



Appendix H
Design Capacity Calculations

Purpose:

To determine the design capacity for the proposed Eastern Vertical Expansion, including the combined volume of waste, daily cover and intermediate cover.

Methodology:

The top of waste grades from the 2020 Plan of Operation Modification by TRC and the proposed top of waste grades of the proposed Eastern Vertical Expansion were created as surfaces using AutoCAD Civil 3D. The two surfaces were compared using AutoCAD Civil 3D to determine a volume between the surfaces. This volume is the design capacity of the proposed Eastern Vertical Expansion.

Calculation:

Volume Total:	990,293	CY
Rounded Total:	990,300	CY

Results:

The proposed Eastern Vertical Expansion design capacity is approximately 990,300 cubic yards. See calculation sheets 2 and 3 for AutoCAD Civil 3D output information.

Surface Report

Client: Dane County

Project Name: I:\25220091.00\Drawings\Civil\DCLF - TW Opt1-Capped (1060).dwg

Project Description: Vertical Expansion Waste Volume

Report Date: 2/25/2021 7:37:55 AM

Prepared by: KP

Linear Units: USSurveyFoot	Area Units: squareFoot	Volume Units: cubicYard
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Surface: Vol - Waste (1060)

Description: Vertical expansion airspace volume with peak waste grade set at 1060 (Final cover peak at 1065).

Area 2D: 928274.522

Area 3D: 949572.945

Elevation Max: 76.798

Elevation Min: -0.143

Number of Points: 18137

Number of Triangles: 35099

Volume Surface: Vol - Waste (1060)

Description: Vertical expansion airspace volume with peak waste grade set at 1060 (Final cover peak at 1065).

Volume Cut: 0.284

Volume Fill: 990293.575

Volume Total: 990293.291

Compare Surface: DCLF - TW Opt1 (CAPPED AT 5% FROM 1060)

Base Surface: TRC POO (2020) TOP OF WASTE

Volume
Base Surface TRC PGO (2020) TOP OF WASTE
Comparison Surface DCLF - TW Opt1 (CAPPED AT 5% FROM 1060)
Cut volume (unadjusted) 0.28 Cu. Yd.
Fill volume (unadjusted) 990293.57 Cu. Yd.
Net volume (unadjusted) 990293.29 Cu. Yd.<Fill>

