



State of Ohio Environmental Protection Agency

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Dr. Tom Marshall, Ph.D., P.E.
Director of Public Utilities
City of Delaware
3080 U.S. Route 23 North
Delaware, Ohio 43015

**Re: Curve Road Landfill, Delaware County
Ohio Administrative Code (OAC) Rule 3745-27-13 Authorization**

Dear Dr. Marshall:

On August 17, 2004, Sharp and Associates, Inc. submitted to the Ohio Environmental Protection Agency (Ohio EPA), Division of Solid and Infectious Waste Management (DSIWM), Central District Office (CDO) a request titled Application for Approval Under OAC 3745-27-13 to Install a Leachate Collection System at the Former Curve Road Landfill in Delaware County, Ohio, dated August 2004, to install a leachate collection system at the closed Curve Road Landfill (Facility) located in Delaware County. This request was submitted on behalf of the City of Delaware (City) pursuant to OAC Rule 3745-27-13. Final revisions to the request were submitted on October 26, 2004.

OAC Rule 3745-27-13 requires authorization from the director of Ohio EPA before engaging in filling, grading, excavating, building, drilling, or mining on land where a solid waste facility was operated. Specifically, the City is proposing to install a complete perimeter leachate collection system within the limits of waste and a collector system located outside the limits of waste. Three (3) options have been included in the request for the collector system outside the limits of waste placement based on the total linear footage of the gravity collector piping. During placement of the leachate collection lines, waste will be removed and relocated in a designated area on top of the landfill, which is within the previously approved limits of waste placement.

Based upon a review of the submitted request and subsequent revisions, Ohio EPA has determined, pursuant to OAC Rule 3745-27-13, that the proposed activities, if conducted in accordance with the following conditions, will not result in violation of applicable laws or regulations, will not create a nuisance, and are unlikely to adversely affect the public safety or health or the environment. Therefore, the City is hereby authorized to perform the activities outlined in this letter in accordance with the submitted and approved plans, specifications, and information.

Bob Taft, Governor
Jennette Bradley, Lieutenant Governor
Christopher Jones, Director

As part of this authorization, the City is subject to the following conditions:

CONDITIONS

1. This approval grants authorization to perform activities at the Facility in accordance with the document titled Application for Approval Under OAC 3745-27-13 to Install a Leachate Collection System at the Former Curve Road Landfill in Delaware County, Ohio, dated August 2004, and subsequent revisions submitted on October 26, 2004. All activities shall be conducted in strict accordance with the plans, specifications, and other information submitted as part of this request. There may be no deviation from the approved plans without prior written authorization from Ohio EPA. Any future activities at the Facility may require additional Ohio EPA approval.
2. The director of Ohio EPA, or a representative authorized by the director, may enter the premises of the Facility at any time to inspect, conduct tests, or examine records and reports pertaining to the authorized activities.
3. Not later than ten (10) days prior to the start of construction of any additional lines for the collector system, as detailed in Options 1, 2, or 3 of the request, as revised, the City shall submit written notification to Ohio EPA, CDO. Such notification shall specify the proposed activities and anticipated date of commencement of construction.
4. All on-site activities shall be accomplished in compliance with all applicable state and federal laws and regulations pertaining to environmental protection, including, but not limited to, the control of air pollution, leachate, surface water run-on and run-off, and protection of ground water.
5. All activities undertaken shall not create a nuisance and shall not adversely affect the public safety or health or the environment.
6. All excavated solid waste shall be relocated to the designated area shown in Drawing P-1 included as part of the request and subsequent revisions. The cap shall be removed, and excavated waste shall be compacted on top of the existing waste. Any portions of the landfill where the cap is removed by activities authorized by this approval shall have the final cap re-established in accordance with the following specifications:

A. Material Specifications:

1. 100% of the material particles shall pass a 10" screen, with no more than two (2) particles from a 50 cubic foot sample retained on a 6" screen;
2. At least 95% of the material, by volume, shall pass a 3" screen;
3. At least 70% of the material, by volume, shall pass the #10 sieve;
4. The material that passes the #10 sieve (sand, silt, and clay fractions) shall be classified using the USDA textural classification chart as loam, sandy loam, silty loam, clay loam, silty clay, or sandy clay, or an acceptable alternative soil type.

B. Construction Specifications:

1. The material shall be compacted to at least 95% of the maximum Standard Proctor Density (ASTM D-698) or 90% of the maximum Modified Proctor Density (ASTM D-1557).
2. The material shall be compacted using loose lifts, no greater than eight (8) inches thick prior to compaction.

C. Testing Specifications:

1. The suitability of the soils shall be determined prior to their intended use in cap construction. The following tests shall be performed on representative soil samples at least once for every 3,000 cubic yards of material intended for use.
 - a. Sieve and hydrometer testing (ASTM D-422) for particle size gradation; and
 - b. Moisture/density relationship using either Standard Proctor (ASTM D-698) or Modified Proctor (ASTM D-1557) method.

Prior to testing, the samples shall be screened to remove any particles larger than three (3) inches. Results of this testing shall be

made available to Ohio EPA, CDO not later than seven (7) days prior to its intended use in cap construction.

2. During construction of the cap, compaction shall be monitored to ensure that the proper specifications are met. This can be accomplished by a number of methods, including nuclear densimeter (ASTM D-2922), sand cone (ASTM D-1556), and rubber balloon (ASTM D-2167). The nuclear densimeter test, if used, shall be performed at least five (5) times per acre per lift. The sand cone or rubber balloon methods shall be performed at least three times per acre per lift. The sampling rate for other methods must be determined on an individual basis with concurrence from Ohio EPA.
3. Upon completion of construction, the permeability of the cap shall be determined through either field permeability testing (Boutwell two-stage permeameter, SDRI) or through laboratory testing of cap samples brought to the lab for analysis (Shelby tubes, soil blocks). The permeability requirements for each type of permeability determination are as follows:
 - a. For field permeability tests (Boutwell, SDRI), the required permeability of the cap is 1×10^{-5} cm/sec.
 - b. For laboratory permeability tests (Shelby tubes, soil blocks), the required permeability of the cap is 1×10^{-6} cm/sec.
4. Any penetrations into the cap layer resulting from either compaction or permeability testing shall be repaired using bentonite or a bentonite/soil mixture.
7. The director may revoke this authorization if the City violates, or is likely to violate, any applicable law or if the continued implementation of the approved plans causes a threat to human health or safety or the environment.
8. Nothing in this letter shall be construed to authorize any waiver from any requirements of applicable state solid waste laws or regulations. This authorization shall not be interpreted to release the City or others from responsibility under Ohio Revised Code (ORC) Chapters 3704, 3714, 3734, or 6111; under the Federal Clean Water Act, the Resource Conservation and Recovery Act, the Toxic Substances Control Act, or the Comprehensive Environmental Response, Compensation, and Liability Act; or from other applicable requirements for remedying conditions resulting from any release of

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contaminants to the environment.

You are hereby notified that this action of the director of Ohio EPA is final and may be appealed to the Environmental Review Appeals Commission (Commission) pursuant to

ORC Section 3745.04. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Commission within thirty (30) days after notice of the director's action. A copy of the appeal must be served on the director within three (3) days of filing with the Commission. An appeal may be filed with the Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street
Room 222
Columbus, Ohio 43215

If you have any questions regarding this authorization, please contact Laura Parkinson of Ohio EPA, CDO at (614) 728-3889.

Sincerely,

Christopher Jones
Director

LP/MM/sw

cc: Julia Miller, PE, Sharp and Associates, Inc., w/attachments
Doug Sams, Delaware General Health Department, w/attachments
Duane Snyder, DSIWM-CDO, w/attachments
Scott Hester, DSIWM-CO, w/attachments