ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
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JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR

217/524-3301

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JUL 11 2025

Zion Landfill, Inc.
ATTN: Mr. Mark Bingham
701 Green Bay Road
Zion, Illinois 60099-9564

Re: 0978020002 -- Lake County
Zion Landfill
Permit No. 1995-343-LFM
Modification No. 178
Log No. 2025-051
Expiration Date: May 15, 2027
Permit Landfill 811 File – 03S
Permit Approval

Dear Mr. Bingham:

Permit has been granted to Zion Landfill, Inc. (formerly known as Veolia ES Zion Landfill, Inc., and then as Advanced Disposal Services Zion Landfill, Inc.) as owner and operator, approving the development and operation of an existing municipal solid waste and non-hazardous special waste landfill all in accordance with the application and plans prepared by CH2M Hill, Inc. Final plans, specifications, application, and supporting documents, as submitted and approved, shall constitute part of this permit and are identified in the records of the Illinois Environmental Protection Agency (the "Illinois EPA"), Bureau of Land, Division of Land Pollution Control, by the permit number designated in the heading above.

Permit No. 1995-343-LFM, issued March 21, 1997, approved:

a. The Significant Modification of the development and operation of this landfill so as to comply with the applicable requirements of Title 35, Illinois Administrative Code (hereinafter 35 IAC), Subtitle G, Parts 811 through 813, pursuant to 35 IAC 814.104, 814.301, and 814.302;

b. The development of a vertical expansion on the existing landfill and horizontal expansion to the existing permitted waste boundaries. The vertical expansion encompasses approximately 25.7 acres above the existing landfill unit known as BFI Site #2. The waste footprint of the lateral expansion is approximately 71.40 acres east and adjacent to the existing waste boundaries. Thus, completion of the existing unit and approved expansion shall result in a single unit with an approximate area of 131.189 acres within its waste boundaries, with a total facility boundary of approximately 191.7 acres, an "in-place" net disposal capacity of approximately 10.97 million cubic yards, and a maximum final elevation of approximately 850 feet above mean sea level (AMSL);

c. The revised final contours of the existing landfill outside the vertical expansion area as shown on Sheet No.7, entitled "Final Grades" of Log No. 1995-343; and

d. Acceptance of special waste streams without individual special waste stream authorizations, in accordance with the conditions listed in Part III.

Notes:

1. Modification No. 60 to Permit No. 1995-343-LFM, issued September 6, 2007, revised final cover slopes on the plateau of the piggyback section of the landfill by adding to the protective cover thickness (comprising exclusively of clean uncontaminated soils). The new maximum final elevation of the landfill as a result of this modification is approximately 864 feet AMSL; and

2. The waste footprint approved in Permit No. 1995-343-LFM was reduced from 131.189 acres to 127.6 acres in Modification No. 111. As described in addendum dated April 22, 2014 to Log No. 2011-555 (Modification No. 111), this reduction in the waste footprint was necessitated to accommodate Sedimentation Basin 5 located on the east side of expansion approved in Permit No. 1995-343-LFM.

Modification No. 88 to Permit No. 1995-343-LFM, issued June 3, 2011, approved the following:

a. The vertical expansion of the existing landfill. The vertical expansion encompasses approximately 39 acres above the existing landfill unit referred to as Site 2 Expansion and raises the maximum final elevation from 864 feet AMSL to approximately 930 feet AMSL. The vertical expansion increases the waste disposal capacity by approximately 1,720,000 cubic yards. Based on the current waste acceptance rates of 886,000 tons per year (compacted in place density of 2,000 lbs/cubic yard), the vertical expansion will extend the operating life of the landfill by approximately two years;

b. Expansion of facility boundaries from 191.7 acres to 318.5 acres. The lateral extent of the waste boundaries remains unchanged;

c. Revised final cover design. Specifically, the increase of hydraulic conductivity of the low permeability clay layer from 1 x 10^{-7} cm/sec to 5 x 10^{-7} cm/sec;

d. Revision of gas extraction wells and laterals and header piping to accommodate vertical expansion of the landfill;

e. Modification of the stormwater management plan to account for the vertical expansion of the landfill;

f. Revised CQA plan, and

g. Revised closure and post-closure care plan and cost estimates.

Modification No. 111 to Permit No. 1995-343-LFM, issued June 13, 2014, approved the following:

a. The horizontal and vertical expansion of the existing landfill. The horizontal expansion will expand the existing landfill by approximately 26.5 acres to the east. The vertical expansion will increase the final permitted elevation over approximately 23.7 acres of the currently permitted waste disposal unit. The maximum final elevation of the landfill remains unchanged at 930 feet AMSL. The horizontal and vertical expansion increases the waste disposal capacity by approximately 7,233,000 cubic yards. Based on the current waste acceptance rates of 886,000 tons per year (compacted in place density of 2,000 lbs/cubic yard), the horizontal and vertical expansion will extend the operating life by approximately eight years. The extents of the facility boundaries remain unchanged at 318.5 acres;

b. The lower waste boundaries in the expanded waste footprint (Cells 9 and 10) are shown on Drawing No. D8 (Leachate Collection System Plan). The lower waste boundaries in Cells 9 and 10 approved by this permit are defined by the top of base grades shown on Drawing No. D8 plus one foot for the leachate drainage layer. The final waste contours (top of intermediate cover grades) approved by this permit are shown on Drawing No. D12 entitled 'Top of Waste Grading Plan' and top of final cover grades are shown on Drawing No. D13 entitled 'Final Grading Plan';

c. Revised CQA Plan;

d. Revised closure/post-closure care plan and cost estimates; and

e. Acceptance of wastes at the residential drop-off area in accordance with Condition II.30.

Modification No. 173 to Permit No. 1995-343-LFM, issued September 26, 2024, approved the following:

A. The horizontal and vertical expansion of the existing landfill. The horizontal expansion will expand the existing landfill by approximately 65.6 acres to the north. The vertical expansion will tie into the currently permitted Site 2 East Expansion northern sideslopes. The maximum final elevation of the Site 2 North Expansion is 896 feet AMSL. The horizontal and vertical expansion increases the waste disposal capacity by approximately 12,725,719 cubic yards. Based on the current waste acceptance rates of 830,000 tons per year (compacted in place density of 2,000 lbs/cubic yard), the horizontal and vertical expansion will extend the operating life by approximately 17 years. The facility boundaries increased by approximately 124 acres, now totaling approximately 442.5 acres;

B. The revision of the Operating Plan;

C. The revision of the Closure and Post-Closure Care Plan; and

D. The revision of the CQA Plan.

Modification No. 178 is hereby granted to Zion Landfill, Inc. as owner and operator, allowing modification of an existing municipal solid waste and non-hazardous special waste landfill all in accordance with the application and plans provided in Log No. 2025-051. Log No. 2025-051 was prepared by Joseph Miller, P.G. and signed and sealed by Ed Doyle, P.E., both of EIL, LLC February 13, 2025.

The permit application approved by Modification No. 178 consist of the following document(s):

DOCUMENT	DATED	DATE RECEIVED
Log No. 2025-051 Original Application	February 14, 2025	Febraury 19, 2025
Waiver	May 14, 2025	May 19, 2025

Modification No. 178 to Permit No. 1995-343-LFM approves the groundwater quality evaluation of dissolved chloride in well G213 for an additional 6 quarters.

Except for the differences described in the table below, the conditions in Modification No. 178 are identical to the conditions in the permit letter for Modification No. 177 to Permit No. 1995-343-LFM, issued June 5, 2025.

Condition in Mod No. 177	Condition in Mod No. 178	Description of Revision
VIII.25	VIII.25	Revised condition

Pursuant to Section 39(a) of the Illinois Environmental Protection Act (Act) [415 ILCS 5/39(a)] and 35 IAC 813.104(b), this permit is issued subject to the development, operating, and reporting requirements for non-hazardous waste landfills in 35 IAC Parts 810, 811, 812, 813, 814, and the conditions attached hereto. In case of conflict between the permit application and these conditions, the conditions of this permit shall govern.

I. CONSTRUCTION QUALITY ASSURANCE

1. All necessary surface drainage control facilities shall be constructed prior to other disturbance in any area.

2. No part of the unit shall be placed into service or accept waste until an acceptance report for all the activities listed below has been submitted to and approved by the Illinois EPA as a permit application pursuant to 35 IAC 811.505(d) and 813.203.

   a. Preparation of the subgrade and foundation to design parameters;

   b. Installation of the compacted earth/synthetic liner;

   c. Installation of the leachate drainage, collection, and management systems;

   d. Placement of final cover;

   e. Installation of gas control facilities; and

   f. Construction of ponds, ditches, lagoons, and berms.

3. The permittee shall designate an independent third-party contractor as the Construction Quality Assurance (CQA) Officer(s). The CQA Officer(s) shall be an Illinois Certified Professional Engineer who is independent from and not under the control or influence of the operator, any employee of the operator, or any other corporation, company, or legal entity that is a subsidiary, affiliate, parent corporation or holding corporation associated with the operator.

4. The CQA Officer(s) designated pursuant to Condition I.3 shall personally be present during all construction and testing that is subject to CQA certification pursuant to 35 IAC 811.503(a). If the CQA Officer(s) is unable to be present as required, then the CQA officer(s) shall comply with the requirements of 35 IAC 811.503(b).

5. The clay liner shall be tested for density and moisture content at a minimum frequency of five tests per acre per six-inch lift in accordance with the CQA Plan approved in Modification No. 173 (Log No. 2022-254).

6. A minimum of one laboratory hydraulic conductivity test shall be performed for every 10,000 cubic yards of liner soil placed in accordance with the CQA Plan approved in Modification No. 173 (Log No. 2022-254). Additionally, each lift of soil liner shall be tested for hydraulic conductivity at least once for every phase of construction.

7. If the clay portion of the liner is exposed to freezing conditions, it must be recertified. If necessary, damaged portions of the liner shall be reconstructed, retested, and recertified. The designated CQA Officer(s) shall then certify that the clay portion of the liner and all necessary repairs to the leachate drainage layer meet the required design standards. This certification must be provided to the Illinois EPA prior to disposal of waste on the subject portion of the liner. If operating authorization has not yet been issued for that area, the recertification shall be included in a permit application to obtain operating authorization for that area.

8. Pursuant to 35 IAC 811.505(d), upon completion of construction of each major phase, the CQA Officer(s) shall submit an acceptance report to the Illinois EPA. The acceptance report shall be submitted before the structure is placed into service and shall contain the following:

    a. A certification by the CQA Officer(s) that the construction has been prepared and constructed in accordance with the engineering design;

    b. As-built drawings; and

    c. All daily summary reports.

9. Construction of Sidewall Liner:

    a. The operator shall maintain a minimum "freeboard" of one foot between the top of the sidewall liner and the top of the waste.

    b. Just prior to installing an increment of the sidewall liner, the sidewall liner in that area shall be inspected. Any areas damaged by desiccation, frost action, etc. shall be excavated and reconstructed in accordance with the CQA program approved by this permit.

    c. After each increment of the compacted earth liner up the sidewall is completed, the operator shall provide written notification of its completion to the Illinois EPA's Des Plaines Regional Office and Lake County Health Department. Upon receipt of the notification, the inspector shall be allowed 15 working days to examine the construction. The Illinois EPA is not obligated to approve the construction or certification. The operator

may dispose of refuse in the subphase after the 15-day period if, having complied with the terms of this condition, the operator is not informed of a problem by the Illinois EPA or its agents.

d. At the same time the Illinois EPA's Des Plaines Regional Office and Lake County Health Department is given notification that an increment of the sidewall liner has been completed, the Permit Section shall be provided with the information on its construction in an Acceptance Report pursuant to 35 IAC 811.505(d) on its construction.

10. Applications for operating authorization shall not be made for areas of less than 1.5-acre increments of constructed liner.

11. All stakes and monuments marking facility boundaries and the permitted disposal area shall be maintained, inspected annually, and surveyed no less frequently than once in five years by a professional land surveyor. Any missing or damaged stakes or monuments discovered shall be replaced and resurveyed.

12. All standards for testing the characteristics and performance of materials, products, systems, and services shall be those established by the American Society for Testing and Materials (ASTM) unless otherwise stated in the permit application.

13. Effective upon issuance of Modification No. 93 (Log No. 2011-389), all testing, including conformance and seaming of the geomembrane used at the landfill, shall meet Geosynthetic Research Institute's requirements with the following exceptions: For the geomembrane used in the bottom liner, the minimum thickness must be within 5% of nominal for all samples, i.e. 60-mil liner must be at least 57-mil; and UV resistance testing is not necessary unless the geomembrane is exposed for more than 30 days.

14. The construction of the landfill gas to energy plant documented in Log No. 2011-202 (Modification No. 91) was not carried out under the full-time supervision of the CQA officer. The Illinois EPA, Bureau of Land, Permit Section accepted this report, but for all future activities listed in Condition I.2, the CQA officer must provide full time supervision and assume responsibility for performing all inspections as required by 35 IAC 811.503(a). If the CQA officer is not able to be present, a CQA officer-in-absentia must be designated in accordance with the requirements specified in 35 IAC 811.503(b). Log No. 2023-371 (Modification No. 167) acknowledges the demolition of the gas to energy plant formerly located at Zion Landfill. The Bureau of Land, Permit Section never provided authorization for the construction, operation, or demolition of the gas to energy plant.

II. OPERATING CONDITIONS

1. Pursuant to 35 IAC 811.107(a) and 811.107(b), throughout the operating life of this landfill, waste shall not be placed in a manner or at a rate which results in unstable internal or external slopes or interference with construction, operation, or monitoring activities.

2. The operator of this solid waste facility shall not conduct the operation in a manner which results in any of the following:

   a. refuse in standing or flowing waters;

   b. leachate flows entering Waters of the State;

   c. leachate flows exiting the landfill confines (i.e., the facility boundaries established for the landfill in a permit or permits issued by the Illinois EPA);

   d. open burning of refuse in violation of Section 9 of the Act;

   e. uncovered refuse remaining from any previous operating day or at the conclusion of any operating day, unless authorized by permit;

   f. failure to provide final cover within time limits established by the Illinois Pollution Control Board (Board) regulations;

   g. acceptance of wastes without necessary permits;

   h. scavenging as defined by Board regulations;

   i. disposal of refuse in any unpermitted (i.e., without an Illinois EPA approved permit application for authorizing operation) portion of the landfill;

   j. acceptance of a special waste without a required manifest and identification record;

   k. failure to submit reports required by permits or Board regulations;

   l. failure to collect and contain litter from the site by the end of each operating day; and

   m. failure to submit any cost estimate or any financial assurance mechanism for the facility as required by Section 21.o.13 of the Act.

3. Moveable, temporary fencing shall be used to prevent blowing litter when the refuse is above the natural ground line.

4. At the end of each day of operation, all exposed waste shall be covered with:

   a. Clean soil at least six inches thick (i.e., conventional daily cover);

   b. Geotextile fabric;

   c. Reinforced rubber membrane panels ("Night-Cap");

   d. Polypropylene non-woven fabrics;

   e. Polyethylene membranes;

   f. Plastic film;

   g. Non-woven geotextile fabric;

   h. Spunbond non-woven fabric;

   i. Slit-film woven fabric;

   j. Composite geotextile/plastic membranes;

   k. Tarps;

   l. Petroleum-contaminated soils;

   m. Used foundry sand;

   n. End-product compost;

   o. Processed landscape waste;

   p. Clean construction or demolition debris (CCDD);

   q. Coal Combustion ash (fly ash);

   r. Reject paper pulp;

   s. Shredded tires;

   t. Wood Chips; or

u. Non-hazardous contaminated soil.

5. Geotextile fabric as described in Attachment A-2 of Log No. 1995-343, reinforced rubber membrane panels ("Night-Cap") as described in Attachment 2 of Log No. 1997-378, wood chips as described in Log Nos. 2001-343 and 2004-328, and the materials listed in Condition II.4 (d) through (s) and described in Log No. 2000-213 are approved alternate materials for daily cover pursuant to 35 IAC 811.106(b) and 812.111(b). Use of alternate daily cover (ADC) materials as daily cover shall be subject to the following conditions:

a. If any ADC other than those approved by this permit are to be used, their use must be approved by the Illinois EPA through the permit process.

b. At any one time, the total area using ADC shall be no more than 200 feet by 300 feet (60,000 square feet). Beyond this maximum, daily cover soil shall be used on all areas where waste has been disposed and to which intermediate or final cover has not been applied.

c. Areas upon which ADC has been used must be covered with either conventional cover or additional waste within six days.

d. Conventional daily cover in accordance with 35 IAC 811.106(a) shall be used if weather or other conditions adversely affect the ability of the ADC to prevent problems with blowing litter, fire, odors, or vectors.

e. Geotextile fabric, reinforced rubber membrane panels, polypropylene non-woven fabrics, polyethylene membranes, plastic film, non-woven geotextile fabric, spunbond non-woven fabric, slit-film woven fabric, composite geotextile/plastic membranes and tarps shall be anchored adequately to prevent wind damage. If the ADC is torn during or after placement, it must be repaired immediately or the damaged area must be covered with six inches of daily cover soil. If tires are used as weights for the ADC, they shall be converted tires, in accordance with 35 IAC Part 848: Management of Used and Waste Tires.

f. When an ADC is used, the operator shall keep a record including a description of the weather conditions, the type of ADC used and its performance. A summary of this information shall be provided with this facility's annual reports.

g. Any membrane, fabric, film, or tarpaulin ADC that has been used for daily cover may not be used for any purpose (including road underlayment or erosion control) outside the permitted waste boundaries. Reuse of any soil, used foundry sand, processed landscape waste, CCDD, fly ash, reject

paper pulp, wood chips and shredded tires, which has been used as daily cover for any purpose other than daily cover, is prohibited.

h. When operating or weather conditions preclude the repair of the ADC, another cover shall be placed on the damaged or torn areas to form a continuous daily cover.

i. The condition of the ADC shall be inspected at the beginning of each shift to determine if its integrity or continuity has been damaged by sun exposure, wind, or physical contact. If the inspection reveals that the structural integrity or continuity has been damaged or if uncovered refuse is observed in the covered areas, the damaged or uncovered areas shall be repaired immediately to restore a continuous uniform cover over the waste. If any problems develop from covering the waste with a particular ADC, the use of offending cover shall immediately cease until the cause of the problem is determined and necessary corrective action taken. A record of the inspection and subsequent corrective action taken shall be made available to Illinois EPA personnel upon request.

j. All ADC must meet the requirements of 35 IAC 811.106(b)(1) though (4) at all times.

k. The use of coal combustion ash (fly ash) as ADC shall be subject to the following additional conditions:

   i. Measures shall be taken to prevent dust-related problems. These measures may include use of the fly ash below surrounding grade, receiving the fly ash in a damp condition and use only when weather conditions (wind) will not cause fugitive dust emissions. "Wetting" disposal areas covered with fly ash is prohibited.

   ii. No stockpiling of fly ash is allowed. All the material received each day must be used as daily cover or disposed of at the active face of the landfill.

   iii. Areas where fly ash was utilized as ADC shall be covered with either conventional soil daily cover or additional waste within the 24-hour period of initial placement of the fly ash as ADC.

   iv. A layer of at least six inches thick fly ash shall be placed as described in the Conventional Daily Cover Use Section of Log No. 2000-213.

l. The use of petroleum-contaminated soils as ADC shall be subject to the following additional conditions:

i. Petroleum-contaminated soils are those soils contaminated with petroleum products (i.e., leaded or unleaded gasoline, #1 and #2 diesel fuel) or soils contaminated with waste oil (alone or in combination with petroleum products).

ii. Soil with obnoxious odors, soil with debris or soil which is visibly contaminated shall not be used as ADC.

iii. The soil shall be non-hazardous.

iv. The soil may only be used in areas of the landfill where leachate flowing off the soil cover would drain into the leachate management system and not to the surface water, e.g., never place petroleum-contaminated soil as ADC on outside slopes.

v. No stockpiling of petroleum-contaminated soil is allowed. All petroleum-contaminated soil received each day must be used as daily cover or disposed of at the active face.

vi. Once placed, petroleum-contaminated soil used as ADC shall not be removed.

vii. Each load of petroleum-contaminated soil used as daily cover shall be inspected to ensure that its use as an ADC will not generate odors and will prevent the threat of fires. The operator shall maintain a log of these inspections including, but not limited to, the date, a description of the soil contaminant, the generator name, number and address and the amount in cubic yards. The logs shall be made a part of the facility operating record and shall be available for Illinois EPA inspection upon request.

viii. A layer of at least six inches thick petroleum-contaminated soil shall be placed as described in the Conventional Daily Use section of Log No. 2000-213.

m. The use of reject paper pulp as an ADC shall be subject to the following additional conditions:

i. Reject paper pulp to be used as ADC shall only be stockpiled in an amount not to exceed a seven-day supply for use as ADC.

ii. If the reject paper pulp used as ADC is not able to comply with all the requirements of 35 IAC 811.106(b), the applicant shall cease the use of this material as ADC and the material shall be disposed of as general municipal refuse.

iii. A layer of at least six inches thick reject paper pulp shall be placed as described in the Conventional Daily Cover Use section of Log No. 2000-213.

n. The use of used foundry sand as an ADC shall be subject to the additional following conditions:

i. No stockpiling of used foundry sand is allowed. All used foundry sand received each day must be used as daily cover or disposed of at the active face.

ii. Measures shall be taken to prevent fugitive dust emissions. Measures may include use of sand only below the surrounding grade and use only when weather conditions (wind) will not cause fugitive dust emissions. "Wetting" disposal areas covered with foundry sand is prohibited.

iii. A layer of at least six inches thick of used foundry sand shall be placed as described in the Conventional Daily Cover Use section of Log No. 2000-213.

o. The use of end-product compost as an ADC shall be subject to the additional following conditions:

i. End-product compost to be used as ADC shall only be stockpiled in an amount not to exceed a seven-day supply for use as ADC.

ii. Once applied as ADC, the compost shall not be removed.

iii. End-product compost used as ADC shall be thoroughly biodegraded to the point such that odors emanating from the material are not in violation of 35 IAC 811.106(b), and the potential for fire sustainment are minimized. The compost may be used in combination with clean soil as a mixture to improve the performance as daily cover and to prevent odor problems.

iv. A layer of at least six inches thick end-product compost shall be placed as described in the conventional Daily Cover Use section of Log No. 2000-213.

p. The use of processed landscape waste as an ADC shall be subject to the following additional conditions:

i. Processed landscape waste shall only be transferred from Thelen Sand & Gravel in McHenry County and DK-Lake Bluff in Lake County.

ii. No stockpiling of processed landscape waste is allowed. All processed landscape waste shall be used as daily cover on the day it is received.

iii. When used as ADC, landscape waste shall have a minimum thickness of six inches and a maximum thickness of 12 inches.

q. The use of CCDD as an ADC shall be subject to the following additional conditions:

i. Only CCDD, as defined in Section 3.160(b) of the Act, may be used as ADC.

ii. CCDD utilized as ADC shall be processed to a gradation of less than six inches (typically two inches to six inches).

iii. CCDD to be used as ADC material shall only be stockpiled in an amount not to exceed a seven-day supply for use as ADC.

iv. A layer of at least six inches thick of CCDD shall be placed as described in the Conventional Daily Cover Use section of Log No. 2000-213.

r. The use of shredded tires as an ADC shall be subject to the additional following conditions:

i. Tire materials used and/or processed for use as ADC shall be managed in accordance with 35 IAC Part 848: Management of Used and Waste Tires. Shredded tires used as ADC shall be no larger than six inches (typically two inches to six inches).

ii. Shredded tires to be used as ADC shall only be stockpiled in an amount not to exceed a seven-day supply for use as ADC.

iii. A layer of at least six inches thick of shredded tires shall be placed as described in the Conventional Daily Cover Use section of Log No. 2000-213.

s. The use of wood chips as ADC and as road base shall be subject to the following additional conditions:

i. Wood chips used as ADC or as road base shall be no longer than six inches or less than two inches.

ii. Wood chips used as ADC shall be placed in layers with a minimum thickness of six inches.

iii. Wood chips shall be stored within approved areas in quantities not exceeding a seven-day supply.

iv. At least 85% of the material used shall be clean, non-waste commodity wood that does not exhibit dust, odor, or other nuisance problems. Furthermore, the 85% fraction referenced above shall not contain any painted or treated wood. The remaining 15% fraction may consist of non-hazardous, uncontaminated materials resulting from construction and demolition activities, limited to the following: wood including non-hazardous painted, treated, and coated wood and wood products; wall coverings; plaster; drywall; non-asbestos insulation; roofing shingles and other roof coverings; and plastics that are not sealed in a manner that conceals waste.

v. The requirements of Conditions II.5(b) and II.5(c) do not apply to the use of wood chips as ADC or road base. However, the requirements of 35 IAC 811.106(b)(1) through (4) must be met at all times.

t. The use of non-hazardous contaminated soil as ADC shall be subject to the following additional conditions:

i. Only contaminated soils that have been declassified in accordance with the requirements of Section 22.48 of the Act may be used as an ADC.

ii. The minimum thickness of the applied contaminated soil shall be six inches.

iii. Contaminated soil may only be used in areas of the landfill where runoff from the ADC surface drains into the leachate collection system, not surface water.

iv. Contaminated soil with obnoxious odors shall not be used as ADC. Each load of contaminated soil to be used as ADC shall be inspected to ensure that its use will not generate odors.

v. Once placed, the ADC will not be removed from the landfill waste limits or reused as ADC. The contaminated soil may be regraded in the future to facilitate the downward migration of leachate

vi. The operator shall maintain a log of inspections including, but not limited to, the date, a description of the soil contaminant, any odors, the generator name, number, and the amount of soil in cubic yards. The logs shall be maintained in the operating record for the facility and shall be available for the Illinois EPA's inspection upon request.

u. If the Illinois EPA's Des Plaines Regional Office or the Lake County Health Department determines that any ADC is not performing satisfactorily as daily cover, the operator shall cease using it as daily cover immediately upon receipt of a written notification of such determination and manage the material appropriately. In the case of end-product compost, if it does not meet the standards of general use compost, it shall be transported to a permitted landscape waste compost facility, such that the operations are not in violation of 35 IAC 811.106(b).

v. Special wastes received at the site to be used as ADC shall be transported to the facility using the Illinois EPA's special waste manifest system.

w. All runoff from the ADC areas shall be directed to the leachate collection system and treated as leachate.

x. The following conditions apply for the management of stockpiles of materials to be used as ADC:

i. The following ADC materials shall be stockpiled in an amount not to exceed seven-day supply for use as daily cover: shredded tires, end-product compost, CCDD, and reject paper pulp, except for non-hazardous contaminated soil which can be stockpiled not to exceed a 30-day supply. All other ADC materials (except for the manufactured ADC materials listed in Conditions II.4(b) through (k)) shall be used for daily cover or disposed at the active face of the landfill by the end of the same operating day.

ii. The stockpiles shall be located as close as practicable to the active face in an area with a certified liner and leachate collection system. All runoff from the stockpiles shall be managed as leachate.

iii. ADC shall not be stockpiled on areas of the landfill that have received final cover.

iv. ADC shall not be stockpiled in areas of the landfill that would result in exceedence of permitted final waste elevations.

v. The stockpiles shall be managed so as to avoid development of nuisance conditions including blowing litter, fire potential, malodors, etc.

6. No later than 60 days after placement of the final lift of waste in any area, the area shall receive a final cover system meeting the design specifications approved in Log No. 1995-343. The final cover system for the entire facility consists of the following layers, from top of cover to bottom of cover:

a. Six inches of topsoil

b. 30 inches of rooting layer soil

c. Geocomposite drainage layer

d. 40-mil LLDPE geomembrane

e. 24 inches of compacted clay with permeability of no greater than 5×10^{-7}cm/sec

7. All waste not covered within 60 days of placement with additional waste or final cover shall have an intermediate cover of compacted clean soil with a minimum thickness of one foot applied to it.

8. The operator shall implement a load checking program that meets the requirements of 35 IAC 811.323. If regulated hazardous waste or other unauthorized wastes are discovered, the Illinois EPA shall be notified no later than 5:00 p.m. the next business day after the day it is detected. The load checker shall prepare a report describing the results of each inspection. A summary of these reports shall be submitted to the Illinois EPA as part of this facility's annual report.

9. Asbestos debris from construction-demolition shall be managed in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations.

10. Management of Unauthorized Waste

    a. Landscape waste found to be mixed with municipal waste will be removed the same day and transported to a facility that has an operating permit to compost and/or transfer landscape waste in accordance with the Act, Title V, Section 21.

    b. Lead-acid batteries will be removed the same day and transported either to a facility which recycles such waste, or a facility permitted to store or treat lead acid batteries.

    c. Potentially infectious medical waste (PIMW) found to be mixed with municipal waste shall be managed in accordance with 35 IAC Subtitle M.

    d. Tires found to be mixed with municipal waste shall be removed and managed in accordance with 35 IAC Part 848.

    e. White good components mixed with municipal waste shall be removed and managed in accordance with Section 22.28 of the Act.

    f. This facility is prohibited from disposing any waste containing polychlorinated bi-phenyls (PCBs) in concentration greater than allowed, by the Toxic Substances Control Act (TSCA).

    g. No liquid waste (special or non-special) as determined by the Paint Filter Test shall be disposed unless the waste is from a household or is in a small container similar in size to that normally found in household waste and the container was designed for use other than storage. The prohibition applies to on-site generated wastes except for leachate or gas condensate that is specifically approved for recirculation into the landfill by permit. However, minor amounts of liquid resulting from precipitation (rain, sleet, hail, or snow) during transport and disposal operations shall not be construed as a violation of this condition.

    h. In accordance with Section 21.6 of the Act, beginning July 1, 1996, no owner or operator of a sanitary landfill shall accept liquid used oil for final disposal that is discernable in the course of prudent business operation.

i. After the unauthorized waste has been removed, a thorough cleanup of the affected area will be made according to the type of unauthorized waste managed. Records shall be kept for three years and will be made available to the Illinois EPA.

j. In accordance with Subsection (b) of Section 1-83 of the Consumer Electronics Recycling Act (415 ILCS 151), *beginning January 1, 2019, no person may knowingly cause or allow the disposal of a CED* (covered electronic device), *or any other computer, computer monitor, printer, television, electronic keyboard, facsimile machine, videocassette recorder, portable digital music player, digital video disc player, video game console, electronic mouse, scanner, digital converter box, cable receiver, satellite receiver, digital video disc recorder, or small-scale server in a sanitary landfill.*

11. Operating hours are those hours during which waste may be accepted. For this facility, the operating hours shall be limited to 6:00 am to 4:30 pm, Monday through Friday, and 6:00 am to 1:00 pm on Saturday. Adequate lighting shall be provided for outdoor activities at the landfill occurring before sunrise or after sunset.

    Operating hours on Saturday may be extended to 6:00 am to 4:00 pm when any of the following holidays are observed on a weekday during the preceding week:

New Years Day	Independence Day	Memorial Day
Labor Day	Thanksgiving Day	Christmas Day

12. If it is required for the facility to be open beyond normal operating hours to respond to emergency situations, a written record of the date(s), times, and reason the facility was open shall be made part of the operating record for the facility. The Illinois EPA-FOS Regional Office and, when applicable, the county authority responsible for inspections of this facility per a delegation agreement with the Illinois EPA shall be notified no later than 5:00 p.m. the next business day following the acceptance of waste outside the specified operating hours.

13. Road building materials for roads at the facility may be stockpiled on-site in the amount estimated to be needed within the next construction season provided they are managed in accordance with 35 IAC 811.108(c)(1).

14. Equipment shall be maintained and available for use at the facility during all hours of operation to allow proper operation of the landfill. If breakdowns occur that would prevent proper facility operation, back-up equipment shall be brought onto the site.

15. All utilities, including but not limited to heat, lights, power, communications equipment, and sanitary facilities necessary for safe, efficient, and proper operation of the landfill shall be available at the facility at all times.

16. Waste shall be deposited at the fill face and compacted upward into the fill face unless precluded by extreme weather conditions or for reasons of safety.

17. The operator shall implement methods for controlling dust so as to prevent wind dispersal of particulate matter off-site.

18. The facility shall be constructed and operated to minimize the level of equipment noise audible outside the facility. The facility shall not cause or contribute to a violation of 35 IAC Parts 900 through 905.

19. The operator shall implement measures to control the population of disease and nuisance vectors.

20. The operator shall institute fire protection measures in accordance with the proposed fire safety plan.

21. The operator shall implement methods to prevent tracking of mud by hauling vehicles onto public roadways.

22. Access to the active area and all other areas within the boundaries of the facility shall be controlled by use of fences, gates, and natural barriers to prevent unauthorized entry at all times.

23. A permanent sign shall be maintained at the facility entrance containing the information required under 35 IAC 811.109(b)(1) through (5).

24. Waste disposal operations shall be restricted to areas of the landfill specifically approved by the Illinois EPA for operation or granted operating authorization pursuant to 35 IAC 813.203.

25. Modification No. 24 to Permit No. 1995-343-LFM approved a revised phasing plan as proposed in Log No. 2002-009. Under the revised phasing plan, the filling shall progress as follows: eastern 4.7 acres of Cell 5 (Phase 7), south half of the piggyback area (Cell 8A – Phase 8), north half of the piggyback area (Cell 8B – Phase 9), and then Cells 6 and 7 (Phases 10 and 11, respectively).

26. The use of wood chips as road base is hereby approved as proposed in Log Nos. 2001-343 and 2004-328, subject to the requirements of Condition II.5(s) and the following additional conditions:

a. The thickness of wood chips used as road base shall be such that it provides a stable working surface for landfill traffic. The operating and inspection requirements for ADC specified in Condition II.5(d), II.5(f), II.5(h), II.5(i), II.5(t), and II.5(u) also apply to use of wood chips as road base; and

b. The use of wood chips as road base shall be confined to areas where waste disposal operations have been approved.

27. The storage of frozen, loaded roll-off containers at the landfill facility is hereby approved as proposed in Log No. 2002-387 and subject to the following conditions:

a. No more than 15 loaded containers shall be stored at one time. Additionally, all containers shall be emptied at the active face of the landfill within three business days from when the containers arrive at the landfill;

b. The containers should be covered with a tarp at all times;

c. The containers shall only be stored in the "container storage area" depicted on the site plan map provided in the addendum dated March 14, 2003 to Log No. 2002-387; and

d. No containers with putrescible waste that may harbor vectors or have an offensive odor shall be stored at the site. (Modification No. 29)

28. The parking of loaded waste transfer trailers at the facility is subject to the following conditions:

a. All the waste in the parked trailers shall be disposed at the active face of the landfill during the next operating day;

b. The trailers shall be parked in an area with certified liner and close to the active face of the landfill;

c. All trailers shall remain tarped overnight;

d. The facility shall utilize the odor control system described in the October 25, 2005 addendum to Log No. 2005-287 to control and eliminate odors. If the odors are not controlled by this system, then the facility shall implement additional measures like using solid tarps to control odors; and

e. No more than 20 trailers shall be parked overnight.

29. Modification No. 60 to Permit No. 1995-343-LFM approved revised final cover slopes on the plateau area of the piggyback section of the landfill. Specifically, this revision involves increasing the slope of the plateau area of the piggyback from 4% to 6.6% by adding to the protective cover thickness (comprising exclusively of clean uncontaminated soils) to achieve the new grades. The new maximum final elevation of the landfill as a result of this modification is approximately 864 feet AMSL.

30. Wastes received at the residential drop-off area shall be collected in two roll-off boxes placed next to the scale house and disposed at the active face of the landfill by the end of each operating day. No special wastes shall be received at the residential drop-off area. Wastes shall be received at the residential drop-off area only during the landfill operating hours specified in Condition II.11 (Modification No. 111).

III. DISPOSAL OF SPECIAL WASTE

1. The permittee is authorized to accept non-hazardous special waste that meets the definition of industrial process waste or pollution control waste as found in Section 3.235 and 3.335, respectively, of the Act, in accordance with the following requirements:

   a. The waste is analyzed in accordance with the requirements described below and complies with the acceptance criteria in the approved waste analysis plan;

   b. The waste is delivered by an Illinois licensed special waste hauler or an exempt hauler as defined in 35 IAC 809.211; and

   c. The waste is accompanied by a manifest, if required.

2. The permittee shall obtain a completed Special Waste Preacceptance Form, found on the Illinois EPA website, and a preacceptance analysis from each generator for each waste to be accepted. In addition, the Annual Generator Special Waste Recertification for Disposal of Special Waste form, found on the Illinois EPA website, which certifies the waste has not changed since the last analysis, must be completed and included in the operating record. A complete laboratory analysis must be provided with the exceptions listed below.

   Analysis shall be conducted using SW-846 test methods. The waste shall be reanalyzed at least every five years and must identify the actual concentration of each chemical constituent and state of each physical parameter. In all cases, a copy of the lab analysis (on lab letterhead and signed by a responsible party such as the person conducting the analysis or his/her supervisor) must be included in

the operating record with the Special Waste Preacceptance Form (Profile Identification Sheet). The analysis may not be greater than one year old at the time the initial load of waste is accepted at the facility. A new analysis is required if the composition of the waste changes (normal variations in waste composition are expected and are not included in this requirement). All waste must be analyzed as follows:

a. The permittee shall obtain the following lab analyses.

   i. Paint Filter Test

   ii. Flash point

   iii. Sulfide (reactive)

   iv. Cyanide (reactive)

   v. Phenol (total)

   vi. pH

   vii. Toxicity Characteristic Constituents

b. The permittee shall obtain analysis for reactive sulfides and cyanides. For waste containing 250 ppm or greater reactive cyanide or 500 ppm or greater reactive sulfide, it is presumed hazardous pursuant to 35 IAC 721.123(a)(5) unless specific information to show it does not present danger to human health or the environment is provided. Analysis for total sulfide and/or cyanide may be substituted for reactive concentrations if they are equal to or less than 10 ppm. For wastes containing greater than 10 ppm reactive cyanide or reactive sulfide, the permittee shall not accept the waste unless the generator provides a signed and dated statement indicating that none of the following have occurred:

   i. The waste has never caused injury to a worker because of H_2S and/or HCN generation;

   ii. That the OSHA workplace air concentration limits for H_2S and/or HCN have not been exceeded in areas where the waste is generated, stored, or otherwise handled; or

iii. That air concentrations of H_2S and/or HCN, above 10 ppm, have not been encountered in areas where the waste is generated, stored, or otherwise handled.

c. The permittee shall obtain analysis for phenols. If the total phenol concentration is greater than 1,000 ppm, the waste will be required to be drummed and labeled, unless justification that this precaution is not necessary is provided. The justification must demonstrate skin contact is unlikely during transport or disposal.

d. The permittee shall obtain metals and organics analysis. Either procedure may be utilized (i.e., total or TCLP), but any constituent whose total concentration exceeds the TCLP limit specified in 35 IAC 721.124 must be analyzed using the TCLP test and the results reported, unless an alternative test has been approved by the Illinois EPA. TCLP test methods must be in accordance with SW 846-1311.

e. EXCEPTIONS:

i. The generator may certify that the eight pesticides (D012, D013, D014, D015, D016, D017, D020, and D031) would not reasonably be expected to be present in their waste based on the nature of the generator's business.

ii. Petroleum-contaminated media and debris from LUST sites subject to corrective action regulation under 35 IAC Part 731 and Part 732 are temporarily exempt from complete TCLP analysis and the generator may limit analyses to flashpoint, paint filter test, and TCLP lead.

iii. For off-specification, unused or discarded commercial or chemical products, a safety data sheet (SDS) to determine the hazardous constituents present may be provided in lieu of analytical results. The SDS must have been updated since the adoption of the Toxicity Characteristic Leaching Procedure and TCLP organic parameters by U.S. EPA.

f. CLARIFICATIONS:

Notwithstanding the exception for manufactured gas plant waste contained in 35 IAC 721.124(a), no manufactured gas plant waste shall be disposed in a non-hazardous waste landfill, unless the waste:

i) has been tested in accordance with subsection (d) of this condition, and

ii) the analysis has demonstrated that the waste does not exceed the regulatory levels for any contaminant given in the table contained in 35 IAC 721.124(b).

g. Pursuant to 35 IAC 722.111, the generator of a solid waste is required to determine if the waste is hazardous and comply with all applicable hazardous waste regulations. For any waste that has been determined to be hazardous, the results of quality assurance testing for the treatment program, taken at an appropriate frequency to demonstrate the waste is no longer hazardous, must be obtained. Verification that the waste meets the land disposal restrictions must also be documented. These requirements are in addition to the other standard special waste test requirements.

3. An individual waste stream permit is no longer required by the Illinois EPA for this facility. Therefore, a waste stream permit number will no longer be required on the manifest when shipping waste to this facility as authorized by this permit.

4. Special waste generated due to an emergency situation may be disposed without a complete TCLP analysis if:

a. The permittee ensures that the generator has received an incident number from the Illinois Emergency Management Agency at 1/800/782-7860 within Illinois or 1/217/782-7860 outside of Illinois,

b. The permittee receives authorization from the Office of Emergency Response of the Illinois EPA at 1/217/782-3637, and

c. The waste is analyzed for the chemical constituents required by the Office of Emergency Response.

5. The permittee shall conduct the following analysis for waste received in labeled containers in lab packs, including commingled wastes:

a. Compatibility review in accordance with the procedures identified in USEPA document EPA-600/2-80-076.

b. SDS review to determine the hazardous constituents present and appropriate USEPA hazardous waste class.

6. RCRA empty containers received as a special waste are subject to conditions which state:

   a. Containers have a rated capacity of less than 110 gallons.

   b. Containers which formerly held 'P' listed hazardous waste or TSCA regulated quantities of PCBs or empty compressed gas cylinders are not included under this permit.

   c. All containers must meet the definition of empty as described in 35 IAC 721.107(b).

   d. Additionally, where possible, a copy of the SDS for products last contained will be obtained and kept on file.

   e. For drums, at least one end must be removed and the drums must be crushed flat.

7. The Special Waste Preacceptance Form, found on the Illinois EPA website, shall be utilized for the special waste profile identification requirements of 35 IAC 811.404(a).

8. The Annual Generator Special Waste Recertification for Disposal Special Waste form, found on the Illinois EPA website, shall be utilized for the special waste recertification requirements of 35 IAC 811.404(b).

9. The operator shall retain all special waste records until the end of the post-closure care period in accordance with 35 IAC 811.405.

IV. RECORDKEEPING

1. Information developed by the operator but not yet forwarded to the Illinois EPA in a quarterly or annual report shall be kept at or near the facility for inspection by the Illinois EPA or their designee through an Intergovernmental Agreement upon request during normal working hours.

2. Information and observations derived from load checking inspections shall be recorded in writing and retained at the facility for at least three years.

3. Every person who delivers special waste to a special waste hauler, every person who accepts special waste from a special waste hauler and every special waste hauler shall retain a copy of the special waste transportation record as a record of each special waste transaction. These copies shall be retained for three years and

shall be made available at reasonable times for inspection and photocopying by the Illinois EPA pursuant to Section 4(d) of the Act.

4. The operator shall retain copies of any special waste profile identification sheets, special waste recertifications, certifications of representative samples, special waste laboratory analyses, special waste analysis plans, and any waivers of requirements, at the facility until the end of the closure period and thereafter at the Site Office until the end of the post-closure care period.

5. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan. Records of field investigations, inspections, sampling, and corrective action taken are to be maintained at the site and made available to Illinois EPA personnel or their designee through an Intergovernmental Agreement. During the post-closure care period, those records are to be maintained at the office of the site operator.

6. The owner or operator shall record and retain near the facility in an operating record or in some alternative location specified by the Illinois EPA, the information submitted to the Illinois EPA pursuant to 35 IAC Parts 812 and 813, as it becomes available. At a minimum, the operating record shall contain the following information, even if such information is not required by 35 IAC Part 812 or 813:

   a. Any location restriction demonstration required by 35 IAC 811.302, 812.109, and 812.303;

   b. Inspection records, training procedures, and notification procedures required by 35 IAC 811.323;

   c. Gas monitoring results and any remediation plans required by 35 IAC 811.310 and 811.311;

   d. Any municipal solid waste landfill (MSWLF) unit design documentation for placement of leachate or gas condensate in a MSWLF unit required by 35 IAC 811.107(m) and 811.309(f);

   e. Any demonstration, certification, monitoring results, testing, or analytical data relating to the groundwater monitoring program required by 35 IAC 811.319, 811.320, 811.324, 811.325, 811.326, 812.317, 813.501, and 813.502;

   f. Closure and post-closure care plans and any monitoring, testing, or analytical data required by 35 IAC 811.110, 811.111, 812.114(h), 812.115, and 812.313; and

g. Any cost estimates and financial assurance documentation required by 35 IAC Part 811, Subpart G.

V. GENERAL CONDITIONS

1. This permit is issued with the expressed understanding that no process discharge to Waters of the State or to a sanitary sewer will occur from these facilities except as authorized by a permit issued by the Illinois EPA Bureau of Water – Division of Water Pollution Control.

2. Site surface drainage, during development, during operation and after the site is closed, shall be managed in accordance with the approved drainage control plan.

3. If changes occur which modify any of the information the permittee has used in obtaining a permit for this facility, the permittee shall notify the Illinois EPA. Such changes would include but not be limited to any changes in the names or addresses of both beneficial and legal titleholders to the herein permitted site. The notification shall be submitted to the Illinois EPA within 15 days of the change and shall include the name or names of any parties in interest and the address of their place of abode; or, if a corporation, the name and address of its registered agent.

4. Pursuant to 35 IAC 813.201(a), any modifications to this permit shall be proposed in the form of a permit application and submitted to the Illinois EPA.

5. Pursuant to 35 IAC 813.301, an application for permit renewal shall be filed with the Illinois EPA at least 90 days prior to the expiration date of this permit.

6. Current, valid Prior Conduct Certification pursuant to 35 IAC Part 745 is required for all landfill operators of landfills that require a permit.

7. Landfill Operator Certification pursuant to 68 IAC Part 870 is required for operation of a landfill.

8. The permittee shall submit current 39(i) certifications and supporting documentation with all permit applications.

VI. SURFACE WATER CONTROL

1. Runoff from disturbed areas to Waters of the State shall be permitted by the Illinois EPA in accordance with 35 IAC Part 309 and meet the requirements of 35 IAC Part 304 unless permitted otherwise.

2. All surface water control structures other than temporary diversions for intermediate phases shall be operated until the final cover is placed and erosional stability is provided by the final protective layer of the final cover system.

3. Runoff from undisturbed areas resulting from precipitation events less than or equal to the 25-year, 24-hour precipitation event shall be diverted around disturbed areas where possible and not commingled with runoff from disturbed areas.

4. Site surface drainage, during development, during operation, and after the site is closed, shall be managed in accordance with the approved drainage control plan detailed in Log No. 2022-254. Stormwater management structures consisting of perimeter ditches and sediment basins shall be constructed prior to disturbing any portion of a drainage area identified in Log No. 2022-254 (Modification No. 173).

VII. LEACHATE MANAGEMENT/MONITORING

1. Pursuant to 35 IAC 811.309(h)(3), leachate from this landfill shall be collected and disposed beginning as soon as it is first produced and continuing for at least 30 years after closure except as otherwise provided in 35 IAC 811.309(h)(4) and (h)(5). Collection and disposal of leachate may cease only when the conditions described in 35 IAC 811.309(h)(2) have been achieved. Leachate removed from this landfill shall be treated at an Illinois EPA permitted facility or out-of-state facilities in accordance with the leachate management plan proposed in Log Nos. 1995-343 and 1998-116.

2. Pursuant to 35 IAC 811.307(a) and (b), 811.308(a) and (h), and 811.309(a), leachate shall be pumped from the side slope riser sump(s) serving the lateral expansion area of this facility before the level of leachate rises above the invert of the collection pipe(s) at its lowest point(s). Leachate removal as such shall be performed throughout the period that the leachate collection/management system must be operated in accordance with Log No. 1995-343.

2. The following monitoring points are to be used in the Leachate Monitoring Program for this facility:

Leachate Monitoring Points

Applicant Designation	Illinois EPA Designation
Storage Tank #1 (south)	L301
Storage Tank #2 (north)	L302
EW-43	L303
South Vault (Site 2, East leachate/gas extraction trench)	L304
EW-67	L305
EW-37	L306
EW-50	L307
EW-62	L308
L309	L309
L310	L310
@L311	@L311
@L312	@L312
@L313	@L313
@L314	@L314
@L315	@L315
@L315	@L315
@L316	@L316
@L317	@L317

@ Indicates leachate monitoring point not yet placed in service

4. Pursuant to 35 IAC 811.309(g), 722.111 and 721, Subpart C, leachate monitoring (i.e., sampling, measurements, and analysis) must be conducted in accordance with the permit for this facility. The concentrations or values for the parameters contained in Lists L1 and L2 (below) must be determined on a quarterly and semi-annual basis, respectively, and the results must be submitted with groundwater reports. Each year, the permittee shall collect a representative sample and have it tested for parameters contained in List L3 (also below). Condition VII.5 presents the sampling, testing, and reporting schedules in tabular form. Leachate monitoring at each monitoring point shall continue as long as groundwater monitoring at this landfill is necessary pursuant to 35 IAC 811.319(a)(1)(C).

LIST L1

Field Monitoring Parameters	STORET
Elevation Leachate Surface (ft. MSL)	71993
Bottom of Well Elevation (ft. MSL)	72020
Leachate Level from Measuring Point (ft.)	72109

List L2

Leachate Monitoring Parameters	STORET
pH (S.U.)	00400
Arsenic (total)	01002
Barium (total)	01007
Cadmium (total)	01027
Iron (total)	01045
Ammonia Nitrogen – N (mg/L)	00610
Bacteria (Fecal Coliform) (CFU/100 mL)	31616
Biochemical Oxygen Demand (BOD_5) (mg/L)	00310
1,1,1,2-Tetrachloroethane	77562
1,1,1-Trichloroethane	34506
1,1,2,2-Tetrachloroethane	34516
1,1,2-Trichloroethane	34511
1,1-Dichloroethane	34496
1,1-Dichloroethylene	34501
1,1-Dichloropropene	77168
1,2,3-Trichlorobenzene	77613
1,2,3-Trichloropropane	77443
1,2,4-Trichlorobenzene	34551
1,2,4-Trimethylbenzene	77222
1,2-Dibromo-3-Chloropropane	38760
1,2-Dichloroethane	34531
1,2-Dichloropropane	34541
1,3,5-Trimethylbenzene	77226
1,3-Dichloropropane	77173
1,3-Dichloropropene	34561
1-Propanol	77018
2,2-Dichloropropane	77170
2,4,5-tp (Silvex)	39760
2,4,6-Trichlorophenol	34621
2,4-Dichlorophenol	34601
2,4-Dichlorophenoxyacetic Acid (2,4-D)	39730
2,4-Dimethylphenol	34606
2,4-Dinitrotoluene	34611
2,4-Dinitrophenol	34616
2,6-Dinitrotoluene	34626
2-Chloroethyl Vinyl Ether	34576
2-Chloronaphthalene	34581
2-Chlorophenol	34586
2-Hexanone	77103
2-Propanol (Isopropyl Alcohol)	81310

List L2 (Continued)

Leachate Monitoring Parameters	STORET
3,3-Dichlorobenzidine	34631
4,4-DDD	39310
4,4-DDE	39320
4,6-Dinitro-O-Cresol	34657
4-Bromophenyl Phenyl Ether	34636
4-Chlorophenyl Phenyl Ether	34641
4-Methyl-2-Pentanone	78133
4-Nitrophenol	34646
Acenaphthene	34205
Acetone	81552
Alachlor	77825
Aldicarb	39053
Aldrin	39330
Alpha – BHC	39337
Aluminum	01105
Anthracene	34220
Antimony	01097
Atrazine	39033
Benzene	34030
Benzo (a) Anthracene	34526
Benzo (a) Pyrene	34247
Benzo (b) Fluoranthene	34230
Benzo (ghi) Perylene	34521
Benzo (k) Fluoranthene	34242
Beryllium (total)	01012
Beta – BHC	39338
Bicarbonate (mg/L as $CaCO_3$)	00425
Bis (2-Chloro-1-Methylethyl) Ether	73522
Bis (2-Chloroethoxy) Methane	34278
Bis (2-Chloroethyl) Ether	34273
Bis (2-Ethylhexyl) Phthalate	39100
Bis (Chloromethyl) Ether	34268
Boron	01022
Bromobenzene	81555
Bromochloromethane	77297
Bromodichloromethane	32101
Bromoform	32104
Bromomethane	34413
Butanol	45265
Butyl Benzyl Phthalate	34292

List L2 (Continued)

Leachate Monitoring Parameters	STORET
Calcium (mg/L)	00916
Carbofuran	81405
Carbon Disulfide	77041
Carbon Tetrachloride	32102
Chemical Oxygen Demand (COD) (mg/L)	00335
Chlordane	39350
Chloride (mg/L)	00940
Chlorobenzene	34301
Chloroethane	34311
Chloroform	32106
Chloromethane	34418
Chromium (total)	01034
Chrysene	34320
Cis-1,2-Dichloroethylene	77093
Cobalt (total)	01037
Copper (total)	01042
Cyanide (mg/L)	00720
DDT	39370
Delta – BHC	46323
Di-N-Butyl Phthalate	39110
Di-N-Octyl Phthalate	34596
Dibenzo (a,h) Anthracene	34556
Dibromochloromethane	32105
Dibromomethane	77596
Dichlorodifluoromethane	34668
Dichloromethane	34423
Dieldrin	39380
Diethyl Phthalate	34336
Dimethyl Phthalate	34341
Endosulfan I	34361
Endosulfan II	34356
Endosulfan Sulfate	34351
Endrin	39390
Endrin Aldehyde	34366
Ethyl Acetate	81585
Ethylbenzene	78113
Ethylene Dibromide (EDB)	77651
Fluoranthene	34376
Flourene	34381
Fluoride (mg/L)	00951

List L2 (Continued)

Leachate Monitoring Parameters	STORET
Heptachlor Epoxide	39420
Heptachlor	39410
Hexachlorobenzene	39700
Hexachlorobutadiene	39702
Hexachlorocyclopentadiene	34386
Hexachloroethane	34396
Indeno (1,2,3-cd) Pyrene	34403
Iodomethane	77424
Isopropylbenzene	77223
Lead (total)	01051
Lindane	39782
Magnesium (total) (mg/L)	00927
Manganese (total)	01055
Mercury (total)	71900
Methoxychlor	39480
Methyl Ethyl Ketone	81595
Naphthalene	34696
Nickel (total)	01067
Nitrate-Nitrogen (mg/L)	00620
Nitrobenzene	34447
Oil. Hexane Soluble (or Equivalent) (mg/L)	00550 or 00552
Parathion	39540
Pentachlorophenol	39032
Phenanthrene	34461
Phenols	32730
Phosphorous (mg/L)	00665
Polychlorinated Biphenyls	39516
Potassium (mg/L)	00937
Pyrene	34469
Selenium	01147
Silver (total)	01077
Specific Conductance (umhos/cm)	00094
Sodium (mg/L)	00929
Styrene	77128
Sulfate (mg/L)	00945
Temperature of Leachate Sample (°F)	00011
Tert-Butylbenzene	77353
Tetrachlorodibenzo-p-Dioxon	34675
Tetrachloroethylene	34475
Tetrahydrofuran	81607

List L2 (Continued)

Leachate Monitoring Parameters	STORET
Thallium	01059
Tin	01102
Toluene	34010
Total Organic Carbon (TOC) (mg/L)	00680
Total Dissolved Solids (TDS) (mg/L)	70300
Total Suspended Solids (TSS) (mg/L)	00530
Toxaphene	39400
Trans-1,2-Dichloroethylene	34546
Trans-1,3-Dichlorpropene	34699
Trans-1,4-Dichloro-2-Butene	73547
Trichloroethylene	39180
Trichlorofluoromethane	34488
Vinyl Acetate	77057
Vinyl Chloride	39175
Xylene	81551
Zinc (total)	01092
m-Dichlorobenzene	34566
m+p-Xylene	61283
n-Butylbenzene	77342
n-Nitrosodimethylamine	34438
n-Nitrosodiphenylamine	34433
n-Nitrosodipropylamine	34428
n-Propylbenzene	77224
o-Chlorotoluene	77275
o-Dichlorobenzene	34536
o-Nitrophenol	34591
o-Xylene	77135
p-Chlorotoluene	77277
p-Cresol	77146
p-Dichlorobenzene	34571
p-Isopropyltoluene	77356
sec-Butylbenzene	77350

LIST L3

RCRA Parameters for Leachate and Condensate

RCRA PARAMETERS	STORET
Ignitability	
Flashpoint, Pensky-Martens Closed Cup (°F)	00497
Corrosivity	
pH (S.U.)	00400
Reactivity	
Reactive Cyanide	99040
Reactive Sulfide	99042

RCRA Parameters for Leachate and Condensate

Toxicity	Total Concentration (ug/L)	TCLP Concentration (mg/L)
Arsenic	1002	99012
Barium	1007	99014
Cadmium	1027	99016
Chromium	1034	99018
Lead	1051	99020
Mercury	71900	99022
Selenium	1147	99024
Silver	1077	99026
Endrin	39390	99028
Lindane	39782	99030
Methoxychlor	39480	99032
Toxaphene	39400	99034
2,4-D	39730	99036
2,4,5-TP Silvex	39760	99038
Benzene	34030	99128
Carbon tetrachloride	32102	99050
Chlordane	39350	99148
Chlorobenzene	34301	99096
Chloroform	32106	99149

LIST L3 (Continued)

RCRA Parameters for Leachate and Condensate

Toxicity	Total Concentration (ug/L)	TCLP Concentration (mg/L)
o-Cresol	77152	99150
m-Cresol	77151	99151
p-Cresol	77146	99152
Cresol	79778	99153
1,4-Dichlorobenzene	34571	99154
1,2-Dichloroethane	34531	99155
1,1-Dichloroethylene	34501	99156
2,4-Dinitrotoluene	34611	99157
Heptachlor (and its epoxide)	39410 and 39420	99158
Hexachlorobenzene	39700	99159
Hexachloro-1,3-Butadiene	39702	99160
Hexachloroethane	34396	99161
Methyl Ethyl Ketone	81595	99060
Nitrobenzene	34447	99062
Pentachlorophenol	39032	99064
Pyridine	77045	99066
Tetrachloroethylene	34475	99068
Trichloroethylene	39180	99076
2,4,5-Trichlorophenol	77687	99078
2,4,6-Trichlorophenol	34621	99080
Vinyl Chloride	39175	99162

Notes for all leachate monitoring parameters:

a. Flashpoint shall be reported in degrees Fahrenheit. The parameters for reactivity and toxicity shall be reported in parts per million.

b. The permittee shall obtain metals and organics analysis. Either procedure may be utilized (i.e., total or TCLP), but any constituent whose total concentration exceeds the TCLP limit specified in 35 IAC 721.124 must be analyzed using the TCLP test and the results reported, unless an alternative test has been approved by the Illinois EPA. TCLP test methods must be in accordance with SW 846-1311.

c. The test methods for leachate monitoring shall be those approved in the USEPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Third Edition or the equivalent thereof.

d. All parameters shall be determined from unfiltered samples.

e. Monitoring results shall be reported in ug/L units unless otherwise indicated.

5. The schedule for leachate sample collection and submission of monitoring data is illustrated below:

Sampling Period	Sampling List	Sampling Points	Report Due Date
Jan – Feb 2024	List L1	L303 through L310	April 15, 2024
April – May 2024	List L1	L303 through L310	July 15, 2024
April – May 2024	List L2	L309	July 15, 2024
July – Aug 2024	List L1	L303 through L310	October 15, 2024
Oct – Nov 2024	List L1	L303 through L310	January 15, 2025
Oct – Nov 2024	List L2	L302	January 15, 2025
Oct – Nov 2024	List L3	LREP	January 15, 2025
Jan – Feb 2025	List L1	L303 through L310	April 15, 2025
April – May 2025	List L1	L303 through L310	July 15, 2025
April – May 2025	List L2	L310	July 15, 2025
July – Aug 2025	List L1	L303 through L310	October 15, 2025
Oct – Nov 2025	List L1	L303 through L310	January 15, 2026
Oct – Nov 2025	List L2	L301	January 15, 2026
Oct – Nov 2025	List L3	LREP	January 15, 2026
Jan – Feb 2026	List L1	L303 through L310	April 15, 2026
April – May 2026	List L1	L303 through L310	July 15, 2026
April – May 2026	List L2	L309	July 15, 2026
July – Aug 2026	List L1	L303 through L310	October 15, 2026
Oct – Nov 2026	List L1	L303 through L310	January 15, 2027
Oct – Nov 2026	List L2	L302	January 15, 2027
Oct – Nov 2026	List L3	LREP	January 15, 2027
Jan – Feb 2027	List L1	L303 through L310	April 15, 2027
April – May 2027	List L1	L303 through L310	July 15, 2027
April – May 2027	List L2	L310	July 15, 2027
July – Aug 2027	List L1	L303 through L310	October 15, 2027
Oct – Nov 2027	List L1	L303 through L310	January 15, 2028
Oct – Nov 2027	List L2	L301	January 15, 2028
Oct – Nov 2027	List L3	LREP	January 15, 2028
Jan – Feb 2028	List L1	L303 through L310	April 15, 2028
April – May 2028	List L1	L303 through L310	July 15, 2028
April – May 2028	List L2	L309	July 15, 2028
July – Aug 2028	List L1	L303 through L310	October 15, 2028
Oct – Nov 2028	List L1	L303 through L310	January 15, 2029
Oct – Nov 2028	List L2	L302	January 15, 2029
Oct – Nov 2028	List L3	LREP	January 15, 2029

L1 – Field Monitoring Parameters
L2 – Leachate Monitoring Parameters
L3 – RCRA Parameters for Leachate and Condensate
LREP – Reporting Label for Representative Leachate Sample

6. The leachate monitoring data must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found on the Illinois EPA website.

7. The leachate monitoring points L303, L304, L305, L306, L307, L308, L309, and L310 are to be used in the measurement of the field monitoring parameters in List L1 of Condition VII.4 on a quarterly basis in accordance with the schedule in Condition VII.5. The measurements shall be reported to the Illinois EPA in accordance with the schedule in Condition VII.5.

8. The average leachate head shall be maintained below elevation 750 feet AMSL during the life of the facility and the 30-year post-closure care period in accordance with conditions used to pass the GIA in Volume 2A, Exhibit B, Table 16, dated September 1996.

9. The development and operation of the leachate re-circulation system as proposed in Log Nos. 2001-343, 2003-283, 2006-011, and 2009-284 is hereby approved. Operation of future increments to the leachate recirculation system (beyond those documented in Log Nos. 2003-283, 2006-011, and 2009-284) shall not be initiated until the following conditions have been satisfied:

   a. A gas management system installed in accordance with the approved designs is in place and in operation over all areas of the landfill where leachate is being recirculated; and

   b. An acceptance report has been submitted to and approved by the Illinois EPA as a permit application in accordance with 35 IAC 811.505(d) and 813.203. (Modification Nos. 25, 33, 47, and 76)

10. The recirculation of leachate shall be limited to the active life of the landfill. Leachate shall not be recirculated after the landfill stops accepting waste and during the post-closure care period.

11. The following conditions apply when leachate is recirculated:

   a. The operator shall maintain an operating record that documents leachate recirculation activities. The operating record shall include:

      i. The amount of leachate recirculated on a daily basis;

ii. The trenches where leachate was recirculated; and

iii. Documentation of leachate pop-outs, odors, and other associated problems that could be attributed to leachate recirculation.

b. Leachate recirculation shall occur only via subsurface horizontal distribution lines installed within the waste mass.

c. Leachate shall not be recirculated during precipitation events or in volumes large enough to cause runoff or surface seeps;

d. The amount of leachate added shall not exceed the ability of waste and cover soils to transmit leachate flow downward;

e. Leachate shall be evenly distributed beneath the surface of the recirculation area;

f. Daily and intermediate cover shall slope away from the perimeter of the site to minimize the surface discharges of leachate;

g. Leachate which exhibits hazardous characteristics in accordance with 35 IAC Part 721, Subpart C shall not be recirculated;

h. The volume of leachate recirculated shall not exceed 5,492 gallons/acre over a four-day rolling average. Additionally, the volume of leachate recirculated shall not exceed 264,244 gallons/acre/year; and

i. Horizontal collectors installed for the dual purpose of landfill gas collection and leachate recirculation shall not be utilized for leachate recirculation until such time that additional horizontal collectors or vertical gas collection wells have been installed within the same area and are being utilized for active landfill gas collection. Additional horizontal collectors shall be installed at a higher elevation in the waste mass and above those collectors to be utilized for leachate recirculation.

12. Discharge of leachate to an offsite treatment facility in Illinois different than the facility identified in Log No. 2011-555 (Kenosha Waste Water Treatment Plant in Wisconsin) shall require a permit application to demonstrate compliance with 35 IAC 811.309(e).

VIII. GROUNDWATER MONITORING

1. The groundwater monitoring program must be capable of determining background groundwater quality hydraulically upgradient of and unaffected by the units and to detect, from all potential sources of discharge, any releases to groundwater within the facility. The Illinois EPA reserves the right to require installation of additional monitoring wells as may be necessary to satisfy the requirements of this permit.

2. The groundwater monitoring wells shall be constructed and maintained in accordance with the requirements of 35 IAC 811.318(d) and designs approved by the Illinois EPA.

3. Groundwater monitoring wells shall be installed as shown in the revised Drawing No. 33 of Log No. 1997-378 and Drawing 1 of Addendum No. 1 to Log No. 2011-555 and screened in the hydrogeologic unit(s) identified as potential contaminant pathway(s) within the zone of attenuation. Wells for Phase 11, as listed in Condition VIII.9, must be installed so samples may be taken before waste is placed in Phase 11. Wells for Phase 12, as listed in Condition VIII.9, must be installed so samples may be taken before waste is placed in Phase 12. Wells for Phase 13, as listed in Condition VIII.9, must be installed so samples may be taken before waste is placed in Phase 13. Wells for Phase 14, as listed in Condition VIII.9, must be installed so samples may be taken before waste is placed in Phase 14. The well phasing schedule was revised in Log No. 2002-099 (Drawing 1 in Attachment 2), further revised in Table 2 of Addendum No. 1 to Log No. 2011-555, and further revised in Table 1 of Addendum 1 (dated May 4, 2018) to Log No. 2018-057.

   As modified by Log No. 2022-254, groundwater monitoring wells for the horizontal expansion (Site 2 North Expansion) shall be installed as shown in Figure 2.8-1 of the July 2024 Addendum to Log No. 2022-254 and screened in the hydrogeologic unit(s) identified as potential contaminant pathway(s) within the zone of attenuation. Wells for Cells 11 through 17, as tabulated in Condition VIII.9, must be installed so samples may be taken before waste is placed in each cell during cell phasing. The well phasing schedule was revised in Log No. 2022-254 (Table 2.8-1 of the July 2024 Addendum).

4. Construction of each monitoring well/piezometer must be completed in accordance with the Illinois EPA "Well Completion Report" form, which can be found on the Illinois EPA website. All new and replacement monitoring wells/piezometers to be installed must be continuously sampled. The permittee shall submit boring logs compiled by a qualified geologist, construction diagrams, data sheets, and a completed "Well Completion Report" form for each new or replacement groundwater and/or leachate

monitoring well to the Illinois EPA within 30 days of the date that the installation of the well is completed.

5. All wells/piezometers shall be easily visible, clearly identified on the protective casing with the Illinois EPA monitoring point designations and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards. All wells/piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 IAC Part 920 regulations.

6. The permittee shall notify the Illinois EPA in writing within 30 days if any of the wells in the monitoring network are damaged, the structural integrity has been compromised, or have become consistently dry or unserviceable; a replacement well shall be installed within 10 feet of the existing well. This well shall monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the well is replaced. A well which is more than 10 feet from the existing well or which does not monitor the same geologic zone must be approved by the Illinois EPA via a permit application and designated as a new well.

   In the event that any well shows impacts, is in assessment, or in a remediation program, that well may not be decommissioned without prior approval of the Illinois EPA in the form of a permit application.

   If well integrity is suspect, the operator shall either demonstrate the failure of integrity prior to replacement or retain both wells (original and replacement) until such demonstration can be made. Upon approval of the demonstration the operator may decommission the original well. The demonstration shall be submitted to the Illinois EPA in the form of a permit application. In the event the operator fails to demonstrate integrity issues, both wells shall remain in assessment until the source of the exceedance is identified.

7. Monitoring wells and piezometers that are improperly constructed or no longer used by the facility must be abandoned in accordance with the decommissioning and reporting procedures contained in 77 IAC Part 920. In the event specific guidance is not provided in 77 IAC Part 920, the Illinois EPA monitoring well plugging procedures can be found on the Illinois EPA website. The original well shall not be plugged until the replacement well is installed and monitoring data has been obtained and verified unless the well is extremely damaged or would create a potential route for groundwater contamination. The permittee shall submit certification that plugging and abandonment of a well was carried out in accordance with the approved

procedures of the Illinois EPA within 30 days of the date that the well is plugged and abandoned. All information should be submitted to the appropriate State Agencies.

8. Groundwater sampling and analysis shall be performed in accordance with the requirements of 35 IAC 811.318(e) and the specific procedures and methods approved by the Illinois EPA.

9. The following monitoring points are to be used in the groundwater detection monitoring program for this facility:

Phase 13 – Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
RE2S	RE2S
R124	R124
R126	R126
R128	R128
C129	C129
G160	G160
G161	G161
RK1D	G162
G163	G163
GK2D	G164
G165	G165
R166	R166
G167	G167
G168*	G168*
G169*	G169*
R175*	R175*
G170	G170
GF0S	GF0S
G176*	G176*
G177*	G177*
GF7S*	GF7S*
G178	G178
G179	G179
G180	G180
G181	G181
R182	R182
GG2S	GG2S
G183	G183
RG3S	RG3S

Phase 13 – Wells Within Zone of Attenuation (continued)

Applicant Designation	Illinois EPA Designation
G184	G184
GG4S	GG4S
G201*	G201*
G202*	G202*
G203	G203
G204	G204
G205	G205
G206	G206
G207+	G207+
G208+	G208+
G209+	G209+

Phase 13 – Upgradient Wells

Applicant Designation	Illinois EPA Designation
G131	G131
G132	G132
R133	R133
G185	G185
RG5S	RG5S
RC2S	RC2S
GC3S	GC3S

Phase 13 – Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
R193	R193

Phase 14 – Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
RE2S	RE2S
R124	R124
R126	R126
R128	R128
C129	C129

Phase 14 – Wells Within Zone of Attenuation (Continued)

Applicant Designation	Illinois EPA Designation
G160	G160
G161	G161
RK1D	G162
R182	R182
G163	G163
GK2D	G164
G165	G165
R166	R166
G167	G167
G168*	G168*
G169*	G169*
G170	G170
GF0S	GF0S
G179	G179
G178*	G178*
G180	G180
G181	G181
GG2S	GG2S
G183	G183
RG3S	RG3S
G184	G184
GG4S	GG4S
G201*	G201*
G202*	G202*
G203	G203
G204	G204
G205	G205
G206	G206
G207	G207
G208	G208
G209	G209
G210+	G210+
G211+	G211+
G212+	G212+
G213+	G213+
G214+	G214+
G215+	G215+

Phase 14 - Upgradient Wells

Applicant Designation	Illinois EPA Designation
G131	G131
G132	G132
R133	R133
G185	G185
RG5S	RG5S
RC2S	RC2S
GC3S	GC3S

Phase 14 – Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
R193	R193

For the Site 2 North Expansion, the wells below are to be phased in according to the schedule provided in Table 2.8-1 in the July 2024 Addendum to Log No. 2022-254. Upgradient monitoring wells apply to all cells once they become active.

Site 2 North Expansion

Cell 11 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300+	G300+
G301+	G301+

Cell 11 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302+	G302+
G303+	G303+
T100+	T100+
T101+	T101+
T102+	T102+
T103+	T103+

Cell 11 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304+	G304+

Cell 12 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300	G300
G301	G301

Cell 12 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304	G304

Cell 12 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302	G302
G303	G303
G305+	G305+
T101*	T101*
T102*	T102*
T103*	T103*
T104+	T104+
T105+	T105+
T106+	T106+
T107+	T107+

Cell 13 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300	G300
G301	G301

Cell 13 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302	G302
G303	G303
G305	G305
G306+	G306+
G307+	G307+
T104*	T104*
T105*	T105*
T106*	T106*
T107*	T107*
T108+	T108+
T109+	T109+
T110+	T110+
T111+	T111+

Cell 13 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304	G304

Cell 14 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300	G300
G301	G301

Cell 14 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302	G302
G303	G303
G305	G305
G306	G306
G307	G307
G308+	G308+
G309+	G309+
T108*	T108*
T109*	T109*

Cell 14 Wells Within Zone of Attenuation (continued)

Applicant Designation	Illinois EPA Designation
T110*	T110*
T111*	T111*
T112+	T112+
T113+	T113+
T114+	T114+
T115+	T115+

Cell 14 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304	G304

Cell 15 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300	G300
G301	G301

Cell 15 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302	G302
G303	G303
G305	G305
G306	G306
G307	G307
G308	G308
G309	G309
G310+	G310+
T112*	T112*
T113*	T113*
T114*	T114*
T115*	T115*
T116+	T116+
T117+	T117+
T118+	T118+
T119+	T119+

Cell 15 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304	G304

Cell 16 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300	G300
G301	G301

Cell 16 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302	G302
G303	G303
G305	G305
G306	G306
G307	G307
G308	G308
G309	G309
G310	G310
G311+	G311+
G312+	G312+
G326+	G326+
T116*	T116*
T117*	T117*
T118*	T118*
T119*	T119*
T120+	T120+
T121+	T121+

Cell 16 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304	G304

Cell 17 Upgradient Wells

Applicant Designation	Illinois EPA Designation
G300	G300
G301	G301

Cell 17 Compliance Boundary Well(s)

Applicant Designation	Illinois EPA Designation
G304	G304

Cell 17 Wells Within Zone of Attenuation

Applicant Designation	Illinois EPA Designation
G302	G302
G303	G303
G305	G305
G306	G306
G307	G307
G308	G308
G309	G309
G310	G310
G311	G311
G312	G312
G313+	G313+
G314+	G314+
G315+	G315+
G316+	G316+
G317+	G317+
G318+	G318+
G319+	G319+
G320+	G320+
G321+	G321+
G322+	G322+
G323+	G323+
G324+	G324+
G325+	G325+
G326	G326
T120*	T120*
T121*	T121*

+ denotes wells which will be added to the monitoring program in accordance with the Phasing Plan in Condition VIII.3. These wells shall be installed, at a minimum, one year prior to placement of waste in their respective cell.
* denotes wells removed from the monitoring program in accordance with the Phasing Plan in Condition VIII.3.
# denotes wells deleted from the monitoring program

NOTE: Temporary monitoring wells (those designated with "T") are to be installed to monitor downgradient groundwater quality as cells phase downgradient (north) and are to be abandoned during the development of the adjacent landfill cell to the north.

10. The monitoring program approved by Permit No. 1995-343 and modified by Log No. 2022-254 shall continue for a minimum period of 30 years after closure and shall not cease until the conditions described in 35 IAC 811.319(a)(1)(C) have been achieved. The operator shall collect samples from all of the monitoring points listed in Condition VIII.9, test the samples for the parameters listed in Condition VIII.12 (Lists G1 and G2), and report the results to the Illinois EPA, all in accordance with the schedule in Condition VIII.18.

11. The applicable groundwater quality standards (AGQSs) and the maximum allowable predicted concentrations (MAPCs), as listed in Attachments 1 and 2, are subject to the following conditions:

    a. Temperature and field parameters involving depth or elevation are not considered groundwater constituents and do not need AGQSs.

    b. For constituents which have not been detected in groundwater, the practical quantitation limit (PQL) shall be used as the AGQS.

    c. MAPCs are only applicable to those wells within the zone of attenuation. MAPC values are not applicable to parameters within the zone of attenuation wells having an established intrawell value.

    d. AGQSs are only applicable to upgradient/background and compliance boundary wells.

    e. For the parameters which have approved intrawell values listed in Attachment 2, the operator shall statistically compare both the interwell and intrawell values for groundwater exceedences.

12. AGQS and MAPC values have been determined for all of the parameters which appear in either Lists G1 or G2 (not including groundwater depth or elevations). The AGQS values have been calculated employing the statistical method described in Volume 3 to Log No. 1995-343. Intrawell MAPC/AGQS values are documented in Log Nos. 2001-071, 2003-023, and 2019-185, and are posted in Attachment 2.

LIST G

GROUNDWATER MONITORING PARAMETER	STORET
Elevation of Bottom of Well (ft. MSL) (Annually without dedicated pumps; every five years with dedicated pumps or whenever the pump is pulled)	72020

LIST G1

FIELD PARAMETERS	STORET
pH (S.U.)	00400
Specific Conductance (umhos/cm)	00094
Temperature of Water Sample (°F)	00011
Depth to Water (ft. below land surface)	72019
Depth to Water (ft. below measuring point)	72109
Elevation of Measuring Point (Top of casing ft. MSL)	72110
Elevation of Groundwater Surface (ft. MSL)	71993

INDICATOR PARAMETERS	STORET
Ammonia (as Nitrogen; Dissolved) mg/L	00608
Arsenic (Dissolved) ug/L	01000
Boron (Dissolved) ug/L	01020
Cadmium (Dissolved) ug/L	01025
Chloride (Dissolved) mg/L	00941
Chromium (Dissolved) ug/L	01030
Cyanide (Total) mg/L	00720
Lead (Dissolved) ug/L	01049
Magnesium (Dissolved) mg/L	00925
Mercury (Dissolved) ug/L	71890
Nitrate (as Nitrogen, Dissolved) mg/L	00618
Sulfate (Dissolved) mg/L	00946
Total Dissolved Solids (TDS, 180°C; Dissolved) mg/L	70300
Zinc (Dissolved) ug/L	01090

NOTES:

i. All parameters with the "(Dissolved)" label to the right shall be determined using groundwater samples which have been filtered through a 0.45-micron filter. All other parameters shall be determined from unfiltered samples.

ii. MAPCs and AGQSs are given in ug/L except as otherwise noted. Also, the monitoring results should be reported in ug/L units unless otherwise indicated.

iii. List G1 and List G2 AGQS/MAPC values are included in Attachments 1 and 2.

LIST G2

PARAMETERS (ug/L)	STORET
Acetone	81552
Acrylonitrile	34215
Benzene	34030
Bromobenzene	81555
Bromochloromethane (chlorobromomethane)	77297
Bromodichloromethane	32101
Bromoform (Tribromomethane)	32104
n-Butylbenzene	77342
sec-Butylbenzene	77350
tert-Butylbenzene	77353
Carbon Disulfide	77041
Carbon Tetrachloride	32102
Chlorobenzene	34301
Chloroethane (Ethyl Chloride)	34311
Chloroform (Trichloromethane)	32106
o-Chlorotoluene	77275
p-Chlorotoluene	77277
Dibromochloromethane	32105
1,2-Dibromo-3-Chloropropane	38760
1,2-Dibromoethane	77651
1,2-Dichlorobenzene	34536
1,3-Dichlorobenzene	34566
1,4-Dichlorobenzene	34571
trans-1,4-Dichloro-2-Butene	73547
Dichlorodifluoromethane	34668
1,1-Dichloroethane	34496
1,2-Dichloroethane	34531
1,1-Dichloroethylene	34501
cis-1,2-Dichloroethylene	77093

LIST G2 (Continued)

PARAMETERS (ug/L)	STORET
trans-1,2-Dichloroethylene	34546
1,2-Dichloropropane	34541
1,3-Dichloropropane	77173
2,2-Dichloropropane	77170
1,1-Dichloropropene	77168
1,3-Dichloropropene	34561
cis-1,3-Dichloropropene	34704
trans-1,3-Dichloropropene	34699
Ethylbenzene	78113
Hexachlorobutadiene	39702
2-Hexanone (Methyl Butyl Ketone)	77103
Isopropylbenzene	77223
p-Isopropyltoluene	77356
Methyl Bromide (Bromomethane)	34413
Methyl Chloride (Chloromethane)	34418
Methylene Bromide (Dibromomethane)	77596
Dichloromethane	34423
Methyl Ethyl Ketone	81595
Methyl Iodide (Iodomethane)	77424
4-Methyl-2-Pentanone	78133
Naphthalene	34696
Oil (Hexane-Soluble) (mg/L)	00550 or 00552
n-Propylbenzene	77224
Styrene	77128
1,1,1-Trichloroethane	34506
1,1,2-Trichloroethane	34511
1,1,1,2-Tetrachloroethane	77562
1,1,2,2-Tetrachloroethane	34516
Tetrachloroethylene	34475
Tetrahydrofuran	81607
Toluene	34010
Total Phenolics	32730
1,2,3-Trichlorobenzene	77613
1,2,4-Trichlorobenzene	34551
Trichloroethylene	39180
Trichlorofluoromethane	34488
1,2,3-Trichloropropane	77443
1,2,4-Trimethylbenzene	77222
1,3,5-Trimethylbenzene	77226

LIST G2 (Continued)

PARAMETERS (ug/L)	STORET
Vinyl Acetate	77057
Vinyl Chloride	39175
Xylenes	81551

NOTES:

i. All parameters with the "(Dissolved)" label to the right shall be determined using groundwater samples which have been filtered through a 0.45-micron filter. All other parameters shall be determined from unfiltered samples.

ii. MAPCs and AGQSs are given in ug/L except as otherwise noted. Also, the monitoring results should be reported in ug/L units unless otherwise indicated.

iii. List G1 and List G2 AGQS/MAPC values are included in Attachments 1 and 2.

13. Pursuant to 35 IAC 811.319(a)(4)(A), any of the following events shall constitute an observed increase only if the concentrations of the constituents monitored at or above the PQL.

a. The concentration of any constituent in List G1 of Condition VIII.12 or Attachment 2 shows a progressive increase over eight consecutive quarters.

b. The concentration of any constituent monitored in accordance with List G1 or List G2 of Condition VIII.12 exceeds the MAPC at an established monitoring point within the zone of attenuation. MAPC values are not applicable to parameters within the zone of attenuation wells having an established intrawell value.

c. The concentration of any organic constituent in List G2, monitored in accordance with Condition VIII.12 exceeds the preceding measured concentration at any established monitoring point.

d. The concentration of any constituent monitored at or beyond the zone of attenuation (compliance boundary) exceeds its AGQS, or pursuant to 35 IAC 811.320(d), any constituent monitored at an upgradient well, exceeds its AGQS.

e. The concentration of any constituent monitored in accordance with List G1 or List G2 of Attachment 2 exceeds the intrawell AGQS value at an established monitoring point. Intrawell values replace MAPC values.

The comparison of groundwater concentrations to values in b, d, and e above to determine an observed increase will be based on exceedences of both interwell and intrawell AGQS values, if there is an intrawell value established for the parameter, listed in Attachment 2.

14. For each round of sampling described in Condition VIII.10, the operator must determine if an observed increase has occurred within 90 days of the date the samples were collected. If an observed increase is identified, the operator must also notify the Illinois EPA in writing and follow the confirmation procedures of 35 IAC 811.319(a)(4)(B). Furthermore, the operator must complete the confirmation procedures within 180 days of the initial sampling event.

15. Upon confirmation of a monitored increase and within 180 days of the initial sampling date, the operator shall submit a permit application to demonstrate an alternate source per 35 IAC 811.319(a)(4)(B)(ii) or begin an assessment monitoring program in order to determine whether the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with 35 IAC 811.319(b).

16. In the event that an alternative source demonstration is denied, pursuant to 35 IAC 813.105, the operator must commence sampling for the constituents listed in 35 IAC 811.319(b)(5) and submit an assessment monitoring plan as a permit application, both within 30 days after the dated notification of Illinois EPA denial. The operator must sample the well or wells that exhibited the confirmed increase.

17. The statistical evaluation of groundwater quality shall commence with the second quarter 1997 sampling event.

18. The following wells shall be sampled and analyzed on a semi-annual basis as described in the schedule below:

<u>Intratill Sorted Sediments</u>:

RC2S	GC3S
RG3S	GG4S
RG5S	GG2S
GF0S	RE2S

Shallow Drift Aquifer:

R124	R126	R128	C129	G131	G132
R133	G160	G161	G162	G163	G164
G165	R166	G167	G168	G169	G170
G179	G180	G181	R182	G183	G184
G185	G193	G201	G202	G203	G204
G205	G206				

The schedule for sampling collection and submission of semi-annual monitoring results for the 41 wells listed above is as follows:

Sampling Quarter	Sampling Due	Report Due Date
April-May (second)	Lists G, G1, and G2	July 15
Oct-Nov (fourth)	List G1 and G2	January 15

In the event that a confirmed significant increase in groundwater quality occurs, the groundwater monitoring at the affected monitoring well will immediately return to quarterly monitoring below.

The schedule for sample collection and submission of results from the remaining monitoring wells is as follows:

Sampling Quarter	Sampling Due	Report Due Date
Jan-Feb (first)	List G1	April 15
April-May (second)	Lists G, G1, and G2	July 15
July-Aug (third)	List G1	October 15
Oct-Nov (fourth)	List G1 and G2	January 15

G – Well Depth
G1 – Routine Groundwater Parameters
G2 – Semi-Annual Groundwater Parameters

19. Elevation of stick-up is to be surveyed and reported to the Illinois EPA:

    a. When the well is installed (with the as-built diagrams),

    b. Every two years thereafter, or

    c. Whenever there is reason to believe that the elevation has changed.

20. Annually, the operator shall prepare an evaluation of the groundwater flow direction and the hydraulic gradients at the facility using the groundwater surface elevations (STORET 71993) determined for each monitoring event. The facility shall submit a completed "Solid Waste Landfill Groundwater, Leachate, Facility and Gas Reporting Form" (LPC-591) as a cover sheet along with the potentiometric surface maps and groundwater elevation data in tabular format. This assessment shall be submitted with the monitoring results due on July 15.

21. All monitoring points shall be maintained in accordance with the approved permit such that the required samples and measurements may be obtained.

22. If, while installing the proposed deep wells, the intratill sorted sediments are encountered in sufficient thickness to monitor, then a shallow well screened in the intratill sediments must be installed. In order to incorporate shallow wells in the monitoring program which have not already been proposed, the operator must submit a permit application within 60 days of the well installation. The application must include all well construction and location details.

23. Information required by Conditions VIII.12 and VIII.18 must be submitted in an electronic format. The facility shall submit a completed "Solid Waste Landfill Groundwater, Leachate, Facility and Gas Reporting Form" (LPC-591) as a cover sheet along with the information submitted as fixed-width text files format. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.

24. Background concentrations which exhibit a statistically significant change shall be adjusted and updated in accordance with 35 IAC 811.320(d)(2) and submitted to the Illinois EPA as a permit application.

25. As proposed in Log No. 2023-035 and modified by Log No. 2025-051, the operator shall evaluate the concentration of dissolved chloride at well G213. This evaluation is to determine if concentrations stabilize following installation of well G213. This parameter shall be monitored for six consecutive quarters, beginning with the first quarter 2025. During this time, dissolved chloride at well G213 shall be exempt from the requirements of Condition VIII.13. Once six consecutive quarters of monitoring have been completed, the operator shall evaluate concentrations of this parameter for any trend and/or exceedance. A report containing the results and conclusions of the evaluation, as well as any recommendations, shall be submitted to the Illinois EPA in the form of a permit application, no later than August 30, 2026.

26. As proposed in Log No. 2023-468 and modified by Log No. 2024-437, the operator shall conduct a groundwater evaluation of specific conductance in well G167. This parameter shall be monitored quarterly from fourth quarter 2024 through third quarter 2025. The operator shall determine if additional evaluation is required, it is appropriate to propose intrawell values, or G167 should return to routine detection monitoring. The results, conclusions, and recommendations of the evaluation shall be submitted to the Illinois EPA in the form of a permit application, no later than December 15, 2025.

IX. LANDFILL GAS MANAGEMENT/MONITORING

1. The landfill gas monitoring and management plan described in Log No. 2022-254 (Modification No. 173) is approved. Monitoring devices shall be put into service in accordance with the following schedule:

   a. The gas monitoring probes within the waste boundary shall be installed and put into service within 90 days after final cover has been applied to the various areas where they are located.

   b. Monitoring devices outside the waste boundary shall be put into service when waste has been disposed in the landfill near that monitoring location.

   c. Monitoring devices within buildings shall be put into service when waste disposal begins and the building has been constructed.

   d. Ambient air monitoring devices shall be put into service downwind of the disposal unit after initial receipt of waste.

   e. Documentation that all the gas monitoring probes outside the waste boundary and the methane monitoring devices within the on-site buildings have been installed shall be included with a permit application requesting authorization to place waste upon the new liner.

2. The gas monitoring probes both inside and outside the waste boundary shall be monitored for the following parameters:

   a. Methane;

   b. Pressure;

   c. Nitrogen*;

   d. Oxygen; and

e. Carbon Dioxide

*NOTE:

For routine monitoring, Nitrogen may be reported as the net remaining volume fraction after the other measured constituents have been accounted for.

3. The ambient air monitoring devices described in Log No. 1995-343 shall be used to test the air downwind of the landfill for methane.

4. All buildings within the facility boundaries shall be monitored continuously for methane.

5. Gas monitoring in accordance with this permit shall continue for at least 30 years after closure and may be discontinued only after the conditions described in 35 IAC 811.310(c)(4) have been achieved and approved by the Illinois EPA.

6. Sampling and testing of the gas monitoring probes and ambient air monitoring shall be performed at least annually throughout the remaining operating life and during the post-closure care period.

7. Pursuant to 35 IAC 811.311, in the event of any of the occurrences listed below, the operator must take the steps described in the last two paragraphs of this condition to ensure the protection of human health:

   a. A methane concentration greater than 50% of the lower explosive limit in air is detected in any of the below ground monitoring devices outside the waste boundary;

   b. A methane concentration greater than 50% of the lower explosive limit in air is detected during ambient air monitoring;

   c. A methane concentration greater than 25% of the lower explosive limit in air is detected in any building on or near the facility; or

   d. Malodors attributed to the unit are detected beyond the property boundary.

   First, within two business days of the occurrence, the operator must notify the Illinois EPA in writing using the form LPC-591, pursuant to 35 IAC 811.311(b)(1). The notification must identify the location of the occurrence and describe its nature (quantitatively if possible). If the gas exceedance is corrected within 30 days, a follow-up LPC-591 form may be submitted to the Illinois EPA describing the correction and providing confirmation test results.

Second, if a follow-up LPC-591 is not submitted, then within 180 days of the occurrence, the operator must submit to the Illinois EPA a permit application that either:

1) proposes a gas collection/management system or modifications to the existing gas collection/management system, or

2) demonstrates that the facility is not the cause of the occurrence.

8. The gas probes shall be inspected at least monthly for structural integrity and proper operation.

9. The results from gas monitoring for each calendar year shall be submitted to the Illinois EPA in the annual report required by 35 IAC 813.501.

10. At the end of the post-closure care period, the gas monitoring probes shall be decommissioned. The probes outside the waste boundary shall be decommissioned using the method described in the monitoring well plugging procedure guidance and found on the Illinois EPA website. In decommissioning the probes within the waste boundaries, the pipes shall be cut off at least two feet below the low permeability layer and plugged. Then the low permeability layer, the protective layer and the vegetation shall be restored in the excavated areas.

11. It should be noted that this permit does not relieve the permittee of the responsibility of complying with the provisions of the State of Illinois Rules and Regulations, 35 IAC Subtitle B, Air Pollution Control, Chapter 1. The permittee may be required to file reports and/or obtain applicable permits through the Illinois EPA - Bureau of Air - Division of Air Pollution Control.

    Specifically, this project includes air emission units, which may require a permit from the Illinois EPA Bureau of Air. As shown in 35 IAC 201.142 and 201.143, this project requires a construction permit prior to construction and an operating permit prior to operation of the emission units referenced in Log No. 1995-343 and in other permits issued to this facility. Both the construction and operating permit may be applied for simultaneously. If there any questions regarding these requirements, contact the Illinois EPA's Bureau of Air - Division of Air Pollution Control - Permit Section at 217/782-2113.

12. The landfill gas collection system in the lateral expansion shall be constructed in accordance with the designs submitted in Log No. 2002-292 (Modification No. 28), Log No. 2011-555 (Modification No. 111), and Log No. 2022-254 (Modification No. 173). Operation of each new phase of the landfill gas collection system can commence on a temporary basis, following completion of its construction. However, within 90 days of completion of construction of each

phase of the landfill gas collection system, the operator shall submit to the Illinois EPA a permit application that includes the following:

a. Acceptance report that complies with the requirements of 35 IAC 811.505(d) and 813.203; and

b. Revised closure and post-closure care cost estimates or proof that the existing cost estimates account for the new phase of the landfill gas collection system.

13. Modification No. 167 (Log No. 2023-371) approves the request to construct and commission a Renewable Natural Gas (RNG) plant. The RNG plant is approved to process gas from Zion Landfill, Zion Site 1 Phase A Landfill, and Zion Site 1 Phase B Landfill. Construction of the plant and appurtenances shall meet or exceed any applicable standards set by the facility's CQA Plan in accordance with 35 IAC 811.505(d). Operation of the RNG plant is not authorized until a Construction Acceptance Report, in the form of a permit application, is submitted and approved by the Illinois EPA, Bureau of Land, Permits Section.

14. Zion Landfill Expansion North Gas Monitoring Probe Installation Schedule

Phase	Phase Description	GMP-N
A	Cell 11	@1 & @17
B	Cell 12	@2 & @16
C	Cell 13	@3
D	Cell 14	@15
E	Cell 15	@4
F	Cell 16	@5, @6, @13, & @14
G	Cell 17	@7, @8, @9, @10, @11, & @12

@ Indicates leachate monitoring point not yet placed in service

The gas monitoring probes assigned to each cell must be constructed and operable before waste disposal in the cell may commence.

X. CLOSURE/POST-CLOSURE CARE AND FINANCIAL ASSURANCE

1. Per 35 IAC Part 813.401(a), the landfill operator shall send a notice of closure to the Illinois EPA within 30 days after the date of the final volume of waste is received. The facility shall be closed in accordance with the closure plan in Log No. 2022-254 (Modification No. 173). The closure plan includes a plan for temporary suspension of waste acceptance. Upon completion of closure activities, the operator shall notify the Illinois EPA that the site has been closed in accordance with the approved closure plan utilizing the Illinois EPA's "Affidavit

for Certification of Closure of Solid Waste Landfills Permitted under 35 Ill. Adm. Code Parts 813 and 814" form.

2. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan in Log No. 2022-254 (Modification No. 173). Records of field investigations, inspections, sampling, and corrective action taken are to be maintained at the site and made available to Illinois EPA personnel or their designee through an Intergovernmental Agreement. During the post-closure care period, these records are to be maintained at the office of the site operator.

3. If necessary, the soil over the entire planting area shall be amended with lime, fertilizer and/or organic matter. On sideslopes, mulch or some other form of stabilizing material is to be provided to hold seed in place and conserve moisture.

4. The minimum post-closure care period for this municipal solid waste and non-hazardous special waste landfill is 30 years. When the post-closure care period has been completed, the operator shall notify the Illinois EPA utilizing the Illinois EPA's, "Affidavit of Certification of Post-Closure Care for Non-Hazardous Waste Facilities" form.

5. The operator shall provide financial assurance for closure and post-closure care pursuant to 35 IAC 811.700(b). Financial assurance for closure shall be required only for those areas for which authorization to operate has been obtained and is being requested. Financial assurance for post-closure care shall be required for those areas for which authorization to operate has been obtained and those areas expected to operate during the permit term.

6. The total cost estimates for closure and post-closure care of the facility approved by Modification No. 172 (Log No. 2024-253) to Permit No. 1995-343-LFM is $22,583,190. The total cost estimates consist of $8,608,672 in Closure costs; $13,446,240 in Post-Closure Care costs, $378,254 in Decommissioning costs, and $150,024 in Leachate Storage Tank Maintenance costs. The owner or operator shall maintain financial assurance equal or greater than the current cost estimate at all times in accordance with 35 IAC 811.701(a).

7. The operator shall increase the total amount of financial assurance so as to equal the current cost estimate within 90 days of an increase in the current cost estimate in accordance with 35 IAC 811.701(b).

8. The owner or operator shall adjust the cost estimates for closure, post-closure, and corrective action for inflation on an annual basis during the following time periods:

   a. The active life of the unit for the closure cost;

b. The active life and post-closure care period for the post-closure cost; and

c. Until any corrective action program is completed in accordance with 35 IAC 811.326, for the cost of corrective action.

Each year, no later than July 1 of that year, the owner or operator shall submit a permit application. The permit application shall provide an update to the cost estimate or a certification that there are no changes to the current cost estimates.

XI. REPORTING REQUIREMENTS

1. The annual certification shall be submitted to the Illinois EPA during operation and for the entire post-closure care monitoring period, pursuant to 35 IAC 813.501. The certification shall be signed by the operator or duly authorized agent, shall be filed each year by May 1 of the following year, and shall state:

   a. All records required to be submitted to the Illinois EPA pursuant to 35 IAC 858.207 and 858.308 have been timely and accurately submitted; and

   b. All applicable fees required by the Act have been paid in full.

2. The annual report for each calendar year shall be submitted to the Illinois EPA by May 1 of the following year pursuant to 35 IAC 813.504. The annual report shall include:

   a. Information relating to monitoring data from the leachate collection system, groundwater monitoring network, gas monitoring system and any other monitoring data specified in this permit, including:

      1) Summary of monitoring data for the calendar year;

      2) Dates of submittal of comprehensive monitoring data to the Illinois EPA during the calendar year;

      3) Statistical summaries and analysis of trends;

      4) Changes to the monitoring program; and

      5) Discussion of error analysis, detection limits and observed trends.

   b. Proposed activities:

      1) Amount of waste expected in the next year;

2) Structures to be built within the next year; and

3) New monitoring stations to be installed within the next year.

c. Any modification or significant modification affecting operation of the facility; and

d. The signature of the operator or duly authorized agent as specified in 35 IAC 812.104(b).

3. The permittee shall submit a completed "Solid Waste Landfill Groundwater, Leachate, Facility and Gas Reporting Form" (LPC-591) as a cover sheet for any notices or reports required by the facility's permit for identification purposes. One copy of the LPC-591 form must accompany each report; however, except for electronically formatted data, the permittee must submit one original and a minimum of two copies of each report submitted to the Illinois EPA. The form is not to be used for permit applications.

4. All certifications, logs, reports, plan sheets, notices and groundwater and leachate monitoring data, required to be submitted to the Illinois EPA by the permittee, shall include the Illinois EPA Post Office Box and be mailed to the following address:

Illinois Environmental Protection Agency
Permit Section
Bureau of Land - #33
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276

Except for electronic groundwater and leachate monitoring data, the operator shall provide the Illinois EPA with the original and two copies of all certifications, logs, reports, and plan sheets required by this permit.

The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed 90 days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
2520 West Iles Avenue
Post Office Box 19276
Springfield, IL 62794-9276
217/782-5544

For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board
60 East Van Buren Street, Suite 630
Chicago, IL 60605-1241
312/814-3620

Work required by this permit, application, or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This permit does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Sincerely,

Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

MNP
JLR:MDO\0978020002-811LF-SM178-2025051-Approval.docx
MDO MNS AMB

Attachments: Standard Conditions
Attachment 1 – AGQS/MAPC Values
Attachment 2 – Intrawell Value Table

cc: Alana Bartolai – Lake County Health Department
Greg Giroux – Lake County Health Department
Tim Curry – GFL Environmental, Inc.
Joseph Miller, P.G. – EIL, LLC

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY BUREAU OF LAND

August 22, 2001

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

These standard conditions shall apply to all permits which the Agency issues for construction or development projects which require permits under the Bureau of Land. Special conditions may also be imposed in addition to these standard conditions.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire two years after date of issuance unless construction or development on this project has started on or prior to that date.

2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:

    a. to enter at reasonable times the permittee's premises where actual or potential effluent, emissions or noise sources are located or where any activity is to be conducted pursuant to this permit.

    b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.

    c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated, and maintained under this permit.

d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.
e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;

   c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;

   d. does not take into consideration or attest to the structural stability of any units or parts of the project;

   e. in no manner implies or suggests that the Agency (or its officers, agents, or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the Agency before the facility or equipment covered by this permit is placed into operation.

7. These standard conditions shall prevail unless modified by special conditions.

8. The Agency may file a complaint with the Board for modification, suspension, or revocation of a permit:

   a. upon discovery that the permit application contained misrepresentations, misinformation, or false statements or that all relevant facts were not disclosed; or

   b. upon finding that any standard or special conditions have been violated; or

   c. upon any violation of the Environmental Protection Act or any Rule or Regulation effective thereunder as a result of the construction or development authorized by this permit.

0978020002 - Lake County
Zion Landfill
Permit No. 1995-343-LFM
Modification No. 178
Log No. 2025-051

Attachment 1
AGQS/MAPC Values
SHALLOW DRIFT AQUIFER

FIELD PARAMETERS	STORET	MAPC/AGQS
pH (S.U.)	00400	7.13-10.24
Specific Conductance (umhos/cm)	00094	520.50
Temperature of Water Sample (°F)	00011	------
Depth to Water (ft. below land surface)	72019	------
Depth to Water (ft. below measuring point)	72109	------
Elevation of Measuring Point (Top of casing ft. MSL)	72110	------
Elevation of Groundwater Surface (ft. MSL)	71993	------
Elevation of Bottom of Well (ft. MSL)	72020	------
Ammonia (as Nitrogen; Dissolved) mg/L	00608	0.60
Arsenic (Dissolved) ug/L	01000	6.20
Boron (Dissolved) ug/L	01020	1,985
Cadmium (Dissolved) ug/L	01025	10
Chloride (Dissolved) mg/L	00941	18
Chromium (Dissolved) ug/L*	01030	10
Cyanide (Total) mg/L	00720	10
Iron (Dissolved) ug/L	01046	992
Lead (Dissolved) ug/L	01049	20
Magnesium (Dissolved) mg/L*	00925	8.53
Manganese (Dissolved) ug/L	01056	63
Mercury (Dissolved) ug/L	71890	0.20
Nitrate (as Nitrogen, Dissolved) mg/L	00618	0.89
Phenols (Total Recoverable) ug/L	32730	63.90
Sulfate (Dissolved) mg/L	00946	166.80
Total Dissolved Solids (TDS, 180°C; Dissolved) mg/L	70300	594.40
Total Organic Carbon (TOC; Total) mg/L	00680	6.30
Zinc (Dissolved) ug/L	01090	32

* denotes parameter(s) applicable only to groundwater monitoring wells within the Site 2 North Expansion well network

Attachment 1 (Continued)
SHALLOW DRIFT AQUIFER

PARAMETERS (ug/L)	STORET	MAPC/AGQS
UNFILTERED (totals)		
Acetone	81552	100
Acid	77247	100
Acrolein	34210	25
Acrylonitrile	34215	200
Alachlor	77825	2
Aldicarb	39053	3
Aldrin	39330	1
Aluminum	01105	173,078.40
Ammonia (as N) (mg/L)	00610	0.60
Antimony	01097	6
Arsenic	01002	7
Atrazine	39033	3
Barium	01007	248
Benzene	34030	5
Benzo(a)Pyrene	34247	0.20
Benzyl Alcohol	77147	10
Beryllium	01012	4
Beta-BHC	39338	0.05
Bis (chloromethyl) ether	34268	10
BOD (mg/L)	00310	9
Boron	01022	860
Bromobenzene	81555	5
Bromochloromethane (chlorobromomethane)	77297	1
Bromodichloromethane	32101	5
Bromoform (Tribromomethane)	32104	10
Bromomethane (Methyl Bromide)	34413	10
n-Butylbenzene	77342	5
sec-Butylbenzene	77350	5
tert-Butylbenzene	77353	5
Cadmium	01027	10
Calcium (mg/L)	00916	300
Carbofuran	81405	40
Carbon Disulfide	77041	5
Carbon Tetrachloride	32102	5
Chemical Oxygen Demand (COD) (mg/L)	00335	92
Chlordane	39350	2
Chloride (mg/L)	00940	12

Attachment 1 (Continued)
SHALLOW DRIFT AQUIFER

PARAMETERS (ug/L)	STORET	MAPC/AGQS
UNFILTERED (totals)		
Chloroethane (Ethyl Chloride)	34311	10
Chlorobenzene	34301	5
Chloroform (Trichloromethane)	32106	5
Chloromethane (Methyl Chloride)	34418	10
o-Chlorotoluene	77275	1
p-Chlorotoluene	77277	5
Chromium	01034	270
Chlorodibromomethane (Dibromochloromethane)	32105	5
Cobalt	01037	100
Copper	01042	40
p-Cresol	77146	10
Dalapon	38432	20
DDT	39370	10
Dibromomethane (Methylene Bromide)	77596	10
m-Dichlorobenzene (1,3 Dichlorobenzene)	34566	5
o-Dichlorobenzene (1,2 Dichlorobenzene)	34536	10
p-Dichlorobenzene (1,4 Dichlorobenzene)	34571	5
Dichlorodifluoromethane	34668	5
Dichloromethane (Methylene Chloride)	34423	5
Dieldrin	39380	10
Diethyl Phthalate	34336	10
Dimethyl Phthlate	34341	10
Di-N-Butyl Phthlate	39110	10
Dinoseb (DNBP)	81287	1
Endothall	38926	50
Endrin	39390	0.20
Di(2-Ethylhexyl)Phthalate	39100	6
Ethanol	77004	1,000
Ethylbenzene	78113	5
Ethylene Dibromide (EDB)(1,2-Dibromo ethane)	77651	0.05
Fluoride (mg/L)	00951	1.86
Heptachlor	39410	0.40
Heptachlor Epoxide	39420	0.20
Hexachlorobutadiene	39702	10
Hexachlorcyclopentadiene	34386	50
Iodomethane (Methyl Iodide)	77424	10.09
Isophorone	34408	10

Attachment 1 (Continued)
SHALLOW DRIFT AQUIFER

PARAMETERS (ug/L)	STORET	MAPC/AGQS
UNFILTERED (totals)		
Isopropylbenzene	77223	5
Iron	01045	26,058
p-Isopropyltoluene	77356	5
Lead	01051	136
Lindane	39782	0.20
Magnesium (mg/L)	00927	140
Manganese	01055	1,732.5
Mercury	71900	0.20
Methoxyclor	39480	40
Naphthalene	34696	5
Nickel	01067	119
Nitrate-Nitrogen (mg/L)	00620	0.50
Oil (Hexane-Soluble or Equivalent) (mg/L)	00550 or 00552	14
Parathion	39540	10
Pentachlorophenol	39032	1
Phosphorous	00665	1,590
Picloram	39720	50
Polychlorinated Biphenyls	39516	0.50
Potassium (mg/L)	00937	11
n-Butyl alcohol (1-Butanol)	45265	5,000
n-Propanol	77018	1,000
n-Propylbenzene	77224	5
Selenium	01147	5
Silver	01077	50
Simazine	39055	2
Sodium (mg/L)	00929	110
Styrene	77128	10
Sulfate (mg/L)	00945	90
Tetrachloroethylene (Perchloroethylene)	34475	5
Tetrahydrofuran	81607	20
Thallium	01059	9.20
Toluene	34010	5
Toxaphene	39400	3
Trichloroethylene (Trichloroethene)	39180	5
Trichlorofluoromethane	34488	5
Vanadium	01087	75

Attachment 1 (Continued)
SHALLOW DRIFT AQUIFER

PARAMETERS (ug/L)	STORET	MAPC/AGQS
UNFILTERED (totals)		
Vinyl Chloride	39175	2
Vinyl Acetate	77057	10
Xylenes	81551	10
m-Xylene	77134	10
o-Xylene	77135	10
p-Xylene	77133	10
Zinc	01092	144.50
1,1,1,2-Tetrachloroethane	77562	5
1,1,1-Trichloroethane (Methylchloroform)	34506	5
1,1,2,2-Tetrachloroethane	34516	10
1,1,2-Trichloroethane	34511	5
1,1-Dichloroethane	34496	5
1,1-Dichloroethylene	34501	5
1,1-Dichloropropene	77168	5
1,2,3-Trichlorobenzene	77613	5
1,2,3-Trichloropropane	77443	15
1,2,4-Trichlorobenzene	34551	10
1,2,4-Trimethylbenzene	77222	5
1,2-Dibromo-3-Chloropropane (DBCP)	38760	25
cis-1,2-Dichloroethylene	77093	5
trans-1,2-Dichloroethylene	34546	1
1,2-Dichloroethane	34531	5
1,2-Dichloropropane (Propylene Dichloride)	34541	5
1,3,5-Trimethylbenzene	77226	5
1,3-Dichloropropane	77173	5
1,3-Dichloropropene	34561	5
cis-1,3-Dichloropropene	34704	10
trans-1,3-Dichloropropene	34699	10
trans-1,4-Dichloro-2-Butene	73547	5
2-chloroethyl vinyl ether	34576	8.80
2,2-Dichloropropane	77170	15
2,4,5-TP (Silvex)	39760	2
2,4-Dichlorophenoxyacetic Acid (2,4-D)	39730	10
2-Butanone(Methyl Ethyl Ketone)	81595	10
2-Hexanone (Methyl Butyl Ketone)	77103	50
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	78133	50
2-Propanol	81310	1,000

Attachment 1 (Continued)
INTRATILL SORTED SEDIMENTS

FIELD PARAMETERS	STORET	MAPC	AGQS
pH (S.U.)	00400	6.67-8.64	6.67-8.64
Specific Conductance (umhos/cm)	00094	----	----
Temperature of Water Sample (°F)	00011	----	----
Depth to Water (ft. below land surface)	72019	----	----
Depth to Water (ft. below measuring point)	72109	----	----
Elevation of Measuring Point (Top of casing ft. MSL)	72110	----	----
Elevation of Groundwater Surface (ft. MSL)	71993	----	----
Elevation of Bottom of Well (ft. MSL)	72020	----	----

FIELD PARAMETERS	STORET	MAPC	AGQS
Ammonia (as Nitrogen; Dissolved) mg/L	00608	2.86	0.60
Arsenic (Dissolved) ug/L	01000	15.95	15.70
Boron (Dissolved) ug/L	01020	2,649	2,623
Cadmium (Dissolved) ug/L	01025	10.80	10
Chloride (Dissolved) mg/L	00941	37.79	30
Chromium (Dissolved) ug/L	01030	10.10	10
Cyanide (Total) mg/L	00720	10.12	10
Iron (Dissolved) ug/L	01046	3,675	1,121
Lead (Dissolved) ug/L	01049	62.87	60
Magnesium (Dissolved) mg/L	00925	185.60	183
Manganese (Dissolved) ug/L	01056	248	149
Mercury (Dissolved) ug/L	71890	0.20	0.20
Nitrate (as Nitrogen, Dissolved) mg/L	00618	22.58	22.40
Phenols (Total Recoverable) ug/L	32730	35.90	35.90
Sulfate (Dissolved) mg/L	00946	509.60	507.80
Total Dissolved Solids (TDS, 180°C; Dissolved) mg/L	70300	1,393.90	1,386.10
Total Organic Carbon (TOC; Total) mg/L	00680	5.30	5.30
Zinc (Dissolved) ug/L	01090	1,330.21	32

Attachment 1 (Continued)
INTRATILL SORTED SEDIMENTS

PARAMETERS (ug/L)	STORET	MAPC	AGQS
UNFILTERED (totals)			
Acetone	81552	131.50	100
Acrolein	34210	25	25
Acrylonitrile	34215	200	200
Alachlor	77825	2	2
Aldicarb	39053	3	3
Aldrin	39330	1	1
Aluminum	01105	61,261	61,000
Ammonia (as N) (mg/L)	00610	2.859	0.600
Antimony	01097	157.9	6
Arsenic	01002	84.75	84.50
Atrazine	39033	3	3
Barium	01007	295.68	292.90
Benzene	34030	5.01	5
Benzo(a)Pyrene	34247	0.20	0.20
Benzyl Alcohol	77147	13.34	10
Benzoic Acid	77247	147.06	100
Beryllium	01012	6.4	4
Beta-BHC	39338	0.05	0.05
Bis (chloromethyl) ether	34268	10	10
BOD (mg/L)	00310	8	8
Boron	01022	2,649	2,623
Bromobenzene	81555	5	5
Bromochloromethane (chlorobromomethane)	77297	1	1
Bromodichloromethane	32101	5	5
Bromoform (Tribromomethane)	32104	10	10
Bromomethane (Methyl Bromide)	34413	10	10
n-Butylbenzene	77342	5	5
sec-Butylbenzene	77350	5	5
tert-Butylbenzene	77353	5	5
Cadmium	01027	10.8	10
Calcium (mg/L)	00916	212.225	204
Carbofuran	81405	42.59	40
Carbon Disulfide	77041	5.07	5
Carbon Tetrachloride	32102	5	5
Chemical Oxygen Demand (COD) (mg/L)	00335	41.4	41.4
Chlordane	39350	2	2
Chloride (mg/L)	00940	37.79	30

Attachement 1 (Continued)
INTRATILL SORTED SEDIMENTS

PARAMETERS (ug/L)	STORET	MAPC	AGQS
UNFILTERED (totals)			
Chlorobenzene	34301	5	5
Chloroethane (Ethyl Chloride)	34311	10	10
Chloroform (Trichloromethane)	32106	5	5
Chloromethane (Methyl Chloride)	34418	10	10
o-Chlorotoluene	77275	1	1
p-Chlorotoluene	77277	5	5
Chromium	01034	242.70	241
Chlorodibromomethane (Dibromochloromethane)	32105	5	5
Cobalt	01037	103.34	100
Copper	01042	68.89	68
p-Cresol	77146	17.88	10
Dalapon	38432	20	20
DDT	39370	10	10
Dibromomethane (Methylene Bromide)	77596	10	10
m-Dichlorobenzene (1,3 Dichlorobenzene)	34566	5	5
o-Dichlorobenzene (1,2 Dichlorobenzene)	34536	10	10
p-Dichlorobenzene (1,4 Dichlorobenzene)	34571	5.90	5
Dichlorodifluoromethane	34668	5	5
Dichloromethane (Methylene Chloride)	34423	20.19	5
Dieldrin	39380	10	10
Diethyl Phthalate	34336	10	10
Dimethyl Phthlate	34341	10	10
Di-N-Butyl Phthlate	39110	10	10
Dinoseb (DNBP)	81287	1	1
Endothall	38926	50	50
Endrin	39390	0.20	0.20
Di(2-Ethylhexyl)Phthalate	39100	6	6
Ethanol	77004	3,191.08	1,000
Ethylbenzene	78113	5.20	5
Ethylene Dibromide (EDB)(1,2-Dibromo ethane)	77651	0.05	0.05
Fluoride (mg/L)	00951	1.2706	1.2700
Heptachlor	39410	0.4	0.4
Heptachlor Epoxide	39420	0.2	0.2
Hexachlorobutadiene	39702	10	10
Hexachlorcyclopentadiene	34386	50	50
Iodomethane (Methyl Iodide)	77424	10	10
Iron	01045	29344.20	26790.40

Attachment 1 (Continued)
INTRATILL SORTED SEDIMENTS

PARAMETERS (ug/L)	STORET	MAPC	AGQS
UNFILTERED (totals)			
Isophorone	34408	10	10
Isopropylbenzene	77223	5	5
p-Isopropyltoluene	77356	5	5
Lead	01051	61.97	59.10
Lindane	39782	0.20	0.20
Magnesium (mg/L)	00927	185.60	183
Manganese	01055	2,392	2,293
Mercury	71900	0.20	0.20
Methoxyclor	39480	40	40
Naphthalene	34696	5	5
Nickel	01067	125.23	121
Nitrate-Nitrogen (mg/L)	00620	22.58	22.40
Oil (Hexane-Soluble or Equivalent) (mg/L)	00552	11	11
Parathion	39540	10	10
Pentachlorophenol	39032	1	1
Phosphorous	00665	4,407	4,400
Picloram	39720	50	50
Polychlorinated Biphenyls	39516	0.50	0.50
Potassium (mg/L)	00937	5.509	4.100
n-Butyl alcohol (1-Butanol)	45265	5,000	5,000
n-Propanol	77018	1,000	1,000
n-Propylbenzene	77224	5	5
Selenium	01147	5.09	5
Silver	01077	50.14	50
Simazine	39055	2	2
Sodium (mg/L)	00929	73.514	70
Styrene	77128	10	10
Sulfate (mg/L)	00945	509.60	507.80
Tetrachloroethylene (Perchloroethylene)	34475	5.09	5
Tetrahydrofuran	81607	23.71	20
Thallium	01059	8.90	7
Toluene	34010	6.19	5
Toxaphene	39400	3	3
Trichloroethylene (Trichloroethene)	39180	5.04	5
Trichlorofluoromethane	34488	5	5
Vanadium	01087	5.50	5
Vinyl Chloride	39175	2	2

Attachment 1 (Continued)
INTRATILL SORTED SEDIMENTS

PARAMETERS (ug/L)	STORET	MAPC	AGQS
UNFILTERED (totals)			
Vinyl Acetate	77057	10	10
Xylenes	81551	10	10
m-Xylene	77134	10.27	10
o-Xylene	77135	10.42	10
p-Xylene	77133	10.27	10
Zinc	01092	1475.51	177.30
1,1,1,2-Tetrachloroethane	77562	5	5
1,1,1-Trichloroethane (Methylchloroform)	34506	5.07	5
1,1,2,2-Tetrachloroethane	34516	10	10
1,1,2-Trichloroethane	34511	5	5
1,1-Dichloroethane	34496	5	5
1,1-Dichloroethylene	34501	5	5
1,1-Dichloropropene	77168	5	5
1,2,3-Trichlorobenzene	77613	5	5
1,2,3-Trichloropropane	77443	15	15
1,2,4-Trichlorobenzene	34551	10	10
1,2,4-Trimethylbenzene	77222	6.95	5
1,2-Dibromo-3-Chloropropane (DBCP)	38760	25	25
cis-1,2-Dichloroethylene	77093	5	5
trans-1,2-Dichloroethylene	34546	1	1
1,2-Dichloroethane	34531	5	5
1,2-Dichloropropane (Propylene Dichloride)	34541	5	5
1,3,5-Trimethylbenzene	77226	6.11	5
1,3-Dichloropropane	77173	5	5
1,3-Dichloropropene	34561	5	5
cis-1,3-Dichloropropene	34704	10	10
trans-1,3-Dichloropropene	34699	10	10
trans-1,4-Dichloro-2-Butene	73547	5	5
2-chloroethyl vinyl ether	34576	8.80	8.80
2,2-Dichloropropane	77170	15	15
2,4,5-TP (Silvex)	39760	2.16	2
2,4-Dichlorophenoxyacetic Acid (2,4-D)	39730	10.06	10
2-Butanone(Methyl Ethyl Ketone)	81595	10	10
2-Hexanone (Methyl Butyl Ketone)	77103	50	50
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	78133	50	50
2-Propanol	81310	1,000	1,000
Acenaphthene	34205	420	420

Attachment 1 (Continued)
INTRATILL SORTED SEDIMENTS

PARAMETERS (ug/L)	STORET	MAPC	AGQS
UNFILTERED (totals)			
Anthracene	34220	2,100	2,100
Benzo(a)anthracene	34526	0.13	0.13
Benzo(b)fluoranthene	34230	0.18	0.18
Benzo(k)fluoranthene	34242	0.17	0.17
Chrysene	34320	12	12
Dibenzo(a,h)anthracene	34556	0.3	0.3
Dicamba	82052	210	210
Fluoranthene	34376	280	280
Fluorene	34381	280	280
Indeno(1,2,3-cd)pyrene	34403	0.43	0.43
MCPP (Mecoprop)	38491	7	7
2-Methylnaphthalene	77416	28	28
2-Methylphenol (o-Cresol)	77152	350	350
P-Dioxane (1,4-Dioxane)	81582	7.7	7.7
Pyrene	34469	210	210
alpha-BHC	39337	0.11	0.11
Perchlorate	61209	4.9	4.9
MTBE	46491	70	70

Attachment 2

Zion Landfill
Lake County
Permit No. 1995-343-LFM

INTRAWELL VALUES

Site No: 0978020002
Modification No. 178
Log No. 2025-051

Parameter	STORET	Monitoring Wells								
Field Parameters		**C129**	**G131**	**G132**	**G160**	**G161**	**G162**	**G163**	**G164**	**G165**
pH (S.U.)	00400	--	--	--	--	--	--	--	6.57 - 7.86	--
Specific Conductance (umhos/cm)	00094	1,194	295.2	--	722.2	913	1,035.4	861.2	1,463.4	833
Indicator Parameters										
Boron (Dissolved) ug/L	01020	--	2,111	1,879	1,446.8	709.7	601.1	673.6	660	574
Chromium (Dissolved) ug/L	01030	10	10	10	10	10	10	10	10	10
Magnesium (Dissolved) mg/L	00925	163	3.5	3.5	48.2	76.6	72	51.2	65.6	63.3
Manganese (Dissolved) ug/L	01056	--	--	--	--	--	--	--	671.7	197
Sulfate (Dissolved) mg/L	00946	728.8	210	--	323	331.4	346.4	348.7	537.5	286.8
Total Dissolved Solids (TDS) mg/L	70300	742.9	328.4	--	562.2	683.3	773.6	612.2	1,111.5	575
Unfiltered Parameters										
Boron (Total) ug/L	01022	925	2,007	2,366	924	800	681	811	757	707
Sulfate (Total) mg/L	00945	580.9	28.2	33.3	230	370.7	300	301.1	300	242.4
Parameter	**STORET**	**Monitoring Wells**								
Field Parameters		**G166**	**G167**	**G176**	**G177**	**G178**	**G179**	**G180**	**G181**	**G182**
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	1,690	638	464	398.7	395.2	576.2	318.2	366.9	676.9
Indicator Parameters										
Boron (Dissolved) ug/L	01020	914	684	727	701.8	3,771.5	691.8	1,760.5	1,000	2,950.3
Sulfate (Dissolved) mg/L	00946	322.5	69.5	50.1	30	22.3	73.3	140	21	122.8
Total Dissolved Solids (TDS) mg/L	70300	1,063.3	501.2	301.8	335.9	272.2	362.9	262.2	284.4	472.8
Unfiltered Parameters										
Boron (Total) ug/L	01022	825	751	769	860	2,871	854	1,061	1,379	1,200
Sulfate (Total) mg/L	00945	354.5	112.3	49.8	34.5	50.7	41.1	31.7	20.7	52

Attachment 2 (Continued)

Parameter	STORET	Monitoring Wells								
Field Parameters		**G183**	**G184**	**G185**	**G186**	**G187**	**G188**	**G193**	**R124**	--
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	466	315.3	333.2	489	276	369.7	257	789.7	--
Indicator Parameters										
Boron (Dissolved) ug/L	01020	712.2	1,246.6	740.7	582.9	830.5	641.5	879.7	750.1	--
Sulfate (Dissolved) mg/L	00946	55.2	22.2	10.7	93.2	14	9.7	21.6	291.5	--
Total Dissolved Solids (TDS) mg/L	70300	240	314.4	253.7	336.1	252.2	312.2	843.6	568.6	--
Unfiltered Parameters										
Boron (Total) ug/L	01022	790	3,359	814	--	--	--	1,735	909	--
Sulfate (Total) mg/L	00945	69.8	42.8	44.8	--	--	--	28.8	286.1	--
Parameter	**STORET**	**Monitoring Wells**								
Field Parameters		**R126**	**R128**	**G132**	**R133**	**T001**	**T002**	--	--	--
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	2,554.9	466	278.7	354.9	488	488	--	--	--
Indicator Parameters										
Boron (Dissolved) ug/L	01020	992.2	852.7	1,139.6	920.1	643	669	--	--	--
Manganese (Dissolved) ug/L	01056	454.4	--	--	--	--	--	--	--	--
Sulfate (Dissolved) mg/L	00946	1,400	90.4	26.2	36.6	53.3	50.4	--	--	--
Total Dissolved Solids (TDS) mg/L	70300	2,000	281.8	284.4	503.8	338.2	260	--	--	--
Unfiltered Parameters										
Boron (Total) ug/L	01022	1,621	894	--	1,121	674	--	--	--	--
Sulfate (Total) mg/L	00945	1,400	115.1	--	22	55	--	--	--	--

Attachment 2 (Continued)

Parameter	STORET	Monitoring Wells								
Field Parameters		**G167**	**G168**	**G169**	**G175**	**G176**	**G177**	**G178**	**G179**	**G180**
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	--	637	484	2,239	--	--	--	--	--
Indicator Parameters										
Boron (Dissolved) ug/L	01020	--	601	649	1,369	--	--	--	--	--
Chromium (Dissolved) ug/L	01030	10	10	10	10	10	10	10	10	10
Magnesium (Dissolved) mg/L	00925	63	21.6	19.7	34.6	17.6	25.3	8.1	38	7.6
Sulfate (Dissolved) mg/L	00946	--	232.5	55.5	812.8	--	--	--	--	--
Total Dissolved Solids (TDS) mg/L	70300	--	668.4	415.9	1,533	--	--	--	--	--
Parameter	**STORET**	**Monitoring Wells**								
Field Parameters		**G181**	**G183**	**G184**	**G185**	**R124**	**R126**	**R128**	**R133**	--
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	--	--	--	--	--	--	--	--	--
Indicator Parameters										
Boron (Dissolved) ug/L	01020	--	--	--	--	--	--	--	--	--
Chromium (Dissolved) ug/L	01030	10	10	10	10	10	10	10	10	--
Magnesium (Dissolved) mg/L	00925	6.5	22.5	5.1	11.8	82.1	340.9	8.7	3.9	--
Sulfate (Dissolved) mg/L	00946	--	--	--	--	--	--	--	--	--
Total Dissolved Solids (TDS) mg/L	70300	--	--	--	--	--	--	--	--	--

Attachment 2 (Continued)

Parameter	STORET	Monitoring Wells								
Field Parameters		**R166**	**R182**	**R193**	**T003**	**T004**	**G170**	**T005**	**T006**	--
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	--	--	--	555	834	799	--	--	--
Indicator Parameters										
Boron (Dissolved) ug/L	01020	--	--	--	615	660	--	--	--	--
Chromium (Dissolved) ug/L	01030	10	10	10	10	10	10	10	10	--
Magnesium (Dissolved) mg/L	00925	44.6	48.7	5.8	25.9	36.4	34.5	10.9	19.5	--
Sulfate (Dissolved) mg/L	00946	--	--	--	71.8	212.5	--	--	--	--
Total Dissolved Solids (TDS) mg/L	70300	--	--	--	373.9	421.3	--	--	--	--
Parameter	**STORET**	**Monitoring Wells**								
Field Parameters		**GG2S**	**RE2S**	**G201**	**G202**	**G203**	**G204**	**G205**	**G206**	**GF7S**
pH (S.U.)	00400	--	--	--	--	--	--	--	--	--
Specific Conductance (umhos/cm)	00094	--	--	--	--	--	--	--	--	--
Indicator Parameters										
Boron (Dissolved) ug/L	01020	4,616	--	--	--	--	--	--	--	--
Chloride (Dissolved) mg/L	00941	--	174	--	--	--	--	--	--	268
Chromium (Dissolved) ug/L	01030	--	--	10	10	10	10	10	10	--
Magnesium (Dissolved) mg/L	00925	--	--	19.4	20.3	19.5	17.3	17	18.5	--
Sulfate (Dissolved) mg/L	00946	--	--	--	--	--	--	--	--	1,003
Total Dissolved Solids (TDS) mg/L	70300	--	--	--	--	--	--	--	--	1,935
Boron (Total) ug/L	01022	4,095	--	--	--	--	--	--	--	--
Potassium (Total) mg/L	00937	6.56	--	--	--	--	--	--	--	--
Chloride (Total) mg/L	00940	--	184	--	--	--	--	--	--	295
Sodium (Total) mg/L	00929	130	--	--	--	--	--	--	--	--
Sulfate (Total) mg/L	00945	--	--	--	--	--	--	--	--	1,030

Attachment 2 (Continued)

Parameter	STORET	Monitoring Wells			
Field Parameters		**G207**	**G208**	**G209**	**G215**
pH (S.U.)	00400	--	--	--	--
Specific Conductance (umhos/cm)	00094	--	--	--	--
Indicator Parameters					
Boron (Dissolved) ug/L	01020	--	--	--	--
Chromium (Dissolved) ug/L	01030	10	10	10	--
Magnesium (Dissolved) mg/L	00925	16.9	20.7	16.4	--
Sulfate (Dissolved) mg/L	00946	--	--	--	--
Total Dissolved Solids (TDS) mg/L	70300	--	--	--	--
Nitrogen-Ammonia (Dissolved) mg/L	00608	--	--	--	2.423