



**WESTMORELAND  
SANITARY  
LANDFILL**

**WESTMORELAND SANITARY  
LANDFILL LLC.  
SANITARY LANDFILL**

**PERMIT NUMBER 100277  
ROSTRAVER TOWNSHIP  
WESTMORELAND COUNTY, PENNSYLVANIA**

**MINOR PERMIT MODIFICATION**  
(Small Basegrade Revision)

**PREPARED BY**

**Civil Design Solutions, Inc.**

1331 State Avenue • Coraopolis, Pennsylvania 15108

Phone (412) 299-2700 • Fax (412) 299-2922

Project Number 2023-190

**February 2024**

January 31, 2024



Ms. Sharon Svitek  
Pennsylvania Department of Environmental Protection  
Southwest Regional Office  
Waste Management Program  
400 Waterfront Drive  
Pittsburgh, PA 15222-4745

Subject: Sanitary Landfill – Minor Permit Modification  
Rostraver Township, Westmoreland County, Pennsylvania  
PADEP Permit No. 100277  
Civil Design Solutions Project 2023-190

Civil Design Solutions, Inc. (Design Solutions) is pleased to submit an electronic copy of this Minor Permit Modification on behalf of Westmoreland Sanitary Landfill, LLC. – Sanitary Landfill facility located in Rostraver Township, Westmoreland County, Pennsylvania.

This Minor Permit Modification proposes a small area of revised basegrades which are above (higher than) the current permitted basegrades to improve the phased construction of the landfill. The revised basegrades will allow the construction of an additional cell area contiguous to the current constructed footprint area prior to the development of a non-contiguous lined disposal area as envisioned by the permitted phasing for the landfill. These proposed basegrades will minimize the construction disturbance and avoid the development of an additional inefficient lined area. This application includes: Drawings, Checklist, Form A, Form General Information, Form B & Form B1, Form MRW-C and Form 1 to present the revised/reduced airspace along with an operational life estimate for the site.

If you have any questions concerning this Minor Permit Modification, please do not hesitate to contact Mr. Mike Zucatti of Sanitary Landfill, at (717) 448-5613 or our office at (412) 299-2700.

Sincerely,  
Civil Design Solutions, Inc.

A handwritten signature in blue ink, appearing to be "D. Murray", with a stylized flourish.

David W. Murray, P.E.  
Principal Engineer, Ext. 151

cc: Mr. Mike Zucatti, P.E., Sanitary Landfill – 1 Copy & 1 Hardcopy

A calculation narrative and figure is presented here to demonstrate that the slight increased leachate watershed will not change the performance of the existing Cell S6 leachate sump/penetration or the leachate header pipe leading to the sump.

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Leachate Calculations Based on Revised Basegrades PAGE 1 OF 3

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MADE BY KAF DATE 2/10/2024 CHECKED BY DWM DATE 2/10/2024

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**INTRODUCTION** The basegrade revision proposed as part of this Minor Permit Modification will direct 3.2-ac of lined area / leachate towards the Cell N? sump that previously flowed to the Cell S6 sump.

This calculation will confirm that this change to the grading and subsequent increase in the leachate watershed to the Cell S6 sump is within the calculation assumptions and capacities identified in the permitted calculations for the: Sump Capacity and Leachate Collection Pipe Capacity.

**CELL S6  
SUMP  
CAPACITY** The leachate watershed area for the Cell S6 sump will increase by 3.2-acres as part of this permit modification. Similarly, the Cell N4 sump leachate watershed will decrease by 3.2-acres. This portion of the calculation will confirm that the existing Cell S6 sump can safely handle the increased leachate watershed area.

The current permitted sump capacity calculations are presented in Form 25 – Attachment 24.9 (prepared by G.N. Richardson & Associates, dated 6/21/2003). The Cell S6 sump is a gravity penetration, the gravity sump penetration design is the same for all gravity sumps and the capacity of the leachate collection penetration design presented with this permit is 196-gpm as identified in Form 24 - Attachment 24.9 section 9.5.

The current permitted sump leachate inflow calculations are presented in Form 25 – Attachment 25-5 page 2 (prepared by G.N. Richardson & Associates, dated 6/21/2003). This calculation is presented in a tabular format where the leachate watershed area is made up of an Active Area and an Intermediate Area. The Active Area of 9-acres for the Cell S6 sump is not changed as part of this application since small landfill areas are constructed as needed and all immediate active new cell areas are less than 9-acres in size. The Intermediate Area for the Cell S6 sump is shown as 24-acres in the current permitted calculations, an increase to the Inactive Area by 3.2-acres results in a new total Intermediate Area of 27.2 acres.

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The same leachate generation rates of 4,000-gpad for the Active Area and 300-gpad for the Inactive Area as the permitted calculations presented on Form 25 – Attachment 25-5 page 2 (prepared by G.N. Richardson & Associates, dated 6/21/2003). Previously the approximate average flow to Cell S6 sump was 43,200-gpd.

The new calculated approximate leachate flow for the Cell S6 sump is:

$$\text{Active Area} * 4,000 + \text{Intermediate Area} * 300 \\ 9\text{-ac} * 4,000\text{-gpad} + 27.2\text{-ac} * 300\text{-gpad} = 44,160\text{-gpd}$$

The table below is from the approved Form 25 for the site. The table has been revised to show the increase to intermediate area and the approximate average flow for Cell S6 sump. Since the Approximate max average flow does not exceed Cell S1 sump then there is no required change to the already approved Form 25. All changes to the table can be seen in red.

Sump	Contributing Cells	Active Area (Acres)	Intermediate Area (acres)	Approx. Max Avg. Flow
Cell S1	S1 through S4 Minus existing 23 ac. Lined area	12	12	51,600 gpd (36gpm)
Cell S6	S5 through S8 Minus existing 23 ac. Lined area	9 (1)	27.2 (1)	44,160 gpd (1) (31 gpm)
Cell N1	N1 through N4	8	24	39,200 gpd (27 gpm)
Cell N5	N5	16	0	64,000 gpd (44 gpm)
Cell N6	N6 and N7	13	12	55,600 gpd (39 gpm)

(1) This Minor Permit Modification increases the leachate watershed for the Cell S6 sump by 3.2-ac, the design leachate flowrate is presented above. The Cell N? sump watershed will be decreased by this permit modification, the sump watershed has not been decreased here to be conservative.

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MADE BY	<u>KAF</u>	DATE	<u>2/10/2024</u>	CHECKED BY	<u>DWM</u>	DATE	<u>2/10/2024</u>
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*It can be seen in the table above and the narrative that the increased leachate watershed and resulting leachate inflow of 44,160-gpd is less than the permitted sump capacity of 282,240-gpd which provides a capacity safety of factor of 6.4.*

## **LEACHATE COLLECTION PIPE CAPACITY**

The current permitted leachate collection pipe capacity calculations are presented in Form 25 – Attachment 24.9 (prepared by G.N. Richardson & Associates, dated 6/21/2003). This permitted calculation utilizes a design maximum watershed of 20-acres for one pipe.














The proposed basegrade revision will increase the leachate watershed for the leachate collection header pipe leading to the Cell S6 sump. A figure is included here that identifies the watershed area of the leachate header pipe leading to the Cell S6 sump to be 8.69-acres. This proposed revision decreases the leachate watershed for the leachate collection piping leading to the Cell N4 sump by 3.2-acres which decreases the leachate flow leading to the Cell N4 sump.

*The increased leachate pipe watershed of 8.69-acres is less than the maximum design pipe watershed of 20-acres which demonstrates the permitted leachate collection pipe design does not change as part of this permit modification.*

## **CONCLUSION**

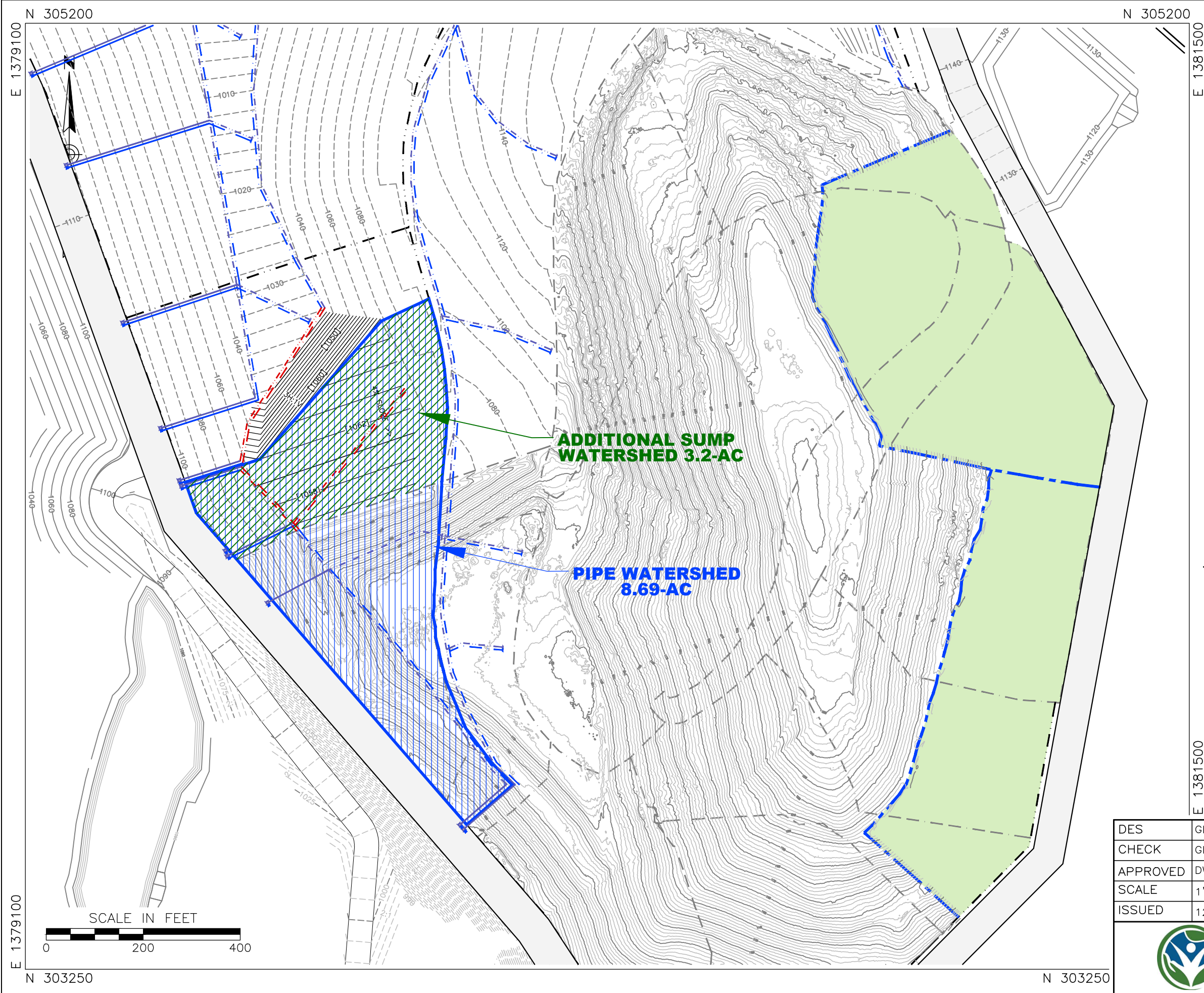
**This calculation demonstrates that the additional leachate flow to the Cell S6 sump is less than the design capacity of the sump and results in a factor of safety of 6.4 relative to the sump capacity. This calculation also demonstrates that the additional leachate watershed for the leachate collection header leading to the Cell S6 sump is under the design leachate collection pipe capacity of 20-acres included in the permitted design for this facility.**

**LEGEND**

-  1150 12/08/2023 DRONE CONTOUR
-  1180 PERMITTED SUBGRADE CONTOUR
-  [1060] REVISED SUBGRADE CONTOUR
-  PERMITTED LANDFILL/CELL LIMIT
-  PREVIOUS CELL LIMIT
-  LEACHATE DETECTION PIPING
-  LEACHATE COLLECTION PIPING
-  LEACHATE COLLECTION PIPING
-  LEACHATE DETECTION PIPING
-  LEACHATE COLLECTION SOLID PIPING
-  LEACHATE DETECTION SOLID PIPING
-  PIPE WATERSHED AREA
-  ADDITIONAL SUMP WATERSHED

**NOTES**

1. DECEMBER 08, 2023 DRONE MAPPING BY NOBLE.



DES	GDG	12/2023
CHECK	GDG	12/2023
APPROVED	DWM	12/2023
SCALE	1" = 200'	
ISSUED	12/2023	

SANITARY LANDFILL	
SHEET TITLE:	
COLLECTION PIPE WATERSHED	



FIGURE:  
1

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