⁾	MW-14(u), MW-16, MW-17, MW-7, MW-8R, MW-10R, MW-11R, MW-25, MW-26R, MW-27R, MW-48, MW-50(u), GU-1, GU-C1, GU-8, GU-C2, GU-9, GU-10, GU-11, GU-12, and GU-C3
U, V	Add: MW-51, GU-13, GU-14	MW-14(u), MW-16, MW-17, MW-7, MW-8R, MW-10R, MW-11R, MW-25, MW-26R, MW-27R, MW-48, MW-50(u), MW-51, GU-1, GU-C1, GU-8, GU-C2, GU-9, GU-10, GU-11, GU-12, GU-C3, GU-13, and GU-14
W, X	Add: MW-52, GU-15, GU-16 Remove: MW-51 ⁽⁵⁾	MW-14(u), MW-16, MW-17, MW-7, MW-8R, MW-10R, MW-11R, MW-25, MW-26R, MW-27R, MW-48, MW-50(u), MW-52, GU-1, GU-C1, GU-8, GU-C2, GU-9, GU-10, GU-11, GU-12, GU-C3, GU-13, GU-14, GU-15, and GU-16

Notes:

- (u) – Upgradient monitoring well.
- Existing monitoring wells MW-15, MW-16, MW-18, MW-19, MW-20, MW-21, and MW-31, and proposed monitoring well MW-48 (installed when Cell R is constructed) should be gauged for water levels during each semi-annual sampling event.
 - MW-17 transitions from an upgradient monitoring well to a compliance monitoring well within the HMSP monitoring network.
 - MW-21 transitions from a water level only measurement point to an HMSP compliance monitoring point.
 - GU-C2 replaces GU-5, GU-6, and GU-7 as they will be connected into a single outlet pipe and extended to the perimeter of the MSWLF unit near the northeast corner of Cell Y.
 - The timing of the removal of MW-49 and MW-51 will be affected by soil borrow activities for future cells and will need to occur prior to cell construction.
 - Sampling of individual GU discharges may be eliminated once a sufficient data set has been established for statistical comparison to the combined discharge data set. If the data sets are not statistically different, a request to discontinue sampling of the individual GU discharge will be submitted. The statistical comparison will be the process used to update Intrawell background described in Section 3.5 or other appropriate method described in the United States Environmental Protection Agency document entitled *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance* dated March 2009. If sampling at an individual discharge point is discontinued, the ability to sample the individual discharge will be maintained for future investigation/isolation of groundwater impact, should that become necessary.

