



Michigan Department of Environmental Quality
Waste and Hazardous Materials Division

SOLID WASTE DISPOSAL AREA OPERATING LICENSE

This license is issued under the provisions of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324 11501 et seq, and authorizes the operation of this solid waste disposal area (Facility) in the state of Michigan. This license does not obviate the need to obtain other authorizations as may be required by state law.

FACILITY NAME: Delta County Landfill

LICENSEE/OPERATOR: Delta Solid Waste Management Authority

FACILITY OWNER: Delta Solid Waste Management Authority

PROPERTY OWNER: City of Escanaba

FACILITY TYPE(S): Municipal Solid Waste Landfill

FACILITY ID NUMBER: 410730

COUNTY: Delta

LICENSE NUMBER: 9136

ISSUE DATE: June 27, 2006

EXPIRATION DATE: June 27, 2011

FACILITY DESCRIPTION: The Delta County Landfill, a Municipal Solid Waste Landfill, consists of 68 acres located in the North 1/2, Section 22, T39N, R22W, City of Escanaba, Wells Township, Delta County, Michigan, as identified in Attachment A and fully described in this license.

AREA AUTHORIZED FOR DISPOSAL OF SOLID WASTE: Phases 3A, 3B, 4A, and 4B, totaling 14.84 acres.

RESPONSIBLE PARTY: Mr. Donald Pyle
Delta Solid Waste Management Authority
5701 19th Avenue North
Escanaba, Michigan 49829
906-786-9056

RENEWAL OPERATING LICENSE: This License Number 9136 supersedes and replaces Solid Waste Disposal Area License Number 8974 issued to Delta Solid Waste Management Authority on November 4, 2003.

This license is subject to revocation by the Director of the Michigan Department of Environmental Quality if the Director finds that this Facility is not being constructed or operated in accordance with the approved plans, the conditions of a permit or license Part 115, or the rules promulgated under Part 115. Failure to comply with the terms and provisions of this license may result in legal action leading to civil and/or criminal penalties pursuant to Part 115. This license shall be available through the licensee during its term and remains the property of the Director.

THIS LICENSE IS NOT TRANSFERABLE.

Steven R. Sliver, Chief, Storage Tank and Solid Waste Section
Waste and Hazardous Materials Division

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The licensee shall comply with all terms of this license and the provisions of Part 115 and its administrative rules. This license includes the license application and any attachments to this license.

1. The licensee shall operate the Facility in a manner that will prevent violations of any state or federal law
2. The following portions of the Facility are authorized to receive solid waste by this license:
 - a. **ACTIVE PORTIONS NOT AT FINAL GRADE:** The area(s) identified as Phases 3A, 3B, and 4A were authorized to receive waste by the previous license. This area's total acreage is 12.38 acres.
 - b. **CONSTRUCTED AREAS CERTIFIED WITH THIS APPLICATION:** The area(s) identified as Phase 4B were not authorized to receive solid waste by the previous license, but are authorized to receive waste by this license. This area's total acreage is 2.46 acres.
3. The following portions of the Facility **WILL BE** authorized to receive solid waste by this license following approval by the Michigan Department of Environmental Quality (MDEQ) of construction certification: none.
4. The following portions of the Facility are **NOT** authorized to receive solid waste by this license:
 - **CLOSED UNIT(S) OR A PORTION OF A UNIT WHERE THE FINAL COVER HAS BEEN CERTIFIED CLOSED AND ACCEPTED BY THE MDEQ:** The following unit(s) and/or portion(s) are closed:
 - i. **PRE-EXISTING UNIT(S):** The unit(s) identified as Phase 1 East (4.73 acres) and Phase 1 West and Phase 2 (2.41 acres) had final closure certified on July 15, 1998 (amended January 15, 1999) and December 14, 1997, respectively. This certification was reviewed and approved by the MDEQ on April 14, 1999, and February 10, 1999, respectively. This area's total acreage is 6.75 acres.
 - ii. **OTHER DISPOSAL AREAS:** This license does not authorize the placement of waste in the closed Type III landfill located on site, which cover an area of 8.23 acres.
5. The attached map (Attachment A) shows the Facility, the area permitted for construction, monitoring points, leachate storage units, site roads, other disposal areas, and related appurtenances.
6. Issuance of this license is conditioned on the accuracy of the information submitted by the Applicant in the Application for License to Operate a Solid Waste Disposal Area (Application) received by the MDEQ on April 7, 2006, and any subsequent amendments. Any material or intentional inaccuracies found in that information is grounds for the revocation or modification of this license, and may be grounds for enforcement action. The licensee shall inform the MDEQ's Waste and Hazardous Materials Division, Upper Peninsula District Supervisor, of any inaccuracies in the information in the Application upon discovery.
7. This license is issued based on the MDEQ's review of the Application, submitted by Delta Solid Waste Management Authority, for the Delta County Landfill, dated April 6, 2006. The Application consists of the following:
 - a. Application Form EQP 5507
 - b. Application fee in the amount of \$500.00
 - c. Certification of construction by Environmental Resources Management, Inc., dated July 21, 2003.
 - d. Waste Characterization: N/A
 - e. Restrictive Covenant:
 - The Delta County Landfill restrictive covenant on 63.20 acres is on file at the Delta County Register of Deeds recorded on January 15, 1997, as Liber 471 pages 475-478. A copy is on file with the MDEQ

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f. Perpetual Care Fund Agreement, established as an escrow account, signed by Mr. Thomas Vitito, Chairman, Delta Solid Waste Management Authority on January 27, 1997, was executed by the MDEQ on February 6, 1997

g Financial Assurance

i. Financial Assurance Required:

The amount of financial assurance required for this Facility was calculated based on the calculation worksheet form EQP 5507A entitled, "Form A Financial Assurance Required," and is \$2,558,003.36.

The Facility has provided financial assurance totaling \$2,560,603.00, based on the requirements of Section 11523 of Part 115, consisting of a combination of the Perpetual Care Fund established under Section 11525, bonds, and the financial capability of the Applicant as evidenced by a financial test. The financial assurance mechanisms used by the Facility are summarized below in items ii, iii, and iv, respectively

ii. Financial Assurance Provided Via a Perpetual Care Fund:

- (1) The amount of the required financial assurance can be reduced pursuant to Section 11524 of Part 115, if the amount of money in the Perpetual Care Fund plus the amount of the reduced financial assurance equals the amount of financial assurance required in Section 11523 and is approved by the MDEQ.
- (2) The Perpetual Care Fund Agreement statement showed a balance of \$493,803.00 in the Facility's Perpetual Care Fund as of April 2, 2006. Of this amount, the MDEQ has granted the request to use \$493,803.00 toward the total amount of financial assurance required.

iii. Financial Assurance provided via bond:

The following financial assurance has been received from the Applicant to meet the amount of financial assurance required:

Irrevocable Letter of Credit	\$484,800.00
Total Amount Received:	\$484,800.00

iv. Financial Assurance provided via a financial test for a Type II landfill:

A financial test may be used by the owner of a Type II landfill as a means to meet an amount up to, but not exceeding, 70 percent of the closure, post-closure, and corrective action cost estimate pursuant to Section 11523a of Part 115. This Facility has provided a financial test in the amount of \$1,582,800.00. Financial capability demonstrated by a financial test must be updated each fiscal year. The next update is due March 31, 2007, and each year thereafter. If the owner/operator fails to update the test, or is no longer able to satisfy the test, the owner/operator must obtain alternate financial assurance within 210 days following the close of the owner's/operator's fiscal year

v. Financial Assurance Updates Required:

For Type II landfills, the financial assurance cost estimates of closure and post-closure activities must be updated annually and the corresponding requisite amount of financial assurance must be adjusted annually for the costs of inflation. The corresponding financial assurance, as adjusted for inflation and other factors, is due on June 27, 2007, and each year thereafter

8. The following documents approved with Construction Permit Number(s) 4059 issued to the Delta Solid Waste Management Authority on March 19, 2004, are incorporated in this license by reference:

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- a. Environmental Assessment contained in the Delta County Landfill Site Report, prepared by STS Consultants, dated February 6, 1985, and subsequent revisions
 - b. Hydrogeological Monitoring Plan for Delta County Landfill, Volume 1, prepared by Dell Engineering, Inc., and dated January 14, 1997. Volume 1 contains a section on the Geologic and Hydrogeologic Setting, the Existing Monitoring Plan and the Proposed Monitoring Plan, the Proposed Statistical Evaluation, and a Statistical Evaluation of Historical Data. Also included is the Appendix of the Report. The Report was revised on April 9, 1997, and January 20, 1998.
 - c. Leachate Recirculation Plan, prepared for Delta County Landfill by Dell Engineering, Inc., and dated October 31, 1997.
 - d. Hydrogeological Monitoring Plan Revision 6, Appendices B through K, prepared by Dell Engineering, Inc., and dated November 1999, and amended September 10, 2002.
 - e. Addendum to Operation Plan, Delta Solid Waste Management Authority, dated November 30, 1999.
 - f. Groundwater Modeling Report for Delta County Landfill, prepared by Dell Engineering, Inc., and dated March 19, 1997.
 - g. Alternate Daily Cover Materials Work Plan, prepared by U.P. Engineers and Architects, dated April 2, 1997, and amended November 30, 1997.
 - h. Engineering Report, Delta County Type II Landfill, dated November 2003, and prepared by Environmental Resources Management.
 - i. Hydrogeological Report, updated 2003, and prepared by Environmental Resources Management.
 - j. Engineering Plans, Sheets 1-34, dated December 2003, and prepared by Environmental Resources Management.
9. The following additional documents, approved since the issuance of the construction permit(s) referenced in Item 8, are incorporated in this license by reference:
- Cell 4B Drainage Sand Certification Report, Delta Solid Waste Management Authority, prepared by Bittner Engineering, inc. and dated May 2006.
10. Consent Order/Judgment Number: N/A.
11. The licensee shall repair any portion of the certified liner or leachate collection system which is found to be deficient or damaged during the term of this license unless determined otherwise by the MDEQ.
12. The licensee shall have repairs to any portion of the certified liner or leachate collection system recertified by a registered professional engineer in accordance with R 299.4921 of Part 115 and approved by the MDEQ before receiving waste in that portion of the certified liner or leachate collection system. The licensee shall submit the recertification to the MDEQ's Waste and Hazardous Materials Division, Upper Peninsula District Supervisor, for review and approval.
13. The licensee shall conduct hydrogeological monitoring in accordance with the approved hydrogeological monitoring plan, dated November 1999, and amended September 10, 2002. The sampling analytical results shall be submitted to the MDEQ's Waste and Hazardous Materials Division, Upper Peninsula District Office.
14. Modifications to the approved hydrogeological monitoring plan referenced in Item 13 may be approved, in writing by the Waste and Hazardous Materials Division, Upper Peninsula District Supervisor. Proposed revisions must be submitted in a format specified by the MDEQ.
15. Leachate may be recirculated if a leachate recirculation plan has been approved, in writing, by the Waste and Hazardous Materials Division, Upper Peninsula District Supervisor.
16. Modifications to approved engineering plans that constitute an upgrading, as defined in R 299.4106a(l), may be approved, in writing, by the Waste and Hazardous Materials Division, Upper Peninsula District Supervisor.

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17. Requests for alternate daily cover may be approved, in writing, by the Waste and Hazardous Materials Division, Upper Peninsula District Supervisor.

18. Leakage Control Criteria:

- The active portions of the unit(s) authorized to receive waste by this license is an unmonitorable unit(s) designed with a double-liner systems which is in compliance with the provisions of R 299.4422(3) and which is capable of detecting and collecting leakage through the primary composite liner. The action flow rate for each unit containing a leak detection system is 5 gallons/acre/day. The response flow rate for each unit containing a leak detection system is 25 gallons/acre/day.

19. **VARIANCES:** none.

20. **SPECIAL CONDITIONS:**

- a. The licensee shall place a compacted layer of not less than six inches of earthen material, unless an exemption is granted, of suitable cover material on all exposed solid waste by the end of each working day, as required by R 299.4429(l). Suitable cover shall be either uncontaminated soil or an alternate cover approved by the Waste and Hazardous Materials Division, listed in Item i below. Alternate cover shall be restricted as indicated in Item ii and applied as per the approved operational plan submitted by the licensee.

- i. Approved alternate cover shall be any of the following:

<u>Product/Waste Material</u>	<u>Source</u>
(1) Coal Ash	City of Escanaba Power Plant
(2) Petroleum-Contaminated Soils	Leaking Underground Storage Tank Clean-ups
(3) Woven Geotextile	Various

- ii. The above materials are approved for daily cover when used in the following manner:

- (1) The licensee shall use the material as daily cover only. The material cannot be used for road building or fill in other areas of the Facility's operation.
- (2) The licensee shall maintain written authorization on site, from the generator of the material, to use the material as daily cover.
- (3) The licensee shall only stockpile material in a secure manner within the active cell.
- (4) This approval does not preclude the licensee from disposing of the material as waste in the active fill area instead of using the material as daily cover.
- (5) This approval shall immediately become void upon documentation by the MDEQ that the alternate cover is not being used in accordance with listed conditions, that the alternate cover is not providing the necessary protection, or that the process producing the waste has changed.
- (6) If the material does not meet the guidelines from Attachment 2 of Operational Memo 115-10 Revision 1 for non-volatiles, the licensee shall ensure that fugitive dust emissions from this material do not occur. Acceptable methods to assure fugitive emissions do not occur are:
 - (a) Implement a schedule to wet down material; or
 - (b) Cover the material with a tarp; or
 - (c) Apply an approved foam or other appropriate commercial dust control product.

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(7) This approval to use alternate cover shall expire upon the expiration of this operating license.

b. Delta Solid Waste Management Authority also included bonding under this application in the amount of \$164,600.00 to meet the financial assurance requirement for the 8.23-acre closed type III landfill


21. **TERM:** This license shall remain in effect until its expiration date, unless revoked or continued in effect, as provided by the Administrative Procedures Act, 1969 PA 306, as amended, or unless superseded by the issuance of a subsequent license

END OF LICENSE

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Delta County Landfill, File

FROM: Steven R. Sliver, Chief, Storage Tank and Solid Waste Section
Waste and Hazardous Materials Division 

DATE: June 27, 2006

SUBJECT: Decision Memo; Delta County Landfill; Waste Data System Number 410730

An application for an operating license was received in the Upper Peninsula District Office (District) on April 7, 2006, and was determined to be administratively complete on April 10, 2006. A decision by the Department of Environmental Quality (DEQ) on this application is required by July 9, 2006. The District has reviewed the application and determined that it is in compliance with the provisions of Part 115, Solid Waste Management of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Existing landfill operations at the site were determined to be in compliance with Part 115. Therefore, the District recommends issuance of this license.

Two special conditions are needed in this license. One condition is for the approval of alternate daily cover and is carried forth from a previous license. The second condition is also carried over from the last license. The other three conditions from the previous license have been completed and were removed from this license.

The Waste and Hazardous Materials Division, Storage Tank and Solid Waste Section, has reviewed the application form, the District's recommendation, and any other pertinent facts, and a determination has been made to issue the license.

cc: Upper Peninsula

**Delta County Landfill
Waste Data System Number 410730
FACT SHEET
June 14, 2006**

I. FACILITY INFORMATION:

- a. Name of the applicant and operator of the facility: Delta Solid Waste Management Authority (DSWMA), P O. Box 198, Escanaba, Michigan, 49829
- b. Physical location of the facility: N½, Section 22, T39N, R22W, City of Escanaba, Delta County; also described as 5701 19th Avenue North, Escanaba, Michigan.
- c. Total facility acreage: 63.2 acres.
- d. Description of other contiguous or on-site units: There are two closed Type III landfill units located on the facility and a closed solid waste processing facility.
- e. Type of wastes accepted by the facility: Municipal, construction and demolition, and industrial.

II. DESIGN:

- a. Leakage control criteria: Phases 3A, 3B, 4A and 4B are double-composite lined cells. The clay component is a geocomposite liner for each of the composite liners in the double-composite configuration.
- b. Facility design and engineering: The landfill was partially reconstructed during 1997, and has a dual design. The northern portion of the landfill, Phases 1 and 2, are constructed with single 40-mil high density polyethylene (HDPE) liners over a compacted natural soil subgrade. The subgrade material is primarily a sandy soil. The leachate collection system for Phases 1 and 2 consists of ASTM SDR35 sewer pipe with 3/8-inch perforations. The piping is spaced at a maximum of 160 feet on center, with a minimum slope both parallel and perpendicular to the collections pipes of 0.6 percent. All pipes have clean-outs. A 24-inch thick granular layer of clean sand was placed as the drainage layer.

Phases 1 and 2 have been capped.

Phases 3 and 4 were originally constructed with designs similar to Phases 1 and 2, but were reconstructed during 1997. The original liner system was removed. Since groundwater contamination is a concern at this facility, the soils under the previously lined area were tested, areas of contaminated soil were removed and the subgrade soils were certified clean prior to construction of the new liner.

Phases 3A, 3B, 4A and 4B are constructed with a double-composite liner comprised of a bentomat overlain by 60-mil HDPE, in both the primary and secondary liner composites, with a secondary collection system consisting of a geonet with a non-woven geotextile on each side. The primary collection system contains a geonet with a non-woven geotextile on the upper side, overlain by 24 inches of granular fill.

Piping in the primary leachate collection system is six-inch diameter HDPE SDR 11, with 3/8-inch perforations. The piping is spaced at a maximum of 100-foot spacing, with a minimum slope of one percent both parallel and perpendicular to the collection pipes. The primary and secondary collection systems are designed to drain to sumps in each of Phase 3A, 3B, 4A and 4B. The leachate is then pumped to a force main and to on-site storage tanks. The tanks are underground leachate storage tanks. Leachate is transported from the site via city sewer or, if necessary, via a licensed industrial waste hauler, to the City of Escanaba Wastewater Treatment Plant.

Phases 3A, 3B, 4A and 4B are designed to piggyback portions of the closed Phases 1 and 2. Therefore, the site gas collection system has been redesigned as an active gas collection system. The active gas collection system is currently operating for Phases 1 and 2.

In order to ensure compliance with the groundwater isolation distance regulations for Type II landfills, an underdrain groundwater collection system is located on the south and west sides of the landfill.

III. HYDROGEOLOGY:

The Delta County Landfill is located in the southern portion of Delta County and west/northwest of the City of Escanaba in a low area adjacent to Danforth Road. The glacial sediments beneath the site consist of 12 to 22 feet of fine to medium grained sand underlain by a relatively impermeable silt layer. The sand layers are water-bearing and contain the site's uppermost aquifer. The low-permeability silt layer is approximately ten feet thick and is underlain by 15 to 20 feet of medium to coarse grained sand. Beneath the eastern side of the site, the silt layer is directly underlain by limestone bedrock. The subsurface distribution of the low-permeability silt layer restricts vertical groundwater flow beneath the site.

The bedrock underlies the site at depths from 36 to 47 feet below ground surface and consists of limestone of the Trenton/Black River Group. The limestone bedrock is regionally extensive and upper weathered portions of the formation yield moderate quantities of fresh water from solution enlarged bedding planes, joints, and fractures.

IV. MONITORING:

The detection groundwater monitoring network consists of upgradient wells B12P, A36U, A37U and downgradient wells B14D, B16D, A38D, A39D, A41D, and A42D. The "B"-horizon wells are finished in the lower limestone aquifer. The leachate, leak detection and underdrain systems are also scheduled for sampling and analysis in accordance with the provisions of their plan for detection monitoring. Cross-gradient wells A10P, A11P, A12P, upgradient wells A13U, A30U, and downgradient wells A14D, A15D, A16D, A20D, and A40D, comprise the assessment monitoring well network.

Well A40D was in the detection monitoring network up until second quarter 1999.

Tetrachlorethene was detected in this well during the second quarter monitoring event. As a result of this detection, the landfill operator sampled the well for the Appendix II list during the third quarter sampling event. Tetrachlorethene was not detected during the Appendix II sampling, however, chloroethane, cis-1, 2-dichloroethene, trichloroethene, and vinyl chloride were. Of these, only vinyl chloride was found at levels above the criteria of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The DSWMA performed two rounds of confirmation sampling. Both rounds indicated that all of the above parameters were either below the detection limit or below the Part 201 residential criteria.

V. VARIANCES:

None.

VI. ADDITIONAL INFORMATION:

Leachate recirculation has been approved for this facility and the license provides for continuation of alternate daily cover approval for the use of woven geotextile, ash from the City of Escanaba Power Plant and for petroleum-contaminated soils from underground storage tank clean-ups.