

Appendix H

Design Capacity Calculations

Job No. 25220091 Job: Dane County No. 2 Landfill Eastern Vertical Expansion

Client: Dane County Solid Waste Subject: Landfill Capacity Calculation

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

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

