

Comparison Of New CDD Landfill Requirements (OAC 3745-520) and MSW Landfill Requirements (OAC 3745-27)

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Area of comparison	New C&DD LF (OAC 3745-520)	MSW LF (OAC 3745-27)
Siting Restrictions		
• 100-yr flood plain	3745-520-100(B)(1)(a) (statutory prohibition)	see Location Restriction Demonstration
• Sole source aquifer	3745-520-100(B)(1)(b) (statutory prohibition)	OAC 3745-27-07(H)(2)(c)
• stream	100 ft setback, 3745-520-100(B)(2)(a)(i) (statutory prohibition)	200 ft setback, OAC 3745-27-07(H)(4)(d)
• wetland	100 ft setback, 3745-520-100(B)(2)(a)(ii) (statutory prohibition)	200 ft setback, OAC 3745-27-07(H)(4)(d)
• property line	100 ft setback, 3745-520-100(B)(2)(a)(iii) (statutory prohibition)	300 ft setback, OAC 3745-27-07(H)(4)(b)
• parks	500 ft setback, 3745-520-100(B)(2)(b)(i) (statutory prohibition)	1000 ft setback, OAC 3745-27-07(H)(1) (statutory prohibition)
• natural areas, nature preserves, wildlife areas, refuges	500 ft setback, 3745-520-100(B)(2)(b)(i) (statutory prohibition)	1000 ft setback, OAC 3745-27-07(H)(4)(a)
• state forest	500 ft setback, 3745-520-100(B)(2)(b)(ii) (statutory prohibition)	Not Required
• lake	500 ft setback, 3745-520-100(B)(2)(b)(iii) (statutory prohibition)	200 ft setback, OAC 3745-27-07(H)(4)(d)
• water supply well	500 ft setback, 3745-520-100(B)(2)(b)(iv) (statutory prohibition)	1000 ft setback, OAC 3745-27-07(H)(3)(c)
• historic landmark	500 ft setback, 3745-520-100(B)(2)(b)(v) (statutory prohibition)	Not Required
• dwelling/domicile	500 ft setback, 3745-520-100(B)(2)(b)(vi) (statutory prohibition)	1000 ft setback, OAC 3745-27-07(H)(4)(c)
• sand and gravel pit	Not Required	OAC 3745-27-07(H)(2)(a)
• limestone/sandstone quarry	Not Required	OAC 3745-27-07(H)(2)(b)
• 100 gpm aquifer	Not Required	OAC 3745-27-07(H)(2)(d)
• 5 year time of travel to well	Not Required	OAC 3745-27-07(H)(3)(a)
• Underground mine	Not Required	OAC 3745-27-07(H)(3)(b)
• Isolation distance from uppermost aquifer	5 ft separation, 3745-520-100(B)(3) (statutory prohibition)	15 ft separation, OAC 3745-27-07(H)(2)(e)
• Haul road	500 ft from dwelling, 3745-520-100(B)(4) (statutory prohibition)	Not Required
Locations restriction demonstrations		
• Bird hazard for aircraft	Not Required	OAC 3745-27-20(C)(1) (federal requirement)
• Floodplain	Not Required	OAC 3745-27-20(C)(2) (federal requirement)
• Holocene fault	Not Required	OAC 3745-27-20(C)(3) (federal requirement)
• Seismic impact zone	Not Required	OAC 3745-27-20(C)(4) (federal requirement)
• Unstable area	Not Required	OAC 3745-27-20(C)(5) (federal requirement)
Liner system		
over 5 ft from uppermost aquifer	3745-520-230 3 ft recompacted soil liner + flexible membrane liner	OAC 3745-27-08(B)(1)(c) Not allowed
over 15 ft from uppermost aquifer	1.5 ft recompacted soil liner + flexible membrane liner	5 ft recompacted soil liner + flexible membrane liner. Can reduce thickness of recompacted soil liner. Can use geosynthetic clay liner to substitute for up to 2 ft of recompacted soil liner. MSW liner is 2.9 times more costly than C&DD liner.
over 25 ft from uppermost aquifer	3 ft recompacted soil liner	Same as above. MSW liner is 1.8 times more costly than C&DD liner.
over 150 ft from uppermost aquifer	1.5 ft recompacted soil liner or flexible membrane liner	Same as above. MSW liner is 3.5 to 16.8 times more costly than C&DD liner
If in SWAP or above 100 gpm aquifer	3 ft recompacted soil liner + flexible membrane liner	Same as above. MSW liner is 1.6 times more costly than C&DD liner.
Leachate collection, conveyance, and storage	3745-520-240	OAC 3745-27-08(B)(1)(d)

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	Drainage layer ¹ + pipes + filter layer + sumps + conveyance pipe + holding tank	Drainage layer + pipes + filter layer + sumps + conveyance pipe + storage tank
	Leachate level does not exceed 1 ft, except in sumps.	Leachate level does not exceed 1 ft, except in sumps.
	Sumps are double-lined.	Sumps are single lined
	¹ Shredded tires are not allowed due to subsurface fire concerns	
Cap System	3745-520-260	OAC 3745-27-08(B)(1)(f)
	Means to relieve gas pressure + filter layer + 1.5 ft recompacted soil layer + flexible membrane liner + drainage layer + filter layer + protection layer.	Means to protect cap system from gas pressure (addressed through permit) + 1.5 ft recompacted soil barrier layer (or geosynthetic clay liner) + flexible membrane liner + drainage layer + protection layer.
	Maximum slope 25% (no change from 3745-400)	Maximum slope based on slope stability analysis.
Separatory Liner System	3745-520-250	OAC 3745-27-08(B)(2)(f)
For a vertical expansion over areas of existing debris or waste where required separation to uppermost aquifer, liner, or leachate collection does not exist	Gas management system + flexible membrane liner + structural fill + leachate management system	May include: gas collection layer, recompacted soil liner, flexible membrane liner, leachate collection layer, leachate collection pipes, filter layer, geosynthetic clay liner
Miscellaneous		
Benchmark	1 each, 3745-520-200(B)(1)	3 each, 3745-27-08(D)(1)
Access roads	3745-520-200(B)(2)	OAC 3745-27-08(D)(18)
Ground water control structure	3745-520-200(B)(3), (C)(1)	OAC 3745-27-08(D)(4)
In situ foundation	3745-520-200(B)(4)	OAC 3745-27-08(D)(5)
Added geologic material	3745-520-200(B)(5), (C)(2)	OAC 3745-27-08(D)(7)
Vegetated earthen berm	3745-520-200(B)(6) (statutory requirement)	Not Required
Structural fill	3745-520-200(C)(3)	OAC 3745-27-08(D)(6)
Run-outs	3745-520-200(C)(4), (C)(6)	Addressed through permit
Transitional cover (Used at owner's or operator's choice, this is not required by rule)	3745-520-200(C)(5)	OAC 3745-27-08(D)(19)
Leachate recirculation system (Used at owner's or operator's choice, this is not required by rule)	3745-520-200(C)(7)	Addressed through permit
Georeinforcements	3745-520-200 (C)(8)	Addressed through permit
Gas Management System	3745-520-275	OAC 3745-27-08(D)(20), (D)(27)
	Required if recirculating leachate or to address odor problems	Required by NSPS, or to address subsurface migration of explosive gas
	May include: Gas collection layer, Gas vents, Gas wells, Gas collection devices, Gas mover system, Gas conveyance system, Gas control system	Addressed through permit. May include: Gas collection layer, Gas vents, Gas wells, Gas collection devices, Gas mover system, Gas conveyance system, Gas control system
Surface Water Management System	3745-520-280	OAC 3745-27-08(D)(2), (D)(3)

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	Ditches accommodate peak flow from 25-yr/24-hr storm event	Ditches accommodate peak flow from 25-yr/24-hr storm event
	Basin size based on 10-yr/24-hr storm	Pond size based on larger of 10-yr/24hr storm or 0.125 x acres of disturbed area
	Basin is a 3-cell design.	Single pond design allowed
Operations	3745-520-600 to 695	3745-27-19
Log of odor complaints	3745-520-610 (statutory requirement)	Not Required
Routine facility inspections	3745-520-615 addition of daily odor inspections	3745-27-19 daily log requirement includes daily inspection but not odor inspection
Loads rejected at the unloading zone	3745-520-632 (statutory requirement)	Not Required
Transporter or shipper requirements regarding rejected loads	3745-520-634 (statutory requirement)	Not Required
Acceptance, handling, and disposal	3745-520-640 provides flexibility for handling and recycling activities and optional use of inspection zone	3745-27-19
Leachate management and disposal	3745-520-652	3745-27-19
Leachate recirculation system operation	3745-520-654 operations in rule rather than permit	Leachate recirculation approved through permit.
Leachate sampling, analysis, and reporting	3745-520-660 (statutory requirement)	3745-27-19 annual report requirement
Gas management system operation	3745-520-665 operations in rule rather than permit	Gas management system approved through permit
Fire and explosion prevention, investigation, and response; implementation of fire and explosion contingency plan	3745-520-670: contingency plan implementation (statutory requirement)	3745-27-19: no contingency plan required.
Monitoring to determine whether a gas management system is being properly operated and to detect fire	3745-520-675	Not required
Hydrogen sulfide and other gases and odors prevention, investigation, and response; implementation of hydrogen sulfide and other gases contingency plan	3745-520-680: contingency plan implementation (statutory requirement)	Not Required
Certification of material by C&DD transfer facilities and documentation from railroads	3745-520-690: optional on part of C&DD disposal facility operators (statutory requirement for C&DD transfer facility upon request of C&DD disposal facility operator.	Not Required
Annual operational report	3745-520-695	3745-27-19
Closure & Financial Assurance	Closure: 3745-520-700 to 720; financial assurance: 3745-520-905 and 930	Closure: 3745-27-11 and financial assurance: 3745-27-15 and 17
Closure cost estimate calculation	520-905(A) at the point in the licensing year that closure will be the most expensive, at least \$13,000.00/acre. (statutory requirement)	27-15(C) at the point in the operating life of the facility when closure is most expensive
Adjustment to closure cost estimate	520-905(B) if the licensing authority makes such a request, licensing authority must submit a rationale to owner/operator of why it should be more than \$13,000.00 per acre. (statutory requirement)	27-15(C)(1)(a) Ohio EPA may require revision to closure cost estimate
Review of closure financial assurance instrument	520-905(D) whenever closure cost increases, financial assurance instrument must be adjusted within 60 days of cost increase, but at least prior to license issuance (cost estimate increase for current license year)	27-15(G)(7), (H)(7), (I)(7), and (J)(9) whenever closure cost increases, financial assurance instrument must be adjusted within 60 days of cost increase (cost estimate increase of operating life of facility)

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Review of closure financial assurance instrument and increase for inflation	Not Required	27-15(D)(2) Annually review and adjust for changes to cost estimates and adjust for inflation for facility closure cost
Release of Closure financial assurance instrument	520-905(N) by licensing authority after licensing authority has issued written concurrence with the closure certification report and owner/operator submits written request to terminate closure financial assurance instrument.	27-15(N) by Director of Ohio EPA. Unless Director of Ohio EPA has reason to believe that closure has not been completed in accordance with rules or closure plan after receiving certification report from owner/operator and independent professional skilled in appropriate discipline that closure has been completed in accordance with plan, permit/registration requirements and applicable rules.
Post Closure Care & Financial Assurance	Post-closure: 3745-520-700 to 720 and 750 to 760; financial assurance: 3745-520-910 to 930	Post-closure: 3745-27-11; financial assurance 3745-27-16 to 17
Post-Closure Care Period	520-750(B) Post-closure care activities shall be conducted for five years unless the post-closure care period is extended in accordance with rule 3745-520-755 of the Administrative Code. (statutory requirement)	27-14(A) the owner, operator, or permittee shall conduct post-closure care activities at the sanitary landfill facility for a minimum of 30 years (federal requirement). (Note: Director of Ohio EPA must release owner/operator from continuing post-closure care obligation.)
Post-Closure Care cost estimate calculation	520-910(A) The cost of performing the post-closure care activities required by rule 3745-520-750.	27-16(C) The cost of performing the post-closure care activities required by rule 3745-27-14 [Typically: \$1,000.00 or more times acreage of facility times 30 years of post-closure care.]
Review of post-closure financial assurance instrument	520-910(D) whenever post-closure care cost increases, financial assurance instrument must be adjusted within 60 days of cost increase, but at least prior to license issuance	27-16(G)(7), (H)(7), (I)(7), and (J)(9) whenever post-closure care cost increases, financial assurance instrument must be adjusted within 60 days of cost increase.
Review of post-closure care financial assurance instrument and increase for inflation	Not Required	27-16(D)(2) Annually review and adjust for changes to cost estimates and adjust for inflation for facility post-closure care cost.
Release of Post-Closure Care financial assurance instrument	520-910(N) by board of health or the director if board of health or the director has issued written concurrence that the owner or operator is no longer required to maintain financial assurance for post-closure care of the C&DD facility and the owner or operator has requested release from financial assurance obligations.	27-16(O) by Director of Ohio EPA. The director shall notify the owner or operator in writing that owner/operator is no longer required to maintain financial assurance for post-closure care of the facility, unless the director has reason to believe that post-closure care has not been completed in accordance with rules or closure plan/post-closure plan after receiving certification report from owner/operator and independent professional skilled in appropriate discipline that post-closure care has been completed in accordance with plan, permit/registration requirements and applicable rules.
Financial assurance instruments	3745-520-930	3745-27-17
Allowable Instruments	520-905 (F)- trust fund, (G) financial surety bond, (H) performance surety bond, (I) letter of credit, (J) insurance. (Note: Does not allow use of corporate or local	27-15 (F)- trust fund, (G) financial surety bond, (H) performance surety bond, (I) letter of credit, (J) insurance, (K) corporate financial test, (L) local government financial test
Cost of financial assurance instruments	Depending on financial institution and the amount required to be secured. The higher the amount secured by the financial assurance instrument, the more premium required by financial institution.	Depending on financial institution and the amount required to be secured. The higher the amount secured by the financial assurance instrument, the more premium required by financial institution.

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Trust Fund - when to fund	520-905(F)(3) prior to date of license issuance for current year's cost estimate.	27-15(F)(3) first installment is due prior to waste acceptance.
Trust Fund – how much to fund	520-905(F)(3) Fully fund for current year's cost estimate.	27-15(F)(3) annual installment calculated by total closure cost estimate divided by number of years in pay-in period. Pay-in period based on AMDWR and approved volume in permit.
When to establish - Surety bond guaranteeing payment into a closure trust fund; Surety bond guaranteeing performance; Letter of Credit; and Insurance.	3745-520-905 and 910: must establish in amount of closure cost estimate of current license year.	3745-27-15 and 16: must establish in amount of facility closure cost estimate.
Insurance requirements of Insurer	3745- 520-905(J)(3) licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer, in one or more states. The owner or operator shall submit to the licensing authority the following information regarding the insurer's qualifications: (a) Most recent A.M. Best rating of the insurer. (b) Documentation demonstrating that the insurer is domiciled in the US (c) The most recent report on examination from the insurance department from the insurer's state of domicile. (d) Documentation demonstrating that the insurer has capital and surplus of at least one hundred million dollars. (e) Documentation demonstrating that the insurer received an unqualified opinion of the insurer's annual financial statements from an independent certified public accountant.	3745-27-15(J) licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer, in one or more states [subject to change in 503-05 to match requirements in 520-905(J)(3)].

Permits

Fees	\$2,000 refundable if Permit is issued. (statutory requirement)	Permits or modifications carry a \$1,000 - \$80,000 fee based on disposal capacity increase. Modifications not changing disposal capacity carry a \$1,000 fee.\$1,000 to \$80,000 non-refundable
Public Involvement	Public meeting by applicant required. (statutory requirement)	Public meeting by applicant, information session, and public hearing required by Ohio EPA.
<u>License Application</u>	3745-520-400 to 480	3745-37
Fees	\$0	Between \$5,000 - \$60,000 based on the Authorized Maximum Daily Waste Receipt (AMDWR).
General Plan of Facility Operations	Contains best management practices for the facility and contingency plans (statutory requirement)	Not Required
Phasing Plan	In license, sequential design for at least three years of construction, interim slope stability analysis, can be changed with renewal of license each year.	In permit, sequential design for entire life of landfill, permit alteration or modification required to change

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Material acceptance and handling plan	Provides flexibility for operator to accommodate recycling, prevent violations for accepting pulverized debris, and properly document fee collection	Not Required
Leachate sampling and analysis plan	Sample at least once a year unless leachate is being recirculated then sampling quarterly. Parameters detected are added to ground water monitoring list (statutory requirement)	Not Required
Fire and explosion contingency plan	Identifies notifications and activities that will be taken in the event of a fire or explosion at the facility (statutory requirement)	Not Required
Hydrogen sulfide and other gases contingency plan	Identifies notifications and activities that will be taken in the event of a nuisance or hydrogen sulfide release at the facility (statutory requirement)	Not Required