CMA
Engineers, Inc.

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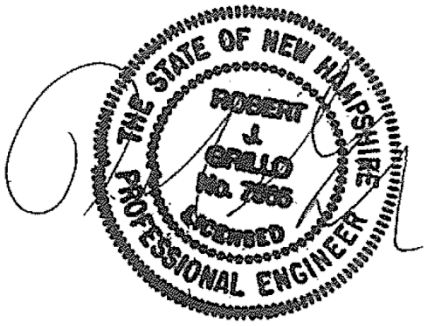
DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095

Stage VI Phase I Landfill Expansion
Construction Certification Supplemental Information
North Country Environmental Services Landfill
581 Trudeau Road
Bethlehem, NH 03574

NHDES Site #: 123456789
Project Type: SW-LNDFILL
Project Number: DES-SW-SP-03-002

Prepared For:
North Country Environmental Services
1855 VT Route 100
Hyde Park, VT 05655
Phone Number (802) 651-5454
RP Contact Name: John Gay
RP Contact Email: john.gay@casella.com



Prepared By:
CMA Engineers, Inc.
35 Bow Street
Portsmouth, NH 03801
Phone Number: (603) 431-6196
Contact Name: Robert J. Grillo, P.E.
Contact Email: rgrillo@cmaengineers.com

Date of Application: February 19, 2021

CMA ENGINEERS, INC.
CIVIL | ENVIRONMENTAL | STRUCTURAL

35 Bow Street
Portsmouth, New Hampshire
03801-3819

P: 603|431|6196
www.cmaengineers.com

February 19, 2021

Ms. Jaime M. Colby, P.E.
Solid Waste Management Bureau
New Hampshire Department of Environmental Services
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

RE: North Country Environmental Services, Inc.
Supplemental Information to Construction Summary Report
Stage VI Phase I Landfill Expansion
DES-SW-SP 03-002
CMA #1063

Dear Ms. Colby:

On behalf of North Country Environmental Services, Inc. (NCES), CMA Engineers, Inc. provides clarifying information for items identified as requiring more detail to determine that the prerequisites have been met for operational approval of Stage VI Phase I.

We have reiterated those prerequisites below in **bold** followed by the detailed response that addresses those comments. A site plan depicting the locations addressed in the responses is included as an attachment to this letter.

October 21, 2020

Comment: **The perimeter gas header and base liner system below the header were damaged during excavation.**

Response: Upon notification of the above referenced damage, NCES closed valves to isolate the damaged section of header and stop intake of ambient air into the LFG collection system. Personnel from McDonald carefully hand excavated drainage sand from around the damaged header down to the base liner system (The base liner system in this instance includes the secondary geomembrane, the secondary geocomposite, the primary geomembrane, and the primary geocomposite). Once the base liner system was exposed, the damage was assessed by CMA Engineers. RTD Enterprises was then called to repair the damaged geosynthetics. Both layers of geomembrane (primary and secondary liners) were repaired using an extrusion welder and tested using a vacuum box with no leaks identified. The geocomposite was repaired using new geocomposite that was properly fastened in place to previously placed geocomposite and covered with a non-woven geotextile, consistent with the approved construction specifications. Sand that had been hand excavated from the area was carefully placed back on the repaired geosynthetics. The gas header was then repaired using a short length of pipe and two electrofusion couplers.

October 26, 2020

Comment: Contractor damaged a piece of the gas infrastructure during waste excavation.

Response: A gas collection pipe servicing a well from the header was broken while the header was being exposed. The damaged area was carefully hand excavated and the vacuum side of the pipe was capped to prevent intake of ambient air until repairs could be completed. Repair of the pipe included placement of a new 6-foot length of pipe with a 45-degree elbow that was fitted into place on the existing line. The new pipe was then connected with two electrofusion couplers. Repairs were completed without issue and documented in a daily field report date October 28, 2020.

November 16, 2020

Comment: The eastern extent of the installed liner system of Stage VI, Phase I was susceptible to wind uplift and displacement, heavy winds displaced the liner system downslope approximately 1.5 feet, creating wrinkles and bunched secondary layers.

Response: The contractor re-established the correct placement of the primary liner by walking wrinkles upslope and replacing sandbags along the anchor trench. In areas where observations suggested the uplift could have caused movement of secondary layers, CMA Engineers required the Contractor to remove the primary liner and secondary geocomposite so that a thorough inspection of the secondary geomembrane could be conducted. After confirming the secondary geomembrane did not move during the event, and no damage occurred RTD installed new secondary geocomposite, primary geomembrane, and primary geocomposite in those areas. CQA data was collected on all new geosynthetics deployed consistent with the construction specifications.

Design Changes

During construction, the originally designed location of the temporary drainage pipe within the berm was found to be in a location that would direct stormwater runoff to flow over the roadway and potentially cause subgrade damage to the road. To properly address this concern the pipe was lengthened beneath the roadway to allow discharge into a basin on the south side of the road. Upon completion of the berm, and prior to placement of the screened till subgrade, the north end of the pipe was exposed into the berm approximately 10 feet, the pipe was cut, and flowable fill was pumped into approximately 15 feet of the pipe. The southern side of the pipe was also exposed and capped with a solid HDPE cap, flowable fill was not placed on the south side because it would be upslope of the outlet. Both ends were buried within the berm and decommissioned. We have attached calculations that demonstrate the drainage pipe, which is a 12" SDR 17 HDPE pipe, can withstand the expected loading over it with acceptable factors of safety. The calculations assume the worst-case scenario for loading, which is 67 feet of MSW over the pipe. We note that this is conservative since it assumes the pipe is at the original inlet location and the point where the pipe does not have flowable fill is approximately 25 feet inside of the berm.

Secondary Flow Monitoring

We have also reviewed secondary collection system flow data for Pump Station 1 (Stage IV Phase II) and Pump Station 3 (Stage III) and have included summary flow tables from August to mid-February (enclosed). The data indicates that modest construction water was measured in the pump stations starting in mid-November as expected with an open liner system and have since returned to historical levels as expected.

We hope that you find this response complete so that the construction summary report has met the prerequisite standards of Env-Sw 1104 and 1105. If you have any questions, please do not hesitate to ask.

Very truly yours,

CMA ENGINEERS, INC.

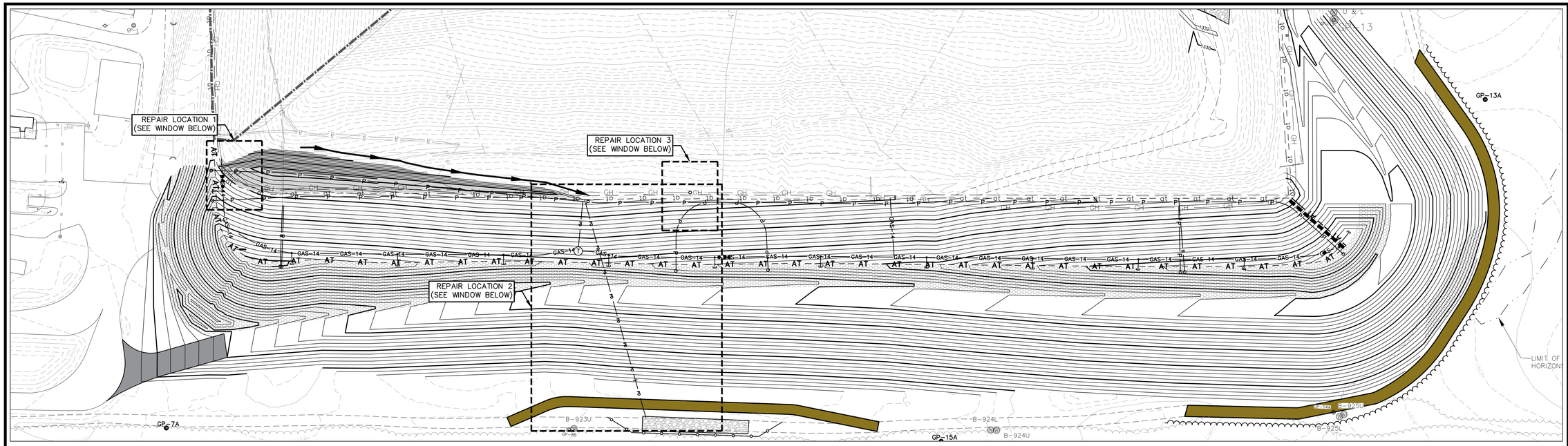
Brett Deyling, P.E.
Project Manager

BMD/ams

Enclosures:

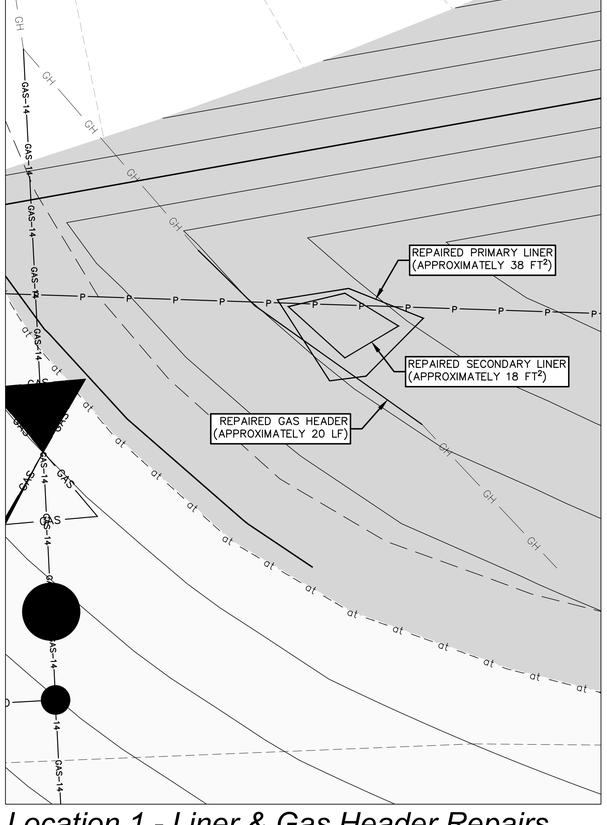
Site Plan – Repair Locations
Pipe Crush Calculations
Sump Grading Plan – Secondary
Leachate Table and Chart

cc: Kevin Roy, NCES (via email only)
John Gay, NCES (via email only)
Town Clerk, Town of Bethlehem, NH
Gabe Boisseau, Town of Bethlehem, Board of Selectmen Chair
NHDES OneStop



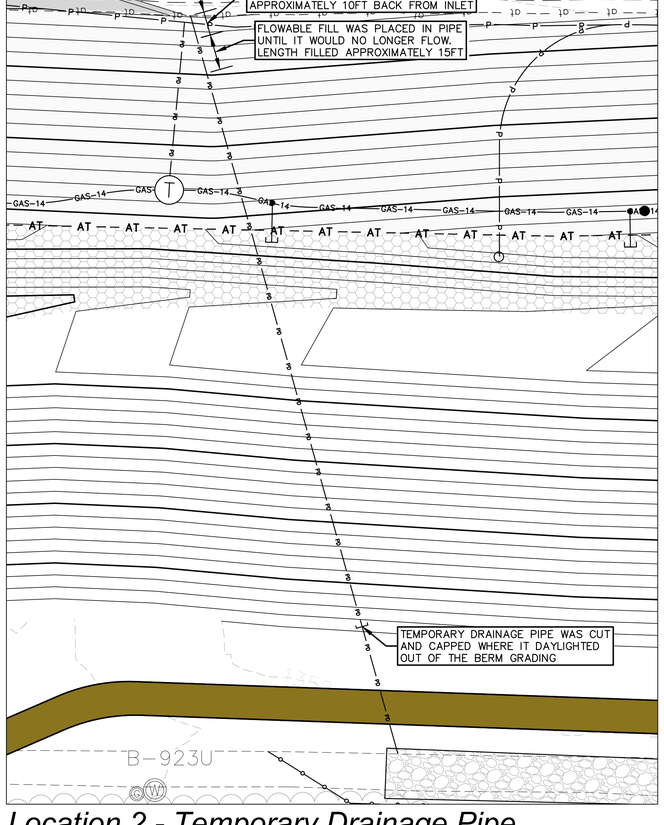
Stage VI Phase I (West)

Scale: 1" = 70'



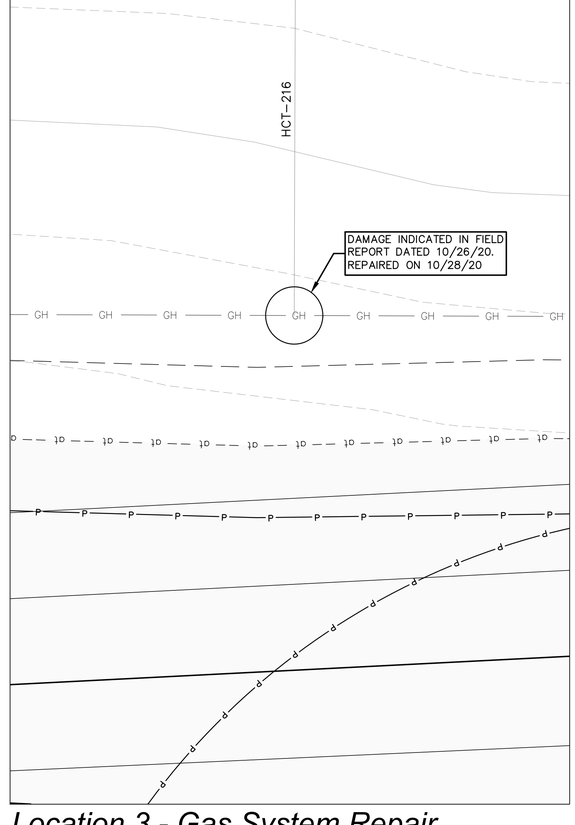
Location 1 - Liner & Gas Header Repairs

Scale: 1" = 5'



Location 2 - Temporary Drainage Pipe

Scale: 1" = 30'



Location 3 - Gas System Repair

Scale: 1" = 5'

no.	date	by	revision

CMA ENGINEERS
CIVIL/ENVIRONMENTAL/STRUCTURAL
Portsmouth, NH • Manchester, NH • Portland, ME
603/431-6196 • 603/627-0708 • 207/541-4223
c m a e n g i n e e r s . c o m

designed by: -
drawn by: ATR
approved by: BMD
scale:
date: February 2021
project no: 1063
file name: 1063-Report Figure.dwg

North Country Environmental Services, Inc.
Construction Drawings
Stage VI Phase I Landfill Expansion
DES-SW-SP-03-002
Stage VI Phase I Site Plan
Repair Locations Figure

drawing no. 1
sheet: 1 of 1

CMA ENGINEERS 35 Bow Street Portsmouth, NH 03801	Project: Stage VI Phase I Expansion Project No: 1063 Date: Feb-21 Calc. By: BMD Chkd. By: RJG

Temporary Drainage Pipe for Stage VI Construction Stormwater (12" SDR 17 HDPE)

8" SDR 17

Loading input variables	12"	
Maximum MSW Height (H) (ft)	67	
MSW density (A) (lb/ft^3)	75	Including MSW and cover material
Soil density (S) (lb/ft^3)	120	
Soil cover height (S_c) (ft)	2.0	including liner and capping system

Vertical load		12" PSF	12" PSI
MSW load (P_A): P_A= H * A	P_A =	5,025	34.90
Soil cover load (P_{sc}): P_{sc} = S* S_c	P_{sc} =	240	1.67
Total vertical load (P_T): P_T = P_a + P_{sc}	P_T =	5,265	36.56

SDR 17 pipe characteristics	12"	
Outside diameter (D_o) (in)	12.75	[1]
Inside diameter (D_i) (in)	11.16	[1]
Thickness (t) (in)	1.59	[1]
Native Soil reaction modulus (E'$_N$) (lb/in^2)	10,000	Table 3-9 [3]
Soil Reaction Modulus (E') (lb/in2)	3,000	Table 3-7 [3]
Allowable ring (hoop) stress (lb/in^2)	1000	Page 102 [3]
Allowable ring deflection	6%	Table 3-11 [3]
Poisson' s ratio (μ)	0.45	Page 102 [3]
Elastic modulus (E) (lb/in^2)	120,000	Table B.2.1 [3] (Chapter 3)
Width of Trench (B_d)	150	
B_d / D_O Ratio	11.76	Page 215 [3]
E'$_N$ / E' Ratio	3.33	Page 215 [3]
Soil Support Factor (F_S)	1	Table 3-10 [3]

Compression		12"	
Compressive stress (S) (lb/in^2): S=P_T*DR/288	S=	310.78	Page 219 [3]
FS = allowable hoop stress/S	FS =	3.22	Page 102[2], all PE pipe materials acceptable

Wall buckling		12"	
P_{wc}=allowable constrained buckling pressure (lb/in^2) P_{wc}=(5.65/N)*(R*B'*E'*(E/(12*(SDR-1)^3)))^0.5 N=safety factor=2	P_{wc}=	235.79	Page 221 [3]
R=1-0.33H'/H H'=groundwater height over pipe=0 H=cover above pipe=40 ft	R'=	1	Page 223 [3]
B'=elastic support factor B'=1/(1+4e^(-0.065H)	B'=	0.95	Page 223 [3]
FS=P_{wc}/P_T	FS=	6.45	Page 222[3], FS>2.0

Ring deflection		8"	
DX=horizontal deflection (in) DX/D_i=1/144*((KLP_T+KP_L)/(((2E/3)*(1/SDR-1)^3))+0.061F_SE')) K=bedding factor=0.1 L=deflection lag factor=1.5 (From Page 111)	DX=	0.0185	Page 211 [3] Page 216 [3]
% deflection=(DX/D_i)*100	% deflection=	1.85	Page 218[3], %deflection<6.0
FS=Allowable ring deflection/%deflection	FS=	3.25	

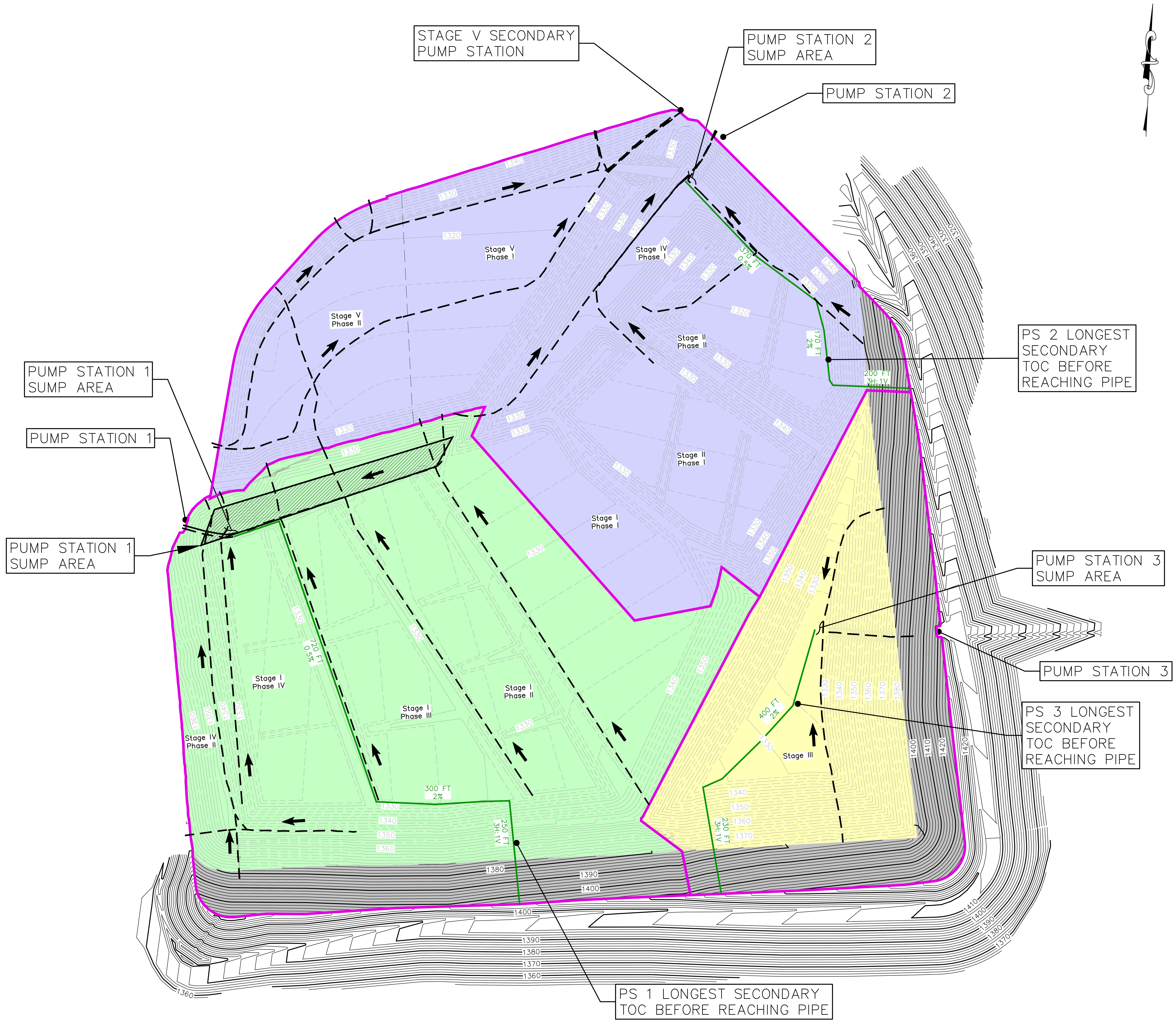
1 Petersen Products Spec Sheet
2 Performance Pipe "System Design" Bulletin: PP 900, September 2003.
3 Plastic Pipe Handbook, Second Edition

Notes:

1. This figure depicts the top-of-sand liner grades for each Stage and Phase of the landfill. Existing phases are depicted with gray topography, and Proposed Stage VI is shown in black.

Legend:

- Existing 2' Contour
- Existing 10' Contour (1440)
- Proposed 2' Contour (Stage VI)
- Proposed 10' Contour (Stage VI) (1440)
- Sump Drainage Area Limit
- Existing Secondary Leachate Pipe
- Secondary Pipe TOC Line
- Leachate Flow Direction
- Proposed Stage VI Liner Area
- Pump Station 1 Liner Area
- Pump Station 2 Liner Area
- Pump Station 3 Liner Area



North Country Environmental Services
Bethlehem, New Hampshire
Stage VI Landfill Expansion
DES-SW-SP-03-002
Base Liner Grading and Sump Location Plan - Secondary Leachate Piping

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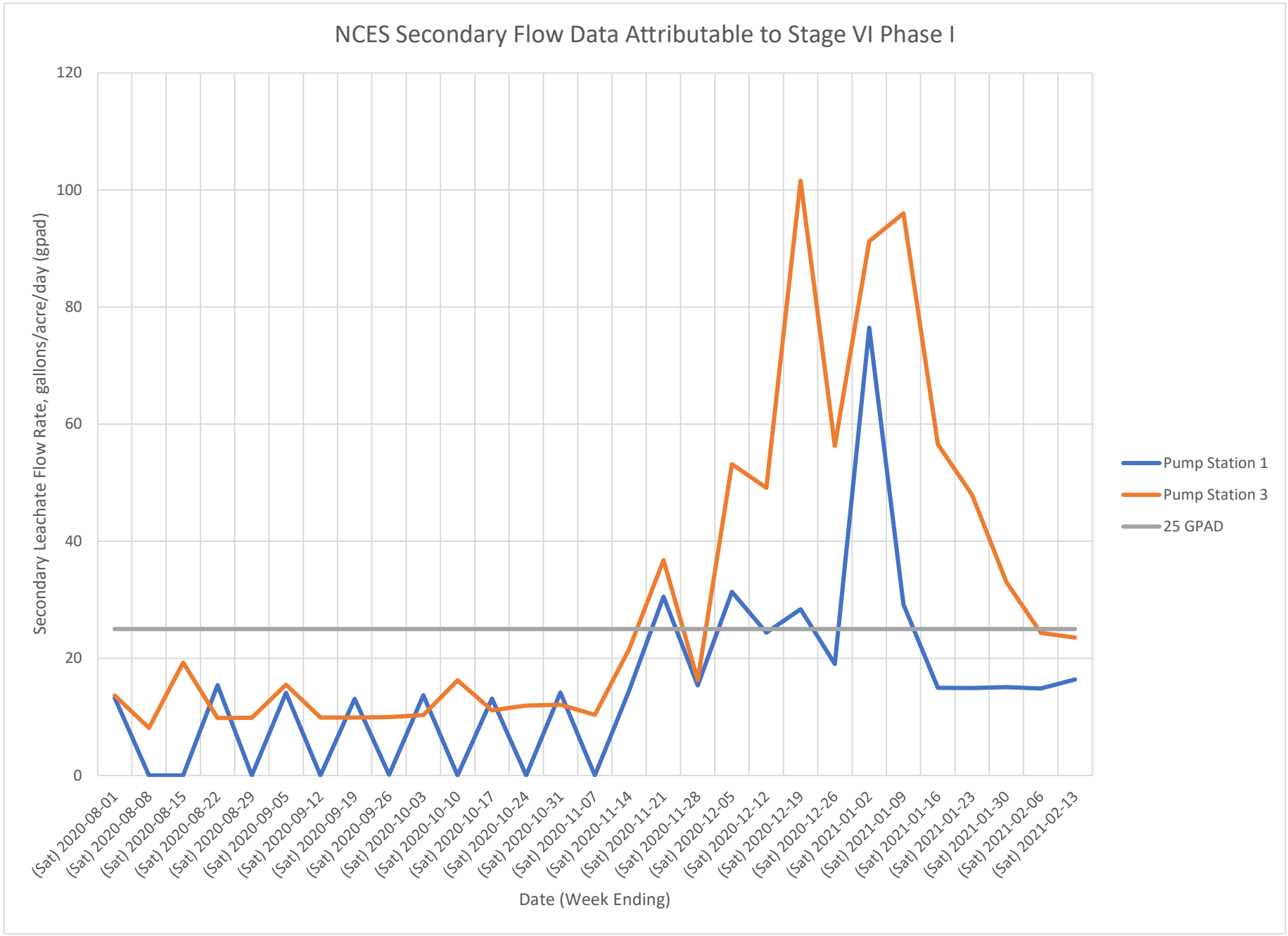
c m a e n g i n e e r s . c o m

date:	MAR 2020
project no:	1063
file name:	1063-Leachate Calc Fig.dwg
designed by:	AJS
drawn by:	AJS
approved by:	AJS
scale:	Scale: 1" = 100'
drawing no.	2
sheet:	2 of 2

no.	revision	date	by


NCES Secondary Flow Data Attributable to Stage VI Phase I
Secondary Leachate Flow Rate, gallons/acre/day (gpad)
120
100
80
60
40
20
0
(Sat) 2020-08-01
(Sat) 2020-08-08
(Sat) 2020-08-15
(Sat) 2020-08-22
(Sat) 2020-08-29
(Sat) 2020-09-05
(Sat) 2020-09-12
(Sat) 2020-09-19
(Sat) 2020-09-26
(Sat) 2020-10-03
(Sat) 2020-10-10
(Sat) 2020-10-17
(Sat) 2020-10-24
(Sat) 2020-10-31
(Sat) 2020-11-07
(Sat) 2020-11-14
(Sat) 2020-11-21
(Sat) 2020-11-28
(Sat) 2020-12-05
(Sat) 2020-12-12
(Sat) 2020-12-19
(Sat) 2020-12-26
(Sat) 2021-01-02
(Sat) 2021-01-09
(Sat) 2021-01-16
(Sat) 2021-01-23
(Sat) 2021-01-30
(Sat) 2021-02-06
(Sat) 2021-02-13
Date (Week Ending)
Pump Station 1
Pump Station 3
25 GPAD

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2020-07-26	113,995	213	101,887	0
(Mon) 2020-07-27	114,208	0	101,887	0
(Tue) 2020-07-28	114,208	0	101,887	0
(Wed) 2020-07-29	114,208	219	101,887	0
(Thu) 2020-07-30	114,427	0	101,887	0
(Fri) 2020-07-31	114,427	215	101,887	2,072
(Sat) 2020-08-01	114,642	0	103,959	0
Weekly Total	--	**647**	--	**2,072**
Weekly Average G/A/D	--	**14**	--	**13**
(Sun) 2020-08-02	114,642	212	103,959	0
(Mon) 2020-08-03	114,854	0	103,959	0
(Tue) 2020-08-04	114,854	174	103,959	0
(Wed) 2020-08-05	115,028	0	103,959	0
(Thu) 2020-08-06	115,028	0	103,959	0
(Fri) 2020-08-07	115,028	0	103,959	0
(Sat) 2020-08-08	115,028	0	103,959	0
Weekly Total	--	**386**	--	**0**
Weekly Average G/A/D	--	**8**	--	**0**
(Sun) 2020-08-09	115,028	0	103,959	0
(Mon) 2020-08-10	115,028	451	103,959	0
(Tue) 2020-08-11	115,479	0	103,959	0
(Wed) 2020-08-12	115,479	0	103,959	0
(Thu) 2020-08-13	115,479	231	103,959	0
(Fri) 2020-08-14	115,710	0	103,959	0
(Sat) 2020-08-15	115,710	232	103,959	0
Weekly Total	--	**914**	--	**0**
Weekly Average G/A/D	--	**19**	--	**0**
(Sun) 2020-08-16	115,942	0	103,959	0
(Mon) 2020-08-17	115,942	0	103,959	2,406
(Tue) 2020-08-18	115,942	230	106,365	0
(Wed) 2020-08-19	116,172	0	106,365	0
(Thu) 2020-08-20	116,172	0	106,365	0
(Fri) 2020-08-21	116,172	235	106,365	0
(Sat) 2020-08-22	116,407	0	106,365	0
Weekly Total	--	**465**	--	**2,406**
Weekly Average G/A/D	--	**10**	--	**15**
(Sun) 2020-08-23	116,407	0	106,365	0
(Mon) 2020-08-24	116,407	235	106,365	0
(Tue) 2020-08-25	116,642	0	106,365	0
(Wed) 2020-08-26	116,642	232	106,365	0
(Thu) 2020-08-27	116,874	0	106,365	0
(Fri) 2020-08-28	116,874	0	106,365	0
(Sat) 2020-08-29	116,874	0	106,365	0
Weekly Total	--	**467**	--	**0**
Weekly Average G/A/D	--	**10**	--	**0**
(Sun) 2020-08-30	116,874	0	106,365	0
(Mon) 2020-08-31	116,874	280	106,365	0
(Tue) 2020-09-01	117,154	0	106,365	2,203
(Wed) 2020-09-02	117,154	220	108,568	0
(Thu) 2020-09-03	117,374	0	108,568	0
(Fri) 2020-09-04	117,374	0	108,568	0
(Sat) 2020-09-05	117,374	235	108,568	0
Weekly Total	--	**735**	--	**2,203**
Weekly Average G/A/D	--	**15**	--	**14**

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2020-08-30	116,874	0	106,365	0
(Mon) 2020-08-31	116,874	280	106,365	0
(Tue) 2020-09-01	117,154	0	106,365	2,203
(Wed) 2020-09-02	117,154	220	108,568	0
(Thu) 2020-09-03	117,374	0	108,568	0
(Fri) 2020-09-04	117,374	0	108,568	0
(Sat) 2020-09-05	117,374	235	108,568	0
Weekly Total	--	**735**	--	**2,203**
Weekly Average G/A/D	--	**15**	--	**14**
(Sun) 2020-09-06	117,609	0	108,568	0
(Mon) 2020-09-07	117,609	0	108,568	0
(Tue) 2020-09-08	117,609	235	108,568	0
(Wed) 2020-09-09	117,844	0	108,568	0
(Thu) 2020-09-10	117,844	0	108,568	0
(Fri) 2020-09-11	117,844	234	108,568	0
(Sat) 2020-09-12	118,078	0	108,568	0
Weekly Total	--	**469**	--	**0**
Weekly Average G/A/D	--	**10**	--	**0**
(Sun) 2020-09-13	118,078	0	108,568	0
(Mon) 2020-09-14	118,078	237	108,568	0
(Tue) 2020-09-15	118,315	0	108,568	2,038
(Wed) 2020-09-16	118,315	0	110,606	0
(Thu) 2020-09-17	118,315	232	110,606	0
(Fri) 2020-09-18	118,547	0	110,606	0
(Sat) 2020-09-19	118,547	0	110,606	0
Weekly Total	--	**469**	--	**2,038**
Weekly Average G/A/D	--	**10**	--	**13**
(Sun) 2020-09-20	118,547	0	110,606	0
(Mon) 2020-09-21	118,547	236	110,606	0
(Tue) 2020-09-22	118,783	0	110,606	17
(Wed) 2020-09-23	118,783	237	110,623	0
(Thu) 2020-09-24	119,020	0	110,623	0
(Fri) 2020-09-25	119,020	0	110,623	0
(Sat) 2020-09-26	119,020	0	110,623	0
Weekly Total	--	**473**	--	**17**
Weekly Average G/A/D	--	**10**	--	**0**
(Sun) 2020-09-27	119,020	251	110,623	0
(Mon) 2020-09-28	119,271	0	110,623	0
(Tue) 2020-09-29	119,271	238	110,623	2,139
(Wed) 2020-09-30	119,509	0	112,762	0
(Thu) 2020-10-01	119,509	0	112,762	0
(Fri) 2020-10-02	119,509	0	112,762	0
(Sat) 2020-10-03	119,509	0	112,762	0
Weekly Total	--	**489**	--	**2,139**
Weekly Average G/A/D	--	**10**	--	**14**

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2020-09-27	119,020	251	110,623	0
(Mon) 2020-09-28	119,271	0	110,623	0
(Tue) 2020-09-29	119,271	238	110,623	2,139
(Wed) 2020-09-30	119,509	0	112,762	0
(Thu) 2020-10-01	119,509	0	112,762	0
(Fri) 2020-10-02	119,509	0	112,762	0
(Sat) 2020-10-03	119,509	0	112,762	0
Weekly Total	--	**489**	--	**2,139**
Weekly Average G/A/D	--	**10**	--	**14**
(Sun) 2020-10-04	119,509	256	112,762	0
(Mon) 2020-10-05	119,765	0	112,762	0
(Tue) 2020-10-06	119,765	0	112,762	0
(Wed) 2020-10-07	119,765	261	112,762	0
(Thu) 2020-10-08	120,026	0	112,762	0
(Fri) 2020-10-09	120,026	0	112,762	0
(Sat) 2020-10-10	120,026	253	112,762	0
Weekly Total	--	**770**	--	**0**
Weekly Average G/A/D	--	**16**	--	**0**
(Sun) 2020-10-11	120,279	0	112,762	0
(Mon) 2020-10-12	120,279	0	112,762	0
(Tue) 2020-10-13	120,279	0	112,762	0
(Wed) 2020-10-14	120,279	274	112,762	0
(Thu) 2020-10-15	120,553	0	112,762	0
(Fri) 2020-10-16	120,553	0	112,762	0
(Sat) 2020-10-17	120,553	253	112,762	2,047
Weekly Total	--	**527**	--	**2,047**
Weekly Average G/A/D	--	**11**	--	**13**
(Sun) 2020-10-18	120,806	0	114,809	0
(Mon) 2020-10-19	120,806	0	114,809	0
(Tue) 2020-10-20	120,806	283	114,809	0
(Wed) 2020-10-21	121,089	0	114,809	0
(Thu) 2020-10-22	121,089	0	114,809	0
(Fri) 2020-10-23	121,089	282	114,809	0
(Sat) 2020-10-24	121,371	0	114,809	0
Weekly Total	--	**565**	--	**0**
Weekly Average G/A/D	--	**12**	--	**0**
(Sun) 2020-10-25	121,371	0	114,809	0
(Mon) 2020-10-26	121,371	0	114,809	0
(Tue) 2020-10-27	121,371	283	114,809	0
(Wed) 2020-10-28	121,654	0	114,809	0
(Thu) 2020-10-29	121,654	0	114,809	0
(Fri) 2020-10-30	121,654	290	114,809	0
(Sat) 2020-10-31	121,944	0	114,809	2,212
Weekly Total	--	**573**	--	**2,212**
Weekly Average G/A/D	--	**12**	--	**14**
(Sun) 2020-11-01	121,944	291	117,021	0
(Mon) 2020-11-02	122,235	0	117,021	0
(Tue) 2020-11-03	122,235	0	117,021	0
(Wed) 2020-11-04	122,235	200	117,021	0
(Thu) 2020-11-05	122,435	0	117,021	0
(Fri) 2020-11-06	122,435	0	117,021	0
(Sat) 2020-11-07	122,435	0	117,021	0
Weekly Total	--	**491**	--	**0**
Weekly Average G/A/D	--	**10**	--	**0**

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2020-11-01	121,944	291	117,021	0
(Mon) 2020-11-02	122,235	0	117,021	0
(Tue) 2020-11-03	122,235	0	117,021	0
(Wed) 2020-11-04	122,235	200	117,021	0
(Thu) 2020-11-05	122,435	0	117,021	0
(Fri) 2020-11-06	122,435	0	117,021	0
(Sat) 2020-11-07	122,435	0	117,021	0
Weekly Total	--	**491**	--	**0**
Weekly Average G/A/D	--	**10**	--	**0**
(Sun) 2020-11-08	122,435	0	117,021	0
(Mon) 2020-11-09	122,435	266	117,021	0
(Tue) 2020-11-10	122,701	0	117,021	2,259
(Wed) 2020-11-11	122,701	407	119,280	0
(Thu) 2020-11-12	123,108	0	119,280	0
(Fri) 2020-11-13	123,108	0	119,280	0
(Sat) 2020-11-14	123,108	349	119,280	0
Weekly Total	--	**1,022**	--	**2,259**
Weekly Average G/A/D	--	**22**	--	**14**
(Sun) 2020-11-15	123,457	431	119,280	0
(Mon) 2020-11-16	123,888	0	119,280	0
(Tue) 2020-11-17	123,888	534	119,280	2,391
(Wed) 2020-11-18	124,422	256	121,671	0
(Thu) 2020-11-19	124,678	261	121,671	0
(Fri) 2020-11-20	124,939	263	121,671	2,378
(Sat) 2020-11-21	125,202	0	124,049	0
Weekly Total	--	**1,745**	--	**4,769**
Weekly Average G/A/D	--	**37**	--	**31**
(Sun) 2020-11-22	125,202	254	124,049	0
(Mon) 2020-11-23	125,456	0	124,049	0
(Tue) 2020-11-24	125,456	253	124,049	2,397
(Wed) 2020-11-25	125,709	0	126,446	0
(Thu) 2020-11-26	125,709	266	126,446	0
(Fri) 2020-11-27	125,975	0	126,446	0
(Sat) 2020-11-28	125,975	0	126,446	3
Weekly Total	--	**773**	--	**2,400**
Weekly Average G/A/D	--	**16**	--	**15**
(Sun) 2020-11-29	125,975	0	126,449	0
(Mon) 2020-11-30	125,975	410	126,449	1,528
(Tue) 2020-12-01	126,385	559	127,977	750
(Wed) 2020-12-02	126,944	272	128,727	795
(Thu) 2020-12-03	127,216	513	129,522	992
(Fri) 2020-12-04	127,729	514	130,514	828
(Sat) 2020-12-05	128,243	254	131,342	0
Weekly Total	--	**2,522**	--	**4,893**
Weekly Average G/A/D	--	**53**	--	**31**

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2020-11-29	125,975	0	126,449	0
(Mon) 2020-11-30	125,975	410	126,449	1,528
(Tue) 2020-12-01	126,385	559	127,977	750
(Wed) 2020-12-02	126,944	272	128,727	795
(Thu) 2020-12-03	127,216	513	129,522	992
(Fri) 2020-12-04	127,729	514	130,514	828
(Sat) 2020-12-05	128,243	254	131,342	0
Weekly Total	--	**2,522**	--	**4,893**
Weekly Average G/A/D	--	**53**	--	**31**
(Sun) 2020-12-06	128,497	517	131,342	794
(Mon) 2020-12-07	129,014	529	132,136	662
(Tue) 2020-12-08	129,543	259	132,798	0
(Wed) 2020-12-09	129,802	526	132,798	2,354
(Thu) 2020-12-10	130,328	251	135,152	0
(Fri) 2020-12-11	130,579	249	135,152	0
(Sat) 2020-12-12	130,828	0	135,152	0
Weekly Total	--	**2,331**	--	**3,810**
Weekly Average G/A/D	--	**49**	--	**24**
(Sun) 2020-12-13	130,828	864	135,152	0
(Mon) 2020-12-14	131,692	828	135,152	2,220
(Tue) 2020-12-15	132,520	511	137,372	0
(Wed) 2020-12-16	133,031	725	137,372	0
(Thu) 2020-12-17	133,756	720	137,372	2,213
(Fri) 2020-12-18	134,476	475	139,585	0
(Sat) 2020-12-19	134,951	699	139,585	0
Weekly Total	--	**4,822**	--	**4,433**
Weekly Average G/A/D	--	**102**	--	**28**
(Sun) 2020-12-20	135,650	452	139,585	0
(Mon) 2020-12-21	136,102	453	139,585	0
(Tue) 2020-12-22	136,555	246	139,585	0
(Wed) 2020-12-23	136,801	478	139,585	2,154
(Thu) 2020-12-24	137,279	227	141,739	0
(Fri) 2020-12-25	137,506	586	141,739	0
(Sat) 2020-12-26	138,092	229	141,739	816
Weekly Total	--	**2,671**	--	**2,970**
Weekly Average G/A/D	--	**56**	--	**19**
(Sun) 2020-12-27	138,321	993	142,555	582
(Mon) 2020-12-28	139,314	751	143,137	4,030
(Tue) 2020-12-29	140,065	492	147,167	2,039
(Wed) 2020-12-30	140,557	857	149,206	1,879
(Thu) 2020-12-31	141,414	0	151,085	0
(Fri) 2021-01-01	--	--	--	--
(Sat) 2021-01-02	--	--	--	--
Weekly Total	--	**3,093**	--	**8,530**
Weekly Average G/A/D	--	**91**	--	**76**

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2020-12-27	--	--	--	--
(Mon) 2020-12-28	--	--	--	--
(Tue) 2020-12-29	--	--	--	--
(Wed) 2020-12-30	--	--	--	--
(Thu) 2020-12-31	--	--	--	--
(Fri) 2021-01-01	141,414	0	151,085	0
(Sat) 2021-01-02	141,414	0	151,085	3,178
Weekly Total	**--**	**0**	**--**	**3,178**
Weekly Average G/A/D	**--**	**0**	**--**	**71**
(Sun) 2021-01-03	141,414	0	154,263	1,169
(Mon) 2021-01-04	141,414	0	155,432	533
(Tue) 2021-01-05	141,414	2,617	155,965	0
(Wed) 2021-01-06	144,031	476	155,965	168
(Thu) 2021-01-07	144,507	484	156,133	558
(Fri) 2021-01-08	144,991	727	156,691	2,130
(Sat) 2021-01-09	145,718	252	158,821	0
Weekly Total	**--**	**4,556**	**--**	**4,558**
Weekly Average G/A/D	**--**	**96**	**--**	**29**
(Sun) 2021-01-10	145,970	492	158,821	0
(Mon) 2021-01-11	146,462	478	158,821	0
(Tue) 2021-01-12	146,940	242	158,821	0
(Wed) 2021-01-13	147,182	490	158,821	0
(Thu) 2021-01-14	147,672	256	158,821	2,335
(Fri) 2021-01-15	147,928	248	161,156	0
(Sat) 2021-01-16	148,176	477	161,156	1
Weekly Total	**--**	**2,683**	**--**	**2,336**
Weekly Average G/A/D	**--**	**57**	**--**	**15**
(Sun) 2021-01-17	148,653	369	161,157	0
(Mon) 2021-01-18	149,022	274	161,157	0
(Tue) 2021-01-19	149,296	330	161,157	0
(Wed) 2021-01-20	149,626	260	161,157	0
(Thu) 2021-01-21	149,886	252	161,157	0
(Fri) 2021-01-22	150,138	258	161,157	2,330
(Sat) 2021-01-23	150,396	529	163,487	0
Weekly Total	**--**	**2,272**	**--**	**2,330**
Weekly Average G/A/D	**--**	**48**	**--**	**15**
(Sun) 2021-01-24	150,925	254	163,487	0
(Mon) 2021-01-25	151,179	253	163,487	0
(Tue) 2021-01-26	151,432	256	163,487	0
(Wed) 2021-01-27	151,688	260	163,487	0
(Thu) 2021-01-28	151,948	274	163,487	2,355
(Fri) 2021-01-29	152,222	271	165,842	0
(Sat) 2021-01-30	152,493	0	165,842	0
Weekly Total	**--**	**1,568**	**--**	**2,355**
Weekly Average G/A/D	**--**	**33**	**--**	**15**
(Sun) 2021-01-31	152,493	243	165,842	0
(Mon) 2021-02-01	152,736	277	165,842	0
(Tue) 2021-02-02	153,013	349	165,842	0
(Wed) 2021-02-03	153,362	0	165,842	2,319
(Thu) 2021-02-04	153,362	287	168,161	0
(Fri) 2021-02-05	153,649	0	168,161	0
(Sat) 2021-02-06	153,649	0	168,161	0
Weekly Total	**--**	**1,156**	**--**	**2,319**
Weekly Average G/A/D	**--**	**24**	**--**	**15**

Totalizer Flows for NCES

DATE	Stage III (Pump Station 3) (6.78 Acres)		Stage IV Phase II (Pump Station 1) (22.31 Acres)	
	Detection Totalizer (gal)	Detection Flow (gal)	Detection Totalizer (gal)	Detection Flow (gal)
(Sun) 2021-01-31	152,493	243	165,842	0
(Mon) 2021-02-01	152,736	277	165,842	0
(Tue) 2021-02-02	153,013	349	165,842	0
(Wed) 2021-02-03	153,362	0	165,842	2,319
(Thu) 2021-02-04	153,362	287	168,161	0
(Fri) 2021-02-05	153,649	0	168,161	0
(Sat) 2021-02-06	153,649	0	168,161	0
Weekly Total	--	**1,156**	--	**2,319**
Weekly Average G/A/D	--	**24**	--	**15**
(Sun) 2021-02-07	153,649	287	168,161	0
(Mon) 2021-02-08	153,936	0	168,161	0
(Tue) 2021-02-09	153,936	275	168,161	0
(Wed) 2021-02-10	154,211	0	168,161	0
(Thu) 2021-02-11	154,211	291	168,161	0
(Fri) 2021-02-12	154,502	0	168,161	2,560
(Sat) 2021-02-13	154,502	263	170,721	0
Weekly Total	--	**1,116**	--	**2,560**
Weekly Average G/A/D	--	**24**	--	**16**