

**TECHNICAL REVIEW CHECKLIST  
FINAL COVER QUALITY CONTROL PLAN  
Municipal Solid Waste Permits Section, Waste Permits Division**

This checklist serves as a guideline for preparation of the portion of Parts III, Attachment 12 dealing with the requirements of 30 TAC Chapter 330, Sections 330.253(d)(1), 330.253(f), and 330.56 for Type I and Type IV landfill permit applications and modifications. For portions which are not applicable, mark the NA column. This checklist is intended to be used as a guide and must be used in conjunction with reading the rules.

FACILITY NAME: \_\_\_\_\_

LOCATION: \_\_\_\_\_

(County)

APPLICANT'S NAME: \_\_\_\_\_

TYPE OF FACILITY: \_\_\_\_\_

MSW PERMIT NO.: \_\_\_\_\_

(If Applicable)

DATE RECEIVED: \_\_\_\_\_

DATE ASSIGNED: \_\_\_\_\_

TECHNICAL REVIEW BY: \_\_\_\_\_

(Signature and Date)

\_\_\_\_\_

(Printed Name)

SUPERVISOR: \_\_\_\_\_

(Signature and Date)

\_\_\_\_\_

(Printed Name)

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DESCRIPTION	REGULATORY CITATION (30 TAC unless noted)	SUBMITTED		TECHNICALLY ADEQUATE		NA	LOCATION OF INFORMATION	COMMENTS
		Y	N	Y	N			
<b>Written Final Closure Plan</b>	330.253(d)							
Description of final cover design and methods and procedures to be used for installation (FCQCP)	330.253(d)(1)							
Qualifications of POR and POR's representative								
POR or his representative on site for all FC construction								
Soil infiltration layer QA/QC								
Preconstruction testing - materials (LL, PI, %-#200), compaction tests, k tests on remolded samples								
Required infiltration layer permeability established (i.e., FC k < or = $1 \times 10^{-5}$ cm/sec; FC k < or = liner k; or FC k determined from AFC equivalency demonstration)								
Other required QA/QC properties for AFC (porosity, initial water content, etc.) established								
Construction addressed (soil hydration; clod size reduction; maximum rock size; lift scarification; lift thickness; compaction equipment; tie-in of adjacent sections; and protection of infiltration layer from deterioration)								
QA testing during construction								
k tests (1/acre, evenly distributed through lifts)	330.253(f)							
Grain size, LL, PI (1/100,000 ft <sup>2</sup> /lift)								
Field density/porosity (1/8,000 ft <sup>2</sup> /lift)								
Thickness verification by instrumentation survey (1/10,000 ft <sup>2</sup> )								
GCL infiltration layer QA/QC								

DESCRIPTION	REGULATORY CITATION (30 TAC unless noted)	SUBMITTED		TECHNICALLY ADEQUATE		NA	LOCATION OF INFORMATION	COMMENTS
		Y	N	Y	N			
GCL type and orientation specified consistent with SDP, closure plan, and AFC design  GCL properties provided (bentonite free swell and fluid loss; bentonite content; GCL permeability; continuous inspection of needle-punched GCL for broken needles using metal detectors)								
GCL handling and storage addressed (structurally sound cores; weatherproof wrapping; store off ground and cover at site; stack no higher than recommended by manufacturer; handle with appropriate construction equipment to prevent damage)								
GCL installation addressed (subgrade smooth-rolled, drained, and containing no particle greater 3/8 inch; avoid rutting of subgrade or dragging GCL panels; no folds or excessive slack in deployed GCL; lapping procedures; no vehicle traffic on deployed GCL; no smoking or damaging shoes on GCL; deployed GCL not used as work or storage area; no horizontal seams on sideslopes; no premature hydration; avoid placement in high winds; proper repairing)								
GCL QA/QC testing addressed								
Supplier - free swell and fluid loss (bentonite); mass/unit area and grab tensile strength (geotextile); tensile properties, thickness, and mass/unit area (geomembrane)								
GCL manufacturer (clay mass/unit area, moisture content, grab tensile strength, and permeability)								
Conformance (clay mass/unit area, permeability, direct shear)								
Geomembrane QA/QC								

DESCRIPTION	REGULATORY CITATION (30 TAC unless noted)	SUBMITTED		TECHNICALLY ADEQUATE		NA	LOCATION OF INFORMATION	COMMENTS
		Y	N	Y	N			
Geomembrane properties provided (virgin raw materials only; 2%-3% carbon black; no pinholes, surface blemishes, etc.; manufacturer's testing in accordance with GRI GM13)  Conformance testing addressed (thickness, density, carbon black content, carbon black dispersion, tensile properties)								
Storage addressed (rolls protected from soft or wet ground; stacked no more than 5 rolls high)								
Installation addressed (subgrade smooth-rolled and free of desiccation, rutting, erosion, and stones greater than 3/8 inch; no placement in inclement weather; no vehicle traffic, smoking, or damaging shoes on deployed geomembrane; no foreign matter in seams; no horizontal seams on sideslopes; no seaming above 104° F or below 32° F; no folds, large wrinkles, or fishmouths in seams)								
Seam testing addressed								
Trial seams (peel and shear tests; passing criteria specified)								
Continuous non-destructive tests (air pressure or vacuum box; passing criteria specified)								
Destructive tests every 500 ft of seam (peel and shear; passing criteria [min. strength/FTB] specified)								
Bounding of failed tests addressed								
Repairs addressed								
Erosion and soil drainage layers QA/QC								
Soil material type and testing specified								

DESCRIPTION	REGULATORY CITATION (30 TAC unless noted)	SUBMITTED		TECHNICALLY ADEQUATE		NA	LOCATION OF INFORMATION	COMMENTS
		Y	N	Y	N			
Placement of soil over geosynthetics addressed (dozers with 5 psi contact pressure or less in lift at least 12 inches thick)								
Thickness of soil erosion/drainage layers verified by survey								
Synthetic materials - materials and testing addressed								