SKYLINE LANDFILL
CITY OF FERRIS
DALLAS AND ELLIS COUNTIES, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 42D

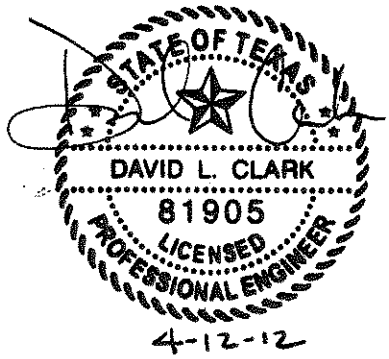
PERMIT AMENDMENT APPLICATION

PART III – FACILITY INVESTIGATION AND DESIGN
ATTACHMENT H
CLOSURE PLAN

Prepared for

Waste Management of Texas, Inc.

April 2012



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TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS
FIRM REGISTRATION NO. 50222

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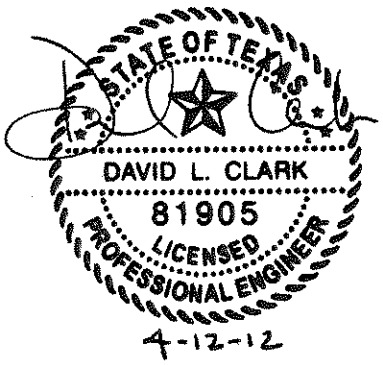


1 INTRODUCTION

30 TAC §330.63(h) and §330.457

Consistent with 30 TAC §330.63(h), this facility closure plan provides the information required by §330.63(h) and §330.457. In accordance with 30 TAC §330.457(f)(1), a copy of the closure plan will be placed in the site operating record. The closure plan includes drawings that depict the final constructed contour plan of the entire landfill including surface water entering and exiting the landfill and the location of the 100-year floodplain. The closure plan also includes the procedures to be taken for ongoing closure of the facility and following final acceptance of waste. The final cover system, final cover construction details, closure procedures, and a closure schedule are also included.

2 FINAL COVER SYSTEM

30 TAC §330.457

2.1 Final Cover System Design

The final cover system will consist of an intermediate cover layer, an infiltration layer, a drainage layer, and an erosion layer. The infiltration layer will consist of a minimum of 18 inches of compacted soil with a coefficient of permeability less than or equal to 1×10^{-7} cm/sec. The drainage layer will consist of a double-sided geocomposite. The erosion control layer will consist of a minimum of 36 inches of soil with the top 6 inches capable of sustaining native plant growth. The final cover will be vegetated following the application of the final cover in order to minimize erosion. Final cover system details are shown in Appendix H2 – Final Cover System Details.

The vegetation will be native and introduced grasses. Temporary cold weather vegetation will be established if required. Irrigation will be employed as needed until vegetation is established. Erosion control measures such as silt fences and straw bales will be used to minimize erosion until the vegetation is established. Areas that experience erosion or do not readily vegetate will be repaired and reseeded or sodded until vegetation is established, or the soil will be amended or replaced with soil that will support the grasses.

2.2 Installation Methods and Procedures

The final cover system will be constructed in accordance with the project construction drawings and specifications and the Final Cover Quality Control Plan (FCQCP) presented in Part III, Attachment D8. Testing and evaluation of the final cover system during construction will be in accordance with 30 TAC §330.457 and Attachment D8 – FCQCP.

3 CLOSURE PROCEDURES

30 TAC §330.457

3.1 Closure Sequence

The Skyline Landfill will conduct ongoing closure of the landfill throughout the active life of the landfill. The procedure allows for successive closure of fill areas by placement of final cover, construction of drainage and erosion control features, and establishment of vegetative cover. This procedure will be followed until all sectors have been closed. All areas, regardless of the time of closure, will be closed in accordance with the applicable regulations and the closure plan, and a Final Cover Evaluation Report (FCER) will be submitted documenting closure activities.

3.2 Closure During Active Life

As described above, the final cover will be constructed as fill areas achieve the design contours. Should closure of the landfill become necessary at any time during the active life of the landfill, the following steps shall be taken:

- The final waste received will be placed and properly compacted.
- Excavations will be filled with suitable material, and the site will be graded to promote runoff and prevent ponding.
- The top of the landfill will be regraded and reshaped as needed to provide the proper slope for positive drainage.
- The final cover system will be constructed consistent with the details included in Appendix H2 – Final Cover System Details.
- During the first growing season following application of final cover, the site will be vegetated with appropriate grasses to minimize erosion.
- A surface water management system will be constructed to minimize erosion.
- A closure certification will be prepared by a registered professional engineer and submitted to the TCEQ for approval.
- All proper notices and documentations will be filed with the appropriate agencies and governmental bodies.

3.2.1 Estimate of Largest Area Requiring Final Cover

The largest area requiring final cover extending through the active life of the landfill is the existing filled area consisting of approximately 134.4 acres that will require final cover construction. Final cover has been installed over 20.1 acres. The largest area requiring closure for the purposes of determining final closure construction cost is addressed in Part III, Attachment J – Cost Estimates for Closure and Postclosure Care.

3.2.2 Estimate of Maximum Inventory of Waste On Site

The estimate of maximum inventory of waste and operational cover on site over the active life of the facility is approximately 80.6 million cubic yards, which is the total volume available through this permit application and existing waste currently in place. Refer to Part III, Attachment D4 – Site Life for site life calculations.

4 CLOSURE SCHEDULE

30 TAC §330.457, §330.461

4.1 Final Cover Construction

During the active life of the landfill, final cover will be placed in phases as areas reach the design top of waste grades. Generally, the final cover will be placed in phases of 10 to 30 acres. Final cover placement over completed portions of the site will consist of the following steps:

- Survey controls will be implemented to control the filling of solid waste to the bottom level of the daily/intermediate cover layer elevation.
- The final cover system layers will be constructed. Testing of the various components of the final cover system will be performed in accordance with Attachment D8.
- A final cover certification report and an as-built survey will be prepared by an independent registered professional engineer and submitted to the TCEQ for approval.
- The TCEQ-approved final cover certification report will be maintained in the site operating record and the final cover log will be updated to reflect the area where final cover has been placed. The TCEQ region office will also be notified.

4.2 Final Closure Activities

Once the facility has received its final waste, the facility will be closed consistent with 30 TAC §330.457. The final closure activities will be accomplished as outlined below.

- No later than 90 days prior to initiation of final facility closure, a public notice of facility closure that contains the name, address, and physical location of the facility, the permit number, and the last date of intended receipt of waste will be placed in the newspaper of the largest circulation in the vicinity of the facility. Waste Management of Texas, Inc. (WMTX) will also make available an adequate number of copies of the approved final closure and postclosure plan for public access and review.
- No later than 45 days prior to initiation of final closure activities for a landfill unit, WMTX will provide written notification to the executive director of the TCEQ of the intent to close and place this notice in the operating record.

- Following notification of the executive director of the TCEQ of final facility closure, a minimum of one sign will be posted at the main entrance and all other frequently used points of access notifying all persons utilizing the facility of the closure date or date on which further receipt of waste is prohibited. In addition, barriers or gates will be installed at all access points following the closure date to adequately prevent unauthorized dumping of solid waste at the closed facility.

- Final closure activities will commence within 30 days after known final receipt of wastes, except as provided in Section 4.3.

- Final cover installation will, in accordance with the approved closure plan, be completed within 180 days after the final receipt of waste.

- Final closure activities will be completed within 180 days of initiation of final closure activities, except as provided in Section 4.3. Following completion of final closure activities, a documented certification signed by an independent licensed professional engineer will be submitted by registered mail to the TCEQ for review and approval. This certification will verify that final closure has been completed in accordance with the closure plan and will include all applicable documentation necessary for certification of final closure. Once approved, this certification will be placed in the operating record.

- Within 10 days after completion of final closure activities of all landfill units at the facility, a certified copy of an Affidavit to the Public (see Figure H1.2) will be submitted by registered mail to the TCEQ in accordance with §330.19 and a copy placed in the operating record. In addition, a certified notation will be recorded on the deed to the facility or similar instruments that will in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and the use of the land is restricted according to the provisions specified in the Postclosure Care Plan. Within 10 days after completion of final closure activities of the facility, a certified copy of the modified deed will be submitted to the TCEQ and a copy placed in the operating record.

These steps in the closure process are depicted on Figure H1.1. Following receipt of the required final closure documents and an inspection report from the TCEQ region office verifying proper closure of the MSWLF facility, according to the approved closure plan, the executive director may acknowledge the termination of operation and closure of the facility and deem it properly closed. Postclosure care maintenance will begin immediately upon the date of final closure as approved by the TCEQ.

4.3 Provisions for Extending Closure Period

If the Skyline Landfill has remaining capacity in a landfill unit at the time of its closure, final closure activities will begin no later than one year after the most recent receipt of wastes. Any request for an extension beyond the one year deadline for the initiation of final closure will be submitted to the executive director for review and approval and will include all applicable documentation to demonstrate that the unit or site has the capacity to receive

additional waste and that WMTX has taken and will continue to take all steps necessary to prevent threats to human health and the environment.

If necessary, a request for an extension of the completion of final closure activities will be submitted to the executive director for approval. This request will include all applicable documentation necessary to demonstrate that final closure will, of necessity, take longer than 180 days and all steps have been taken and will continue to be taken to prevent threats to human health and the environment.

5 CLOSURE COST ESTIMATE

30 TAC §330.503(a)

The estimated cost of hiring a third party to close the largest area of the landfill requiring final closure at any time during the active life of the unit is provided in the detailed cost estimate included in Part III, Attachment J.

SKYLINE LANDFILL

APPENDIX H1
FIGURES

H1.1 Final Closure Schedule
H1.2 Affidavit to the Public

Figure H1.1
Final Closure Schedule

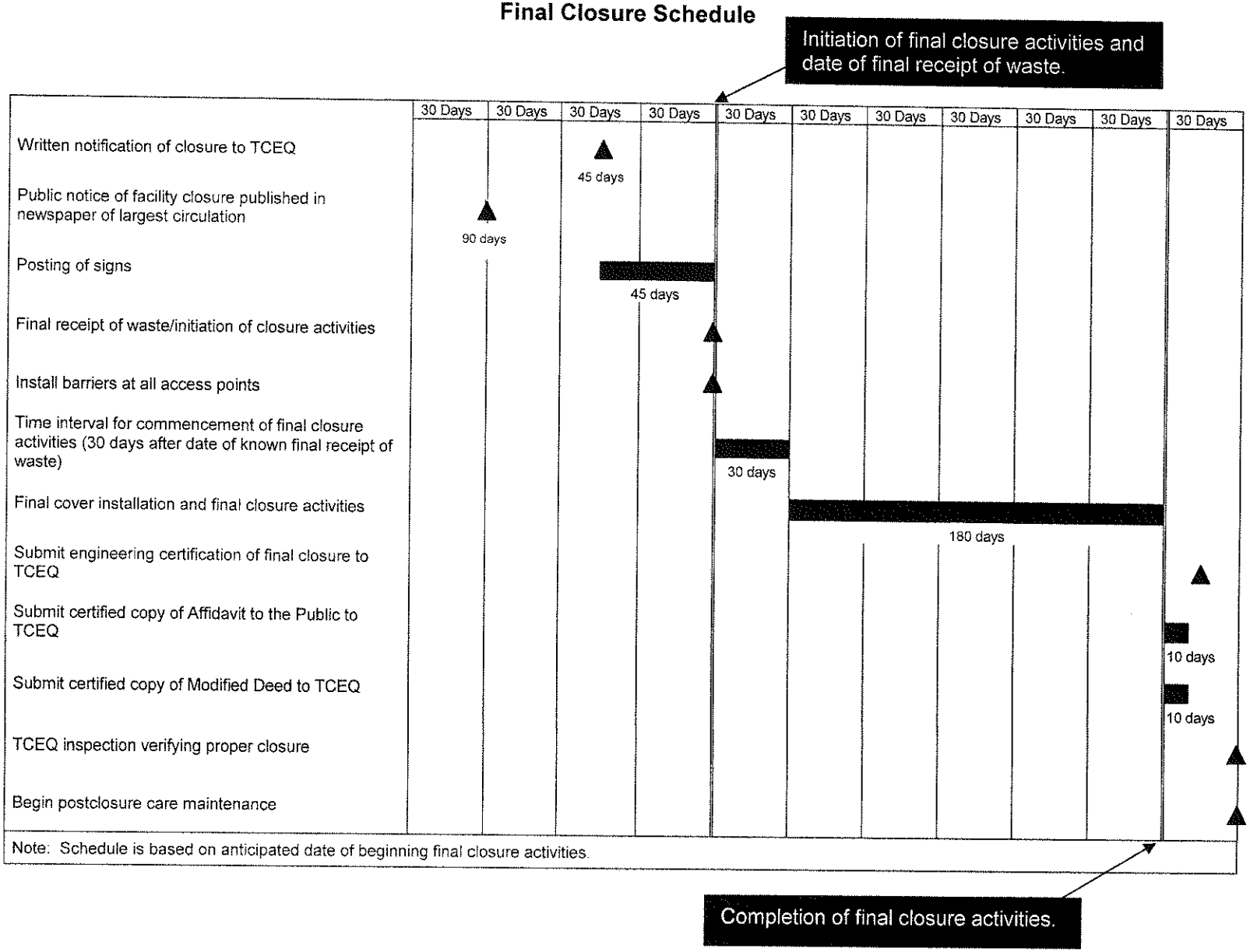


Figure H1.2
AFFIDAVIT TO THE PUBLIC

STATE OF TEXAS

COUNTY OF _____

Before me, the undersigned authority, on this day personally appeared _____, who, after being by me duly sworn, upon oath states that he is the record owner of that certain tract or parcel of land lying and being situated in _____, Texas and being more particularly described as follows:

-insert legal description here-

NOTICE

The undersigned further states that from the year _____ to the year _____ there was operated on the aforesaid tract of land a Solid Waste Disposal Site. Specifically, such operation was conducted on that portion of the aforesaid tract described above.

Notice is hereby given that any future owner or user of the land described in the above legal description should consult with the Texas Commission on Environmental Quality prior to planning or initiating any activity involving disturbance of cover.

Further, the undersigned _____ was the operator of such solid waste disposal site.

WITNESS MY/OUR HAND(S) on this _____ day of _____, 20__.

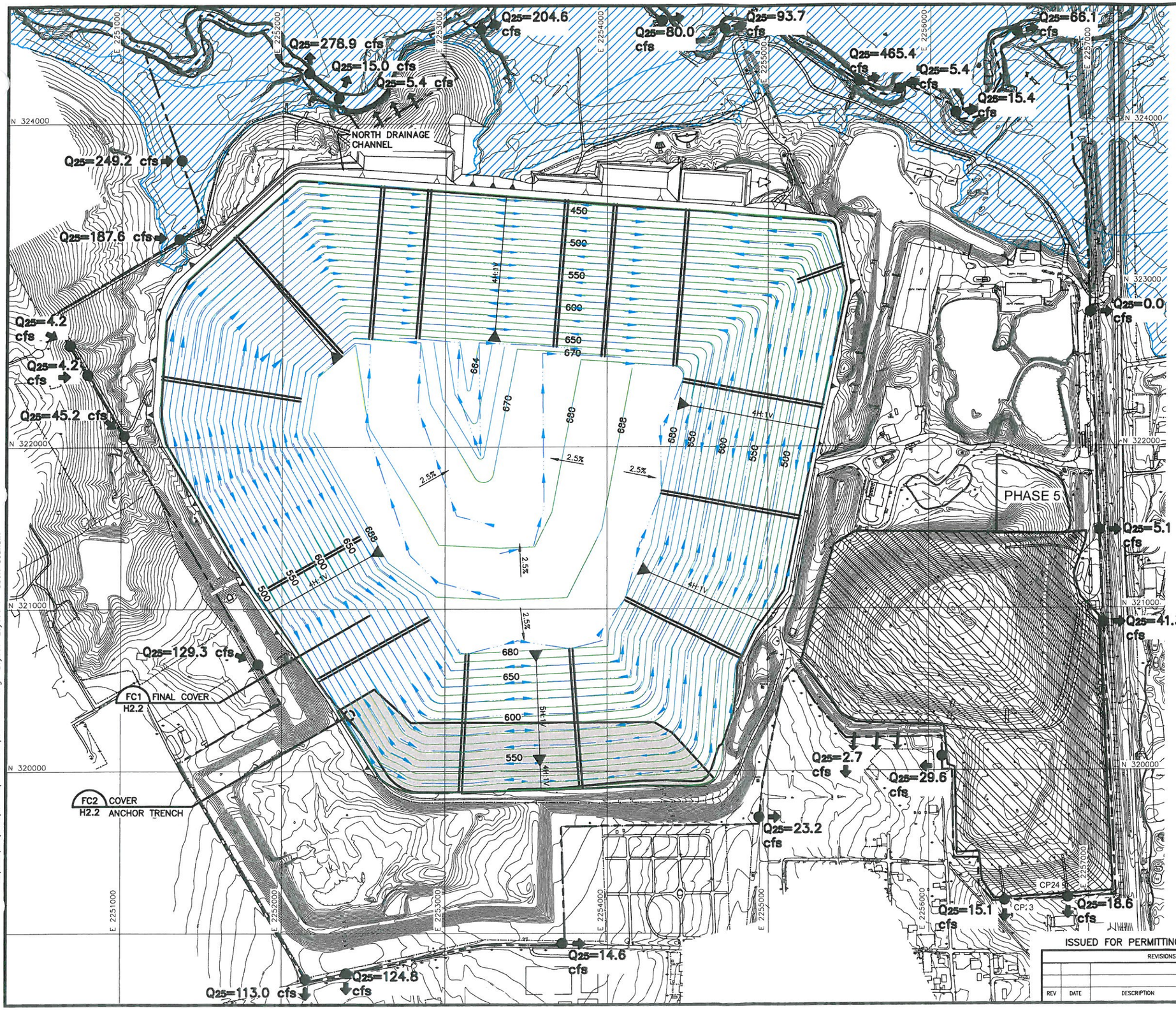
_____
Owner

_____
Operator

SWORN TO AND SUBSCRIBED before me on this _____ day of _____, 20__.

SKYLINE LANDFILL

APPENDIX H2
FINAL COVER SYSTEM DETAILS



0 300 600
SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- LANDFILL FOOTPRINT
- 500 EXISTING CONTOUR
- N 323000 STATE PLANE GRID (NAD 27)
- 650 PROPOSED FINAL CONTOUR
- PROPOSED DRAINAGE SWALE
- AREA WITH SUBTITLE D FINAL COVER
- PRE-SUBTITLE D AREA WITH FINAL COVER
- 100-YEAR FLOODPLAIN
- SHEET FLOW
- Q25=22.6 cfs 25 YEAR PEAK FLOW RATE

NOTES:

1. EXISTING CONTOURS COMPILED BY AEROMETRIC FROM AERIAL SURVEY FLOWN MARCH 6, 2011. COORDINATE SYSTEM IS BASED ON TEXAS STATE PLANE NAD 27, TEXAS NORTH CENTRAL.
2. PROPOSED CONTOURS DEPICT TOP OF FINAL COVER.
3. MAXIMUM FINAL COVER ELEVATION: 688 FT-MSL
   MAXIMUM WASTE FILL ELEVATION: 683.5 FT-MSL.

STATE OF TEXAS
DAVID L. CLARK
81905
REGISTERED PROFESSIONAL ENGINEER
4-12-12

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

LANDFILL COMPLETION PLAN

WASTE MANAGEMENT OF TEXAS, INC.
SKYLINE LANDFILL
MAJOR PERMIT AMENDMENT

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

TBPE FIRM NO. F-256 | TBPG FIRM NO. 50222

DSN.	SAB	DATE : 04/12	DRAWING H2.1
DWN.	SRC	SCALE : GRAPHIC	
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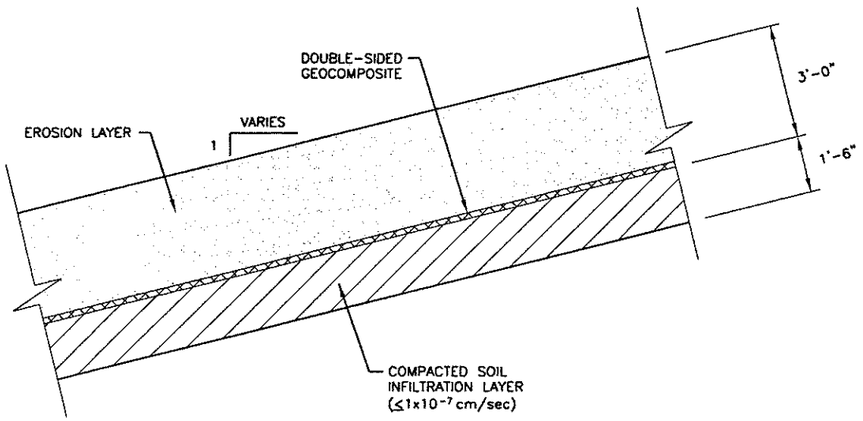

FINAL COVER FC1 H2.2

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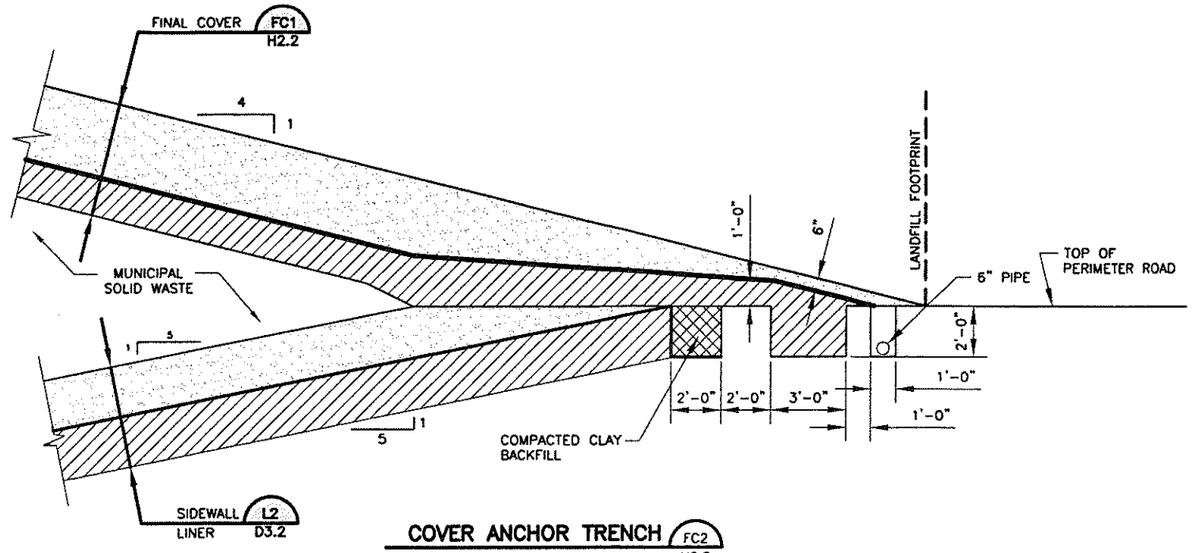

COVER ANCHOR TRENCH FC2 H2.2

0 3 6
SCALE IN FEET

STATE OF TEXAS
DAVID L. CLARK
81905
REGISTERED
PROFESSIONAL ENGINEER
4-12-12

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REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

FINAL COVER DETAILS

WASTE MANAGEMENT OF TEXAS, INC.
SKYLINE LANDFILL
MAJOR PERMIT AMENDMENT

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

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