

Appendix A

WDNR NR 504 and 512 Completeness Checklists

Design and Construction Criteria Completeness Checklist

Chapter NR 504, Wis. Adm. Code



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Waste & Materials Management
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Instructions: This checklist is intended for use by department staff for the review of landfill plan of operation and feasibility reports to determine completeness. The checklist may also be used by applicants and submitted with a landfill plan of operation or feasibility report to facilitate department review. Refer to applicable statutes and codes for exact requirements.

General Information

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion
Facility Type: Municipal Solid Waste
Initial Submittal: Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)
Addendum # ____ Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)
Addendum # ____ Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)
Proposed Waste Types: Non-hazardous commercial solid waste, residential solid waste, construction & demolition waste, industrial solid waste and special wastes
Proposed Total Design Capacity: 990,300 cy (including daily and intermediate covers)

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 504.04(3) LOCATIONAL CRITERIA. Are the proposed limits of filling within:					
(a) 1,000 feet of any navigable lake, pond or flowage not including landfill drainage or sedimentation control structures? <input type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> If yes, was an exemption requested?	X			Section 1.3.4, 1.4.2 and 7.1.1	
(b) 300 feet of any navigable river or stream? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	X			Section 7.1.2	

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(c) A 100-year flood plain? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	X			Section 7.1.3 and Figure 2-1	
(d) 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or any public park or state natural area? <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> If yes, was a line of site study provided showing that the landfill would not be visible from the road, park or natural area through the use of screening and/or, <input checked="" type="checkbox"/> was an exemption requested? Note: If waste may be visible for periods of time even with the use of screening, then an exemption should be requested.	X			Section 1.3.5, 1.4.2 and 7.1.4	
(e) 10,000 of the end of an airport runway designed or planned to be designed and used by turbojet aircraft or within 5,000 feet of any airport runway designed for and used by piston type aircraft? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Is FAA notification required? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Note: If the proposed limits of waste filling would be within <u>5 miles</u> of the end of the runway of any airport used by turbojet or piston type aircraft, the applicant must provide notice to both the Federal Aviation Administration (FAA) and the affected airport. The report should contain all correspondence related to the notices including any determinations made by the FAA.	X			Section 1.3.2 and 7.1.5	
(f) 1,200 feet of any water supply well (i.e. public, private, irrigation or stock water supply wells)? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> was an exemption requested? If yes, have the following been provided for each identified well? <input checked="" type="checkbox"/> well location <input checked="" type="checkbox"/> former and present well owner <input checked="" type="checkbox"/> well driller <input checked="" type="checkbox"/> well construction log Note: Exemptions may not be granted if the above information is not provided.	X			Section 1.3.3, 1.4.2 and 7.1.6	
(g) 200 feet of a fault that has had displacement in Holocene time? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	X			Section 7.1.7	
(h) Seismic impact zones? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	X			Section 7.1.7	
(i) Unstable areas? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	X			Section 7.1.7	

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 504.04(4) PERFORMANCE STANDARDS. Will the proposed landfill cause the following:					
(a) A significant adverse impact on wetlands? ____ yes <input checked="" type="checkbox"/> no Has a practicable alternatives analysis and a wetland functional values analysis been completed in accordance with ch. NR 103, if a wetland will be affected by the proposed landfill or any noncommercial soil borrow source activity? Note: See Waste & Materials Management Program guidance for application of NR 103 and a wetland permit may be needed per s. 281.36, Stats.	X			Section 7.2.1	
(b) A take of an endangered or threatened species in accordance with s. 29.604, Stats? ____ yes <input checked="" type="checkbox"/> no	X			Section 4.5 and 7.2.2	
(c) A detrimental effect on any surface water? ____ yes <input checked="" type="checkbox"/> no Note: Exemptions are <u>not</u> granted.	X			Section 7.2.3	
(d) A detrimental effect on groundwater quality or will cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application as defined in ch. NR 140? ____ yes <input checked="" type="checkbox"/> no ____ Has an exemption been requested to the groundwater standards in accordance with ss. NR 507.29 and NR 140.28, Wis. Adm. Code? If an exemption is required, does the feasibility report include: ____ A list of the specific wells and parameters for which an exemption is being requested. ____ A discussion of how the criteria listed in s. NR 140.28(2), (3) and (4) are met.	X			Section 7.2.4	
(e) The migration and concentration of explosive gases in excess of 25% of the lower explosive limit for such gases at any time? ____ yes <input checked="" type="checkbox"/> no	X			Sec. 7.2.5	
(f) The emission of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR 445.04 or 445.05? ____ yes <input checked="" type="checkbox"/> no	X			Sec. 7.2.6	
NR 504.05 GENERAL DESIGN AND CONSTRUCTION CRITERIA.					
(1) Is the landfill designed in substantial conformance with the design criteria in ss. NR 504.06 to 504.09?	X			Sec. 8.0	
(2) Is supporting justification included for any differences from ss. NR 504.06 to 504.09?	X			Sec. 1.4	
(3) Is the proposed operating life of the landfill between 10 and 15 years?	X			Sec. 14.0, Table 14-8	
If the proposed life is not between 10-15 years is the facility exempted in s. 289.28(2), Stats. or the expansion of an existing facility?			X		

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?	LOCATION	COMMENTS
	Y	N	NA
NR 504.06 MINIMUM DESIGN AND CONSTRUCTION CRITERIA FOR LANDFILL LINERS AND LEACHATE COLLECTION SYSTEMS.			
(1) GENERAL.			
(a) If the landfill is proposed to accept municipal solid waste does the design incorporate a composite liner and a leachate collection system capable of limiting the average leachate head on the composite liner to 1 foot or less during operation and after closure of the landfill?	x		Sec. 7.5.7, 8.3.4 Leachate collection system design is as approved for Eastern Expansion
Does the composite liner consist of the following: <input checked="" type="checkbox"/> An upper geomembrane component with nominal 60-mil minimum thickness <input checked="" type="checkbox"/> A lower component of 4 foot minimum compacted clay meeting NR 504.06(2)(a)	x		Sec. 8.3.3 Liner system design is as approved for Eastern Expansion.
(2) COMPOSITE OR CLAY LINED LANDFILLS. Does the composite liner or clay liner design meet the following requirements:			
(a) Will all clay used in liner construction meet the following specifications: <input checked="" type="checkbox"/> A minimum of 50% by weight passing 200 sieve <input checked="" type="checkbox"/> A saturated hydraulic conductivity of 1×10^{-7} cm/sec or less <input checked="" type="checkbox"/> An average liquid limit of 25 or greater with no values less than 20 <input checked="" type="checkbox"/> An average plasticity index of 12 or greater with no values less than 10	x		Sec. 7.4 Clay liner design and borrow source is as approved for Eastern Expansion NR 504.06(2) incorporated by reference.
(b) Is there at least a 10 foot separation between the seasonal high groundwater table and the bottom of the clay liner component? Note: For zone of saturation landfills select NA.		x	Sec. 1.4.3 An exemption from this requirement was granted for the Eastern Expansion.
(c) Is there at least a 10 foot separation between the bedrock surface and the bottom of the clay liner component?	x		Sec. 8.3.2 The proposed vertical expansion is located within the approved liner area
(d) Is there a minimum 2% liner surface slope toward the leachate collection system?	x		Sec. 8.3.4 of the Eastern Expansion. No changes to the approved subbase or base
(e) Is there a minimum 4 foot thick clay component of a composite liner or a minimum 5 foot clay liner thickness?	x		Sec. 8.3.3 grades or liner system are proposed.
(f) 1. Are the clay layers proposed to be constructed in the following manner: <input checked="" type="checkbox"/> Lift heights no greater than 6 inches after compaction <input checked="" type="checkbox"/> Footed compaction equipment having feet at least as long as the loose lift height <input checked="" type="checkbox"/> Disking or mechanical processing of clay to break up clods and adjust moisture <input checked="" type="checkbox"/> Clod size no greater than 4 inches <input checked="" type="checkbox"/> All compaction equipment to have a minimum static weight of 30,000 pounds <input checked="" type="checkbox"/> Alternative procedures or equipment proposed	x		Sec. 7.4 No changes from approved Eastern Expansion design or clay requirements.
2. A sufficient number of equipment passes to ensure complete remolding of clay?	x		Sec. 7.4
3. Is clay compaction proposed to be 90% modified Proctor density at 2% wet of the optimum or 95% standard Proctor density at wet of the optimum moisture content? Alternately, the line of optimums method may be used.	x		Sec. 7.4
(g) Are interior sidewall slopes at a maximum of 3H:1V or at a minimum of 5H:1V?	x		Plan Sheet 16

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(h) Are clay components of the liner in adjacent phases keyed together? Is the keying accomplished by excavating a minimum of 4 steps with a total width of spliced area measuring at least 15 feet?	x			Sec. 7.4	No changes from approved Eastern Expansion design.
(3) COMPOSITE-LINED LANDFILLS. If the landfill is composite lined, are the following requirements specified in the plan of operation:					
(a) Is the geomembrane specifically formulated for waste containment purposes? Is the nominal geomembrane thickness 60 mil or greater with no thickness below minimum industry accepted manufacturing tolerances?	x			Sec. 7.4	No changes from approved Eastern Expansion design or geomembrane requirements.
(b) Is there geomembrane protection along areas of traffic or concentrated activity such as sumps, sideslope risers and entry ramps?	x			Sec. 7.4	
(c) For slopes in excess of 10%, will geomembrane panels be installed with panel seams perpendicular to the contour lines of the slope?	x			Sec. 7.4	
(d) Prior to geomembrane placement, will the clay surface be prepared as follows: <input checked="" type="checkbox"/> Rolling and grading of clay surface to remove irregularities, protrusions, loose soil and abrupt changes in grade, <input checked="" type="checkbox"/> Free of stone, grading stakes, construction debris and contain no areas softened by high water content <input checked="" type="checkbox"/> Sufficiently dry and dense clay surface such that the construction equipment will not create ruts <input checked="" type="checkbox"/> Depressions and large cracks filled with tamped clay	x			Sec. 7.4	
(e) Will the geomembranes be welded as follows: <input checked="" type="checkbox"/> Geomembrane panels welded by double-tracked, fusion welding machines for all linear seams, <input checked="" type="checkbox"/> Fusion welding of corners, butt seams and long repairs where possible, <input checked="" type="checkbox"/> Extrusion or fusion welding for all other repairs, detail work and patches, <input checked="" type="checkbox"/> Request for Department approval for other welding methods.	x			Sec. 7.4	
(f) Will geomembrane components in adjacent phases be welded together to form a continuous geomembrane surface?	x			Sec. 7.4	
Will the liner extended beyond the proposed edge of waste at a phase junction be protected from traffic and weather?	x			Sec. 7.4	
(g) Will wrinkles which are taller than they are wide be smoothed or cut out prior to covering with soil?	x			Sec. 7.4	
Will guidance be provided to machine operators placing soil on geomembrane by the use of an observer with an unobstructed view of the advancing lift of soil.	x			Sec. 7.4	

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	Y	N	NA		
(h) Are the following minimum soil thickness on geomembrane proposed before vehicular traffic may occur: <input checked="" type="checkbox"/> 1 foot for vehicles with ground pressure less than 5 pounds per square inch, <input checked="" type="checkbox"/> 2 feet for other vehicles equipped with tracks and floatation tires, <input checked="" type="checkbox"/> 3 feet or more for trucks or wheeled hauling equipment.	x			Sec. 7.4	No changes from approved Eastern Expansion design or geomembrane requirements.
(i) In order to lessen desiccation effects, will the landfill base and the lower 10 feet of the sideslope be covered with a drainage blanket within 30 days after completing quality control and quality assurance testing?	x			Sec. 7.4	
Will the remaining sideslope be covered with either drainage material or geotextile to prevent damage to the geomembrane?	x			Sec. 7.4	
(j) Will placement of soil over the geomembrane be performed during cooler temperature periods to the extent possible using methods which minimize wrinkling?	x			Sec. 7.4	
(k) Will anchor trenches be designed and constructed around the landfill to secure the permanent edges of the geomembrane?	x			Sec. 7.4	
Will geomembrane be seamed completely to the edge of the panel end to minimize potential of tear propagation?	x			Sec. 7.4	
(4) ZONE-OF-SATURATION LANDFILLS. Landfills with proposed base grades below the groundwater table must meet the following:					
(a) Is the landfill located in a fine-grained soil environment?					
(b) Does the landfill meet the requirements of sub. (2)(a), (d), (e), (f), (g) and (h) and the requirements under sub. (3), if the landfill will accept municipal solid waste?			x		
(c) Has an analysis been performed on the effect which groundwater may have on uplift of the liner and the short and long-term stability of the geomembrane component?			x		
Does the analysis evaluate the effect of an underdrain or other dewatering system?			x		
(d) Have borings, backhoe pits or other means of exposing the subsurface soils been proposed on a 100-foot grid to a minimum 5 foot depth below the subbase grades of the liner?			x		
Are all granular or silty soils detected within this 5 foot depth proposed to be removed?			x		
(5) LEACHATE COLLECTION SYSTEMS. The leachate collection system must incorporate the following design features:					
(a) Does the leachate collection system design include the following features: N/A A leachate collection system included in each horizontal phase, <input checked="" type="checkbox"/> Leachate routed to the landfill perimeter in the most direct manner possible, <input checked="" type="checkbox"/> Limit average leachate head on the liner to 1 foot or less, <input checked="" type="checkbox"/> Limit maximum leachate flow distance to the perforated collection pipe to 130 feet.	x			Sec. 7.4, 8.3.4	No changes from approved Eastern Expansion design.

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) Is the slope on the leachate collection pipe a minimum of 0.5%?	x			Sec. 7.4; Plan Sheet 16	No changes from approved Eastern Expansion design.
(c) Is the minimum diameter of all leachate collection pipes 6 inches?	x				
Are all collection pipes proposed to be Schedule 80 PVC pipe or an approved substitute?	x			Sec. 7.4	
(cm) Are the proposed pipe fittings for use with PVC and HDPE pipe secured to the leachate collection pipe as follows: <input checked="" type="checkbox"/> PVC fittings and pipe solvent-welded <input checked="" type="checkbox"/> HDPE fittings and pipe fusion welded	x			Sec. 7.4	
(d) Do the leachate collection trenches conform to the following: <input type="checkbox"/> Rectangular leachate collection trenches for clay liners <input checked="" type="checkbox"/> V-trenches with a maximum 18 inches depth and 3H: 1V sideslope for composite liners <input type="checkbox"/> V-trenches smooth-drum rolled prior to placement of the membrane	x			Sec. 7.4	
(dm) <input checked="" type="checkbox"/> Is a geotextile with a weight of 12 oz/yd ² used to line the trench base and sidewalls and is it placed directly over the geomembrane <input type="checkbox"/> Does the design show that the geotextile does not overlap across the top of the trench. <input type="checkbox"/> Are the geotextile specifications, including manufacturer's data for grab and puncture strength, used to demonstrate the resistance to damage from the aggregate to be placed over the geotextile?	x			Sec. 7.4	
(e) Does the leachate collection pipe trench backfill conform to the following: <input type="checkbox"/> Uniformity coefficient of less than 4, <input checked="" type="checkbox"/> Maximum particle diameter of 1 1/2 inches, <input checked="" type="checkbox"/> Maximum of 5% passing the number 4 sieve, <input type="checkbox"/> Rounded to subangular gravel, <input type="checkbox"/> Minimum 4 inches bedding depth before installation of leachate pipe, <input type="checkbox"/> Minimum 6 inches of granular material above the pipe, and an additional 12 inches of material mounded above the trench, <input type="checkbox"/> Graded soil filter or geotextile to minimize migration of drainage blanket into the trench, in cases where particle size of the bedding is significantly less than the collection trench bedding <input type="checkbox"/> No use of limestone and dolomite as trench backfill. <input type="checkbox"/> If limestone and dolomite are proposed for use as trench backfill, does the plan of operation address that there is no other suitable material reasonably available?	x				
(f) Have the sand and gravel sizes and geotextile and pipe openings been analyzed for the control of piping of soil materials and have the materials been chosen to achieve a stable and self-filtering structure under all conditions of leachate flow?	x			Sec. 7.4	

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(g) Do leachate collection lines have cleanout access on both ends of pipes?	x			Sec. 7.4;	No changes from approved
Does each leachate collection line have a maximum distance of 1,200 feet from the end of one cleanout to the toe of the opposite slope?		x		Plan Sheet 16	Eastern Expansion design.
(h) Are there no vertical liner penetrations due to leachate lines, manholes and other engineering structures?			x		
For clay lined landfills, are liner penetrations limited to leachate transfer lines in the horizontal direction only?			x		
For composite lined landfills, are there no liner perforations?					
(i) Is a 4'x4', 5 foot thick, anti-seep collar placed around any leachate transfer line penetrating the clay liner?			x		
(j) Is the composite lined landfill designed with a sump and sideslope riser meeting the following requirements: x 1. Sump volume and pump capacity sized to accommodate an annual leachate collection rate of 6 inches taking into account the potential for solids to build up over time. x 2. Sump base protected with polyethylene plate or other acceptable means and placed prior to sideslope riser and backfill installation. x 3. Leachate discharge pipe between the sideslope riser and the tank installed with valves to prevent backflow into the waste disposal area. x 4. Sideslope riser pipe has a minimum diameter of 18 inches and geometry at the junction of the sump and sidewall to assure passage of the pump and hardware and assure correct positioning of the intake of the pump. x 5. The area of the sump and depth of gravel fill are sized to allow remedial installation of access and hardware for removal of leachate if the sideslope riser and pump system fail.	x			Sec. 7.4	
(k) Are gravity lines transporting leachate out of the landfill constructed with valves for flow control, and are the valves compatible with the leachate and operable from the ground surface?			x	Sec. 7.4	
(l) Are all leachate lines located outside the landfill double-cased or in an approved secondary containment?	x			Sec. 7.4	
Are all leachate transfer lines proposed to be pressure tested prior to use?	x			Sec. 7.4	
Is the upslope end of secondary pipe sealed and the downslope end open to drain into the manhole?	x			Sec. 7.4	

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(m) Are all leachate transfer lines, manholes, lift stations and other structures outside the waste limits designed to meet the following: <input checked="" type="checkbox"/> Designed as shallow as practical, and as far from the waste limits as possible so repair of these devices would not infringe on the landfill cover or liner systems <input checked="" type="checkbox"/> Constructed above the seasonal high groundwater table. <input type="checkbox"/> If not constructed above the water table, is it not technically feasible to do so and does the design meet the requirements of (l) above.	x			Sec. 7.4	No changes from approved Eastern Expansion design.
(n) Are leachate collection tanks and manholes designed with the following: <input checked="" type="checkbox"/> Secondary containment to prevent leachate discharge to ground and surface water <input checked="" type="checkbox"/> Means to monitor the tank or manholes for leaks within the secondary containment <input type="checkbox"/> If no, is an alternative method proposed?	x			Sec. 7.4	
(o) Are the leachate tanks designed to: <input type="checkbox"/> Contain leachate volume generated over a 4 day period, <input type="checkbox"/> Withstand the soil and liquid loads encountered during installation and use <input type="checkbox"/> Follow the consultant and manufacturer installation instructions.			x		
(p) Does the leachate loadout station design contain the following: <input type="checkbox"/> Measures to prevent accidental leachate discharge at the loadout from entering ground or surface water, <input type="checkbox"/> A loadout station paved and sloped to a catch basin to direct all spills to a catch basin.			x		
(q) Are leachate and gas system manholes and enclosures vented and do they have controlled access?	x			Sec. 7.4, 8.7	NR 504.08 incorporated by reference
For landfills designed with active extraction, are manholes and enclosures designed to minimize air intrusion?	x			Sec. 7.4, 8.7	NR 504.08 incorporated by reference
(r) Are all pumps, valves and meters designed to be controlled and operated from ground surface?	x			Sec. 7.4, 8.7	No changes from approved Eastern Expansion design.
(s) Are all leachate and groundwater collection systems designed to monitor the liquid volume removed?	x			Sec. 7.4	
(t) Is there a minimum one foot thick granular drainage blanket placed on top of the geomembrane for a composite liner or on top of the clay component of a clay liner which contains the following elements: <input checked="" type="checkbox"/> no more than 5% passing 200 sieve <input checked="" type="checkbox"/> If the granular layer contains gravel greater than ¼ “, a certified needle free minimum 12 oz/yd ² nonwoven geotextile below the drainage blanket	x			Sec. 7.4	

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(tm) <input checked="" type="checkbox"/> Hydraulic conductivity (at anticipated field density) equal to or greater than 1 cm/sec for sites that accept any amount of MSW or 1×10^{-2} cm/sec for landfills that do not accept MSW <input checked="" type="checkbox"/> Was the gradation of the drainage blanket (and associated hydraulic conductivity) selected to maintain the maximum head in the drain within the drain thickness?	x			Sec. 7.4	No changes from approved Eastern Expansion design.
(u) If the major horizontal clay lined phase is above the saturated zone, is each phase designed with collection basin lysimeter (except for composite lined landfills)?			x		
(6) ADDITIONAL REQUIREMENTS FOR LANDFILLS WITH EXTENDED COLLECTION LINES. Landfills with leachate collection lines that exceed 1,200 feet and will accept MSW must meet the following:					
(a) Do any leachate collection lines exceed 1,200 feet when measured from the end of each cleanout to the toe of the opposite slope? Will the landfill accept MSW? If no, check NA for (b) through (f) below.	x			Sec. 7.4, 8.3.4	No changes from approved Eastern Expansion design.
(b) Is the maximum length of each leachate collection line 2,000 feet or less from the access point at one end to the toe of the opposite slope?	x			Sec. 7.4, 8.3.4	
(c) Is the slope on the leachate collection pipe a minimum of 0.5% after accounting for primary and secondary settlement of the subgrade? Note: The minimum design slope is selected following computation of 100% of the primary and secondary consolidation settlement beneath the facility, which includes, as applicable, in-situ soil, added geologic material structural fill material, and compacted clay liner. Secondary settlement shall be calculated using a 100-year timeframe.	x			Sec. 7.3, 8.5; App. I	
(d) Is the pipe bedding material composed of coarse, uniform gravel with hydraulic conductivity greater than or equal 1 cm/sec? Note: This requirement is in addition to meeting the other requirements of s. NR 504.06(5)(e).	x				
(e) Has the maximum anticipated construction, operation and post-closure overburden loads over the leachate collection piping been calculated and used in selecting pipe material and wall thickness? <input checked="" type="checkbox"/> Were the calculations based on a 6 inch pipe diameter and appropriate in-field consolidated density?	x			Sec. 7.4, 9.3.4; App. I	

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(f) Have all components of the leachate collection system incorporated the following design features: <input checked="" type="checkbox"/> prefabricated or smooth sweep bends with a minimum radius of 10 pipe diameters <input checked="" type="checkbox"/> pipe alignments that minimize horizontal and vertical alignment changes for the entire pipe length <input checked="" type="checkbox"/> elimination or minimization of obstructions which impose drag on pipe cleaning jetter hose or nozzles	x			Sec. 7.4	No changes from approved Eastern Expansion design.
(7) COMPOSITE-LINED LANDFILLS USING GCLs. Is GCL proposed for use in a composite liner? If no, indicated NA for the following and (a) – (c). Does the landfill accept only non MSW waste? Or if it accepts MSW will the GCL be placed over the 4 foot clay liner? If yes to either, the design must meet the requirements of (a) – (c). If no to both, then GCL may not be used as proposed.			x		
(a) Has the hydraulic performance of the GCL been assessed by use of compatibility testing?			x		
(b) Does the GCL meet the specifications of NR 504.07(4)(a)1 to 11?			x		
(c) Is the GCL underlain by a soil barrier layer a minimum 2 feet thick and meets the specifications of NR 504.07 (4)(a) 12. To 17.			x		
NR 504.07 MINIMUM DESIGN AND CONSTRUCTION CRITERIA FOR FINAL COVER SYSTEMS.					
(1) GENERAL.					
(a) Is the final cover system designed to? <input checked="" type="checkbox"/> Minimize leachate generation by limiting the amount of percolation through the cap <input checked="" type="checkbox"/> Reduce landfill maintenance by design of compatible surface slopes and vegetation <input checked="" type="checkbox"/> Account for differential settlement and other stresses on the capping layer <input checked="" type="checkbox"/> Minimize freeze-thaw effects and desiccation of clay capping layer <input checked="" type="checkbox"/> Provide for removal of leachate and venting of gas from landfills accepting wastes with high moisture content or that which is readily biodegradable	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(b) Does the final cover system meet the requirements of subs. (2) to (9) below unless it is established (to the satisfaction of the department) that portions of final cover system are not needed based on proposed waste type and design?	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Is the geomembrane component included in the final cover design unless this is proposed to be an exclusively high volume industrial, or other landfill that does not accept municipal solid waste and is not composite lined?	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(c) If the landfill is designed with a composite liner, is it also designed with a final cover system meeting subs. (2) to (9) below?	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(d) Does the landfill accept papermill sludge or other industrial solid wastes with high water contents and low strength? Will the strength of the waste prohibit the type of cover system specified in this section (subs. (2) to (9))? If yes, an alternate final cover system may be proposed.			x		
(2) GRADING LAYER.					
If this is a municipal solid waste landfill, does the design include a 6 inch grading layer above the final waste elevation?	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(3) SUPPORT LAYER AND LOW-STRENGTH WASTES.					
If the landfill accepts industrial wastes with high water content and low strength, does the design include a support layer for stabilization, reinforcement and removal of leachate and gas?			x		
(4) CLAY CAPPING LAYER.					
<input checked="" type="checkbox"/> Does the landfill design include a two foot clay cap that meets the specification of NR 504.06(2)(a) listed below? <input checked="" type="checkbox"/> x A minimum of 50% by weight passing 200 sieve <input checked="" type="checkbox"/> x A saturated hydraulic conductivity of 1×10^{-7} cm/sec or less <input checked="" type="checkbox"/> x An average liquid limit of 25 or greater with no values less than 20 <input checked="" type="checkbox"/> x An average plasticity index of 12 or greater with no values less than 10 <input checked="" type="checkbox"/> x Will the clay capping layer be constructed according to NR 504.06(2)(f)?	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(a) If the two foot clay cap is replaced with a GCL and 2 foot soil barrier layer, does it meet the following: <input checked="" type="checkbox"/> x 1. GCL consist of a layer of bentonite clay between 2 geotextiles <input checked="" type="checkbox"/> x 2. GCL will be covered with a geomembrane the same day it is placed and in dry conditions <input checked="" type="checkbox"/> x 3. GCL will be installed in a relaxed condition, free of tension or stress <input checked="" type="checkbox"/> x 4. Adjoining panels of GCL have a minimum 6 inches overlap on longitudinal seams and a minimum 20 inches of overlap on panel end seams <input checked="" type="checkbox"/> x 5. Irregular shapes, cuts or tears in the GCL are covered with a GCL patch with a minimum 12 inch overlap <input checked="" type="checkbox"/> x 6. A seal of loose bentonite granules will be placed in seam overlaps at a minimum rate of 1 quarter pound per linear foot of seam for all seams	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?	LOCATION	COMMENTS
	Y	N	NA
<p><input checked="" type="checkbox"/> 7. Loose bentonite or bentonite amended soil will be placed at all patches and penetrations</p> <p><input checked="" type="checkbox"/> 8. GCL panels are certified needle-free through magnetic and metal detection tests</p> <p><input checked="" type="checkbox"/> 9. GCL will be placed in direct contact with a soil barrier layer</p> <p><input checked="" type="checkbox"/> 10. Vehicle traffic on subgrade of GCL and on GCL will be restricted to minimum weight and number of machines to deploy GCL and geomembrane; vehicles operated to minimize damage to subgrade, GCL and geomembrane; deployment methods selected to prevent tearing or coming out of fibers of the GCL</p> <p><input checked="" type="checkbox"/> 11. Soil cover placement over the geosynthetics will be completed in the same construction season as the geosynthetic construction</p> <p><input checked="" type="checkbox"/> 12. Soil barrier layer will consist of fine-grained soil or a well graded sandy soil with fines, meeting USCS soil types ML, CL, CH, SM, or SC or dual -symbols classifications of these soils, with 25% by weight passing P200 sieve; upper one foot will have maximum particle size of 2 inches and lower one foot will have maximum particle size of 4 inches</p> <p><input checked="" type="checkbox"/> 13. Soil barrier layer will be compacted in lift heights of no greater than 12 inches after compaction using footed compaction equipment with feet at least 6 inches long; each lift will be disked to break up clods; clods no greater than 4 inches</p> <p><input checked="" type="checkbox"/> 14. Soil barrier layer will be compacted to ensure complete remolding of soil with equipment having a minimum static weight of 30,000 pounds</p> <p><input checked="" type="checkbox"/> 15. Soil barrier layer will be compacted to 90% modified or 95% standard Proctor density or greater at a moisture content at or wet of optimum</p> <p><input checked="" type="checkbox"/> 16. Each lift of will be keyed into clay or soil barrier layer soils in adjacent phases to form a continuous seal; steps will be a minimum width of 2 feet and there will be a minimum of 2 steps</p> <p><input checked="" type="checkbox"/> 17. The surface of the top lift will be graded or compacted to be smooth and firm and will be inspected for removal of coarse grave, cobbles and debris prior to placement of GCL</p>	x	Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(b) For industrial waste landfills that predominantly accept compressible wastes or wastes with high water contents and low strength, will the landfill be replacing the clay layer with a GCL overlying a minimum one foot sand layer? If yes, will the gradation of the sand layer be a uniform sand selected to vent gas, drain leachate and provide hydration water to the GCL?		x	

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(c) For industrial waste landfills that predominantly accept ash, will the landfill be replacing the clay layer with a GCL overlying a minimum two feet soil barrier layer? If yes, will the soil barrier layer meet the requirement of (a)13 to 17 above and will the upper foot of soil barrier layer meet the requirements of (a)12 above? Note: The lower foot shall be designed to provide a capillary break between the ash and the upper one foot of soil barrier layer.			x		
(d) If the lower one foot of the clay layer is replaced with a one foot of foundry green sand system sand, will the sand meet the following: __ Bentonite content of greater than 6% __ Liquid limit of greater than 20 __ Plasticity index of greater than 6 __ Hydraulic conductivity of less than 1×10^{-7} cm/sec __ Compaction of 90% modified or 95% standard Proctor density or greater at a moisture content at or wet of optimum			x		
(5) GEOMEMBRANE LAYER.					
If a geomembrane layer is proposed, does it meet the requirements of NR 504.06(3)(c) to (j) and the following:	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(a) Nominal geomembrane thickness 40 mils or greater, and no thickness measurements below accepted industry tolerance	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(b) Geomembrane installed in direct contact with the clay capping surface	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(c) Geomembrane penetrations fitted with prefabricated collar or a plate welded at the angle of final cover slope, which allows for differential settlement of waste without damage to the membrane seal	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(6) DRAINAGE ROOTING ZONE LAYER. Does the design include a drainage and rooting zone layer over the geomembrane or the clay cap, which meets the following requirements: x A minimum thickness of 2.5 feet and is not densely compacted	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(a) Drainage layer is designed to be placed immediately above the capping layer and consists of a 1 foot sand layer with a min. hydraulic conductivity of 1×10^{-3} cm/sec., or a geosynthetic drain layer of equivalent or greater transmissivity Note: The design shall include an analysis which demonstrates whether the maximum head in the drain layer will be confined within the thickness of the drain. Drain calculations shall include infiltration rates based on saturated characteristics of the topsoil and rooting zone and a hydraulic gradient of one through the topsoil and rooting zone.	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) A perimeter drain pipe at the low end of all final cover sideslopes with the following design elements: <input checked="" type="checkbox"/> Drain pipe surrounded by a minimum of 6 inches of gravel or sand having a minimum hydraulic conductivity of 1×10^{-2} cm/sec <input checked="" type="checkbox"/> Drain pipe sloped to outlets spaced 200 feet apart unless different spacing is supported by modeling	x			Sec. 7.4, 8.3.5, 9.1	No changes to approved Eastern Expansion design. NR 504.07 incorporated by reference.
(7) TOPSOIL.					
<input checked="" type="checkbox"/> Is a minimum of 6 inches of topsoil included over the cover layer? <input checked="" type="checkbox"/> Is fertilizer and lime addition proposed per section 630, WDOT or other spec.?	x			Sec. 7.4, 8.3.5, 9.1	NR 504.07 incorporated by reference
(8) REVEGETATION.					
<input checked="" type="checkbox"/> Is seed type and fertilizer based upon type and quality of topsoil, and compatibility with the native vegetation and final use? <input checked="" type="checkbox"/> Is seed mix and application rates per section 630 WDOT specifications unless the department approved different seed mix and application rates? <input checked="" type="checkbox"/> Are fertilizer and mulch application rates specified?	x			Sec. 9.1	Native seed mix and application process will be as approved by WDNR on August 23, 2018 as part of a Plan Modification for the existing landfill.
(9) FINAL USE.					
(a) Is final use compatible with the final cover system?				Sec. 9.2	
(b) Are the following activities prohibited when landfill is no longer in operation? <input checked="" type="checkbox"/> Use of waste disposal area for agricultural purposes <input checked="" type="checkbox"/> Establishment or construction of any buildings over the waste disposal areas <input checked="" type="checkbox"/> Excavation of final cover or any waste materials				Sec. 9.2	
NR 504.075 SOIL BORROW SOURCES.					
(1) GENERAL.					
Is the soil borrow source being developed for the purpose of construction, operating or closing a landfill? If yes, this section applies. Note: Written approval from the department shall be obtained prior to initiating soil borrow activities at any borrow source subject to these requirements.	x			Sec. 12.0	Link borrow site proposed with additional investigation to be performed as part of the Plan of Operation
(2) EXEMPTIONS. The following activities are exempt from the requirements of this section:					
(a) <input checked="" type="checkbox"/> The production of processed aggregate products. <input checked="" type="checkbox"/> Excavation of soils from construction projects off of the landfill property and not being used for compacted clay liner or capping layer, soil barrier layer, leachate collection layer or final cover drain layer?			x		
(b) Is the soil borrow source within the proposed or approved limits of filling for a landfill? If yes, then the landfill is not subject to the requirements of subs. (3) and (4)(b).		x			

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(3) INITIAL SITE INSPECTION. Does the report include a copy of the department's initial site inspection for each proposed borrow source?	x			App. B	
(4) LOCATIONAL INFORMATION. (a) Does the submittal describe the following: <input checked="" type="checkbox"/> Total acreage <input checked="" type="checkbox"/> Ownership <input checked="" type="checkbox"/> Location (¼-¼ section) <input checked="" type="checkbox"/> Present land use <input checked="" type="checkbox"/> Transportation routes <input checked="" type="checkbox"/> Any access restrictions <input checked="" type="checkbox"/> Travel distance to and from landfill	x				Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.
(b) Does the submittal include the following: <input checked="" type="checkbox"/> Surface water drainage patterns <input checked="" type="checkbox"/> Significant hydrologic features (surface waters, springs, drainage divides and wetlands) <input checked="" type="checkbox"/> Areas of special natural resource interest (critical habitat or state/local natural areas) <input checked="" type="checkbox"/> Historical/archaeological areas within and adjacent to proposed limits of excavation	x				Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.
(5) FIELD AND LABORATORY INVESTIGATIONS FOR CLAY BORROW SOURCES AND SOIL BARRIER LAYER SOURCES. Does the submittal for soil borrow sources include field and laboratory investigations to define the physical characteristics of any clay borrow source or soil barrier layer source designated to be used for a liner or final cover?	x				Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.
Has an alternate geotechnical investigation program been approved by the department in writing prior to the field and laboratory investigation? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If yes, does the report include a copy of and justification for any approved alternative geotechnical investigation program? Note: An alternative geotechnical investigation program may be submitted in cases where previous information exists regarding the proposed soil borrow source.		x			

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) Have the required number of test pits or borings been completed on a uniform grid pattern across the proposed borrow source(s)? <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 10 test pits/borings for the first 5 or less acres <input checked="" type="checkbox"/> 1 additional test pit/boring for each additional 3 or less acres <input checked="" type="checkbox"/> Proposed acreage of proposed borrow source(s) <input checked="" type="checkbox"/> Number of test pits/borings required <input checked="" type="checkbox"/> Number of test pits/borings made <input checked="" type="checkbox"/> Have logs identifying geologic origin, testing results, USCS classification, and visual description of each major soil unit encountered also been included? 	x			Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.	
(b) Does the report include Atterberg limits and grain size analyses to 0.002 mm particle size for 2 samples from each test pit/boring?	x			Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.	
(c) Does the report include the relationship of water content to dry density using either the modified or standard Proctor method (curves must be developed with a minimum of 5 points) for 1 sample from each major soil unit and no fewer than 3 samples for uniform clay deposits?				Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.	
(d) Does the report include laboratory hydraulic conductivity test results for each sample used to develop the Proctor curves?				Sec. 12.1 references Addendum No. 2 of the Eastern Expansion Feasibility Report for this information.	
(6) STOCKPILING.					
Does the report include discussion of segregating stockpiled soils by USCS soil type, soil gradation, Atterberg limits and compaction specifications? Note: Stockpiling of soils obtained from clay borrow sources and soil barrier layer sources for landfill liner or final cover construction shall be conducted in an organized manner that minimizes mixing of dissimilar soil types. Soils from differing sources may not be commingled unless soil properties are similar.	x			Sec. 12.1	
(7) DATA PRESENTATION FOR ALL CLAY BORROW SOURCES AND SOIL BARRIER LAYER SOURCES. Does the submittal for soil borrow sources for clay and soil barrier layers include the following?					
(a) Calculated volume of soil needed and the volume of acceptable soil available	x			Sec. 8.4, 12.1	Sec. 12.1 references Addendum
(b) Property boundaries and test pit/boring locations on a topographic map (scale: 1" = 500') that extends a minimum of 500 feet beyond the proposed borrow source	x			Sec. 12.1	No. 2 of the Eastern Expansion Feasibility Report for this information.
(c) Isopach map showing thickness of acceptable soil	x			Sec. 12.1	
(d) Description of methods for separating acceptable soil from unacceptable soil				Sec. 12.1	
(e) Proposal for maintaining drainage and sedimentation control	x			Sec. 12.1	
(f) All data from the testing program	x			Sec. 12.1	
(8) DATA PRESENTATION FOR OTHER BORROW SOURCES. Does the submittal for soil borrow sources other than those used for clay and soil barrier layers include the following?					

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) Property boundaries shown on a topographic map (scale: 1" = 500') that extends a minimum of 500 feet beyond the proposed borrow source			x		
(b) Proposal for drainage and sedimentation control			x		
(9) STORMWATER MANAGEMENT.					
Does the submittal for a soil borrow source include a stormwater management plan that complies with the requirements of s. NR 504.09(1)(a) to (f) and (h) to (j), unless the borrow source is subject of other permits with equivalent authority and requirements, such as a stormwater discharge permit or non-metallic mining reclamation permit?		x			Dane County requests a condition of approval requiring this to be addressed with the Plan of Operation.
(10) RECLAMATION OR BORROW SITES.					
(a) Does the report include reclamation plans for borrow sources on the landfill property that include the following: — post-mining land use that is integrated with the existing and proposed drainage — surface water discharge requirements → grades and final use of the landfill Is the reclamation plan consistent with NR 135.06 to 135.12?		x		Sec. 12.1	Dane County requests a condition of approval requiring this to be addressed with the Plan of Operation.
(b) For soil borrow areas not on landfill property, is the reclamation plan consistent with NR 135? If required, has a reclamation plan been submitted and a nonmetallic mining reclamation permit been received from the appropriate regulatory authority?		x		Sec. 12.1	See (10)(a) above.
(11) OTHER REQUIREMENTS.					
(a) If the proposed clay borrow source(s) contains less than a five foot, but greater than 2 foot uniform clay thickness, does the report contain a construction methodology and documentation procedure to ensure the liner meets the soil index property requirements of s. NR 504.06(2)(a)?		x		Sec. 12.1	Dane County requests a condition of approval requiring this to be addressed with the Plan of Operation.
(b) Does the report include a description of measures to be taken to comply with wetlands protection requirements, runoff and sediment controls and surface water discharge permit requirements and to minimize effects on areas of special natural resource interest and historical or archaeological areas within and adjacent to the proposed limits of excavation?		x		Sec. 12.1	Dane County requests a condition of approval requiring this to be addressed with the Plan of Operation.
NR 504.08 MINIMUM DESIGN AND CONSTRUCTION CRITERIA FOR LANDFILL GAS EXTRACTION SYSTEMS.					
(1) GENERAL.					
If the landfill has the potential to generate landfill gas, is the landfill designed to prevent the migration of explosive gases generated by the waste?	x			Sec. 7.2.5, 8.7	NR 504.08 incorporated by reference
(2) ACTIVE GAS EXTRACTION AND TREATMENT. Does landfill design include an active gas recovery system which includes the following features:					

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) Vertical gas extraction wells with a maximum 150 foot radius of influence per well with lesser radii of influence on wells near the perimeter Note: The radii of influence of adjacent wells shall overlap. Alternate well spacings may be proposed if site specific data is obtained through performance of pump tests.	x			Sec. 7.2.5, 8.7	Design of gas management system will be included in the POO
(b) Vertical gas extraction wells extending to 10 feet above the leachate collection system, and installed in 36 inch diameter boreholes Note: An exemption may be proposed to allow for placement of gas extraction wells closer to the leachate collection system.	x			Sec. 7.2.5, 8.7	Design of gas management system will be included in the POO
(c) The pipe in the boreholes are a minimum 6 inch diameter, Schedule 80 PVC or an approved equal	x			Sec. 7.2.5, 8.7	Design of gas management system will be included in the POO
(d) The lower 2/3 to 3/4 of the pipe in the borehole is slotted or perforated pipe	x			Sec. 7.2.5, 8.7	Design of the gas management system will be included in the POO. NR 504.08 incorporated by reference.
(e) Backfill around slotted pipe is one inch to 1 ½ inch washed stone and the top 10 feet of the borehole is sealed	x			Sec. 7.2.5, 8.7	
(f) Each gas extraction well has a flow control valve and sampling port	x			Sec. 7.2.5, 8.7	
(g) The header system is looped to allow alternate flow paths for the gas	x			Sec. 7.2.5, 8.7	
(h) A minimum slope of 2% for header pipes over the waste	x			Sec. 7.2.5, 8.7	
(i) Polyethylene is used for the header and lateral pipes	x			Sec. 7.2.5, 8.7	
(j) The blower, header and laterals are sized such that a minimum vacuum of 10 inches of water column is available at the well furthest from the blower	x			Sec. 7.2.5, 8.7	
(k) A drip leg or equivalent is installed immediately before the blower while preserving suction at the wells under maximum operating vacuum	x			Sec. 7.2.5, 8.7	
(l) All condensate and gas transfer piping outside waste limits are encased in 2 feet of clay, double-cased pipe or another approved secondary containment If the piping is not encased is the proposed system designed with multiple drip legs within the landfill where the bulk of the condensate has been removed?	x			Sec. 7.2.5, 8.7	
(m) The system has the ability to collect and treat all condensate, measure volumes and collect samples	x			Sec. 7.2.5, 8.7	
(n) A flare designed to meet the requirements of ch. NR 445	x			Sec. 7.2.5, 8.7	
(3) GAS MONITORING WELLS.					
x Does the design provide at least one gas monitoring well on each side of the landfill? x Will the wells be constructed per NR 507.11?	x			Sec. 7.2.5, 8.7; Plan Sheet 2	Gas probes approved as part of Eastern Expansion; no additional probes proposed.
(4) PASSIVE GAS EXTRACTION SYSTEMS. If the landfill accepts only industrial waste with the potential to generate gas and which does not use an active gas extraction system, is a passive gas venting system proposed which includes the following:					

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<ul style="list-style-type: none"> <input type="checkbox"/> A design that allows gas venting from the entire landfill surface? <input type="checkbox"/> An analysis to determine vent trench spacing for an effective system and to ensure compliance with ch. NR 445 limits for hazardous air contaminants <input type="checkbox"/> A continuous 1 foot layer of granular soil placed under the capping layer with a minimum hydraulic conductivity of 1×10^{-3} cm/sec Note: This layer may be part of the support layer required in s. NR 504.07(3). <input type="checkbox"/> A series of flexible, perforated pipes connected to a series of outlets 			x		
NR 504.09 STORM WATER MANAGEMENT AND MISCELLANEOUS DESIGN AND CONSTRUCTION CRITERIA FOR LANDFILLS.					
(1) STORM WATER MANAGEMENT.					
(a) Are drainage ditches, structures and sedimentation basins proposed to be constructed during the initial stages of site construction to control runoff and limit entrained sediment from reaching surface water bodies?	x			Sec. 8.8	Existing sedimentation basins will be used. NR 504.09 incorporated by reference.
(b) Are the following concepts incorporated in the design of the temporary and permanent erosion and sediment control measures: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scheduling of grading and construction to minimize soil exposure <input checked="" type="checkbox"/> Retention of existing vegetation whenever feasible <input checked="" type="checkbox"/> Seeding and mulching of disturbed areas <input checked="" type="checkbox"/> Diversion of runoff away from disturbed and active fill areas <input checked="" type="checkbox"/> Minimization of runoff velocities <input checked="" type="checkbox"/> Designing drainageways and outlets to handle concentrated and increased flows <input checked="" type="checkbox"/> Trapping of sediment on-site <input checked="" type="checkbox"/> Inspection and maintenance of runoff control structures Note: The applicant should submit a copy of the facility's storm water pollution prevention plan (SWPPP) with the plan of operation. The SWPPP may address the items listed above, in addition to storm water or surface water monitoring for the facility.	x			Sec. 8.8	NR 504.09 incorporated by reference. Design of the storm water management system will be included in the POO, along with the NR 216 Storm Water Pollution Prevention Plan that will address temporary and permanent erosion and sediment control measures for operation and construction events.
(c) Are the calculations required in pars. (d), (e) and (f) performed for the period in the landfill's development where the surface conditions and contributing acreage would result in the greatest runoff volume?		x		Sec. 8.8	Design of the storm water management system will be included in the POO.
(d) Are all temporary and permanent storm water control structures designed to accommodate peak flow rates from a 25 year, time of concentration storm event?	x			Sec. 8.8	Design of the storm water management system will be included in the POO. Features will be designed to meet this standard.

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DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(e) Are the storm water management features designed to accommodate the following: <input checked="" type="checkbox"/> Temporary and permanent sediment controls are designed to settle the 0.015mm particle size for all storms up to and including the 25 year, 6 hour event? <input checked="" type="checkbox"/> The sedimentation basin surface area is based upon the average rainfall intensity over the 25 year, 6 hour event? <input checked="" type="checkbox"/> The principal spillway and outlet protection for the sedimentation basin is designed to pass a 25 year, time of concentration storm event? <input checked="" type="checkbox"/> The emergency spillway for the sedimentation basin is designed to pass a 100 year, time of concentration event? <input checked="" type="checkbox"/> The sedimentation basin dewatering structure is designed to drain the basin in less than 3 days <input checked="" type="checkbox"/> A design analysis documenting compliance with the above is included	x			Sec. 8.8	Design of the storm water management system will be included in the POO. Features will be designed to meet this standard.
(f) Is storm water diverted from active fill and borrow areas to sediment control structures?	x			Sec. 8.8	
(g) Are the containment berms around active fill areas designed to comply with the following: <input checked="" type="checkbox"/> Control and collect runoff from a 25 year-24 hour storm event <input checked="" type="checkbox"/> Containment analysis is based upon the volume of liquid generated from areas with exposed waste and areas with daily cover <input checked="" type="checkbox"/> Storm water in contact with active fill areas will be treated as leachate	x			Sec. 8.8	Design of the storm water management system will be included in the POO. Features will be designed to meet this standard.
(h) Are storm water drainage ditches, structures and sedimentation basins designed to discharge along the existing drainage patterns capable of accepting anticipated flow volume?	x			Sec. 8.8	Design of the storm water management system will be included in the POO. Features will be designed to meet this standard.
(i) Has an analysis been performed to determine the amount and velocity of runoff prior to landfill development and to document compliance with above requirement?	x			Sec. 8.8	be designed to meet this standard. The Eastern Expansion included an
(j) Does storm water diversion and construction at the landfill minimize impacts on adjacent property?	x			Sec. 8.8	analysis on the amount and velocity of runoff prior to development.
(j) Do storm water management features comply with other applicable requirements such as those of, but not limited to, ch. NR 103 and ch. 30, Stats., permits? Note: The design should also comply with NR 151 storm water requirements.			x		
(2) MISCELLANEOUS.					
(a) Is a method of controlling any dust or windblown debris included in the design?	x			Sec. 7.4, 10.2, 13.2.6	
(b) Is access restricted through fencing, natural barriers or other methods?				Sec. 4.6, 10.1	
(c) Are all access roads, including those in the active area, designed for all weather operation?				Sec. 4.6	Existing roads are all weather.
(d) Are all access roads used by highway vehicles designed with less than 10% grade?	x			Plan Sheet 2	

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Is the intersection of the landfill access road with an existing highway designed with sufficient sight distance and minimize traffic interference?	x			Sec. 4.6, 10.1	Existing site access will be used.
(e) intentionally left blank					
(f) Is a minimum 100 foot separation distance between the fill limits and the adjacent property line, and a minimum 50 foot distance from landfill excavation or berm and the adjacent property line maintained (excluding storm waste diversion structures)?	x			Plan Sheet 2, 15, 16,17	
(g) Is the landfill designed such that final waste grades are reached as soon as possible and open refuse filling area is minimized?	x			Sec. 10.2	
(h) Are the final slopes designed to be no less than 5% and no greater than 4H:1V, except for papermill sludge sites which may have a max.6H:1V final slope for papermill and wastewater treatment sludge landfills?	x			Sec. 8.3.5; Plan Sheet 17	
(i) Are a minimum of 2 leachate headwells proposed per major horizontal phase?	x			Sec. 8.3.4; Plan Sheet 16	Headwells as approved with Eastern Expansion
(j) Is a weight scale supplied (if proposed as a municipal solid waste landfill)?	x			Sec. 4.6, 10.1	
(k) Is the landfill designed with properly protected, permanent horizontal and vertical control benchmarks, and are the elevations tied to USGS datum and horizontal control referenced to property boundary?	x			Plan Sheet 2	
NR 504.095 DESIGN CRITERIA FOR LANDFILLS THAT RECIRCULATE LEACHATE.					
(1) GENERAL. Leachate recirculation systems shall be designed to meet the following requirements:					
(a) Is the MSW landfill designed with a composite liner and leachate collection system meeting the requirements of NR 504.06? If no, leachate recirculation may not be approved.	x			Sec. 8.3	Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(b) Is the leachate recirculation limited to areas of the landfill where the leachate collection drainage blanket has a hydraulic conductivity of 1cm/sec or greater? Note: The department may approve leachate recirculation in existing cells with lower permeability leachate collection blankets, provided that the operator can demonstrate that the maximum leachate head on the liner can be maintained at less than 12 inches and that the recorded leachate head has not exceeded 12 inches in the past.	x			Sec. 8.3.4	Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(c) Is the leachate recirculation limited to areas of the landfill which are connected to the active gas extraction systems where the system is capable of collecting the additional gas expected? Note: Active gas extraction shall commence in those areas no later than the initiation of leachate recirculation.	x			Sec. 8.3.4	Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(d) Is the leachate recirculation distribution system more than 100 lateral feet from the exterior sideslope final grades?	x			Sec. 8.3.4	Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(e) Will there be a minimum depth of 20 feet of waste maintained between the landfill base and the lowest point of leachate distribution?	x			Sec. 8.3.4	Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?	LOCATION	COMMENTS
	Y	N	NA
(f) Do the operating controls and instructions for leachate recirculation address the following: x All weather and seasons of operation x Cessation of leachate recirculation upon discovery of seeps, excessive pressures within the waste mass, saturated conditions within the waste mass, inadequate shear strength of the waste mass or other conditions indicative of instability?	x		Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(2) SURFACE APPLICATION.			
(a) Is the leachate distribution system designed so no leachate is introduced into the waste in a manner that causes ponding or surface runoff of leachate (No open surface trenches or ponds)?	x		Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(b) Is the leachate distribution system designed to minimize evaporation of the leachate and volatilization of compounds in leachate?	x		Leachate recirculation was approved for the Eastern Expansion. A leachate recirculation plan will be included in the Plan of Operation.
(3) VERTICAL DISTRIBUTION SYSTEMS.			
(a) Are the wells designed for leachate recirculation and gas extraction?		x	
(b) Is the well spacing based on the leachate flow rates, pumping characteristics, permeability of the waste mass, and ability of the waste to accept liquid without being pressurized?		x	
(c) Are the leachate distribution wells designed with a surface seal to control odors and landfill gas?		x	
(d) Are the pumping pressures and pumping intervals for the wells designed to prevent surface emergence of leachate?		x	
(e) Is the leachate distribution system designed to achieve a uniform distribution of leachate throughout the zone of influence of the wells?		x	
(f) Are the leachate distribution wells designed to also extract landfill gas?		x	
(4) HORIZONTAL DISTRIBUTION SYSTEMS.			
(a) Is the leachate distribution piping designed to distribute leachate consistently along its length?		x	
(b) Is the distribution system designed with a permeable bedding material capable of rapidly dissipating recirculated leachate into the waste mass?		x	
(c) Is the distribution system designed with bedding material capable of maintaining its structure and characteristics during the expected operation life of the system?		x	
(d) Is the distribution system designed to operate with specific distribution periods with landfill gas extracted in the interval between those distribution periods and to minimize uncontrolled landfill gas emissions?		x	
(e) Are the pumping pressures and pumping intervals for the wells designed to prevent surface emergence of leachate?		x	

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 504.10 ALTERNATIVE DESIGN CRITERIA FOR LANDFILLS ACCEPTING HIGH VOLUME INDUSTRIAL WASTES.					
This section applies only to landfills designed primarily for high volume industrial waste, wood residue and minor amounts of other waste as approved by the Department. This section applies to all new landfills and to the expansion of existing landfills for which the plan of operation was approved after February 1, 1988.					
(1) GENERAL.					
(a) Has the landfill been designed to either meet the requirements of NR 504.05 to 504.09 or has an alternative design been proposed which meets the following provisions?			x		
(b) Note: If the applicant does not completed construction of the first major phase of the landfill within 2 years from the date of the plan of operation approval, the applicant shall reapply for approval to construct. The department may require additional conditions or approval and require redesign of the landfill in accordance with state-of-the-art design criteria.			x		
(c) Does municipal waste which is generated by the process, such as manufacturing process packaging not exceed 10% by weight? Note: If yes, then the landfill may not be subject of the design requirements of s. NR 504.05(1). Household and plant waste not generated as a direct result of the manufacturing process such as office and cafeteria waste, may not be disposed of in a landfill which does not meet the requirements of s. NR 504.05(1).			x		
(2) DESIGN CAPACITY.					
Does the design capacity meet NR 504.05(3)?			x		
(3) DESIGN CRITERIA.					
Does the feasibility study demonstrate that the alternative design adequately protects the public health, welfare and the environment, and the design meets or exceeds the NR 504.04 location and performance standards? If no, then an alternative design may not be approved. Is the alternative design supported with the following types of information:			x		
(a) Landfill characteristics including regional and specific information on land use, geology, hydrology, hydrogeology and soils			x		
(b) Waste characteristics such as quantity and physical/chemical analysis of waste and leachate			x		
(c) Analysis of any design to control geologic/hydrogeologic conditions			x		
(d) Field demonstration data			x		
(e) Design and performance data for similarly designed and constructed landfills			x		
(f) Accepted scientific or engineering analysis or field studies, field plots, research, manufacturer's data or demonstrations			x		

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

DESIGN & CONSTRUCTION CRITERIA REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 504.11 MINIMUM DESIGN AND CONSTRUCTION CRITERIA FOR LANDFILLS ACCEPTING RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE.					
(1) APPLICABILITY. This section applies to landfills designed for residue produced by the burning of municipal solid waste as approved by the department. This section applies to all new and existing landfills.					
(2) LANDFILL DESIGN CRITERIA FOR RESIDUE PRODUCED BY BURNING MUNICIPAL SOLID WASTE.					
(a) If the landfill has proposed to accept municipal solid waste combustor residue that tests below the NR 502.13(6)(g) limits, is it a composite lined monofill cell which follows the following criteria:			x		
___ Does the composite liner consist of a minimum 60 mil geomembrane overlying a minimum 4 foot thick compacted clay liner meeting NR 504.06 specifications?			x		
___ Is the monocell designed to separately sample and collect leachate from residue areas?			x		
___ If an alternate design is proposed, such as a double liner, does the design provide equivalent protection?			x		
(b) If the landfill is proposed to accept municipal solid waste combustor residue that tests above the limits in NR 502.13(6)(g), does the landfill design include a double composite lined monofill cell which meets the following criteria:			x		
___ Is there a double composite liner with 2 separate composite liners each with a minimum 60 mil geomembrane liner overlying a minimum 4 foot compacted clay liner meeting NR 504.06 specifications?			x		
___ Is the composite liner separated by a minimum one foot (detection) layer of granular material?			x		
___ Are separate leachate collection systems designed above and between the composite liners and is separate leachate sampling and collection from the detection layer possible?			x		
(c) Note: All landfills which accept municipal solid waste combustor residue shall be approved by the department in accordance with s. NR 514.07 (5) prior to accepting each specific residue waste stream.			x		

Legal Note: This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

Feasibility Report Completeness Checklist

Chapter NR 512, Wis. Adm. Code



Revised September 2020

Waste & Materials Management
P.O. Box 7921
Madison, WI 53707-7921

Instructions: This checklist is intended for use by department staff for the review of landfill feasibility reports to determine completeness. This checklist is intended to be used in conjunction with the Design and Construction Criteria Completeness Checklist, Chapter NR 504, Wis. Adm. Code. Applicants may complete this checklist and submit it with a landfill feasibility report to facilitate department review. Please refer to applicable statutes and codes for exact requirements.

General Information

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

Facility Type: Municipal Solid Waste

Proposed Waste Types: Nonhazardous commercial solid waste, residential solid waste, construction and demolition waste, industrial solid waste and special waste

Proposed Total Design Capacity: 990,300 (including daily and intermediate covers)

Initial Submittal: Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)

Addendum # ____ Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)

Addendum # ____ Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)

Addendum # ____ Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)

Addendum # ____ Date Received: ____/____/____ Completeness Due: ____/____/____ DNR Response: ____/____/____ (Complete: yes no)

Has the assigned DNR hydrogeologist started to fill out a **Feasibility Internal Procedures** form for this project? Y N

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 500.05 GENERAL SUBMITTAL REQUIREMENTS.					
(1) Has the adequate review fee specified in s. 520.04 been submitted?	X				Submitted separately by Dane County
(2) Has a cover letter detailing the desired action been submitted?	X			Front of submittal	
(3) Have 5 copies (2 Regions, 3 Central Office) been submitted to the department?	X				
(4) Are the report and plan sheets submitted under the seals and certifications of a P.E. and P.G.?	X			Page vii and Title Sheet	
(5) Technical Procedures:					
Were all test procedures specified in the report?	X			Throughout report and appendices	
Were all technical procedures used to investigate the facility current standard procedures?	X			Throughout report and appendices	
Were explanations and reasons given for deviations from the current standard procedures?	X			Throughout report and appendices	
(6) Do all maps, plan sheets, drawings, isometrics, cross-sections, figures, photographs and tables meet the following requirements?					
(a) No larger than 24 inches x 36 inches & no smaller than 8 ½ inches x 11 inches.	X			Report Figures & Plan Sheets	
(b) Appropriate scale to show required detail.	X			Report Figures & Plan Sheets	
(c) Do visuals meet the following requirements?					
<input checked="" type="checkbox"/> numbered <input checked="" type="checkbox"/> legends for all symbols				Report Figures & Plan Sheets	
<input checked="" type="checkbox"/> referenced in the narrative <input checked="" type="checkbox"/> horizontal & vertical scales					
<input checked="" type="checkbox"/> titled <input checked="" type="checkbox"/> drafting and origination dates					
(d) Were uniform scales used?	X			Report Figures & Plan Sheets	
(e) Were north arrows shown?	X			Report Figures & Plan Sheets	
(f) Was a USGS datum used as basis for all elevations?	X			Report Figures & Plan Sheets	
(g) Do visuals contain a survey grid based upon monuments established in the field and which is referenced to the state plane coordinates?	X			Section 9.4; throughout Plan Sheets	State Plane Coordinates on Plan Sheet 2
(h) Is the original topography and a grid system shown on the plan sheets that show construction, operation and closure topography?	X			Throughout Plan Sheets	
(i) Do cross-sections meet the following requirements?					
<input checked="" type="checkbox"/> Show survey grid locations,				Plan Sheets 5-14	
<input checked="" type="checkbox"/> Reference major plan sheets,					
<input checked="" type="checkbox"/> Include a reduced diagram of plan view showing cross-section location.					
(7) Was a table of contents provided listing all sections of the submittal?	X			Pages i - vi	

Dane County Landfill Site No. 2 Eastern Vertical Expansion

Facility Name: _____

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(8) Was an appendix provided listing the following? <input checked="" type="checkbox"/> names of all references <input checked="" type="checkbox"/> all raw data, <input checked="" type="checkbox"/> testing and sampling procedures <input checked="" type="checkbox"/> calculations	x			Appendices A-R	
NR 504.04(3) LOCATIONAL CRITERIA. Does the report indicate that the proposed limits of filling are within:					
(a) 1,000 feet of any navigable lake, pond or flowage not including landfill drainage or sedimentation control structures? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> If yes, was an exemption requested?	x			Sec. 1.3.4, 1.4.2, 7.1.1, 13.1.5.1; Figure 1-1	Two ponds (Pond A and B); exemptions were previously granted
(b) 300 feet of any navigable river or stream? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input checked="" type="checkbox"/> If yes, was an exemption requested?	x			Sec. 7.1.2, 13.1.5.1 Figure 1-1 and Plan Sheet 2	
(c) A 100-year flood plain? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input checked="" type="checkbox"/> If yes, was an exemption requested?	x			Sec. 7.1.3, 13.1.5.1 Figure 2-1	
(d) 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or any public park or state natural area? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> If yes, was a line of site study provided showing that the landfill would not be visible from the road, park or natural area through the use of screening and/or, <input checked="" type="checkbox"/> was an exemption requested? Note: If waste may be visible for periods of time even with the use of screening, then an exemption should be requested.	x			Sec. 1.3.5, 1.4.2, 7.1.4, 13.1.5.1; Plan Sheet 2, Appendix J	
(e) 10,000 of the end of an airport runway designed or planned to be designed and used by turbojet aircraft or within 5,000 feet of any airport runway designed for and used by piston type aircraft? <input checked="" type="checkbox"/> yes <input checked="" type="checkbox"/> no <input checked="" type="checkbox"/> Is FAA notification required? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Note: If the proposed limits of waste filling would be within 5 miles (for expansions of an existing MSW landfill) or within 6 miles (for new MSW landfills) of the end of the runway of any airport used by turbojet or piston type aircraft, the applicant must provide notice to both the Federal Aviation Administration (FAA) and the affected airport. The report should contain all correspondence related to the notices including any determinations made by the FAA. (Ref. 49 U.S.C. § 44718(d), See FAA Advisory Circular AC 150/5200-34A, dated 1/26/2006)	x			Sec. 1.2, 1.3.2, 7.1.5, 13.1.3, 13.1.5.1; Appendix B Dane County has submitted a Notice of Construction to FAA and FAA determined the aeronautical study revealed that the proposed vertical expansion does not exceed obstruction standards and would not be a hazard to air navigation.	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(f) 1,200 feet of any water supply well (i.e. public, private, irrigation or stock water supply wells)? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> If yes, was an exemption requested? If yes, have the following been provided for each identified well? <input checked="" type="checkbox"/> well location <input type="checkbox"/> former and present well owner <input checked="" type="checkbox"/> well driller <input checked="" type="checkbox"/> well construction log <input checked="" type="checkbox"/> Has an NR 812 well variance application been submitted? (Note: This is not a feasibility completeness item; however, an NR 812 variance application must be received by the department before an NR 504.04 exemption may be granted.)	x			Sec 1.3.3, 1.4.2, 5.4, 7.1.6, 7.5.4, 13.1.5.1; Appendix E	
Note: Exemptions may not be granted if the above information is not provided.					
(g) 200 feet of a fault that has had displacement in Holocene time? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	x			Sec. 7.1.7, 13.1.5.1	
(h) Seismic impact zones? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	x			Sec. 7.1.7, 13.1.5.1	
(i) Unstable areas? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> If yes, was an exemption requested?	x			Sec. 7.1.7, 13.1.5.1	
NR 504.04(4) PERFORMANCE STANDARDS. Does the report indicate that the proposed landfill or any proposed noncommercial soil borrow source(s) will have:					
(a) A significant adverse impact on wetlands? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Note: If a significant adverse impact would occur to wetlands (e.g. filling or excavation) then a wetland permit would be required under s. 281.36, Stats. A wetland permit would supersede the NR 103 water quality standards for wetlands. The wetland permit application requires a practicable alternatives analysis, a wetland functional values analysis and a public comment period specific to the wetland permit application. Wetland mitigation may also be required. <input type="checkbox"/> Has a wetland permit been submitted with the feasibility report or has a wetland application been submitted to the department? <input type="checkbox"/> Has a wetland delineation and functional values report been submitted with the feasibility report?	x			Sec. 7.2.1, 13.1.5.2; Appendix B	The Eastern Vertical Expansion is located entirely within the limits of the previously permitted Eastern Expansion and will therefore not impact wetlands.

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) A take of an endangered or threatened species in accordance with s. 29.604, Stats? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	x			Sec. 4.5, 7.2.2, 13.1.5.2, 13.3.2, 13.4.2; Appendix B	
(c) A detrimental effect on any surface water? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Note: Exemptions are <u>not</u> granted.	x			Sec. 7.2.3, 13.1.5.2, 13.2.4; Appendix B	
(d) A detrimental effect on groundwater quality or will cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application as defined in ch. NR 140? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input checked="" type="checkbox"/> Has an exemption been requested to the groundwater standards in accordance with ss. NR 507.29 and NR 140.28, Wis. Adm. Code? If an exemption is required, does the feasibility report include: <input type="checkbox"/> A list of the specific wells and parameters for which an exemption is being requested. <input type="checkbox"/> A discussion of how the criteria listed in s. NR 140.28(2), (3) and (4) are met.	x			Sec. 7.2.4, 13.1.5.2, 13.2.3; Appendix B	
(e) The migration and concentration of explosive gases in excess of 25% of the lower explosive limit for such gases at any time? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	x			Sec. 7.2.5, 8.7, 11.4, 13.1.5.2, 13.2.3; Appendix B	
(f) The emission of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR 445.04 or 445.05? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	x			Sec. 7.2.5, 8.7, 11.5, 13.1.5.2, 13.2.6; Appendix B	
NR 512.04 INITIAL SITE REPORT.					
Has the department rendered an initial site report opinion? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Date: 6/10/2020	x			Appendix B	
Has an optional pre-feasibility report been submitted? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Date:			x		
NR 512.05 GENERAL SUBMITTAL REQUIREMENTS.					
Does the report address all of the department's review comments on the initial site report or any applicable pre-feasibility report?	x			Sec. 1.3	
Does the report contain justification for requests for any exemptions to the locational and performance standards listed in s. NR 504.04?	x			Sec. 1.4	
For an alternative design to s. NR 504.05 – 504.09 requirements, does the report include an analysis to predict whether the facility will meet or exceed performance standards of s. NR 504.04(4)(d) regarding groundwater quality?			x		Approved alternative design concepts were approved as part of the Eastern Expansion permitting. No additional alternative design concepts for the vertical expansion.
NR 512.06 PROCEDURAL REQUIREMENTS.					

Dane County Landfill Site No. 2 Eastern Vertical Expansion

Facility Name: _____

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(1) Local approvals: Does the report contain the following:					
<input checked="" type="checkbox"/> Documentation that each affected municipality (towns, villages, cities, and counties) has been notified and that application has been made for applicable local approvals, at least 120 days prior to submittal. Note: Act 241, effective June 18, 1998 changes the definition of affected municipalities. The new law defines affected municipality as a town, city, village or county within <u>1,500</u> feet of the facility.	x			Sec. 2.1; Appendix N	
<input checked="" type="checkbox"/> A copy of all requests for the specification of applicable local approvals.	x			Sec. 2.1; Appendix N	
<input checked="" type="checkbox"/> Responses from all affected municipalities regarding any applicable local approvals.	x			Sec. 2.1; Appendix N	
<input checked="" type="checkbox"/> The standard municipal notice required by the waste facility siting board.	x			Sec 2.1; Appendix N	
<input checked="" type="checkbox"/> Follow up applications for any applicable local approvals submitted to the clerk of the governing board of each participating municipality per s. 289.23(2), Stats.	x			Sec. 2.1; Appendix N	
(2) Documentation of and when copies of the ISR, the ISR opinion, any applicable pre-feasibility report, and the feasibility report have been submitted to each participating municipality under s. 289.33(6)(b), Stats.	x			Sec. 2.2, Appendix N; Distribution List	The ISR was submitted to municipalities with the FR. Acknowledgment of receipt will be forwarded to WDNR.
NR 512.07 GENERAL FACILITY INFORMATION. Does the report include all of the following:					
<input checked="" type="checkbox"/> Project title	x			Sec. 3.0	
<input checked="" type="checkbox"/> Name, address and phone number of primary contacts, including the landfill's owner, operator and any consultants	x			Sec. 3.0	
<input checked="" type="checkbox"/> Present property owner	x			Sec. 3.0	
<input checked="" type="checkbox"/> Proposed owner and operator	x			Sec. 3.0	
<input checked="" type="checkbox"/> Proposed landfill location by $\frac{1}{4}$ - $\frac{1}{4}$ section	x			Sec. 3.0	
<input checked="" type="checkbox"/> Total acreage of property	x			Sec. 3.0	
<input checked="" type="checkbox"/> Total acreage of proposed fill area	x			Sec. 3.0	
<input checked="" type="checkbox"/> Proposed design capacity	x			Sec. 3.0	
<input checked="" type="checkbox"/> Proposed site life in years	x			Sec. 3.0	
<input checked="" type="checkbox"/> Anticipated date of closure	x			Sec. 3.0	
<input checked="" type="checkbox"/> Municipalities and industries to be served	x			Sec. 3.0	
<input checked="" type="checkbox"/> Anticipated waste types and characteristics	x			Sec. 3.0	
<input checked="" type="checkbox"/> Anticipated volumes of each major waste stream and any seasonal fluctuations taking into account waste reduction, reuse, recycling, composting and the recovery of energy from solid waste	x			Sec. 3.0, 6.1 Table 6-1	
<input checked="" type="checkbox"/> Anticipated cover frequency	x			Sec. 3.0	

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<input checked="" type="checkbox"/> Mode of operation	x			Sec. 3.0	
<input checked="" type="checkbox"/> Anticipated sub-base, base and final grades	x			Sec. 3.0, 8.3.2, 8.3	3, 8.3.5; Plan Sheets 15, 16, 17
<input checked="" type="checkbox"/> Preliminary design concepts	x			Sec. 8.0	
NR 512.08 LAND USE INFORMATION. Does the report include a thorough discussion of any changes in land uses or zoning within one mile of the proposed limits of filling since the submittal of the ISR?					
<input checked="" type="checkbox"/> Does the report include a discussion of any changes in the identification of adjacent landowners discussed? Note: this information may be presented on a plat map if it accurately shows current land ownership conditions.	x			Sec. 4.2, Figure 4-1	Table 4-1
<input checked="" type="checkbox"/> Are any changes in zoning discussed?	x			Sec. 4.3; Figure 4-2	
<input checked="" type="checkbox"/> Are any changes in present land uses discussed with emphasis on known recreational, historical, archaeological or state/local natural areas, county forest lands, and critical habitat?	x			Sec. 4.4; Figure 4-3	
<input checked="" type="checkbox"/> Are any changes in existing and/or proposed transportation routes and access roads, including any new weight restrictions, discussed?	x			Sec. 4.6, 10.1, 13.2.5; Plan Sheet 2	
<input checked="" type="checkbox"/> Does the report include any information or bird study requested by the Department or the FAA. Note: This applies only if the owner proposes to accept putrescible waste and the limits of filling are within 5 miles (for expansions) or 6 miles (for new landfills) of the end of an airport runway. [Ref. s. NR 504.04(3)(e) and 49 U.S.C. § 44718(d), See FAA Advisory Circular 150/5200-34A, dated 1/26/2006]	x			Sec. 1.3.2	
NR 512.085 ALTERNATIVE GEOTECHNICAL INVESTIGATION PROGRAM.					
Has the applicant proposed an alternative geotechnical investigation program that includes the following:					
<input checked="" type="checkbox"/> Detailed description of the proposed alternative program					
<input checked="" type="checkbox"/> Detailed explanation of the rationale for the proposed differences to NR 512.09 or 512.10	x			Sec. 5.1; Appendix C	
<input checked="" type="checkbox"/> Anticipated benefits of the proposed alternative program					
<input checked="" type="checkbox"/> Is a copy of the accepted program included in the feasibility report?					
Note: The applicant may propose an alternative geotechnical investigation program prior to initiating the geotechnical investigations required for a feasibility report. The program may not be implemented prior to receipt of written review by the department. The formal approval of the accepted alternative geotechnical program is made in the department's feasibility determination.					
NR 512.09 SITE-SPECIFIC GEOTECHNICAL INFORMATION.					

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Has an alternate geotechnical investigation program been approved by the department in writing? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> If yes, does the report include justification for the approved alternative geotechnical investigation program?	x			Appendix B	
(1) BORINGS. Have borings been made both inside and outside the proposed limits of filling?					
(a) Have the required number of borings been completed in or within 300 feet of the proposed limits of filling? <input type="checkbox"/> 10 borings for the first 5 or less acres of proposed fill area <input type="checkbox"/> 2 additional borings for each additional 5 or less acres of proposed fill area <input type="checkbox"/> Proposed limits of filling in acres <input type="checkbox"/> Number of borings required <input type="checkbox"/> Number of borings made within 300 feet of proposed limits of filling	x			Sec. 1.4.1, 5.1; Table 1 in Appendix C	
(b) Do all borings extend at least 25 feet below anticipated sub-base grades? Note: For borings located outside the proposed limits of filling, applicable sub-base grade is the elevation of the bottom of the proposed base liner nearest to the borehole.	x			Sec. 5.1; Appendix C; Plan Sheet 2	
(c) Has 1 boring been extended at least 5 feet into bedrock, if bedrock is within 50 feet of the lowest elevation of the proposed sub-base grades? Was bedrock drilling performed in accordance with ch. NR 141 and s. NR 507.05?		x		Sec. 5.1; Appendix C; Plan Sheet 2	Bedrock greater than 50 feet below subbase grades
(d) Were samples collected and retained and borings logs prepared in accordance with ss. NR 507.05 and 507.14? Note: The following requirements refer to NR 507.05 and 507.14.	x			Sec. 5.1; Appendix C	
<input type="checkbox"/> Fine-grained soils: Was continuous sampling to 25 feet below sub-base grades performed?		x			Coarse-grained soil environment
<input checked="" type="checkbox"/> Coarse-grained soils or following continuous sampling in fine-grained soils: Were samples collected from each major soil unit and at maximum 5 foot intervals?	x			Table 1 in Appendix C	
<input type="checkbox"/> Sample at the depth of well screen: Was a soil sample collected at the depth of the well screen of any subsequently placed monitoring well and analyzed for grain size distribution using mechanical and hydrometer methods and Atterberg limits, as appropriate for the soil type?	x			Sec. 1.4.2; Appendix C; Plan Sheets 5-14	
<input type="checkbox"/> Bedrock samples: Were continuous core samples collected?		x			

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<p><input checked="" type="checkbox"/> Soil samples: Do descriptions of each major soil sample unit include?</p> <p><input checked="" type="checkbox"/> Structure <input checked="" type="checkbox"/> Lenses</p> <p><input checked="" type="checkbox"/> Mottling <input checked="" type="checkbox"/> Geologic origin</p> <p><input checked="" type="checkbox"/> Voids <input checked="" type="checkbox"/> USCS classified</p> <p><input checked="" type="checkbox"/> Layering</p>	x			Appendix C	
<p><input type="checkbox"/> Do descriptions of continuous bedrock core samples include?</p> <p><input type="checkbox"/> General rock properties <input type="checkbox"/> Rock Quality Designation (RQD)</p> <p><input type="checkbox"/> Fracture frequency <input type="checkbox"/> Percent recovery</p>			x		
<p><input type="checkbox"/> Does the report contain a boring log for each boring that includes the following?</p> <p><input type="checkbox"/> Elevations of land surface and bottom of boring corrected to USGS (national geodetic survey) datum</p> <p><input type="checkbox"/> If converted to a well, water level at the time of drilling, date of water level measurement, and a well construction diagram on the boring log</p>	x			Appendix C	
(e) Have all borings not converted to wells been abandoned in accordance with ss. NR 507.08 and 141.25 and been documented as instructed on Department forms (3300-5B)?	x			Appendix C	
(2) GROUNDWATER MONITORING WELLS.					
<p>(a) Have the required number of water table observation wells with screens intersecting the water table been installed to adequately define the water table surface?</p> <p><input type="checkbox"/> 5 water table observation wells for the first 5 or less acres of proposed fill area</p> <p><input type="checkbox"/> 1 additional water table observation well for each additional 5 or less acres of proposed fill area</p> <p><input type="checkbox"/> Proposed limits of filling in acres</p> <p><input type="checkbox"/> Number of water table observation wells required</p> <p><input type="checkbox"/> Number of water table observation wells installed</p>	x			Sec. 1.4.1; Table 1 in Appendix C; Plan Sheet 2	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) Have the required number of piezometers been installed? <input type="checkbox"/> 1 piezometer adjacent to a water table observation well at 2 separate locations for the first 5 or less acres of proposed fill area <input type="checkbox"/> 1 additional piezometer for each additional 10 or less acres of proposed fill area to create additional well nests <input type="checkbox"/> At least 1 well nest within the proposed limits of filling for every 20 acres of proposed fill area <input type="checkbox"/> Proposed limits of filling in acres <input type="checkbox"/> Number of piezometers required <input type="checkbox"/> Number of piezometers installed	x			Sec. 1.4.1; Table 1 in Appendix C; Plan Sheet 2	
(c) If the proposed site is in a fine-grained soil environment does each well nest required above in (b) consist of 3 wells (a water table observation well, a piezometer installed at or just below the proposed subbase grades and a deeper piezometer installed at least 15 feet below the bottom of the upper piezometer's well screen?)			x		
(d) Are all wells located no more than 300 feet from the proposed limits of filling and are at least half of the wells located no more than 150 feet from the proposed limits of filling?	x			Sec. 1.4.1; Table 1 in Appendix C; Plan Sheet 2	
(e) Are all wells designed, installed, developed, documented, and sampled in accordance with ch. NR 141 and ss. NR 507.06, 507.07, 507.14 and 507.17, or have alternative methods of well design and installation been approved by the department prior to well construction?	x			Sec. 1.4.1; Table 1 in Appendix C; Plan Sheet 2	
(3) FIELD DIRECTION. Did a Professional Geologist (P.G.) or qualified technician directly supervised by a P.G. perform the following tasks?					
<input type="checkbox"/> Observe and direct drilling of all borings <input type="checkbox"/> Observe and direct installation, development and abandonment of all wells <input type="checkbox"/> Conduct all in-field hydraulic conductivity tests <input type="checkbox"/> Visually describe and classify all geologic samples	x			Sec. 5.1; Appendix C	Field investigation relied on previous investigations performed for previous site permitting. No additional field investigation was performed for the Eastern Vertical Expansion.
(4) LABORATORY AND FIELD ANALYSIS.					
(a) Have 5 grain-size analyses per major soil unit (mechanical & hydrometer) with USCS classifications and Atterberg limits where appropriate been provided? <input type="checkbox"/> Number of major soil units <input type="checkbox"/> Number of grain size analyses required		x		Sec. 5.1; Appendix C	
(b) Have lab hydraulic conductivity tests been provided for 2 undisturbed samples from each major fine-grained soil unit?		x		Sec. 5.1; Appendix C	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(d) Have in-field hydraulic conductivity test data and results been provided for each well?	x			Sec. 5.1; Table 1 in Appendix C	
(e) Does report include 6 monthly water level measurements for all wells?	x			Sec. 5.1, Table 1 in Appendix C	
(f) Does report include 6 monthly surface water level measurements for any surface water bodies including streams, lakes, ponds, drainage ditches and wetlands located within 1,000 feet of the proposed limits of filling?	x			Sec. 5.1; Table 1 in Appendix C	
(g) Baseline groundwater quality for all wells located outside the proposed limits of filling in accordance with s. NR 507.18: NOTE: If a groundwater standard is attained or exceeded in any of the 4 baseline groundwater quality sample rounds, see ss. NR 140.28 and 507.29 for exemption criteria.					
Note: The following requirements refer to s. NR 507.18. <ul style="list-style-type: none"> — 4 monthly rounds for each detection monitoring parameter listed in Appendix 1, Tables 1 and 2 of ch. NR 507, as appropriate, for the particular waste types to be accepted — 4 monthly rounds for Public Health and Welfare parameters listed in Appendix I, Table 3 of ch. NR 507 — 2 monthly rounds for VOCs, plus 2 additional sampling rounds for any wells that have VOC concentrations above their limit of detection 	x			Sec. 5.1; Appendix C	
(h) Has the department required other work such as groundwater modeling, pump tests, geophysical investigations, isopach maps or a fence diagram to assess the hydrogeologic conditions at the proposed facility?		x			
(5) SAMPLE RETENTION					
Have all soil and bedrock samples collected from the proposed property been retained in accordance with NR 507.05?	x			Sec. 5.1; Appendix C	
(6) ADDITIONAL REQUIREMENTS FOR LANDFILLS WITH EXTENDED COLLECTION LINES.					
(a) Does the landfill meet the requirements of (b) and (c) below for a facility where MSW is accepted and the leachate collection lines exceed 1,200 feet from the end of each cleanout to the toe of the opposite slope?	x				Documented with the Eastern Expansion Feasibility Report.

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) Does the report include the following:					
<input type="checkbox"/> A minimum of one boring in the area of each proposed cell drilled to physically characterize subbase conditions for landfill foundation assessment of stability and settlement	x			Sec. 5.1; Appendix C	
<input type="checkbox"/> Borings that extend a minimum of 50 feet below the proposed subbase grades or to competent bedrock, whichever is shallower.					
<input type="checkbox"/> Samples taken at each significant soil layer					
<input type="checkbox"/> A minimum of one sample from each fine grained layer and from each soft or compressible coarse grained layer subjected to geotechnical testing to define parameters used in assessment of stability and settlement of the liner					
(c) Does the report include the consolidation testing data include the data summarized in the major soil unit table required by NR 512.10(2)(d)?	x			Sec. 5.1; Appendix C	
NR 512.10 SUBSURFACE DATA ANALYSIS.					
(1) Does the subsurface investigations presented in the report include the minimum following requirements (unless an alternative geotechnical investigation plan was accepted in writing)?					
(2) SOIL AND BEDROCK DESCRIPTIONS.					
(a) Have grain size distributions, geologic origin, USCS classification been provided for each major soil unit?	x			Sec. 5.1; Appendix C; Plan Sheets 5-14	
(b) Does the report describe the lateral and vertical extent of each major soil unit including descriptions of any lenses or other heterogeneities, and if bedrock was encountered by borings, the strike and dip of any rock formations?	x			Sec. 5.1; Appendix C	
(c) Does the report describe the presence and frequency of joints, fractures, voids, solution openings, faults or other structural features?			x		
(d) Does the report include a table summarizing the following testing data by major soil unit?					
<input checked="" type="checkbox"/> Geologic origin		x	Liquid limit		
<input checked="" type="checkbox"/> Sample ID number		x	Plasticity index		
<input checked="" type="checkbox"/> Percent gravel, sand, silt and clay		x	Percent P200 content		
<input checked="" type="checkbox"/> Lab & field hydraulic conductivities					
<input checked="" type="checkbox"/> Statistical analyses for averaged values					
(3) HYDROGEOLOGIC PROPERTIES AND FUNCTIONS. Does the report discuss the following properties and functions of each saturated soil unit or rock formation?					
(a) Hydraulic conductivity	x			Sec. 5.1; Appendix C	

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) Role as a confining unit	x			Sec. 5.3	
(c) Hydraulic connections to other units	x			Sec. 5.3	
(d) Actual/potential use as a water supply unit	x			Sec. 5.3	
(e) Depth to groundwater & seasonal variations in groundwater elevations	x			Sec. 5.3	
(f) Location & extent of perched groundwater	x			Sec. 5.3	
(f) Local & regional flow directions including the locations of groundwater divides	x			Sec. 5.3	
(h) Horizontal & vertical gradients	x			Sec. 5.3.2; Table 5-2	
(4) APPENDIX. Does the Appendix include the following?					
<input checked="" type="checkbox"/> All raw data <input checked="" type="checkbox"/> Soil boring log information forms 4400-122 <input checked="" type="checkbox"/> Well information forms (4400-89) <input type="checkbox"/> Groundwater and surface water level measurements <input checked="" type="checkbox"/> Monitoring well development forms (4400-113B) <input checked="" type="checkbox"/> Baseline groundwater quality sampling <input checked="" type="checkbox"/> Monitoring well construction forms (4400-113A) <input checked="" type="checkbox"/> Soil test results <input type="checkbox"/> Well/drillhole/borehole abandonment forms 3300-5B	x			Appendix C	
NR 512.11 DATA PRESENTATION. Are the results from the subsurface investigation presented on 24" x 36" plan sheets?					
(1) EXISTING CONDITIONS PLAN SHEET. Is a detailed topographical survey of all areas within 1500 feet of the proposed limits of filling provided (minimum scale 1" = 200' with maximum 2 foot contour interval) and does it show all of the following:					
(a) 100-year floodplain area	x			Figure 7-1	
(b) Surface waters, including intermittent & ephemeral streams & wetlands	x			Figure 1-1; Plan Sheet 2	
(c) Residences, buildings, utility lines & other cultural features	x			Plan Sheet 2	
(d) Surrounding land uses (residential, commercial, agricultural & recreational)	x			Figure 4-3	
(e) Property & proposed limits of filling, including any previous fill areas	x			Plan Sheets 2, 17	
(f) Access control including fences & gates	x			Plan Sheet 2	
(g) Water supply wells including public, private, irrigation, & stock	x			Plan Sheet 2	
(h) Boring, test pit, and well locations for the proposed landfill	x			Plan Sheet 2	
(i) Other structures including storm water control systems, agricultural drain tile systems, access & internal roads, storm & sanitary sewerage systems	x			Plan Sheet 2	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(2) GEOLOGIC CROSS-SECTIONS.					
Have geologic cross-sections been constructed as follows:					
<input checked="" type="checkbox"/> Through <u>all</u> borings, both perpendicular and parallel to the proposed landfill's baseline	x			Plan Sheets 5-14	
<input checked="" type="checkbox"/> For proposed contiguous expansions, through all previous borings for the existing landfill					
<input checked="" type="checkbox"/> 1 cross-section parallel to groundwater flow					
Do the geologic cross-sections include the following:	x			Plan Sheets 5-14	
(a) Inferred/questionable lithostratigraphic boundaries shown with a dashed line or question mark	x			Plan Sheets 5-14	
(b) Numbers/symbols used to label each major soil unit with a key that describes each major soil unit including geologic description and origin, USCS classification and color	x			Plan Sheets 5-14	
(C) Boring logs show USCS classification, geologic origin, grain size analyses, Atterberg limits, and field hydraulic conductivities	x			Plan Sheets 5-14	
(d) <input checked="" type="checkbox"/> Well construction details shown to scale including well screen and filter pack length, upper and any lower seals, and stabilized water levels measured on same day	x			Plan Sheets 5-14	
<input checked="" type="checkbox"/> If two or more observation wells are presented, a line representing the water table surface drawn and date the measurements were taken specified in the key					
(3) WATER TABLE MAPS.					
<input checked="" type="checkbox"/> Are at least two water table maps (seasonal high & low) provided?	x			Plan Sheets 3 and 4	
<input checked="" type="checkbox"/> For a proposed contiguous expansion, do the water table maps include the observation wells and measured water table elevations for each observation well for the existing landfill?	x				
<input checked="" type="checkbox"/> Has a bedrock piezometric map been provided if 3 or more bedrock wells have been installed?		x			
(4) BEDROCK MAP.					
Has a bedrock contour map been provided if 3 or more borings have been drilled into bedrock?		x			
(5) FLOW NET.					
Has a flow net , parallel to the direction of groundwater flow to show distribution of recharge & discharge been provided?	x			Plan Sheet 12	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 512.12 WASTE AND LEACHATE CHARACTERIZATION.					
(1) INDUSTRIAL WASTES. Have the physical & chemical characteristics of any high volume industrial waste anticipated to individually constitute more than 5% of the total proposed design capacity and leachates been analyzed and described?			x	Sec. 6.1; Table 6-1	
(2) MUNICIPAL WASTES. Does the report include actual field leachate data from existing landfills of similar size, design and waste type or an estimate of the anticipated leachate strength and quality?	x			Sec. 6.2; Appendix D	
(3) LEACHATE GENERATION. Does the report include the estimated daily volume of leachate that will be collected for unclosed and closed areas?	x			Sec. 6.3; Appendix G	
(a) A minimum of 6 inches per year for all unclosed areas of the proposed limits of filling for landfills with a composite liner and a minimum of 4 inches per year for landfills that do not have a composite liner?	x			Sec. 6.3; Appendix G	
(b) One inch per year for all closed areas of the proposed limits of filling for landfills with a composite cap and a minimum of 3 inches per year for all closed areas that will not have a composite cap?	x			Sec. 6.3; Appendix G	
NR 512.13 CONSTRAINTS ON LANDFILL DEVELOPMENT.					
(1) LOCATIONAL CRITERIA AND PERFORMANCE STANDARDS. Does the report contain a demonstration that the proposed landfill will meet the locational and performance standards in s. NR 504.04?	x			Sec. 7.1, 7.2	
(2) GEOTECHNICAL INFORMATION. Does the report contain an analysis of the following:					
<input checked="" type="checkbox"/> geologic <input checked="" type="checkbox"/> hydrogeologic <input checked="" type="checkbox"/> topographic <input checked="" type="checkbox"/> hydrologic features of the proposed property that may be favorable or unfavorable for landfill development	x			Sec. 4.0, 5.0, 7.0	
(3) CONSTRUCTION AND OPERATION. Does the report contain a discussion of the following materials and support services required for landfill construction and operation?					
<input checked="" type="checkbox"/> Leachate treatment alternatives <input checked="" type="checkbox"/> Identification and detailed evaluation of the capability of any proposed wastewater treatment plant(s) to treat the leachate <input checked="" type="checkbox"/> Quality & quantity of liner and cap materials <input checked="" type="checkbox"/> Specialized engineering structures to support landfilling activities	x			Sec. 6.2, 7.4, 8.0	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(4) EXISTING FACILITY PERFORMANCE. For a proposed contiguous, horizontal or vertical expansion, does the report evaluate the compliance status and performance of the existing landfill?					
(a) Does the report reference the discussion on the compliance status and performance of the existing landfill contained in any applicable pre-feasibility report and include any changes since the submittal of that report?			x		
(b) Does the report contain an exemption request under s. NR 140.28 and in accordance with s. NR 507.29 if a PAL or ES has been attained or exceeded at the site?	x			Sec. 1.4.1	
NR 512.14 PROPOSED PRELIMINARY DESIGN.					
(1) PRELIMINARY DESIGN REPORT.					
(a) Does the report contain preliminary materials balance calculations for the necessary volume of clay to construct the liner and final cap of the first phase of the landfill?	x			Sec. 8.4, Sec. 12.3	
(b) Does the report discuss proposed methods for leachate and gas control? <input checked="" type="checkbox"/> Leachate collection <input checked="" type="checkbox"/> Gas collection <input checked="" type="checkbox"/> Leachate containment <input checked="" type="checkbox"/> Gas containment <input checked="" type="checkbox"/> Leachate treatment <input checked="" type="checkbox"/> Gas treatment	x			Sec. 8.3.4, 8.7	
(c) Does the report discuss the proposed operating procedures, including the general filling sequence?	x			Sec. 10.0	
(d) Does the report include a description of the proposed monitoring programs to be implemented to meet the requirements of chs. NR 140 and 507? <input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Air <input checked="" type="checkbox"/> Leachate <input checked="" type="checkbox"/> Unsaturated zone <input checked="" type="checkbox"/> Surface Water <input checked="" type="checkbox"/> Other monitoring <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Does the report contain a sampling plan for all monitoring devices in accordance with s. NR 507.16?	x			Sec. 11.0; Appendix L	
(e) <input checked="" type="checkbox"/> Does the report discuss the proposed methods for storm water control in accordance with ch. NR 216? <input checked="" type="checkbox"/> Does the report discuss visual screening?	x			Sec. 8.8, 8.9, 10.3 Appendix J	
(f) Does the report discuss the proposed final use?	x			Sec. 9.2	

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(2) PRELIMINARY ENGINEERING PLANS. (24" x 36" Plan Sheets w/max. 5-foot contours):					
(a) Does the report include an existing conditions map that shows the following?					
<input checked="" type="checkbox"/> Proposed access <input checked="" type="checkbox"/> Associated buildings					
<input checked="" type="checkbox"/> Limits of filling <input checked="" type="checkbox"/> Storm water diversions					
<input checked="" type="checkbox"/> Internal roads <input checked="" type="checkbox"/> Sedimentation basins					
<input checked="" type="checkbox"/> Load out & scale facilities <input checked="" type="checkbox"/> Phase of facility development					
<input checked="" type="checkbox"/> Sub-base & base grades <input checked="" type="checkbox"/> Slopes					
<input checked="" type="checkbox"/> Leachate collection system <input checked="" type="checkbox"/> Leachate storage tank					
<input checked="" type="checkbox"/> Lift station/sewer hook up					
(b) Does the report include geologic cross-sections plan sheet(s) that display the following information?					
<input checked="" type="checkbox"/> Present topography <input checked="" type="checkbox"/> Proposed final grades					
<input checked="" type="checkbox"/> Proposed sub-base grades <input checked="" type="checkbox"/> Liner and final cap configuration					
<input checked="" type="checkbox"/> Proposed base grades					
(c) Does the report include a plan sheet showing the proposed closure sequence and final grades?				Plan Sheet 17	
NR 512.15 IDENTIFICATION OF SOIL BORROW SOURCES.					
Note: It may be necessary to obtain federal, state and/or local permits prior to excavating soil from a borrow source near surface waters or wetlands. For example, s. 30.19(1)(c), Stats., requires a permit for grading or removing top soil from the bank of any navigable stream, lake or body of navigable water where the area exposed by such grading or removal will exceed 10,000 square feet. It is the responsibility of the applicant or property owner to request an initial site inspection in accordance with ch. NR 509 and to obtain any federal, state and/or local permits that are required.					
(1) Does the report include a copy of the department's initial site inspection evaluation letter for the proposed borrow source(s) needed to construct, operate and close the first phase of the landfill?				Appendix B	
(2) Does the report include documentation for soil borrow sources as described in NR 504.075 for the proposed soil borrow sources designated to be used in the construction, operation or closure of the first phase of the landfill? See below.				Sec. 12.0	Dane County requests a condition of approval to perform the investigation as part of the Plan of Operation.
NR 504.075 SOIL BORROW SOURCES.					
(1) GENERAL.					

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS								
	Y	N	NA										
<p>Is the soil borrow source being developed for the purpose of construction, operating or closing a landfill? If yes, this section applies. Note: Written approval from the department shall be obtained prior to initiating soil borrow activities at any borrow source subject to these requirements.</p>	x			Sec. 12.0									
(2) EXEMPTIONS. The following activities are exempt from the requirements of this section:													
<p>(a) <input type="checkbox"/> The production of processed aggregate products. <input type="checkbox"/> Excavation of soils from construction projects off of the landfill property and not being used for compacted clay liner or capping layer, soil barrier layer, leachate collection layer or final cover drain layer?</p>		x											
<p>(b) Is the soil borrow source within the proposed or approved limits of filling for a landfill? If yes, then the landfill is not subject to the requirements of subs. (3) and (4)(b).</p>		x											
(3) INITIAL SITE INSPECTION.													
Does the report include a copy of the department's initial site inspection for each proposed borrow source?	x			Sec. 12.0	Dane County requests a condition of approval to perform the investigation as part of the Plan of Operation.								
(4) LOCATIONAL INFORMATION.													
<p>(a) Does the submittal describe the following:</p> <table> <tr> <td><input type="checkbox"/> Total acreage</td> <td><input type="checkbox"/> Ownership</td> </tr> <tr> <td><input type="checkbox"/> Location (1/4-1/4 section)</td> <td><input type="checkbox"/> Present land use</td> </tr> <tr> <td><input type="checkbox"/> Transportation routes</td> <td><input type="checkbox"/> Any access restrictions</td> </tr> <tr> <td><input checked="" type="checkbox"/> Travel distance to and from landfill</td> <td></td> </tr> </table>	<input type="checkbox"/> Total acreage	<input type="checkbox"/> Ownership	<input type="checkbox"/> Location (1/4-1/4 section)	<input type="checkbox"/> Present land use	<input type="checkbox"/> Transportation routes	<input type="checkbox"/> Any access restrictions	<input checked="" type="checkbox"/> Travel distance to and from landfill		x			Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.
<input type="checkbox"/> Total acreage	<input type="checkbox"/> Ownership												
<input type="checkbox"/> Location (1/4-1/4 section)	<input type="checkbox"/> Present land use												
<input type="checkbox"/> Transportation routes	<input type="checkbox"/> Any access restrictions												
<input checked="" type="checkbox"/> Travel distance to and from landfill													
<p>(b) Does the submittal include the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface water drainage patterns <input type="checkbox"/> Significant hydrologic features (surface waters, springs, drainage divides and wetlands) <input type="checkbox"/> Areas of special natural resource interest (critical habitat or state/local natural areas) <input type="checkbox"/> Historical/archaeological areas within and adjacent to proposed limits of excavation 		x		Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.								
(5) FIELD AND LABORATORY INVESTIGATIONS FOR CLAY BORROW SOURCES AND SOIL BARRIER LAYER SOURCES.													

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Does the submittal for soil borrow sources include field and laboratory investigations to define the physical characteristics of any clay borrow source or soil barrier layer source designated to be used for a liner or final cover?		x		Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.
Has an alternate geotechnical investigation program been approved by the department in writing prior to the field and laboratory investigation? <input type="checkbox"/> yes <input type="checkbox"/> no If yes, does the report include a copy of and justification for any approved alternative geotechnical investigation program? Note: An alternative geotechnical investigation program may be submitted in cases where previous information exists regarding the proposed soil borrow source.			x		
(a) Have the required number of test pits or borings been completed on a uniform grid pattern across the proposed borrow source(s)? — 10 test pits/borings for the first 5 or less acres — 1 additional test pit/boring for each additional 3 or less acres — Proposed acreage of proposed borrow source(s) — Number of test pits/borings required — Number of test pits/borings made — Have logs identifying geologic origin, testing results, USCS classification, and visual description of each major soil unit encountered also been included?		x		Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.
(b) Does the report include Atterberg limits and grain size analyses to 0.002 mm particle size for 2 samples from each test pit/boring?		x		Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.
(c) Does the report include the relationship of water content to dry density using either the modified or standard Proctor method (curves must be developed with a minimum of 5 points) for 1 sample from each major soil unit and no fewer than 3 samples for uniform clay deposits?		x		Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.
(d) Does the report include laboratory hydraulic conductivity test results for each sample used to develop the Proctor curves?		x		Sec. 12.0	
(6) STOCKPILING.					
Does the report include discussion of segregating stockpiled soils by USCS soil type, soil gradation, Atterberg limits and compaction specifications? Note: Stockpiling of soils obtained from clay borrow sources and soil barrier layer sources for landfill liner or final cover construction shall be conducted in an organized manner that minimizes mixing of dissimilar soil types. Soils from differing sources may not be commingled unless soil properties are similar.	x			Sec. 12.0	
(7) DATA PRESENTATION FOR ALL CLAY BORROW SOURCES AND SOIL BARRIER LAYER SOURCES. Does the submittal for soil borrow sources for clay and soil barrier layers include the following?					
(a) Calculated volume of soil needed and the volume of acceptable soil available	x			Sec. 8.4, 12.0	Confirmation of amount of clay/soil barrier layer requested to be performed as part of Plan of Operation.

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) Property boundaries and test pit/boring locations on a topographic map (scale: 1" = 500') that extends a minimum of 500 feet beyond the proposed borrow source		x		Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.
(c) Isopach map showing thickness of acceptable soil		x		Sec. 12.0	
(d) Description of methods for separating acceptable soil from unacceptable soil	x			Sec. 12.0	
(e) Proposal for maintaining drainage and sedimentation control		x		Sec. 12.0	
(f) All data from the testing program		x		Sec. 12.0	
(8) DATA PRESENTATION FOR OTHER BORROW SOURCES. Does the submittal for soil borrow sources other than those used for clay and soil barrier layers include the following?					
(a) Property boundaries shown on a topographic map (scale: 1" = 500') that extends a minimum of 500 feet beyond the proposed borrow source			x		
(b) Proposal for drainage and sedimentation control			x		
(9) STORMWATER MANAGEMENT.					
Does the submittal for a soil borrow source include a stormwater management plan that complies with the requirements of s. NR 504.09(1)(a) to (f) and (h) to (j), unless the borrow source is subject to other permits with equivalent authority and requirements, such as a stormwater discharge permit or non-metallic mining reclamation permit?		x		Sec. 12.0	Dane County requests a condition of approval to provide this information as part of the Plan of Operation.
(10) RECLAMATION OR BORROW SITES.					
(a) Does the report include reclamation plans for borrow sources on the landfill property that include the following: ____ post-mining land use that is integrated with the existing and proposed drainage ____ surface water discharge requirements ____ grades and final use of the landfill Is the reclamation plan consistent with NR 135.06 to 135.12?		x		Sec. 12.0	Dane County requests a condition of approval to provide this information as part of the Plan of Operation.
(b) For soil borrow areas not on landfill property, is the reclamation plan consistent with NR 135? If required, has a reclamation plan been submitted and a nonmetallic mining reclamation permit been received from the appropriate regulatory authority?			x	Sec. 12.0	Dane County requests a condition of approval to provide this information as part of the Plan of Operation.
(11) OTHER REQUIREMENTS.					
(a) If the proposed clay borrow source(s) contains less than a five foot, but greater than 2 foot uniform clay thickness, does the report contain a construction methodology and documentation procedure to ensure the liner meets the soil index property requirements of s. NR 504.06(2)(a)?			x	Sec. 12.0	Dane County requests a condition of approval to perform the ISI and borrow investigation as part of the Plan of Operation.

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) Does the report include a description of measures to be taken to comply with wetlands protection requirements, runoff and sediment controls and surface water discharge permit requirements and to minimize effects on areas of special natural resource interest and historical or archaeological areas within and adjacent to the proposed limits of excavation?		x		Sec. 12.0	Dane County requests a condition of approval to address this information as part of the Plan of Operation.
NR 512.16 ENVIRONMENTAL REVIEW. To aid the department in complying with ch. NR 150, Wis. Adm. Code, the report must include an environmental analysis (EA) section. Does the EA section include the following: Note: Information provided in previous sections of the ISR, any applicable pre-feasibility report, or the feasibility report may be referenced to satisfy this section's requirements.					
(1) PROJECT SUMMARY. Does the EA section contain a Project Summary that includes the following:					
<input checked="" type="checkbox"/> Brief overview of the project <input checked="" type="checkbox"/> Listing of statutory authority <input checked="" type="checkbox"/> Relevant local, state and federal permits or approvals required <input checked="" type="checkbox"/> Need for exemptions, zoning changes & other special permits or approvals	x			Sec. 13.1	
(2) PROPOSED PHYSICAL CHANGES. Does the EA section contain a brief description of the proposed physical changes that includes all of the following:					
(a) Changes in terrestrial resources to include a discussion of the following: <input checked="" type="checkbox"/> Quantity of soil to be excavated and the lateral extent of soil removal <input checked="" type="checkbox"/> Quantity and source of soils designated to be used in the construction, operation or closure of the landfill <input checked="" type="checkbox"/> Description of all earthen modifications (such as clearing & grubbing, excavation, soil placement needed to reach the proposed sub-base grades, construction of access roads, stockpiles and storm water controls).	x			Sec. 8.4, 13.2.1	
(b) Changes in aquatic resources including: <input checked="" type="checkbox"/> Potential impacts to streams, wetlands, ponds, lakes & flowages <input checked="" type="checkbox"/> Discharge rates and volumes under existing conditions as well as that anticipated during active operations and following closure for: <input checked="" type="checkbox"/> Groundwater control structures <input checked="" type="checkbox"/> Leachate collection systems <input checked="" type="checkbox"/> Storm water control structures <input checked="" type="checkbox"/> Information or reports on how the proposed landfill and soil borrow sources for the first phase of the proposed landfill comply with s. 30.19 Stats., and ch. NR 103.	x			Sec. 1.3.4, 7.2, 8.3.1, 8.3.4, 8.8, 13.2.3, 13.2.4	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(c) Discussion of buildings, treatment units, roads and other structures (such as sedimentation basins and fences) to be constructed including: ____ size of the facilities (i.e., structures) ____ miles of road to be constructed:	x			Sec. 13.2.5	
(d) Emissions and discharges (such as dust, engine exhaust, odors, noise, gases, leachate, storm water and collected groundwater) associated with the following: <input checked="" type="checkbox"/> Landfill preparation <input checked="" type="checkbox"/> Closure <input checked="" type="checkbox"/> Construction <input checked="" type="checkbox"/> Post-closure <input checked="" type="checkbox"/> Operation	x			Sec. 13.2.6	
(e) Other changes anticipated with landfill development	x			Sec. 13.2.7	
(f) Maps, plans and other descriptive material to clarify the discussion such as but not limited to the following: <input checked="" type="checkbox"/> County map <input checked="" type="checkbox"/> Proposed service area map <input checked="" type="checkbox"/> USGS map <input checked="" type="checkbox"/> Plat map <input checked="" type="checkbox"/> Zoning map <input checked="" type="checkbox"/> County wetlands map <input checked="" type="checkbox"/> Soils map <input checked="" type="checkbox"/> Landfill development plan	x			Sec. 13.2.8	
(3) EXISTING ENVIRONMENT. Does the EA section contain a brief description of the existing environment that may be affected that includes the following:					
(a) A description of the existing physical environment including: <input checked="" type="checkbox"/> Regional & local topography <input checked="" type="checkbox"/> Geology <input checked="" type="checkbox"/> Surface waters & drainage features <input checked="" type="checkbox"/> Hydrogeologic conditions <input checked="" type="checkbox"/> Air quality <input checked="" type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Designated soil borrow sources	x			Sec. 13.3	
(b) A description of the following: <input checked="" type="checkbox"/> dominant aquatic and terrestrial plant and animal species and habitats found in the area including: <input checked="" type="checkbox"/> Any threatened/endangered species <input checked="" type="checkbox"/> Amount, type & hydraulic value of wetlands	x			Sec. 4.5, 7.2.1, 8.8.2, 13.2.1, 13.2.2, 13.2.4	
(c) Land use including dominant features and zoning in the area	x			Sec. 13.3.3	
(d) Social and economic conditions including any ethnic or cultural groups	x			Sec. 13.3.4	

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(e) Other special resources such as: <input checked="" type="checkbox"/> Archaeological <input checked="" type="checkbox"/> Historical <input checked="" type="checkbox"/> State/local natural areas <input checked="" type="checkbox"/> Prime agricultural lands	X			Sec. 13.3.5, 13.4.5	
(4) ENVIRONMENTAL CONSEQUENCES. Does the EA section contain a brief discussion of the probable adverse and beneficial impacts including primary, indirect and secondary impacts that includes the following:					
(a) Physical impacts associated with landfill design, construction and operation, including: <input checked="" type="checkbox"/> Air quality <input checked="" type="checkbox"/> Windblown paper <input checked="" type="checkbox"/> Dust <input checked="" type="checkbox"/> Visual impacts	X			Sec. 13.4.1	
(b) Biological impacts including: <input checked="" type="checkbox"/> Destruction and creation of habitat <input checked="" type="checkbox"/> Alteration of the physical environment <input checked="" type="checkbox"/> Impacts to endangered/threatened species	X			Sec. 13.4.2	
(c) Impacts on land use	X			Sec. 13.4.3	
(d) Social and economic impacts (such as effects on taxes, noise, traffic and roads, and consistency with local planning and zoning) to the following groups served by the landfill: <input checked="" type="checkbox"/> Local residents <input checked="" type="checkbox"/> Communities <input checked="" type="checkbox"/> Cultural groups <input checked="" type="checkbox"/> Industries	X			Sec. 13.4.4	
(e) Other special resources such as but not limited to: <input checked="" type="checkbox"/> Archaeological <input checked="" type="checkbox"/> Historical <input checked="" type="checkbox"/> State/local natural areas <input checked="" type="checkbox"/> Prime agricultural lands	X			Sec. 13.4.5	
(f) Probable adverse impacts that cannot be avoided including: <input checked="" type="checkbox"/> Groundwater and surface water impacts <input checked="" type="checkbox"/> Modifications of topography <input checked="" type="checkbox"/> Soil borrow source limitations on development around the landfill <input checked="" type="checkbox"/> Loss of agricultural or forest land <input checked="" type="checkbox"/> Displacement of wildlife [in and around the landfill] <input checked="" type="checkbox"/> Adverse aesthetic impacts for people	X			Sec. 13.4.6	
(5) ALTERNATIVES. Does the report identify, describe and discuss feasible alternatives?					

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Alternatives: <input checked="" type="checkbox"/> Taking no action <input checked="" type="checkbox"/> Enlarging, reducing or modifying the project to mitigate impacts <input checked="" type="checkbox"/> Other landfills, locations or methods to the proposed action and their impacts	X			Sec. 13.5	
Has particular attention been given to alternatives which might avoid some or all adverse environmental impacts, including planned and existing waste reduction & recycling, incineration, solid waste disposal, and transfer facilities that may serve to handle the waste expected to be disposed of at the proposed landfill, taking into account the economics of waste collection, transportation and disposal?	X			Sec. 13.5	
NR 512.17 NEED AND DESIGN CAPACITY. Note: In determining the design capacity of the proposed landfill under s. 289.29(1)(d), Stats., the department considers the effect of planned and existing waste reduction and recycling activities and other existing or proposed competing solid waste facilities, regardless of whether or not the other facilities are located within the service area, as defined under s. 289.28(1), Stats., of the proposed landfill.					
Is the proposed landfill part of a prospection or mining operation or a landfill for the disposal of waste generated by a pulp or paper mill and exempt under s. 289.28(2)? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no			X		
In addition to the information specified in s. 289.28(1), Stats. (below) does the report include the following: <input checked="" type="checkbox"/> Identification of the following activities/facilities used to manage solid wastes generated within the anticipated service area of the proposed landfill: <input checked="" type="checkbox"/> Identification of existing waste reduction/recycling activities <input checked="" type="checkbox"/> Identification of existing solid waste facilities <input checked="" type="checkbox"/> Remaining design capacity of each facility identified <input checked="" type="checkbox"/> Information for the activities/facilities, identified above, for which a significant commitment or implementation or development has been made	X			Sec. 14.0	
289.28(1), Stats. DETERMINATION OF NEED.					
(a) An approximate service area for the proposed facility which takes into account the economics of waste collection transportation and disposal.	X			Figure 14-1	
(b) The quantity of waste suitable for disposal at the proposed facility generated within the anticipated service area.	X			Sec. 14.2.1; Table 14-2	
(c) The design capacity of the following facilities located within the anticipated service area: 1. Approved facilities, including the potential for expansion of those facilities on contiguous property owned or controlled by the applicant.	X			Sec. 14.2.2	

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
2. Nonapproved facilities which are environmentally sound.	X			Sec. 14.2.2	
3. Other proposed facilities for which feasibility reports are submitted and determined to be complete by the department.	X			Sec. 14.2.2	
4. Facilities for the recycling of solid waste or for the recovery of resources from solid waste which are licensed by the department	X			Sec. 14.2.2	
5. Proposed facilities for the recycling of solid waste or for the recovery of resources from solid waste which have plans of operation which are approved by the department.	X			Sec. 14.2.2	
6. Solid waste incinerators licensed by the department.	X			Sec. 14.2.2	
7. Proposed solid waste incinerators which have plans of operation which are approved by the department.	X			Sec. 14.2.2	
(d) If the applicant is a municipality and the need for a proposed facility cannot be established under the criteria listed under (a) through (c) above, does the report demonstrate need based on the extent to which the proposed facility is needed to replace other facilities of that municipality at the time those facilities are projected to be closed in the plans of operation?			X		
289.29(1)(d), Stats. CRITERIA FOR DETERMINATION OF FEASIBILITY.					
Does the report indicate that the anticipated site life is between 10 to 15 years for a new facility or less than 15 years for an expansion? <u>X</u> yes <u> </u> no	X			Sec. 14.3	
NR 512.18 EVALUATION OF ALTERNATIVES TO LAND DISPOSAL. Does the feasibility report contain an analysis of the alternatives to land disposal of waste, including potential and existing waste reduction, reuse, recycling, composting and energy recovery initiatives and services?					
(1) ANALYSIS OF ALTERNATIVES TO LAND DISPOSAL. Does the analysis include a discussion of the trends affecting the waste stream, an estimate of the cost per ton for each alternative, when available and an evaluation of the feasibility of implementing each potential alternative?	X			Sec. 15.1	
(2) EVALUATION OF IMPLEMENTING ALTERNATIVES TO LAND DISPOSAL. Does the feasibility report evaluate the feasibility of implementing waste reduction initiatives and recycling services in connection with the proposed landfill and describe any waste reduction incentives and recycling services to be provided at the proposed landfill?	X			Sec. 15.2, 15.3	
NR 512.19 NONCOMPLIANCE WITH PLANS OR ORDERS					

Facility Name: Dane County Landfill Site No. 2 Eastern Vertical Expansion

FEASIBILITY REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Does the report include the following: <input checked="" type="checkbox"/> Identify all persons owning a 10% or greater interest in the applicant or assets of applicant <input checked="" type="checkbox"/> Identify other Wisconsin solid and hazardous waste facilities owned by applicants <input checked="" type="checkbox"/> Indicate whether all plan approvals and orders for facilities owned by applicants are being complied with	X			Sec. 2.4; Appendix O	
289.24(1)(c), Stats. COUNTY SOLID WASTE MANAGEMENT PLANS					
Does the feasibility report contain a description of how the proposed facility relates to any applicable county solid waste management plan approved under s. 289.10, Stats? Note: Applicants must address all DNR approved County plans within their proposed service area.	X			Sec. 2.5	
289.24(1)(d) ADVISORY AND PUBLIC OPINION PROCESS					
Does the feasibility report contain a description of the advisory process undertaken by the applicant prior to submittal of the feasibility report to provide information to the public and affected municipalities and to solicit public opinion on the proposed facility?	X			Sec. 2.3; Appendix N	

Legal Note: This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.