

Memo

To: Glenn Steckman, City Manager
From: John Blee, Acting City Engineer
CC: Nickie Crowe, City Accounting Dept.
Date: September 1st, 2021
Re: 2021 Landfill and Monofill Quantity Calculations

The following volumes were calculated using the survey information generated by Eric Tweet and George Krier, PLS, on **July 20th and 21st, 2021**. Drawings produced from this survey are attached.

Municipal Landfill: A difference of **8,206 cubic yards (CY)** of waste and material was measured between **8/20/20** and **7/21/21**. This equates to **4.5 lbs./person/day¹**, which less than the longer-term averages of 6 to 8 lbs./person/day for Nome. No stockpiled cover material was surveyed or included in the waste calculations.

The total volume to-date in Cells 1 & 2 was calculated by comparing a composite of previous year's surveys to the model of the empty cells. The total volume currently in place at the municipal landfill is estimated at **224,931 CY**.

A surface comparison was done in AutoCAD and the estimated capacity of both Cells 1 and 2 was found to be **387,700 CY**. Approximately **167,800 CY** remains in Cell #2 which will provide an estimated service life of **15 years** remaining at the historical fill rate or **21 years** at the **2021** rate.

The asbestos control log shows approximately **2 CY** of friable or non-friable regulated asbestos containing material deposited in the landfill asbestos cell #2 between **8/20/20** and **7/21/21**.

Inert Debris Monofill: An estimated **7,990 CY** of waste material and cover was added to the main fill area between **8/20/20** and **7/21/21**. This year's volume is **more** than the previous

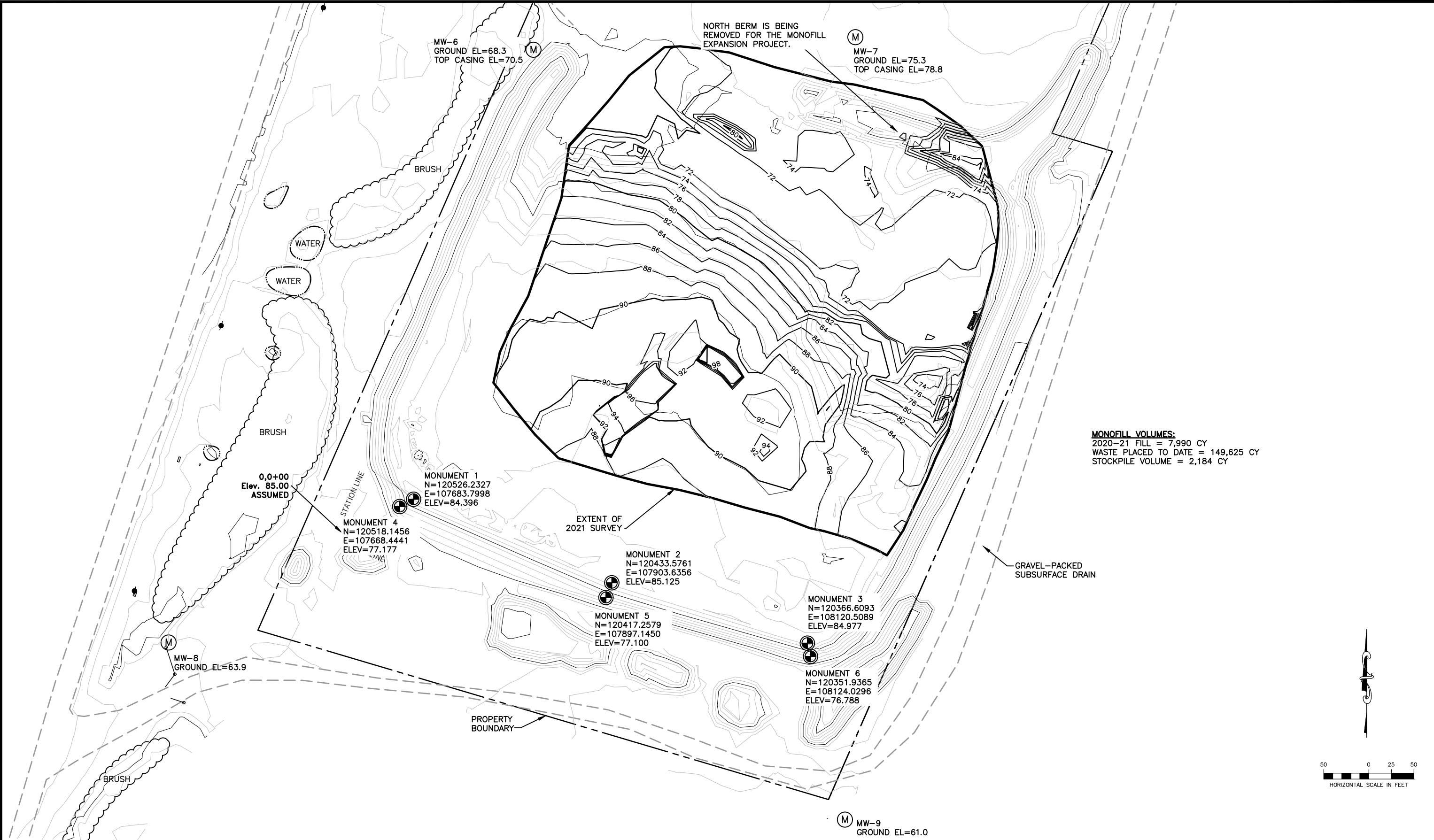
¹ The lbs./person/day calculation assumes a cover to waste ratio of 10%, 800 lbs./CY conversion factor and a population of 3,841.

year's volume and the historical volumes which have averaged close to **7,930 CY**. The cover material stockpiles were not included in the volume of waste calculated. There is approximately **2,184 CY** of cover material in the monofill stockpile.

The current in-place volume of waste in the monofill is approximately **149,625 CY**. The monofill is currently being expanded. After the expansion project has been completed, an estimate of the remaining monofill lifespan will be calculated. The expansion is included in Permit No. SWZA037-22.

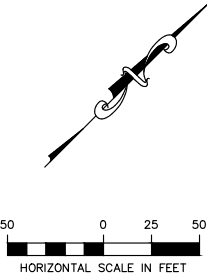
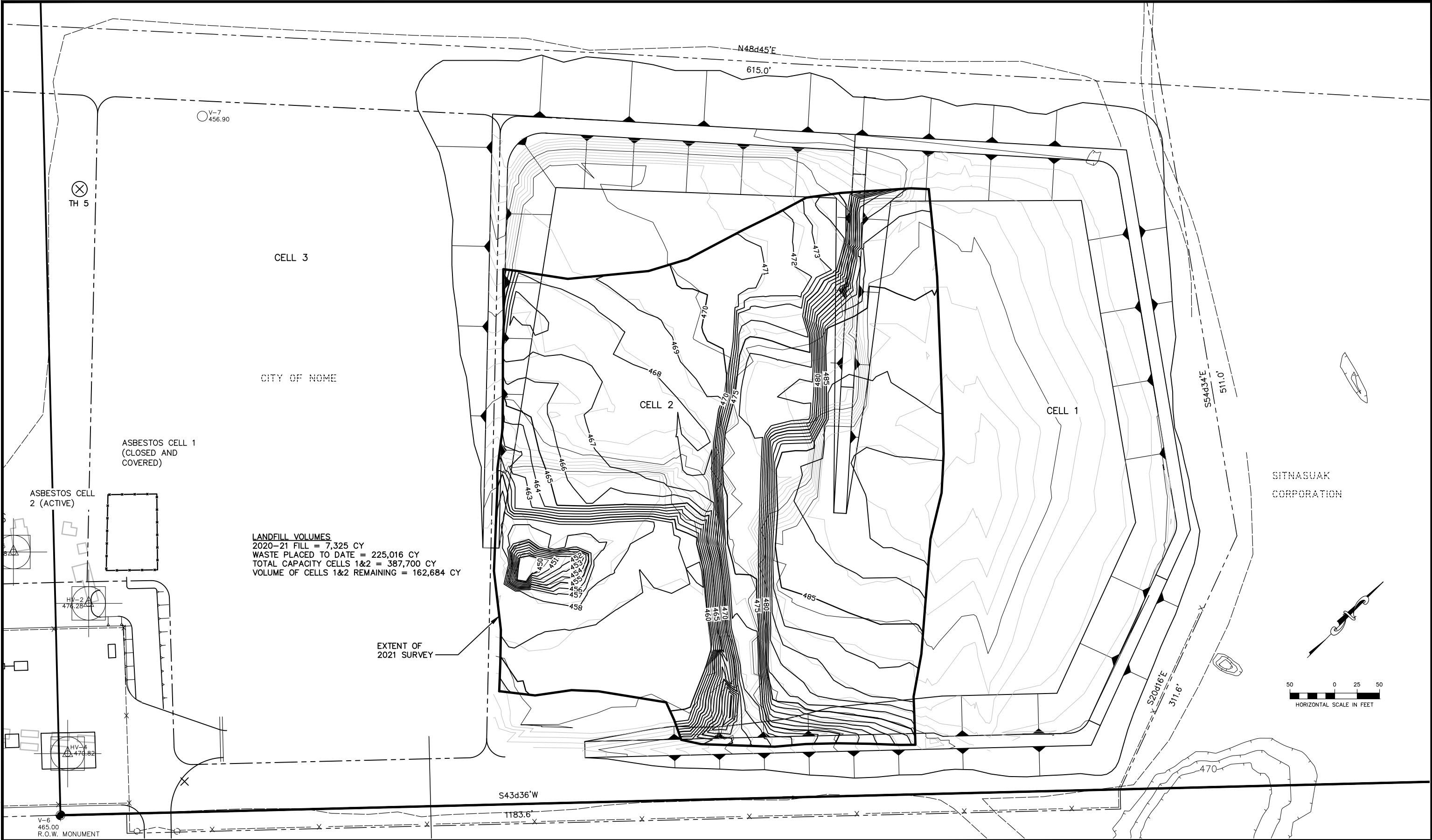
Survey benchmarks were installed on 8/5/2019 in order to monitor the stability of the monofill's outer berm. These benchmarks have been monitored since their installation to determine if the monofill's berm is shifting or settling. Thus far to date, there has been **negligible** movement in the benchmarks according to comparative survey records which is an indicator of a **stable** slope.

c.c. Neil Lehner, ADEC Solid Waste
Aaron Cooper, Landfill Operator
John Blee, BESC



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NO.	DATE	BY	DESCRIPTION					INERT DEBRIS LANDFILL 2021 SURVEY					1
								SCALE: 1"=50'	DESIGNED: —	CHECKED: DES	DRAWN: TJM	DATE: 11/23/20	SHEET 1 OF 2

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Xrefs: BR22X34.LEG.DWG - Images: None



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Project No. 32114005

Bristol

ENGINEERING SERVICES CORPORATION

Phone (907) 563-0013 Fax (907) 563-6713



CITY OF NOME
INC. APRIL 9, 1901

CITY OF NOME

SANITARY LANDFILL
2021 SURVEY

SCALE: 1"=50'

DESIGNED: -

CHECKED: DES

DRAWN: TJM

DATE: 11/23/20

SHEET NO.

2

SHEET 2 OF 2