STORM WATER CALCULATIONS

For:

DICK SLOAN WETLAND

BUC871015D

Iowa Department of Agriculture and Land Stewardship

Brandon, Iowa

S-H PROJECT # 2142204320

March 15, 2024

I hereby certify that the portion of this engineering document was prepared by me or under my direct personal supervision. I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Dan Jensen

Name: Dan Jensen, P.E.

Date: 03/15/2024

My license renewal date is December 31, 2025.

Pages, sheets, or divisions covered by this certification: Stormwater Report and Attachments

Prepared by:

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

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PROJECT SUMMARY

GENERAL

The proposed work includes construction of a wetland to the north of Brandon, IA. The location can be more specifically described as the SE ¼ of Section 15 and SW ¼ of Section 16, Township 87 North, Range 10 West of the Fifth Principal meridian, Buchanan County, Iowa. A dam and sheet pile weir will be constructed to impound water for the wetland. A drawdown structure on the dam will allow for pool elevation control.

DESIGN STANDARDS, ANALYSIS, AND ASSUMPTIONS

The design procedures and guidelines were obtained from the following resources:

1. "National Engineering Handbook 4 – Hydrology"
2. "NRCS Practice Standard 656, 378, 410" (as applicable)
3. "IDNR Chapter 73 – Approval, Construction, Use, Maintenance, Removal, Inspections, and Safety of Dams"

DESIGN CRITERIA AND GUIDELINES

WATER CONTROL STRUCTURE – Low Flow Spillway

The water control structure is a 48" circular CMP riser equipped with stop logs for water elevation control. The stop logs will be maintained approximately 1 inch below the crest of the sheet pile to provide passage of low flow. An 18'' CMP will enter the structure from the pool area. An 18" CMP discharge pipe will run east and daylight into the proposed plunge pool then into the existing stream to the east.

The maximum embankment height is approximately 7 feet, which is well below the threshold of the 25 feet listed in IDNR Chapter 73. However, the dam has a storage of 66.27 acre-feet at the top of dam, which is greater than the 50 acre-feet threshold spelled out in IDNR Chapter 73. For this reason, Chapter 73 applies. The structure is classified as a low hazard dam according to IDNR Chapter 73 because failure of the dam would result in no probable loss of human life, low economic losses, and low public damages. The area downstream of the embankment is rural and predominately agricultural lands.

PRINCIPAL SPILLWAY

The principal spillway consists of an 80' wide steel sheet pile structure in the embankment at an elevation of 879.50'. The following standards were used to design the principal spillway: NRCS 378, NRCS 410, NRCS 656, and IDNR Chapter 73. A summary of the design criteria is listed below:

NRCS 378:
- Principal Spillway Capacity - 25-year, 24-hour storm

NRCS 410:
- Principal Spillway Capacity - 10-year, 24-hour storm

NRCS 656:
- Principal Spillway Capacity - 25-year, 24-hour storm without overtopping embankment, refers to NRCS 378 for all other spillway requirements.

IDNR Chapter 73:
- Spillway Design Flood - 10-year, 24-hour storm

Using the more conservative of these standards, the wetland was designed for the principal spillway to pass the 25-year, 24-hour storm, according to NRCS 378. Based on NRCS 378, the spillway design storm shall be the 25-year, 24-hour storm and the design shall be passed without the wetland pool elevation passing the auxiliary spillway. This equates to a storm producing a rainfall depth of 5.60". The 25-year, 24-hour storm will produce a discharge of 788.3 cfs through the principal spillway and a peak water surface elevation of 881.42'. The auxiliary spillway elevation is set at 881.50'.

FREEBOARD DESIGN

The auxiliary spillway consists of a 150’ wide spillway in the embankment at an elevation of 881.50’. The following standards were used to design the auxiliary spillway: NRCS 378, NRCS 410, NRCS 656, and IDNR Chapter 73. A summary of the design criteria is listed below:

NRCS 378:
- Auxiliary Spillway Capacity - 50-year, 24-hour storm

NRCS 410:
- Total Capacity - 25-year, 24-hour storm

NRCS 656:
- Refer to NRCS 378

IDNR Chapter 73:
- Freeboard Design Flood - 100-year, 24-hour storm

Using the more conservative of these standards, the wetland was designed for the auxiliary spillway to pass the 100-year, 24-hour storm, according to IDNR Chapter 73. Based on IDNR Chapter 73, the freeboard design storm shall be the 100-year, 24-hour storm and the design shall be passed without the wetland pool elevation overtopping the embankment. This equates to a storm producing a rainfall depth of 7.50”. The 100-year, 24-hour storm will produce a discharge of 1226.0 cfs through the principal spillway and a peak water surface elevation of 881.94’. The top of dam elevation is set at 882.50’.

WATER QUALITY IMPROVEMENT

The wetland drawdown was designed to meet NRCS 656 requirements. Wetland will drawdown and return to design operating levels within 48 hours after a 10-year, 24-hour storm. The 10-year, 24-hour storm produced a 19-hour drawdown frequency. To promote emergent vegetation, 50% of the pool area (51% for this design) shall have depths from 0-24 inches.

SLOPE DESIGN

Side slopes were designed to meet NRCS 656 requirements which reference NRCS 378. Slopes designed with a ratio if three horizontal to one vertical (3:1) or flatter.

EMBANKMENT DESIGN

Per NRCS 378, top width required for dams with total heights less than 15 feet require a minimum of 10 feet top width. A 12-foot top width was chosen for this design. Minimum settlement of 5% of the total height of the dam was accounted for on the final construction elevation of the dam. This equates to a final construction elevation of 882.85’ ([7 feet x 0.05] + 882.50). Per NRSC 656, an additional 1 foot of overfill was added to the embankment design 50 feet on each side of the principal spillway (elevation of 883.50’).

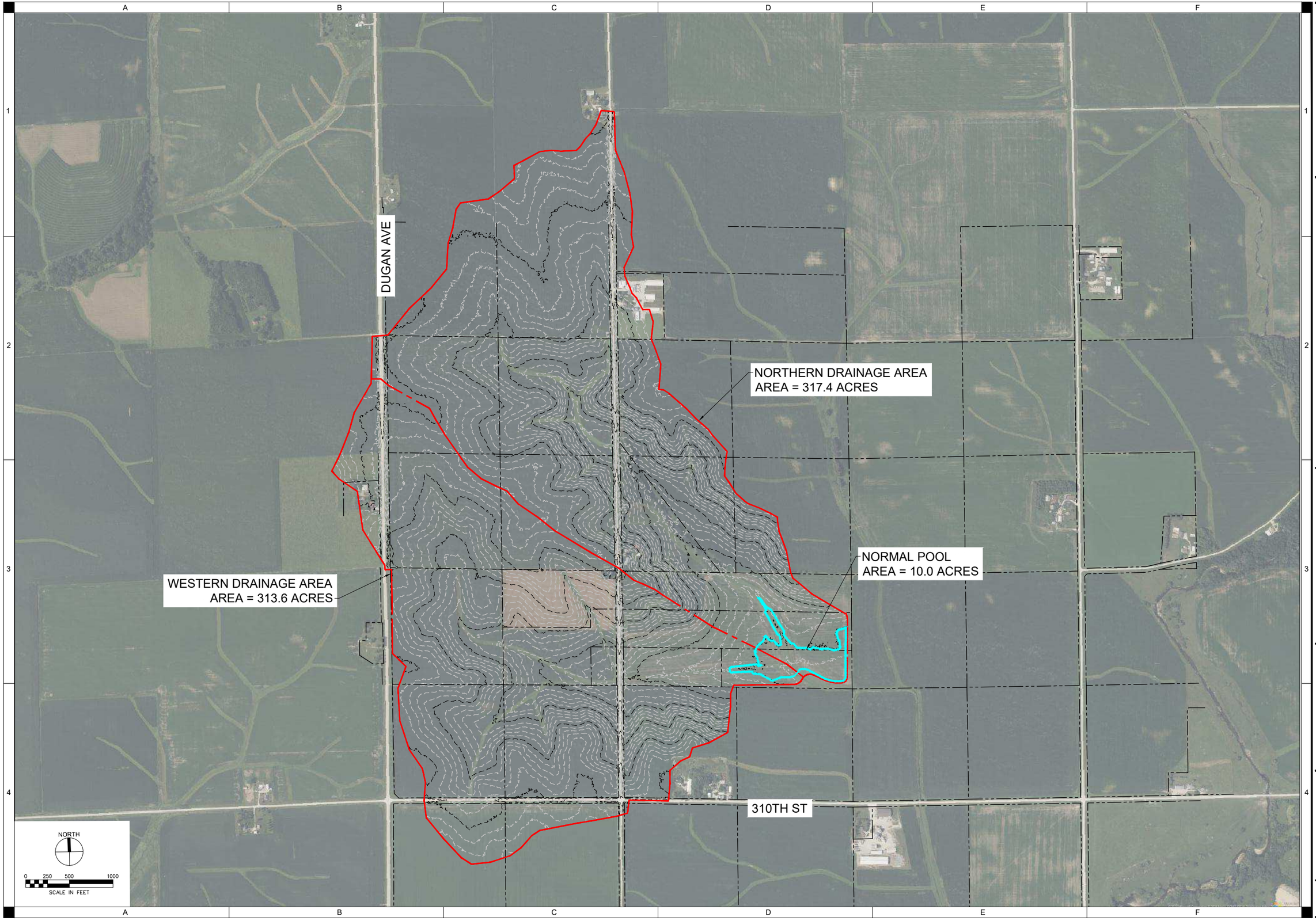
IMPOUNDMENT LIFE

The Impoundment life was calculated using estimated sediment delivery and NRCS standard total erosion rate estimates. The erosion rates are based on the Average Annual Soil Erosion by Water on Cropland and CRP Land, 1982, published by USDA and revised in December 2000. This indicated that the erosion rates for the area ranged from 3 to 5 tons per acre per year. Furthermore, sediment delivery was based on NRCS FOTG “Erosion & Sediment Delivery”, (Chart I: Estimated sediment delivery for landform regions). The chart indicated a sediment delivery percentage of approximately 19% for a 631-acre drainage area located in the Iowan Surface Landform. Finally, the estimated sediment storage is based on 6” below normal pool storage volume which equates to 14.4 ac-ft in the wetland pool and 3.01 ac-ft in the forebays.

Based on the assumed soil erosion rate (4 T/Ac/yr), delivery ratio (19%), a sediment unit weight of 100 PCF, and sediment capture rate of 70% of delivered sediment, approximately 335.7 tons of sediment per year (6,714 CF) is anticipated to be retained in the wetland. With a total sediment capacity of 17.4 ac-ft, this equates to an expected impoundment life of 113 years.

GEOTECHNICAL INVESTIGATION AND EVALUATION

A geotechnical investigation has been completed by Terracon for the proposed wetland. A report compiling the findings and associated recommendations is included in the appendix of this report.



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IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

BUC871015D WETLAND

IDALS

BUCHANAN COUNTY, IOWA

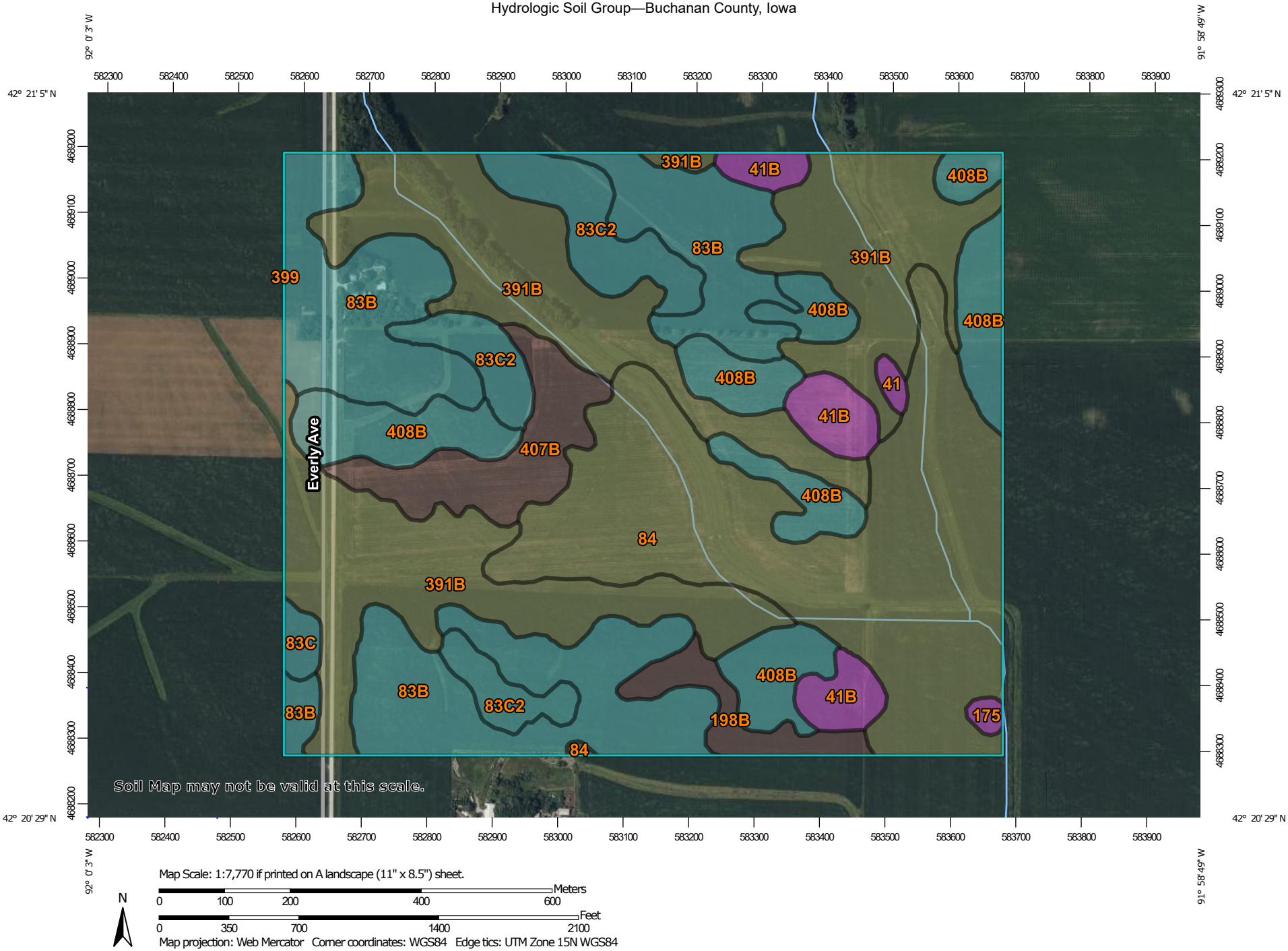
PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN: GHK
APPROVED: DJJ
ISSUED FOR: PRELIMINARY DESIGN
DATE: 3/15/2024
PROJECT NO: 214220320
FIELD BOOK: ---
CLIENT NO: ---

BASE MAP

EX01

P:\Projects\OM2\214220320\Deliverables\Drawings\Buchanan\1_CIVIL\02-BASE MAP.dwg
Plotted: 3/12/2024 1:23:53 PM



Map Scale: 1:7,770 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Buchanan County, Iowa
Survey Area Data: Version 29, Sep 12, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 20, 2022—Aug 4, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
41	Sparta loamy sand, 0 to 2 percent slopes	A	0.7	0.3%
41B	Sparta loamy sand, 2 to 5 percent slopes	A	7.9	3.2%
83B	Kenyon loam, 2 to 5 percent slopes	C	52.9	21.2%
83C	Kenyon loam, 5 to 9 percent slopes	C	1.4	0.6%
83C2	Kenyon loam, 5 to 9 percent slopes, eroded	C	15.5	6.2%
84	Clyde clay loam, 0 to 3 percent slopes	C/D	56.2	22.5%
175	Dickinson fine sandy loam, 0 to 2 percent slopes	A	0.6	0.3%
198B	Floyd loam, 1 to 4 percent slopes	B/D	4.9	1.9%
391B	Clyde-Floyd complex, 1 to 4 percent slopes	C/D	70.7	28.3%
399	Readlyn silt loam, 1 to 3 percent slopes	C/D	0.0	0.0%
407B	Schley loam, 1 to 4 percent slopes	B/D	10.9	4.4%
408B	Olin sandy loam, 2 to 5 percent slopes	C	28.2	11.3%
Totals for Area of Interest			**249.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

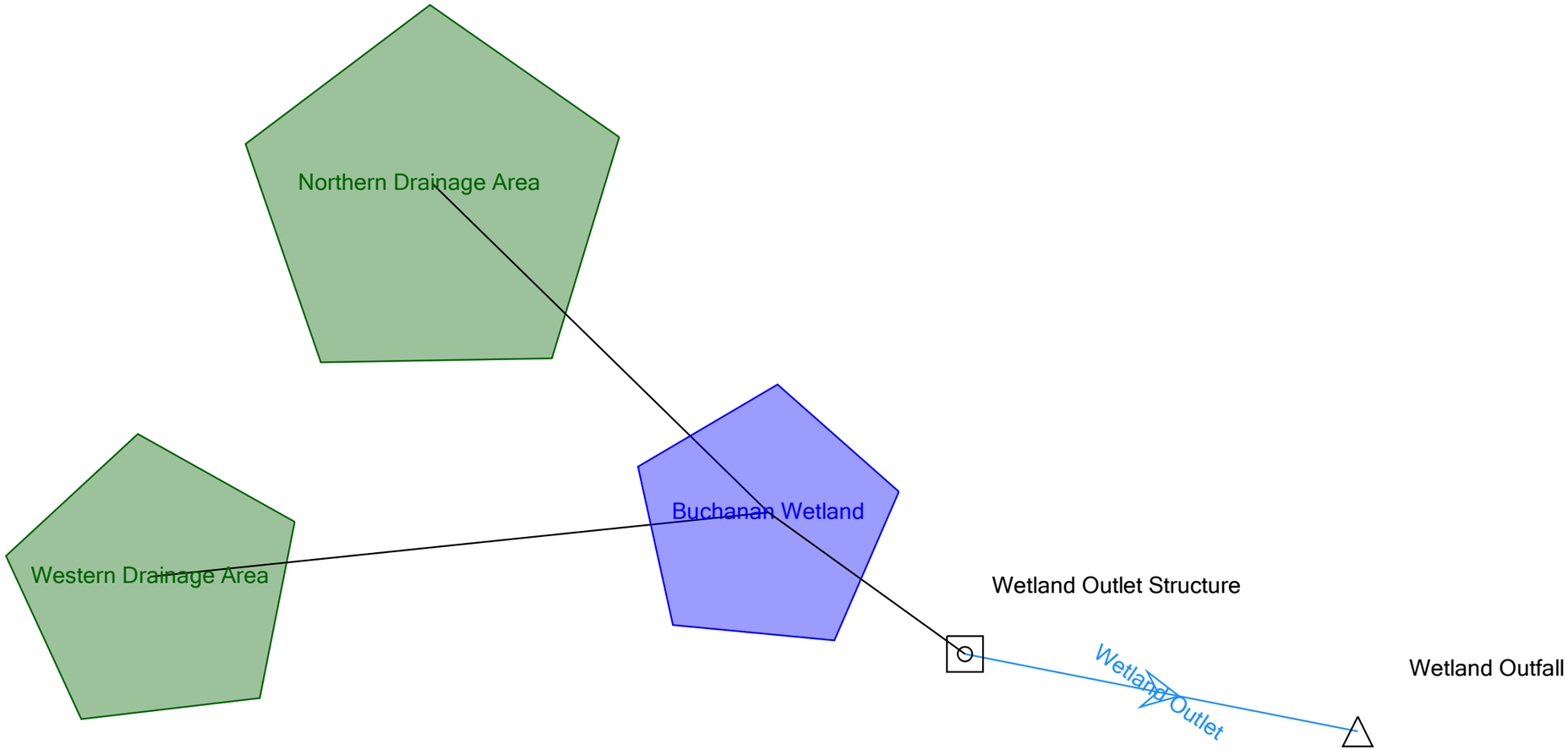
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Pondpack Diagram



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BUC871015D_StormwaterReport

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Western Drainage Area	Post-Development 10 year	10	57.333	12.900	285.15
Western Drainage Area	Post-Development 25 year	25	80.940	12.900	407.07
Western Drainage Area	Post-Development 50 year	50	101.935	12.900	514.39
Western Drainage Area	Post-Development 100 year	100	125.399	12.900	633.16
Northern Drainage Area	Post-Development 10 year	10	58.031	13.100	270.13
Northern Drainage Area	Post-Development 25 year	25	81.926	13.100	383.91
Northern Drainage Area	Post-Development 50 year	50	103.177	12.950	484.59
Northern Drainage Area	Post-Development 100 year	100	126.928	12.950	597.15

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Wetland Outfall	Post-Development 10 year	10	115.364	13.400	465.45
Wetland Outfall	Post-Development 25 year	25	162.866	13.350	675.59
Wetland Outfall	Post-Development 50 year	50	205.112	13.300	894.93
Wetland Outfall	Post-Development 100 year	100	252.327	13.250	1,123.26

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Buchanan Wetland (IN)	Post-Development 10 year	10	115.364	13.050	552.68	(N/A)	(N/A)
Buchanan Wetland (OUT)	Post-Development 10 year	10	115.364	13.400	465.45	881.01	38.809

BUC871015D_StormwaterReport

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Buchanan Wetland (IN)	Post-Development 25 year	25	162.866	12.950	788.26	(N/A)	(N/A)
Buchanan Wetland (OUT)	Post-Development 25 year	25	162.866	13.350	675.59	881.42	45.668
Buchanan Wetland (IN)	Post-Development 50 year	50	205.112	12.950	996.05	(N/A)	(N/A)
Buchanan Wetland (OUT)	Post-Development 50 year	50	205.112	13.300	894.93	881.70	50.528
Buchanan Wetland (IN)	Post-Development 100 year	100	252.327	12.950	1,226.02	(N/A)	(N/A)
Buchanan Wetland (OUT)	Post-Development 100 year	100	252.327	13.250	1,123.26	881.94	55.173

Time-Depth Curve: 10 year	
Label	10 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.0	0.0	0.0	0.0	0.0
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.4	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.4	0.4	0.4
8.000	0.4	0.5	0.5	0.5	0.5
8.500	0.5	0.5	0.5	0.5	0.5
9.000	0.5	0.6	0.6	0.6	0.6
9.500	0.6	0.6	0.7	0.7	0.7
10.000	0.7	0.7	0.7	0.8	0.8
10.500	0.8	0.8	0.9	0.9	0.9
11.000	1.0	1.0	1.1	1.1	1.2
11.500	1.2	1.3	1.4	1.5	1.7
12.000	2.1	2.7	2.9	3.1	3.2
12.500	3.3	3.3	3.4	3.4	3.5
13.000	3.5	3.6	3.6	3.6	3.7
13.500	3.7	3.7	3.7	3.7	3.8
14.000	3.8	3.8	3.8	3.8	3.8
14.500	3.9	3.9	3.9	3.9	3.9
15.000	3.9	3.9	4.0	4.0	4.0
15.500	4.0	4.0	4.0	4.0	4.0
16.000	4.0	4.0	4.1	4.1	4.1
16.500	4.1	4.1	4.1	4.1	4.1

BUC871015D_StormwaterReport

Subsection: Time-Depth Curve
Label: MSE4
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.1	4.1	4.1	4.2	4.2
17.500	4.2	4.2	4.2	4.2	4.2
18.000	4.2	4.2	4.2	4.2	4.2
18.500	4.2	4.2	4.3	4.3	4.3
19.000	4.3	4.3	4.3	4.3	4.3
19.500	4.3	4.3	4.3	4.3	4.3
20.000	4.3	4.3	4.3	4.4	4.4
20.500	4.4	4.4	4.4	4.4	4.4
21.000	4.4	4.4	4.4	4.4	4.4
21.500	4.4	4.4	4.4	4.4	4.4
22.000	4.4	4.4	4.4	4.4	4.4
22.500	4.4	4.4	4.4	4.5	4.5
23.000	4.5	4.5	4.5	4.5	4.5
23.500	4.5	4.5	4.5	4.5	4.5
24.000	4.5	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 100 year	
Label	100 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.4	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.4
6.000	0.5	0.5	0.5	0.5	0.5
6.500	0.5	0.5	0.6	0.6	0.6
7.000	0.6	0.6	0.6	0.6	0.6
7.500	0.7	0.7	0.7	0.7	0.7
8.000	0.7	0.8	0.8	0.8	0.8
8.500	0.8	0.8	0.9	0.9	0.9
9.000	0.9	0.9	1.0	1.0	1.0
9.500	1.0	1.1	1.1	1.1	1.2
10.000	1.2	1.2	1.2	1.3	1.3
10.500	1.3	1.4	1.4	1.5	1.6
11.000	1.6	1.7	1.8	1.8	1.9
11.500	2.0	2.2	2.3	2.6	2.9
12.000	3.5	4.6	4.9	5.1	5.3
12.500	5.4	5.5	5.6	5.7	5.8
13.000	5.9	5.9	6.0	6.0	6.1
13.500	6.1	6.2	6.2	6.2	6.3
14.000	6.3	6.3	6.4	6.4	6.4
14.500	6.4	6.5	6.5	6.5	6.5
15.000	6.6	6.6	6.6	6.6	6.6
15.500	6.7	6.7	6.7	6.7	6.7
16.000	6.7	6.8	6.8	6.8	6.8
16.500	6.8	6.8	6.8	6.9	6.9

BUC871015D_StormwaterReport

Subsection: Time-Depth Curve
Label: MSE4
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	6.9	6.9	6.9	6.9	6.9
17.500	7.0	7.0	7.0	7.0	7.0
18.000	7.0	7.0	7.0	7.1	7.1
18.500	7.1	7.1	7.1	7.1	7.1
19.000	7.1	7.1	7.2	7.2	7.2
19.500	7.2	7.2	7.2	7.2	7.2
20.000	7.2	7.2	7.3	7.3	7.3
20.500	7.3	7.3	7.3	7.3	7.3
21.000	7.3	7.3	7.3	7.3	7.4
21.500	7.4	7.4	7.4	7.4	7.4
22.000	7.4	7.4	7.4	7.4	7.4
22.500	7.4	7.4	7.4	7.4	7.4
23.000	7.4	7.4	7.5	7.5	7.5
23.500	7.5	7.5	7.5	7.5	7.5
24.000	7.5	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 25 year	
Label	25 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	25 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.0	0.0	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.3	0.3
6.000	0.3	0.4	0.4	0.4	0.4
6.500	0.4	0.4	0.4	0.4	0.4
7.000	0.4	0.5	0.5	0.5	0.5
7.500	0.5	0.5	0.5	0.5	0.5
8.000	0.6	0.6	0.6	0.6	0.6
8.500	0.6	0.6	0.6	0.6	0.7
9.000	0.7	0.7	0.7	0.7	0.8
9.500	0.8	0.8	0.8	0.8	0.9
10.000	0.9	0.9	0.9	0.9	1.0
10.500	1.0	1.0	1.1	1.1	1.2
11.000	1.2	1.3	1.3	1.4	1.4
11.500	1.5	1.6	1.7	1.9	2.2
12.000	2.6	3.4	3.7	3.8	4.0
12.500	4.1	4.1	4.2	4.2	4.3
13.000	4.4	4.4	4.5	4.5	4.5
13.500	4.6	4.6	4.6	4.6	4.7
14.000	4.7	4.7	4.7	4.7	4.8
14.500	4.8	4.8	4.8	4.8	4.9
15.000	4.9	4.9	4.9	4.9	4.9
15.500	4.9	5.0	5.0	5.0	5.0
16.000	5.0	5.0	5.0	5.0	5.1
16.500	5.1	5.1	5.1	5.1	5.1

BUC871015D_StormwaterReport

Subsection: Time-Depth Curve
Label: MSE4
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	5.1	5.1	5.1	5.2	5.2
17.500	5.2	5.2	5.2	5.2	5.2
18.000	5.2	5.2	5.2	5.2	5.3
18.500	5.3	5.3	5.3	5.3	5.3
19.000	5.3	5.3	5.3	5.3	5.3
19.500	5.3	5.4	5.4	5.4	5.4
20.000	5.4	5.4	5.4	5.4	5.4
20.500	5.4	5.4	5.4	5.4	5.4
21.000	5.4	5.4	5.5	5.5	5.5
21.500	5.5	5.5	5.5	5.5	5.5
22.000	5.5	5.5	5.5	5.5	5.5
22.500	5.5	5.5	5.5	5.5	5.5
23.000	5.5	5.5	5.5	5.5	5.5
23.500	5.5	5.6	5.6	5.6	5.6
24.000	5.6	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 50 year	
Label	50 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	50 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.4	0.4	0.4	0.4
6.000	0.4	0.4	0.4	0.4	0.4
6.500	0.5	0.5	0.5	0.5	0.5
7.000	0.5	0.5	0.5	0.6	0.6
7.500	0.6	0.6	0.6	0.6	0.6
8.000	0.6	0.7	0.7	0.7	0.7
8.500	0.7	0.7	0.7	0.8	0.8
9.000	0.8	0.8	0.8	0.9	0.9
9.500	0.9	0.9	1.0	1.0	1.0
10.000	1.0	1.1	1.1	1.1	1.1
10.500	1.2	1.2	1.2	1.3	1.3
11.000	1.4	1.5	1.5	1.6	1.7
11.500	1.8	1.9	2.0	2.2	2.5
12.000	3.0	4.0	4.3	4.5	4.6
12.500	4.7	4.8	4.9	4.9	5.0
13.000	5.1	5.1	5.2	5.2	5.3
13.500	5.3	5.3	5.4	5.4	5.4
14.000	5.5	5.5	5.5	5.5	5.6
14.500	5.6	5.6	5.6	5.6	5.7
15.000	5.7	5.7	5.7	5.7	5.8
15.500	5.8	5.8	5.8	5.8	5.8
16.000	5.8	5.9	5.9	5.9	5.9
16.500	5.9	5.9	5.9	5.9	6.0

BUC871015D_StormwaterReport

Subsection: Time-Depth Curve
Label: MSE4
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	6.0	6.0	6.0	6.0	6.0
17.500	6.0	6.0	6.0	6.1	6.1
18.000	6.1	6.1	6.1	6.1	6.1
18.500	6.1	6.1	6.2	6.2	6.2
19.000	6.2	6.2	6.2	6.2	6.2
19.500	6.2	6.2	6.2	6.3	6.3
20.000	6.3	6.3	6.3	6.3	6.3
20.500	6.3	6.3	6.3	6.3	6.3
21.000	6.3	6.3	6.4	6.4	6.4
21.500	6.4	6.4	6.4	6.4	6.4
22.000	6.4	6.4	6.4	6.4	6.4
22.500	6.4	6.4	6.4	6.4	6.4
23.000	6.4	6.5	6.5	6.5	6.5
23.500	6.5	6.5	6.5	6.5	6.5
24.000	6.5	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time of Concentration Calculations
Label: Northern Drainage Area
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	8,148.00 ft
CN	77.000
Slope	0.041 ft/ft
Average Velocity	1.47 ft/s
Segment Time of Concentration	1.538 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.538 hours

Subsection: Time of Concentration Calculations
Label: Northern Drainage Area
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Northern Drainage Area
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	8,148.00 ft
CN	77.000
Slope	0.041 ft/ft
Average Velocity	1.47 ft/s
Segment Time of Concentration	1.538 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.538 hours

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Northern Drainage Area
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	8,148.00 ft
CN	77.000
Slope	0.041 ft/ft
Average Velocity	1.47 ft/s
Segment Time of Concentration	1.538 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.538 hours

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Northern Drainage Area
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	8,148.00 ft
CN	77.000
Slope	0.041 ft/ft
Average Velocity	1.47 ft/s
Segment Time of Concentration	1.538 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.538 hours

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Western Drainage Area
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	7,139.00 ft
CN	77.000
Slope	0.040 ft/ft
Average Velocity	1.42 ft/s
Segment Time of Concentration	1.401 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.401 hours

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Western Drainage Area
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	7,139.00 ft
CN	77.000
Slope	0.040 ft/ft
Average Velocity	1.42 ft/s
Segment Time of Concentration	1.401 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.401 hours

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Western Drainage Area
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	7,139.00 ft
CN	77.000
Slope	0.040 ft/ft
Average Velocity	1.42 ft/s
Segment Time of Concentration	1.401 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.401 hours

Subsection: Time of Concentration Calculations
Label: Western Drainage Area
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Subsection: Time of Concentration Calculations
Label: Western Drainage Area
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	7,139.00 ft
CN	77.000
Slope	0.040 ft/ft
Average Velocity	1.42 ft/s
Segment Time of Concentration	1.401 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	1.401 hours

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

Storm Event	10 year
Return Event	10 years
Duration	48.000 hours
Depth	4.5 in
Time of Concentration (Composite)	1.538 hours
Area (User Defined)	13,825,072.80 ft²

Computational Time Increment	0.205 hours
Time to Peak (Computed)	13.124 hours
Flow (Peak, Computed)	270.53 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	13.100 hours
Flow (Peak Interpolated Output)	270.13 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,825,072.80 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	58.038 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	58.031 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.538 hours
Computational Time Increment	0.205 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Northern Drainage Area
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	233.81 ft³/s
Unit peak time, Tp	1.025 hours
Unit receding limb, Tr	4.101 hours
Total unit time, Tb	5.127 hours

Subsection: Unit Hydrograph Summary
Label: Northern Drainage Area
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	48.000 hours
Depth	5.6 in
Time of Concentration (Composite)	1.538 hours
Area (User Defined)	13,825,072.80 ft²

Computational Time Increment	0.205 hours
Time to Peak (Computed)	13.124 hours
Flow (Peak, Computed)	384.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	13.100 hours
Flow (Peak Interpolated Output)	383.91 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,825,072.80 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	81.935 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	81.926 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.538 hours
Computational Time Increment	0.205 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Northern Drainage Area
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	233.81 ft³/s
Unit peak time, Tp	1.025 hours
Unit receding limb, Tr	4.101 hours
Total unit time, Tb	5.127 hours

Storm Event	50 year
Return Event	50 years
Duration	48.000 hours
Depth	6.5 in
Time of Concentration (Composite)	1.538 hours
Area (User Defined)	13,825,072.80 ft²

Computational Time Increment	0.205 hours
Time to Peak (Computed)	12.919 hours
Flow (Peak, Computed)	484.73 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.950 hours
Flow (Peak Interpolated Output)	484.59 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,825,072.80 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	103.189 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	103.177 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.538 hours
Computational Time Increment	0.205 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Northern Drainage Area
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	233.81 ft³/s
Unit peak time, Tp	1.025 hours
Unit receding limb, Tr	4.101 hours
Total unit time, Tb	5.127 hours

Subsection: Unit Hydrograph Summary
Label: Northern Drainage Area
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Storm Event	100 year
Return Event	100 years
Duration	48.000 hours
Depth	7.5 in
Time of Concentration (Composite)	1.538 hours
Area (User Defined)	13,825,072.80 ft²

Computational Time Increment	0.205 hours
Time to Peak (Computed)	12.919 hours
Flow (Peak, Computed)	597.71 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.950 hours
Flow (Peak Interpolated Output)	597.15 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,825,072.80 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	126.941 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	126.928 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.538 hours
Computational Time Increment	0.205 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Northern Drainage Area
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	233.81 ft³/s
Unit peak time, Tp	1.025 hours
Unit receding limb, Tr	4.101 hours
Total unit time, Tb	5.127 hours

Storm Event	10 year
Return Event	10 years
Duration	48.000 hours
Depth	4.5 in
Time of Concentration (Composite)	1.401 hours
Area (User Defined)	13,656,931.20 ft²

Computational Time Increment	0.187 hours
Time to Peak (Computed)	12.889 hours
Flow (Peak, Computed)	285.28 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.900 hours
Flow (Peak Interpolated Output)	285.15 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,656,931.20 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	57.332 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	57.333 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.401 hours
Computational Time Increment	0.187 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Western Drainage Area
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	253.57 ft³/s
Unit peak time, Tp	0.934 hours
Unit receding limb, Tr	3.736 hours
Total unit time, Tb	4.670 hours

Storm Event	25 year
Return Event	25 years
Duration	48.000 hours
Depth	5.6 in
Time of Concentration (Composite)	1.401 hours
Area (User Defined)	13,656,931.20 ft²

Computational Time Increment	0.187 hours
Time to Peak (Computed)	12.889 hours
Flow (Peak, Computed)	407.47 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.900 hours
Flow (Peak Interpolated Output)	407.07 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,656,931.20 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	80.939 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	80.940 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.401 hours
Computational Time Increment	0.187 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Western Drainage Area
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	253.57 ft³/s
Unit peak time, Tp	0.934 hours
Unit receding limb, Tr	3.736 hours
Total unit time, Tb	4.670 hours

Subsection: Unit Hydrograph Summary
Label: Western Drainage Area
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Storm Event	50 year
Return Event	50 years
Duration	48.000 hours
Depth	6.5 in
Time of Concentration (Composite)	1.401 hours
Area (User Defined)	13,656,931.20 ft²

Computational Time Increment	0.187 hours
Time to Peak (Computed)	12.889 hours
Flow (Peak, Computed)	515.06 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.900 hours
Flow (Peak Interpolated Output)	514.39 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,656,931.20 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	101.934 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	101.935 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.401 hours
Computational Time Increment	0.187 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Western Drainage Area
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	253.57 ft³/s
Unit peak time, Tp	0.934 hours
Unit receding limb, Tr	3.736 hours
Total unit time, Tb	4.670 hours

Storm Event	100 year
Return Event	100 years
Duration	48.000 hours
Depth	7.5 in
Time of Concentration (Composite)	1.401 hours
Area (User Defined)	13,656,931.20 ft²

Computational Time Increment	0.187 hours
Time to Peak (Computed)	12.889 hours
Flow (Peak, Computed)	634.13 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.900 hours
Flow (Peak Interpolated Output)	633.16 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	13,656,931.20 ft²
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	125.397 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	125.399 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	1.401 hours
Computational Time Increment	0.187 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Western Drainage Area
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	253.57 ft³/s
Unit peak time, Tp	0.934 hours
Unit receding limb, Tr	3.736 hours
Total unit time, Tb	4.670 hours

BUC871015D_StormwaterReport

Subsection: Addition Summary
Label: Wetland Outfall
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Buchanan Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	115.364	13.400	465.45
Flow (In)	Wetland Outfall	115.364	13.400	465.45

BUC871015D_StormwaterReport

Subsection: Addition Summary
Label: Wetland Outfall
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Buchanan Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	162.866	13.350	675.59
Flow (In)	Wetland Outfall	162.866	13.350	675.59

BUC871015D_StormwaterReport

Subsection: Addition Summary
Label: Wetland Outfall
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Buchanan Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	205.112	13.300	894.93
Flow (In)	Wetland Outfall	205.112	13.300	894.93

BUC871015D_StormwaterReport

Subsection: Addition Summary
Label: Wetland Outfall
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Buchanan Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	252.327	13.250	1,123.26
Flow (In)	Wetland Outfall	252.327	13.250	1,123.26

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	879.50	879.50	879.50	879.50	879.50
0.250	879.50	879.50	879.50	879.50	879.50
0.500	879.50	879.50	879.50	879.50	879.50
0.750	879.50	879.50	879.50	879.50	879.50
1.000	879.50	879.50	879.50	879.50	879.50
1.250	879.50	879.50	879.50	879.50	879.50
1.500	879.50	879.50	879.50	879.50	879.50
1.750	879.50	879.50	879.50	879.50	879.50
2.000	879.50	879.50	879.50	879.50	879.50
2.250	879.50	879.50	879.50	879.50	879.50
2.500	879.50	879.50	879.50	879.50	879.50
2.750	879.50	879.50	879.50	879.50	879.50
3.000	879.50	879.50	879.50	879.50	879.50
3.250	879.50	879.50	879.50	879.50	879.50
3.500	879.50	879.50	879.50	879.50	879.50
3.750	879.50	879.50	879.50	879.50	879.50
4.000	879.50	879.50	879.50	879.50	879.50
4.250	879.50	879.50	879.50	879.50	879.50
4.500	879.50	879.50	879.50	879.50	879.50
4.750	879.50	879.50	879.50	879.50	879.50
5.000	879.50	879.50	879.50	879.50	879.50
5.250	879.50	879.50	879.50	879.50	879.50
5.500	879.50	879.50	879.50	879.50	879.50
5.750	879.50	879.50	879.50	879.50	879.50
6.000	879.50	879.50	879.50	879.50	879.50
6.250	879.50	879.50	879.50	879.50	879.50
6.500	879.50	879.50	879.50	879.50	879.50
6.750	879.50	879.50	879.50	879.50	879.50
7.000	879.50	879.50	879.50	879.50	879.50
7.250	879.50	879.50	879.50	879.50	879.50
7.500	879.50	879.50	879.50	879.50	879.50
7.750	879.50	879.50	879.50	879.50	879.50
8.000	879.50	879.50	879.50	879.50	879.50
8.250	879.50	879.50	879.50	879.50	879.50
8.500	879.50	879.50	879.50	879.50	879.50
8.750	879.50	879.50	879.50	879.50	879.50
9.000	879.50	879.50	879.50	879.50	879.50
9.250	879.50	879.50	879.50	879.50	879.50
9.500	879.50	879.50	879.50	879.50	879.50
9.750	879.50	879.50	879.50	879.50	879.50

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	879.50	879.50	879.50	879.50	879.50
10.250	879.50	879.50	879.50	879.50	879.50
10.500	879.50	879.51	879.51	879.51	879.51
10.750	879.51	879.51	879.51	879.51	879.52
11.000	879.52	879.52	879.52	879.53	879.53
11.250	879.53	879.54	879.54	879.55	879.55
11.500	879.56	879.56	879.57	879.58	879.58
11.750	879.59	879.60	879.61	879.63	879.64
12.000	879.66	879.69	879.71	879.74	879.78
12.250	879.83	879.88	879.94	880.01	880.07
12.500	880.14	880.22	880.29	880.37	880.45
12.750	880.53	880.59	880.65	880.71	880.77
13.000	880.82	880.86	880.90	880.94	880.96
13.250	880.98	881.00	881.01	881.01	881.01
13.500	881.01	881.00	880.99	880.97	880.95
13.750	880.93	880.91	880.88	880.86	880.83
14.000	880.81	880.78	880.75	880.73	880.70
14.250	880.68	880.65	880.62	880.60	880.57
14.500	880.55	880.53	880.50	880.48	880.46
14.750	880.43	880.41	880.39	880.37	880.34
15.000	880.32	880.31	880.29	880.27	880.25
15.250	880.24	880.22	880.21	880.19	880.18
15.500	880.16	880.15	880.14	880.13	880.12
15.750	880.11	880.10	880.09	880.08	880.07
16.000	880.06	880.05	880.04	880.03	880.02
16.250	880.01	880.01	880.00	879.99	879.98
16.500	879.98	879.97	879.96	879.95	879.94
16.750	879.94	879.93	879.92	879.91	879.91
17.000	879.90	879.89	879.89	879.88	879.88
17.250	879.87	879.87	879.86	879.86	879.85
17.500	879.85	879.84	879.84	879.83	879.83
17.750	879.82	879.82	879.82	879.81	879.81
18.000	879.81	879.80	879.80	879.80	879.79
18.250	879.79	879.79	879.78	879.78	879.78
18.500	879.78	879.77	879.77	879.77	879.77
18.750	879.77	879.76	879.76	879.76	879.76
19.000	879.76	879.75	879.75	879.75	879.75
19.250	879.75	879.74	879.74	879.74	879.74
19.500	879.74	879.74	879.73	879.73	879.73
19.750	879.73	879.73	879.73	879.72	879.72
20.000	879.72	879.72	879.72	879.72	879.71

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	879.71	879.71	879.71	879.71	879.71
20.500	879.71	879.70	879.70	879.70	879.70
20.750	879.70	879.70	879.70	879.69	879.69
21.000	879.69	879.69	879.69	879.69	879.69
21.250	879.68	879.68	879.68	879.68	879.68
21.500	879.68	879.68	879.67	879.67	879.67
21.750	879.67	879.67	879.67	879.67	879.66
22.000	879.66	879.66	879.66	879.66	879.66
22.250	879.66	879.66	879.65	879.65	879.65
22.500	879.65	879.65	879.65	879.65	879.64
22.750	879.64	879.64	879.64	879.64	879.64
23.000	879.64	879.63	879.63	879.63	879.63
23.250	879.63	879.63	879.63	879.62	879.62
23.500	879.62	879.62	879.62	879.62	879.62
23.750	879.61	879.61	879.61	879.61	879.61
24.000	879.61	879.61	879.60	879.60	879.60
24.250	879.60	879.60	879.60	879.60	879.59
24.500	879.59	879.59	879.59	879.59	879.58
24.750	879.58	879.58	879.58	879.58	879.57
25.000	879.57	879.57	879.57	879.57	879.56
25.250	879.56	879.56	879.56	879.55	879.55
25.500	879.55	879.55	879.55	879.54	879.54
25.750	879.54	879.54	879.54	879.53	879.53
26.000	879.53	879.53	879.53	879.53	879.53
26.250	879.52	879.52	879.52	879.52	879.52
26.500	879.52	879.52	879.52	879.52	879.52
26.750	879.51	879.51	879.51	879.51	879.51
27.000	879.51	879.51	879.51	879.51	879.51
27.250	879.51	879.51	879.51	879.51	879.51
27.500	879.51	879.51	879.51	879.51	879.50
27.750	879.50	879.50	879.50	879.50	879.50
28.000	879.50	879.50	879.50	879.50	879.50
28.250	879.50	879.50	879.50	879.50	879.50
28.500	879.50	879.50	879.50	879.50	879.50
28.750	879.50	879.50	879.50	879.50	879.50
29.000	879.50	879.50	879.50	879.50	879.50
29.250	879.50	879.50	879.50	879.50	879.50
29.500	879.50	879.50	879.50	879.50	879.50
29.750	879.50	879.50	879.50	879.50	879.50
30.000	879.50	879.50	879.50	879.50	879.50
30.250	879.50	879.50	879.50	879.50	879.50

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.500	879.50	879.50	879.50	879.50	879.50
30.750	879.50	879.50	879.50	879.50	879.50
31.000	879.50	879.50	879.50	879.50	879.50
31.250	879.50	879.50	879.50	879.50	879.50
31.500	879.50	879.50	879.50	879.50	879.50
31.750	879.50	879.50	879.50	879.50	879.50
32.000	879.50	879.50	879.50	879.50	879.50
32.250	879.50	879.50	879.50	879.50	879.50
32.500	879.50	879.50	879.50	879.50	879.50
32.750	879.50	879.50	879.50	879.50	879.50
33.000	879.50	879.50	879.50	879.50	879.50
33.250	879.50	879.50	879.50	879.50	879.50
33.500	879.50	879.50	879.50	879.50	879.50
33.750	879.50	879.50	879.50	879.50	879.50
34.000	879.50	879.50	879.50	879.50	879.50
34.250	879.50	879.50	879.50	879.50	879.50
34.500	879.50	879.50	879.50	879.50	879.50
34.750	879.50	879.50	879.50	879.50	879.50
35.000	879.50	879.50	879.50	879.50	879.50
35.250	879.50	879.50	879.50	879.50	879.50
35.500	879.50	879.50	879.50	879.50	879.50
35.750	879.50	879.50	879.50	879.50	879.50
36.000	879.50	879.50	879.50	879.50	879.50
36.250	879.50	879.50	879.50	879.50	879.50
36.500	879.50	879.50	879.50	879.50	879.50
36.750	879.50	879.50	879.50	879.50	879.50
37.000	879.50	879.50	879.50	879.50	879.50
37.250	879.50	879.50	879.50	879.50	879.50
37.500	879.50	879.50	879.50	879.50	879.50
37.750	879.50	879.50	879.50	879.50	879.50
38.000	879.50	879.50	879.50	879.50	879.50
38.250	879.50	879.50	879.50	879.50	879.50
38.500	879.50	879.50	879.50	879.50	879.50
38.750	879.50	879.50	879.50	879.50	879.50
39.000	879.50	879.50	879.50	879.50	879.50
39.250	879.50	879.50	879.50	879.50	879.50
39.500	879.50	879.50	879.50	879.50	879.50
39.750	879.50	879.50	879.50	879.50	879.50
40.000	879.50	879.50	879.50	879.50	879.50
40.250	879.50	879.50	879.50	879.50	879.50
40.500	879.50	879.50	879.50	879.50	879.50

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
40.750	879.50	879.50	879.50	879.50	879.50
41.000	879.50	879.50	879.50	879.50	879.50
41.250	879.50	879.50	879.50	879.50	879.50
41.500	879.50	879.50	879.50	879.50	879.50
41.750	879.50	879.50	879.50	879.50	879.50
42.000	879.50	879.50	879.50	879.50	879.50
42.250	879.50	879.50	879.50	879.50	879.50
42.500	879.50	879.50	879.50	879.50	879.50
42.750	879.50	879.50	879.50	879.50	879.50
43.000	879.50	879.50	879.50	879.50	879.50
43.250	879.50	879.50	879.50	879.50	879.50
43.500	879.50	879.50	879.50	879.50	879.50
43.750	879.50	879.50	879.50	879.50	879.50
44.000	879.50	879.50	879.50	879.50	879.50
44.250	879.50	879.50	879.50	879.50	879.50
44.500	879.50	879.50	879.50	879.50	879.50
44.750	879.50	879.50	879.50	879.50	879.50
45.000	879.50	879.50	879.50	879.50	879.50
45.250	879.50	879.50	879.50	879.50	879.50
45.500	879.50	879.50	879.50	879.50	879.50
45.750	879.50	879.50	879.50	879.50	879.50
46.000	879.50	879.50	879.50	879.50	879.50
46.250	879.50	879.50	879.50	879.50	879.50
46.500	879.50	879.50	879.50	879.50	879.50
46.750	879.50	879.50	879.50	879.50	879.50
47.000	879.50	879.50	879.50	879.50	879.50
47.250	879.50	879.50	879.50	879.50	879.50
47.500	879.50	879.50	879.50	879.50	879.50
47.750	879.50	879.50	879.50	879.50	879.50
48.000	879.50	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	879.50	879.50	879.50	879.50	879.50
0.250	879.50	879.50	879.50	879.50	879.50
0.500	879.50	879.50	879.50	879.50	879.50
0.750	879.50	879.50	879.50	879.50	879.50
1.000	879.50	879.50	879.50	879.50	879.50
1.250	879.50	879.50	879.50	879.50	879.50
1.500	879.50	879.50	879.50	879.50	879.50
1.750	879.50	879.50	879.50	879.50	879.50
2.000	879.50	879.50	879.50	879.50	879.50
2.250	879.50	879.50	879.50	879.50	879.50
2.500	879.50	879.50	879.50	879.50	879.50
2.750	879.50	879.50	879.50	879.50	879.50
3.000	879.50	879.50	879.50	879.50	879.50
3.250	879.50	879.50	879.50	879.50	879.50
3.500	879.50	879.50	879.50	879.50	879.50
3.750	879.50	879.50	879.50	879.50	879.50
4.000	879.50	879.50	879.50	879.50	879.50
4.250	879.50	879.50	879.50	879.50	879.50
4.500	879.50	879.50	879.50	879.50	879.50
4.750	879.50	879.50	879.50	879.50	879.50
5.000	879.50	879.50	879.50	879.50	879.50
5.250	879.50	879.50	879.50	879.50	879.50
5.500	879.50	879.50	879.50	879.50	879.50
5.750	879.50	879.50	879.50	879.50	879.50
6.000	879.50	879.50	879.50	879.50	879.50
6.250	879.50	879.50	879.50	879.50	879.50
6.500	879.50	879.50	879.50	879.50	879.50
6.750	879.50	879.50	879.50	879.50	879.50
7.000	879.50	879.50	879.50	879.50	879.50
7.250	879.50	879.50	879.50	879.50	879.50
7.500	879.50	879.50	879.50	879.50	879.50
7.750	879.50	879.50	879.50	879.50	879.50
8.000	879.50	879.50	879.50	879.50	879.50
8.250	879.50	879.50	879.50	879.50	879.50
8.500	879.50	879.50	879.50	879.50	879.50
8.750	879.50	879.50	879.50	879.50	879.50
9.000	879.50	879.50	879.50	879.50	879.50
9.250	879.50	879.50	879.50	879.50	879.50
9.500	879.50	879.50	879.50	879.50	879.51
9.750	879.51	879.51	879.51	879.51	879.51

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	879.51	879.51	879.52	879.52	879.52
10.250	879.52	879.52	879.53	879.53	879.53
10.500	879.53	879.54	879.54	879.54	879.55
10.750	879.55	879.55	879.56	879.56	879.56
11.000	879.57	879.57	879.58	879.58	879.59
11.250	879.60	879.60	879.61	879.62	879.63
11.500	879.64	879.65	879.66	879.67	879.69
11.750	879.70	879.72	879.74	879.76	879.78
12.000	879.81	879.85	879.89	879.94	879.99
12.250	880.05	880.11	880.18	880.26	880.35
12.500	880.44	880.53	880.62	880.71	880.80
12.750	880.89	880.97	881.05	881.12	881.18
13.000	881.23	881.28	881.32	881.36	881.38
13.250	881.40	881.42	881.42	881.42	881.42
13.500	881.41	881.39	881.37	881.34	881.32
13.750	881.29	881.26	881.23	881.19	881.16
14.000	881.13	881.09	881.06	881.03	880.99
14.250	880.96	880.92	880.89	880.85	880.82
14.500	880.79	880.75	880.72	880.69	880.66
14.750	880.63	880.61	880.58	880.56	880.53
15.000	880.51	880.49	880.47	880.44	880.42
15.250	880.40	880.38	880.36	880.34	880.33
15.500	880.31	880.29	880.28	880.26	880.25
15.750	880.23	880.22	880.20	880.19	880.18
16.000	880.17	880.15	880.14	880.13	880.12
16.250	880.11	880.10	880.09	880.08	880.07
16.500	880.06	880.05	880.05	880.04	880.03
16.750	880.03	880.02	880.01	880.01	880.00
17.000	880.00	879.99	879.98	879.98	879.97
17.250	879.96	879.96	879.95	879.95	879.94
17.500	879.94	879.93	879.93	879.92	879.92
17.750	879.92	879.91	879.91	879.90	879.90
18.000	879.89	879.89	879.89	879.88	879.88
18.250	879.88	879.87	879.87	879.87	879.86
18.500	879.86	879.86	879.86	879.85	879.85
18.750	879.85	879.84	879.84	879.84	879.84
19.000	879.83	879.83	879.83	879.83	879.83
19.250	879.82	879.82	879.82	879.82	879.81
19.500	879.81	879.81	879.81	879.81	879.80
19.750	879.80	879.80	879.80	879.79	879.79
20.000	879.79	879.79	879.79	879.79	879.78

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	879.78	879.78	879.78	879.78	879.77
20.500	879.77	879.77	879.77	879.77	879.76
20.750	879.76	879.76	879.76	879.76	879.75
21.000	879.75	879.75	879.75	879.75	879.75
21.250	879.74	879.74	879.74	879.74	879.74
21.500	879.73	879.73	879.73	879.73	879.73
21.750	879.72	879.72	879.72	879.72	879.72
22.000	879.72	879.71	879.71	879.71	879.71
22.250	879.71	879.70	879.70	879.70	879.70
22.500	879.70	879.69	879.69	879.69	879.69
22.750	879.69	879.69	879.68	879.68	879.68
23.000	879.68	879.68	879.67	879.67	879.67
23.250	879.67	879.67	879.67	879.66	879.66
23.500	879.66	879.66	879.66	879.65	879.65
23.750	879.65	879.65	879.65	879.64	879.64
24.000	879.64	879.64	879.64	879.64	879.63
24.250	879.63	879.63	879.63	879.63	879.62
24.500	879.62	879.62	879.62	879.61	879.61
24.750	879.61	879.61	879.60	879.60	879.60
25.000	879.59	879.59	879.59	879.59	879.58
25.250	879.58	879.58	879.57	879.57	879.57
25.500	879.57	879.56	879.56	879.56	879.55
25.750	879.55	879.55	879.55	879.55	879.54
26.000	879.54	879.54	879.54	879.54	879.53
26.250	879.53	879.53	879.53	879.53	879.53
26.500	879.52	879.52	879.52	879.52	879.52
26.750	879.52	879.52	879.52	879.52	879.52
27.000	879.51	879.51	879.51	879.51	879.51
27.250	879.51	879.51	879.51	879.51	879.51
27.500	879.51	879.51	879.51	879.51	879.51
27.750	879.51	879.51	879.51	879.51	879.50
28.000	879.50	879.50	879.50	879.50	879.50
28.250	879.50	879.50	879.50	879.50	879.50
28.500	879.50	879.50	879.50	879.50	879.50
28.750	879.50	879.50	879.50	879.50	879.50
29.000	879.50	879.50	879.50	879.50	879.50
29.250	879.50	879.50	879.50	879.50	879.50
29.500	879.50	879.50	879.50	879.50	879.50
29.750	879.50	879.50	879.50	879.50	879.50
30.000	879.50	879.50	879.50	879.50	879.50
30.250	879.50	879.50	879.50	879.50	879.50

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.500	879.50	879.50	879.50	879.50	879.50
30.750	879.50	879.50	879.50	879.50	879.50
31.000	879.50	879.50	879.50	879.50	879.50
31.250	879.50	879.50	879.50	879.50	879.50
31.500	879.50	879.50	879.50	879.50	879.50
31.750	879.50	879.50	879.50	879.50	879.50
32.000	879.50	879.50	879.50	879.50	879.50
32.250	879.50	879.50	879.50	879.50	879.50
32.500	879.50	879.50	879.50	879.50	879.50
32.750	879.50	879.50	879.50	879.50	879.50
33.000	879.50	879.50	879.50	879.50	879.50
33.250	879.50	879.50	879.50	879.50	879.50
33.500	879.50	879.50	879.50	879.50	879.50
33.750	879.50	879.50	879.50	879.50	879.50
34.000	879.50	879.50	879.50	879.50	879.50
34.250	879.50	879.50	879.50	879.50	879.50
34.500	879.50	879.50	879.50	879.50	879.50
34.750	879.50	879.50	879.50	879.50	879.50
35.000	879.50	879.50	879.50	879.50	879.50
35.250	879.50	879.50	879.50	879.50	879.50
35.500	879.50	879.50	879.50	879.50	879.50
35.750	879.50	879.50	879.50	879.50	879.50
36.000	879.50	879.50	879.50	879.50	879.50
36.250	879.50	879.50	879.50	879.50	879.50
36.500	879.50	879.50	879.50	879.50	879.50
36.750	879.50	879.50	879.50	879.50	879.50
37.000	879.50	879.50	879.50	879.50	879.50
37.250	879.50	879.50	879.50	879.50	879.50
37.500	879.50	879.50	879.50	879.50	879.50
37.750	879.50	879.50	879.50	879.50	879.50
38.000	879.50	879.50	879.50	879.50	879.50
38.250	879.50	879.50	879.50	879.50	879.50
38.500	879.50	879.50	879.50	879.50	879.50
38.750	879.50	879.50	879.50	879.50	879.50
39.000	879.50	879.50	879.50	879.50	879.50
39.250	879.50	879.50	879.50	879.50	879.50
39.500	879.50	879.50	879.50	879.50	879.50
39.750	879.50	879.50	879.50	879.50	879.50
40.000	879.50	879.50	879.50	879.50	879.50
40.250	879.50	879.50	879.50	879.50	879.50
40.500	879.50	879.50	879.50	879.50	879.50

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
40.750	879.50	879.50	879.50	879.50	879.50
41.000	879.50	879.50	879.50	879.50	879.50
41.250	879.50	879.50	879.50	879.50	879.50
41.500	879.50	879.50	879.50	879.50	879.50
41.750	879.50	879.50	879.50	879.50	879.50
42.000	879.50	879.50	879.50	879.50	879.50
42.250	879.50	879.50	879.50	879.50	879.50
42.500	879.50	879.50	879.50	879.50	879.50
42.750	879.50	879.50	879.50	879.50	879.50
43.000	879.50	879.50	879.50	879.50	879.50
43.250	879.50	879.50	879.50	879.50	879.50
43.500	879.50	879.50	879.50	879.50	879.50
43.750	879.50	879.50	879.50	879.50	879.50
44.000	879.50	879.50	879.50	879.50	879.50
44.250	879.50	879.50	879.50	879.50	879.50
44.500	879.50	879.50	879.50	879.50	879.50
44.750	879.50	879.50	879.50	879.50	879.50
45.000	879.50	879.50	879.50	879.50	879.50
45.250	879.50	879.50	879.50	879.50	879.50
45.500	879.50	879.50	879.50	879.50	879.50
45.750	879.50	879.50	879.50	879.50	879.50
46.000	879.50	879.50	879.50	879.50	879.50
46.250	879.50	879.50	879.50	879.50	879.50
46.500	879.50	879.50	879.50	879.50	879.50
46.750	879.50	879.50	879.50	879.50	879.50
47.000	879.50	879.50	879.50	879.50	879.50
47.250	879.50	879.50	879.50	879.50	879.50
47.500	879.50	879.50	879.50	879.50	879.50
47.750	879.50	879.50	879.50	879.50	879.50
48.000	879.50	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	879.50	879.50	879.50	879.50	879.50
0.250	879.50	879.50	879.50	879.50	879.50
0.500	879.50	879.50	879.50	879.50	879.50
0.750	879.50	879.50	879.50	879.50	879.50
1.000	879.50	879.50	879.50	879.50	879.50
1.250	879.50	879.50	879.50	879.50	879.50
1.500	879.50	879.50	879.50	879.50	879.50
1.750	879.50	879.50	879.50	879.50	879.50
2.000	879.50	879.50	879.50	879.50	879.50
2.250	879.50	879.50	879.50	879.50	879.50
2.500	879.50	879.50	879.50	879.50	879.50
2.750	879.50	879.50	879.50	879.50	879.50
3.000	879.50	879.50	879.50	879.50	879.50
3.250	879.50	879.50	879.50	879.50	879.50
3.500	879.50	879.50	879.50	879.50	879.50
3.750	879.50	879.50	879.50	879.50	879.50
4.000	879.50	879.50	879.50	879.50	879.50
4.250	879.50	879.50	879.50	879.50	879.50
4.500	879.50	879.50	879.50	879.50	879.50
4.750	879.50	879.50	879.50	879.50	879.50
5.000	879.50	879.50	879.50	879.50	879.50
5.250	879.50	879.50	879.50	879.50	879.50
5.500	879.50	879.50	879.50	879.50	879.50
5.750	879.50	879.50	879.50	879.50	879.50
6.000	879.50	879.50	879.50	879.50	879.50
6.250	879.50	879.50	879.50	879.50	879.50
6.500	879.50	879.50	879.50	879.50	879.50
6.750	879.50	879.50	879.50	879.50	879.50
7.000	879.50	879.50	879.50	879.50	879.50
7.250	879.50	879.50	879.50	879.50	879.50
7.500	879.50	879.50	879.50	879.50	879.50
7.750	879.50	879.50	879.50	879.50	879.50
8.000	879.50	879.50	879.50	879.50	879.50
8.250	879.50	879.50	879.50	879.50	879.50
8.500	879.50	879.50	879.50	879.50	879.50
8.750	879.50	879.50	879.50	879.50	879.50
9.000	879.51	879.51	879.51	879.51	879.51
9.250	879.51	879.51	879.51	879.51	879.51
9.500	879.52	879.52	879.52	879.52	879.52
9.750	879.53	879.53	879.53	879.53	879.53

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	879.54	879.54	879.54	879.55	879.55
10.250	879.55	879.56	879.56	879.57	879.57
10.500	879.57	879.58	879.58	879.59	879.59
10.750	879.60	879.60	879.61	879.61	879.62
11.000	879.63	879.63	879.64	879.65	879.66
11.250	879.67	879.68	879.69	879.70	879.71
11.500	879.72	879.74	879.76	879.77	879.79
11.750	879.81	879.83	879.86	879.89	879.92
12.000	879.96	880.00	880.05	880.10	880.16
12.250	880.23	880.30	880.39	880.48	880.57
12.500	880.67	880.77	880.88	880.98	881.08
12.750	881.18	881.27	881.35	881.43	881.50
13.000	881.56	881.60	881.64	881.67	881.68
13.250	881.69	881.70	881.69	881.68	881.67
13.500	881.65	881.63	881.60	881.58	881.55
13.750	881.52	881.49	881.45	881.42	881.38
14.000	881.34	881.31	881.27	881.23	881.19
14.250	881.15	881.11	881.08	881.04	881.01
14.500	880.97	880.93	880.89	880.86	880.82
14.750	880.79	880.76	880.73	880.70	880.67
15.000	880.64	880.62	880.59	880.57	880.55
15.250	880.53	880.51	880.48	880.46	880.44
15.500	880.42	880.40	880.39	880.37	880.35
15.750	880.33	880.32	880.30	880.29	880.27
16.000	880.26	880.24	880.23	880.21	880.20
16.250	880.19	880.18	880.17	880.15	880.14
16.500	880.13	880.12	880.11	880.10	880.10
16.750	880.09	880.08	880.07	880.06	880.06
17.000	880.05	880.05	880.04	880.03	880.03
17.250	880.02	880.02	880.01	880.01	880.01
17.500	880.00	880.00	879.99	879.99	879.99
17.750	879.98	879.98	879.97	879.97	879.97
18.000	879.96	879.96	879.96	879.95	879.95
18.250	879.95	879.94	879.94	879.94	879.93
18.500	879.93	879.93	879.92	879.92	879.92
18.750	879.91	879.91	879.91	879.91	879.90
19.000	879.90	879.90	879.89	879.89	879.89
19.250	879.89	879.88	879.88	879.88	879.88
19.500	879.87	879.87	879.87	879.87	879.86
19.750	879.86	879.86	879.86	879.85	879.85
20.000	879.85	879.85	879.85	879.84	879.84

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	879.84	879.84	879.83	879.83	879.83
20.500	879.83	879.82	879.82	879.82	879.82
20.750	879.82	879.81	879.81	879.81	879.81
21.000	879.80	879.80	879.80	879.80	879.80
21.250	879.79	879.79	879.79	879.79	879.78
21.500	879.78	879.78	879.78	879.78	879.77
21.750	879.77	879.77	879.77	879.76	879.76
22.000	879.76	879.76	879.75	879.75	879.75
22.250	879.75	879.75	879.74	879.74	879.74
22.500	879.74	879.73	879.73	879.73	879.73
22.750	879.73	879.72	879.72	879.72	879.72
23.000	879.71	879.71	879.71	879.71	879.71
23.250	879.70	879.70	879.70	879.70	879.69
23.500	879.69	879.69	879.69	879.69	879.68
23.750	879.68	879.68	879.68	879.67	879.67
24.000	879.67	879.67	879.67	879.66	879.66
24.250	879.66	879.66	879.65	879.65	879.65
24.500	879.65	879.64	879.64	879.64	879.63
24.750	879.63	879.63	879.62	879.62	879.62
25.000	879.61	879.61	879.61	879.60	879.60
25.250	879.60	879.59	879.59	879.59	879.58
25.500	879.58	879.58	879.57	879.57	879.57
25.750	879.56	879.56	879.56	879.55	879.55
26.000	879.55	879.55	879.54	879.54	879.54
26.250	879.54	879.54	879.53	879.53	879.53
26.500	879.53	879.53	879.53	879.53	879.52
26.750	879.52	879.52	879.52	879.52	879.52
27.000	879.52	879.52	879.52	879.51	879.51
27.250	879.51	879.51	879.51	879.51	879.51
27.500	879.51	879.51	879.51	879.51	879.51
27.750	879.51	879.51	879.51	879.51	879.51
28.000	879.51	879.51	879.50	879.50	879.50
28.250	879.50	879.50	879.50	879.50	879.50
28.500	879.50	879.50	879.50	879.50	879.50
28.750	879.50	879.50	879.50	879.50	879.50
29.000	879.50	879.50	879.50	879.50	879.50
29.250	879.50	879.50	879.50	879.50	879.50
29.500	879.50	879.50	879.50	879.50	879.50
29.750	879.50	879.50	879.50	879.50	879.50
30.000	879.50	879.50	879.50	879.50	879.50
30.250	879.50	879.50	879.50	879.50	879.50

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.500	879.50	879.50	879.50	879.50	879.50
30.750	879.50	879.50	879.50	879.50	879.50
31.000	879.50	879.50	879.50	879.50	879.50
31.250	879.50	879.50	879.50	879.50	879.50
31.500	879.50	879.50	879.50	879.50	879.50
31.750	879.50	879.50	879.50	879.50	879.50
32.000	879.50	879.50	879.50	879.50	879.50
32.250	879.50	879.50	879.50	879.50	879.50
32.500	879.50	879.50	879.50	879.50	879.50
32.750	879.50	879.50	879.50	879.50	879.50
33.000	879.50	879.50	879.50	879.50	879.50
33.250	879.50	879.50	879.50	879.50	879.50
33.500	879.50	879.50	879.50	879.50	879.50
33.750	879.50	879.50	879.50	879.50	879.50
34.000	879.50	879.50	879.50	879.50	879.50
34.250	879.50	879.50	879.50	879.50	879.50
34.500	879.50	879.50	879.50	879.50	879.50
34.750	879.50	879.50	879.50	879.50	879.50
35.000	879.50	879.50	879.50	879.50	879.50
35.250	879.50	879.50	879.50	879.50	879.50
35.500	879.50	879.50	879.50	879.50	879.50
35.750	879.50	879.50	879.50	879.50	879.50
36.000	879.50	879.50	879.50	879.50	879.50
36.250	879.50	879.50	879.50	879.50	879.50
36.500	879.50	879.50	879.50	879.50	879.50
36.750	879.50	879.50	879.50	879.50	879.50
37.000	879.50	879.50	879.50	879.50	879.50
37.250	879.50	879.50	879.50	879.50	879.50
37.500	879.50	879.50	879.50	879.50	879.50
37.750	879.50	879.50	879.50	879.50	879.50
38.000	879.50	879.50	879.50	879.50	879.50
38.250	879.50	879.50	879.50	879.50	879.50
38.500	879.50	879.50	879.50	879.50	879.50
38.750	879.50	879.50	879.50	879.50	879.50
39.000	879.50	879.50	879.50	879.50	879.50
39.250	879.50	879.50	879.50	879.50	879.50
39.500	879.50	879.50	879.50	879.50	879.50
39.750	879.50	879.50	879.50	879.50	879.50
40.000	879.50	879.50	879.50	879.50	879.50
40.250	879.50	879.50	879.50	879.50	879.50
40.500	879.50	879.50	879.50	879.50	879.50

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
40.750	879.50	879.50	879.50	879.50	879.50
41.000	879.50	879.50	879.50	879.50	879.50
41.250	879.50	879.50	879.50	879.50	879.50
41.500	879.50	879.50	879.50	879.50	879.50
41.750	879.50	879.50	879.50	879.50	879.50
42.000	879.50	879.50	879.50	879.50	879.50
42.250	879.50	879.50	879.50	879.50	879.50
42.500	879.50	879.50	879.50	879.50	879.50
42.750	879.50	879.50	879.50	879.50	879.50
43.000	879.50	879.50	879.50	879.50	879.50
43.250	879.50	879.50	879.50	879.50	879.50
43.500	879.50	879.50	879.50	879.50	879.50
43.750	879.50	879.50	879.50	879.50	879.50
44.000	879.50	879.50	879.50	879.50	879.50
44.250	879.50	879.50	879.50	879.50	879.50
44.500	879.50	879.50	879.50	879.50	879.50
44.750	879.50	879.50	879.50	879.50	879.50
45.000	879.50	879.50	879.50	879.50	879.50
45.250	879.50	879.50	879.50	879.50	879.50
45.500	879.50	879.50	879.50	879.50	879.50
45.750	879.50	879.50	879.50	879.50	879.50
46.000	879.50	879.50	879.50	879.50	879.50
46.250	879.50	879.50	879.50	879.50	879.50
46.500	879.50	879.50	879.50	879.50	879.50
46.750	879.50	879.50	879.50	879.50	879.50
47.000	879.50	879.50	879.50	879.50	879.50
47.250	879.50	879.50	879.50	879.50	879.50
47.500	879.50	879.50	879.50	879.50	879.50
47.750	879.50	879.50	879.50	879.50	879.50
48.000	879.50	(N/A)	(N/A)	(N/A)	(N/A)

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	879.50	879.50	879.50	879.50	879.50
0.250	879.50	879.50	879.50	879.50	879.50
0.500	879.50	879.50	879.50	879.50	879.50
0.750	879.50	879.50	879.50	879.50	879.50
1.000	879.50	879.50	879.50	879.50	879.50
1.250	879.50	879.50	879.50	879.50	879.50
1.500	879.50	879.50	879.50	879.50	879.50
1.750	879.50	879.50	879.50	879.50	879.50
2.000	879.50	879.50	879.50	879.50	879.50
2.250	879.50	879.50	879.50	879.50	879.50
2.500	879.50	879.50	879.50	879.50	879.50
2.750	879.50	879.50	879.50	879.50	879.50
3.000	879.50	879.50	879.50	879.50	879.50
3.250	879.50	879.50	879.50	879.50	879.50
3.500	879.50	879.50	879.50	879.50	879.50
3.750	879.50	879.50	879.50	879.50	879.50
4.000	879.50	879.50	879.50	879.50	879.50
4.250	879.50	879.50	879.50	879.50	879.50
4.500	879.50	879.50	879.50	879.50	879.50
4.750	879.50	879.50	879.50	879.50	879.50
5.000	879.50	879.50	879.50	879.50	879.50
5.250	879.50	879.50	879.50	879.50	879.50
5.500	879.50	879.50	879.50	879.50	879.50
5.750	879.50	879.50	879.50	879.50	879.50
6.000	879.50	879.50	879.50	879.50	879.50
6.250	879.50	879.50	879.50	879.50	879.50
6.500	879.50	879.50	879.50	879.50	879.50
6.750	879.50	879.50	879.50	879.50	879.50
7.000	879.50	879.50	879.50	879.50	879.50
7.250	879.50	879.50	879.50	879.50	879.50
7.500	879.50	879.50	879.50	879.50	879.50
7.750	879.50	879.50	879.50	879.50	879.50
8.000	879.50	879.50	879.50	879.50	879.50
8.250	879.50	879.51	879.51	879.51	879.51
8.500	879.51	879.51	879.51	879.51	879.51
8.750	879.51	879.52	879.52	879.52	879.52
9.000	879.52	879.52	879.52	879.53	879.53
9.250	879.53	879.53	879.53	879.54	879.54
9.500	879.54	879.54	879.55	879.55	879.55
9.750	879.56	879.56	879.56	879.57	879.57

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	879.58	879.58	879.59	879.59	879.60
10.250	879.60	879.61	879.61	879.62	879.62
10.500	879.63	879.64	879.64	879.65	879.66
10.750	879.66	879.67	879.68	879.68	879.69
11.000	879.70	879.71	879.72	879.73	879.74
11.250	879.75	879.77	879.78	879.80	879.81
11.500	879.83	879.85	879.87	879.89	879.92
11.750	879.94	879.97	880.00	880.03	880.07
12.000	880.11	880.15	880.20	880.26	880.33
12.250	880.41	880.50	880.59	880.69	880.80
12.500	880.91	881.03	881.14	881.25	881.37
12.750	881.48	881.57	881.66	881.73	881.79
13.000	881.84	881.88	881.91	881.93	881.94
13.250	881.94	881.94	881.93	881.91	881.89
13.500	881.87	881.84	881.80	881.77	881.73
13.750	881.70	881.66	881.62	881.59	881.55
14.000	881.52	881.48	881.44	881.41	881.37
14.250	881.33	881.29	881.24	881.20	881.17
14.500	881.13	881.09	881.05	881.02	880.98
14.750	880.94	880.91	880.87	880.84	880.81
15.000	880.78	880.75	880.72	880.69	880.67
15.250	880.64	880.62	880.59	880.57	880.55
15.500	880.53	880.52	880.50	880.48	880.46
15.750	880.44	880.42	880.40	880.38	880.37
16.000	880.35	880.33	880.32	880.30	880.29
16.250	880.27	880.26	880.25	880.23	880.22
16.500	880.21	880.20	880.18	880.17	880.16
16.750	880.15	880.14	880.14	880.13	880.12
17.000	880.11	880.10	880.10	880.09	880.08
17.250	880.08	880.07	880.07	880.06	880.06
17.500	880.05	880.05	880.04	880.04	880.04
17.750	880.03	880.03	880.03	880.02	880.02
18.000	880.02	880.01	880.01	880.01	880.01
18.250	880.00	880.00	880.00	880.00	880.00
18.500	879.99	879.99	879.99	879.98	879.98
18.750	879.98	879.98	879.97	879.97	879.97
19.000	879.97	879.96	879.96	879.96	879.96
19.250	879.95	879.95	879.95	879.94	879.94
19.500	879.94	879.94	879.93	879.93	879.93
19.750	879.93	879.92	879.92	879.92	879.92
20.000	879.91	879.91	879.91	879.90	879.90

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	879.90	879.90	879.89	879.89	879.89
20.500	879.89	879.88	879.88	879.88	879.88
20.750	879.87	879.87	879.87	879.86	879.86
21.000	879.86	879.86	879.85	879.85	879.85
21.250	879.85	879.84	879.84	879.84	879.84
21.500	879.83	879.83	879.83	879.83	879.82
21.750	879.82	879.82	879.81	879.81	879.81
22.000	879.81	879.80	879.80	879.80	879.80
22.250	879.79	879.79	879.79	879.79	879.78
22.500	879.78	879.78	879.78	879.77	879.77
22.750	879.77	879.76	879.76	879.76	879.76
23.000	879.75	879.75	879.75	879.75	879.74
23.250	879.74	879.74	879.74	879.73	879.73
23.500	879.73	879.72	879.72	879.72	879.72
23.750	879.71	879.71	879.71	879.71	879.70
24.000	879.70	879.70	879.70	879.69	879.69
24.250	879.69	879.68	879.68	879.68	879.68
24.500	879.67	879.67	879.67	879.66	879.66
24.750	879.65	879.65	879.65	879.64	879.64
25.000	879.64	879.63	879.63	879.62	879.62
25.250	879.61	879.61	879.61	879.60	879.60
25.500	879.59	879.59	879.59	879.58	879.58
25.750	879.57	879.57	879.57	879.56	879.56
26.000	879.56	879.56	879.55	879.55	879.55
26.250	879.55	879.54	879.54	879.54	879.54
26.500	879.54	879.53	879.53	879.53	879.53
26.750	879.53	879.53	879.52	879.52	879.52
27.000	879.52	879.52	879.52	879.52	879.52
27.250	879.52	879.51	879.51	879.51	879.51
27.500	879.51	879.51	879.51	879.51	879.51
27.750	879.51	879.51	879.51	879.51	879.51
28.000	879.51	879.51	879.51	879.51	879.50
28.250	879.50	879.50	879.50	879.50	879.50
28.500	879.50	879.50	879.50	879.50	879.50
28.750	879.50	879.50	879.50	879.50	879.50
29.000	879.50	879.50	879.50	879.50	879.50
29.250	879.50	879.50	879.50	879.50	879.50
29.500	879.50	879.50	879.50	879.50	879.50
29.750	879.50	879.50	879.50	879.50	879.50
30.000	879.50	879.50	879.50	879.50	879.50
30.250	879.50	879.50	879.50	879.50	879.50

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.500	879.50	879.50	879.50	879.50	879.50
30.750	879.50	879.50	879.50	879.50	879.50
31.000	879.50	879.50	879.50	879.50	879.50
31.250	879.50	879.50	879.50	879.50	879.50
31.500	879.50	879.50	879.50	879.50	879.50
31.750	879.50	879.50	879.50	879.50	879.50
32.000	879.50	879.50	879.50	879.50	879.50
32.250	879.50	879.50	879.50	879.50	879.50
32.500	879.50	879.50	879.50	879.50	879.50
32.750	879.50	879.50	879.50	879.50	879.50
33.000	879.50	879.50	879.50	879.50	879.50
33.250	879.50	879.50	879.50	879.50	879.50
33.500	879.50	879.50	879.50	879.50	879.50
33.750	879.50	879.50	879.50	879.50	879.50
34.000	879.50	879.50	879.50	879.50	879.50
34.250	879.50	879.50	879.50	879.50	879.50
34.500	879.50	879.50	879.50	879.50	879.50
34.750	879.50	879.50	879.50	879.50	879.50
35.000	879.50	879.50	879.50	879.50	879.50
35.250	879.50	879.50	879.50	879.50	879.50
35.500	879.50	879.50	879.50	879.50	879.50
35.750	879.50	879.50	879.50	879.50	879.50
36.000	879.50	879.50	879.50	879.50	879.50
36.250	879.50	879.50	879.50	879.50	879.50
36.500	879.50	879.50	879.50	879.50	879.50
36.750	879.50	879.50	879.50	879.50	879.50
37.000	879.50	879.50	879.50	879.50	879.50
37.250	879.50	879.50	879.50	879.50	879.50
37.500	879.50	879.50	879.50	879.50	879.50
37.750	879.50	879.50	879.50	879.50	879.50
38.000	879.50	879.50	879.50	879.50	879.50
38.250	879.50	879.50	879.50	879.50	879.50
38.500	879.50	879.50	879.50	879.50	879.50
38.750	879.50	879.50	879.50	879.50	879.50
39.000	879.50	879.50	879.50	879.50	879.50
39.250	879.50	879.50	879.50	879.50	879.50
39.500	879.50	879.50	879.50	879.50	879.50
39.750	879.50	879.50	879.50	879.50	879.50
40.000	879.50	879.50	879.50	879.50	879.50
40.250	879.50	879.50	879.50	879.50	879.50
40.500	879.50	879.50	879.50	879.50	879.50

BUC871015D_StormwaterReport

Subsection: Time vs. Elevation
Label: Buchanan Wetland (OUT)
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
40.750	879.50	879.50	879.50	879.50	879.50
41.000	879.50	879.50	879.50	879.50	879.50
41.250	879.50	879.50	879.50	879.50	879.50
41.500	879.50	879.50	879.50	879.50	879.50
41.750	879.50	879.50	879.50	879.50	879.50
42.000	879.50	879.50	879.50	879.50	879.50
42.250	879.50	879.50	879.50	879.50	879.50
42.500	879.50	879.50	879.50	879.50	879.50
42.750	879.50	879.50	879.50	879.50	879.50
43.000	879.50	879.50	879.50	879.50	879.50
43.250	879.50	879.50	879.50	879.50	879.50
43.500	879.50	879.50	879.50	879.50	879.50
43.750	879.50	879.50	879.50	879.50	879.50
44.000	879.50	879.50	879.50	879.50	879.50
44.250	879.50	879.50	879.50	879.50	879.50
44.500	879.50	879.50	879.50	879.50	879.50
44.750	879.50	879.50	879.50	879.50	879.50
45.000	879.50	879.50	879.50	879.50	879.50
45.250	879.50	879.50	879.50	879.50	879.50
45.500	879.50	879.50	879.50	879.50	879.50
45.750	879.50	879.50	879.50	879.50	879.50
46.000	879.50	879.50	879.50	879.50	879.50
46.250	879.50	879.50	879.50	879.50	879.50
46.500	879.50	879.50	879.50	879.50	879.50
46.750	879.50	879.50	879.50	879.50	879.50
47.000	879.50	879.50	879.50	879.50	879.50
47.250	879.50	879.50	879.50	879.50	879.50
47.500	879.50	879.50	879.50	879.50	879.50
47.750	879.50	879.50	879.50	879.50	879.50
48.000	879.50	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	18.897	18.897	18.897	18.897	18.897
0.250	18.897	18.897	18.897	18.897	18.897
0.500	18.897	18.897	18.897	18.897	18.897
0.750	18.897	18.897	18.897	18.897	18.897
1.000	18.897	18.897	18.897	18.897	18.897
1.250	18.897	18.897	18.897	18.897	18.897
1.500	18.897	18.897	18.897	18.897	18.897
1.750	18.897	18.897	18.897	18.897	18.897
2.000	18.897	18.897	18.897	18.897	18.897
2.250	18.897	18.897	18.897	18.897	18.897
2.500	18.897	18.897	18.897	18.897	18.897
2.750	18.897	18.897	18.897	18.897	18.897
3.000	18.897	18.897	18.897	18.897	18.897
3.250	18.897	18.897	18.897	18.897	18.897
3.500	18.897	18.897	18.897	18.897	18.897
3.750	18.897	18.897	18.897	18.897	18.897
4.000	18.897	18.897	18.897	18.897	18.897
4.250	18.897	18.897	18.897	18.897	18.897
4.500	18.897	18.897	18.897	18.897	18.897
4.750	18.897	18.897	18.897	18.897	18.897
5.000	18.897	18.897	18.897	18.897	18.897
5.250	18.897	18.897	18.897	18.897	18.897
5.500	18.897	18.897	18.897	18.897	18.897
5.750	18.897	18.897	18.897	18.897	18.897
6.000	18.897	18.897	18.897	18.897	18.897
6.250	18.897	18.897	18.897	18.897	18.897
6.500	18.897	18.897	18.897	18.897	18.897
6.750	18.897	18.897	18.897	18.897	18.897
7.000	18.897	18.897	18.897	18.897	18.897
7.250	18.897	18.897	18.897	18.897	18.897
7.500	18.897	18.897	18.897	18.897	18.897
7.750	18.897	18.897	18.897	18.897	18.897
8.000	18.897	18.897	18.897	18.897	18.897
8.250	18.897	18.897	18.897	18.897	18.897
8.500	18.897	18.897	18.897	18.897	18.897
8.750	18.897	18.897	18.897	18.897	18.897
9.000	18.897	18.897	18.897	18.897	18.897
9.250	18.897	18.897	18.897	18.897	18.897
9.500	18.897	18.897	18.897	18.897	18.897
9.750	18.898	18.898	18.899	18.900	18.901

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.000	18.903	18.904	18.907	18.910	18.913
10.250	18.917	18.921	18.926	18.932	18.939
10.500	18.947	18.955	18.965	18.975	18.987
10.750	18.999	19.014	19.029	19.046	19.066
11.000	19.087	19.110	19.136	19.165	19.196
11.250	19.231	19.270	19.312	19.359	19.411
11.500	19.468	19.530	19.599	19.676	19.760
11.750	19.854	19.962	20.084	20.224	20.388
12.000	20.592	20.843	21.141	21.498	21.934
12.250	22.459	23.072	23.787	24.602	25.404
12.500	26.281	27.224	28.220	29.265	30.360
12.750	31.420	32.367	33.283	34.168	34.999
13.000	35.756	36.438	37.047	37.572	38.004
13.250	38.345	38.598	38.744	38.809	38.798
13.500	38.720	38.584	38.376	38.118	37.819
13.750	37.488	37.132	36.758	36.371	35.974
14.000	35.573	35.171	34.770	34.370	33.975
14.250	33.586	33.206	32.833	32.470	32.118
14.500	31.778	31.448	31.130	30.790	30.451
14.750	30.121	29.802	29.495	29.201	28.919
15.000	28.648	28.390	28.144	27.910	27.686
15.250	27.473	27.271	27.077	26.893	26.717
15.500	26.548	26.386	26.231	26.082	25.939
15.750	25.801	25.668	25.540	25.416	25.296
16.000	25.181	25.070	24.963	24.860	24.761
16.250	24.665	24.573	24.485	24.384	24.283
16.500	24.184	24.086	23.989	23.894	23.802
16.750	23.712	23.624	23.538	23.455	23.374
17.000	23.295	23.219	23.146	23.075	23.006
17.250	22.940	22.876	22.814	22.755	22.698
17.500	22.643	22.589	22.538	22.489	22.441
17.750	22.395	22.351	22.308	22.266	22.226
18.000	22.188	22.150	22.114	22.079	22.045
18.250	22.013	21.981	21.950	21.920	21.891
18.500	21.863	21.835	21.808	21.782	21.756
18.750	21.732	21.707	21.684	21.660	21.638
19.000	21.615	21.593	21.572	21.551	21.530
19.250	21.510	21.490	21.470	21.450	21.431
19.500	21.412	21.394	21.375	21.357	21.339
19.750	21.321	21.303	21.286	21.269	21.251
20.000	21.234	21.217	21.201	21.184	21.167

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.250	21.151	21.135	21.118	21.102	21.086
20.500	21.070	21.054	21.038	21.022	21.006
20.750	20.991	20.975	20.959	20.944	20.928
21.000	20.913	20.897	20.882	20.866	20.851
21.250	20.836	20.820	20.805	20.790	20.774
21.500	20.759	20.744	20.729	20.713	20.698
21.750	20.683	20.668	20.653	20.638	20.622
22.000	20.607	20.592	20.577	20.562	20.547
22.250	20.532	20.517	20.502	20.487	20.471
22.500	20.456	20.441	20.426	20.411	20.396
22.750	20.381	20.366	20.351	20.336	20.321
23.000	20.306	20.291	20.276	20.261	20.246
23.250	20.231	20.216	20.201	20.186	20.171
23.500	20.156	20.141	20.126	20.111	20.096
23.750	20.081	20.066	20.051	20.036	20.021
24.000	20.006	19.991	19.976	19.961	19.945
24.250	19.930	19.914	19.897	19.881	19.864
24.500	19.846	19.828	19.809	19.790	19.770
24.750	19.749	19.728	19.706	19.683	19.661
25.000	19.638	19.614	19.591	19.567	19.544
25.250	19.520	19.497	19.474	19.451	19.428
25.500	19.406	19.384	19.363	19.343	19.323
25.750	19.303	19.285	19.267	19.249	19.233
26.000	19.216	19.201	19.186	19.172	19.158
26.250	19.145	19.132	19.120	19.109	19.098
26.500	19.087	19.077	19.068	19.059	19.050
26.750	19.042	19.034	19.027	19.020	19.013
27.000	19.007	19.001	18.995	18.990	18.984
27.250	18.979	18.975	18.970	18.966	18.962
27.500	18.959	18.955	18.952	18.949	18.946
27.750	18.943	18.940	18.938	18.935	18.933
28.000	18.931	18.929	18.927	18.925	18.923
28.250	18.922	18.920	18.919	18.918	18.916
28.500	18.915	18.914	18.913	18.912	18.911
28.750	18.910	18.909	18.909	18.908	18.907
29.000	18.907	18.906	18.905	18.905	18.904
29.250	18.904	18.903	18.903	18.903	18.902
29.500	18.902	18.902	18.901	18.901	18.901
29.750	18.901	18.900	18.900	18.900	18.900
30.000	18.900	18.899	18.899	18.899	18.899
30.250	18.899	18.899	18.899	18.898	18.898

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.500	18.898	18.898	18.898	18.898	18.898
30.750	18.898	18.897	18.897	18.897	18.897
31.000	18.897	18.897	18.897	18.897	18.897
31.250	18.897	18.897	18.897	18.897	18.897
31.500	18.897	18.897	18.897	18.897	18.897
31.750	18.897	18.897	18.897	18.897	18.897
32.000	18.897	18.897	18.897	18.897	18.897
32.250	18.897	18.897	18.897	18.897	18.897
32.500	18.897	18.897	18.897	18.897	18.897
32.750	18.897	18.897	18.897	18.897	18.897
33.000	18.897	18.897	18.897	18.897	18.897
33.250	18.897	18.897	18.897	18.897	18.897
33.500	18.897	18.897	18.897	18.897	18.897
33.750	18.897	18.897	18.897	18.897	18.897
34.000	18.897	18.897	18.897	18.897	18.897
34.250	18.897	18.897	18.897	18.897	18.897
34.500	18.897	18.897	18.897	18.897	18.897
34.750	18.897	18.897	18.897	18.897	18.897
35.000	18.897	18.897	18.897	18.897	18.897
35.250	18.897	18.897	18.897	18.897	18.897
35.500	18.897	18.897	18.897	18.897	18.897
35.750	18.897	18.897	18.897	18.897	18.897
36.000	18.897	18.897	18.897	18.897	18.897
36.250	18.897	18.897	18.897	18.897	18.897
36.500	18.897	18.897	18.897	18.897	18.897
36.750	18.897	18.897	18.897	18.897	18.897
37.000	18.897	18.897	18.897	18.897	18.897
37.250	18.897	18.897	18.897	18.897	18.897
37.500	18.897	18.897	18.897	18.897	18.897
37.750	18.897	18.897	18.897	18.897	18.897
38.000	18.897	18.897	18.897	18.897	18.897
38.250	18.897	18.897	18.897	18.897	18.897
38.500	18.897	18.897	18.897	18.897	18.897
38.750	18.897	18.897	18.897	18.897	18.897
39.000	18.897	18.897	18.897	18.897	18.897
39.250	18.897	18.897	18.897	18.897	18.897
39.500	18.897	18.897	18.897	18.897	18.897
39.750	18.897	18.897	18.897	18.897	18.897
40.000	18.897	18.897	18.897	18.897	18.897
40.250	18.897	18.897	18.897	18.897	18.897
40.500	18.897	18.897	18.897	18.897	18.897

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
40.750	18.897	18.897	18.897	18.897	18.897
41.000	18.897	18.897	18.897	18.897	18.897
41.250	18.897	18.897	18.897	18.897	18.897
41.500	18.897	18.897	18.897	18.897	18.897
41.750	18.897	18.897	18.897	18.897	18.897
42.000	18.897	18.897	18.897	18.897	18.897
42.250	18.897	18.897	18.897	18.897	18.897
42.500	18.897	18.897	18.897	18.897	18.897
42.750	18.897	18.897	18.897	18.897	18.897
43.000	18.897	18.897	18.897	18.897	18.897
43.250	18.897	18.897	18.897	18.897	18.897
43.500	18.897	18.897	18.897	18.897	18.897
43.750	18.897	18.897	18.897	18.897	18.897
44.000	18.897	18.897	18.897	18.897	18.897
44.250	18.897	18.897	18.897	18.897	18.897
44.500	18.897	18.897	18.897	18.897	18.897
44.750	18.897	18.897	18.897	18.897	18.897
45.000	18.897	18.897	18.897	18.897	18.897
45.250	18.897	18.897	18.897	18.897	18.897
45.500	18.897	18.897	18.897	18.897	18.897
45.750	18.897	18.897	18.897	18.897	18.897
46.000	18.897	18.897	18.897	18.897	18.897
46.250	18.897	18.897	18.897	18.897	18.897
46.500	18.897	18.897	18.897	18.897	18.897
46.750	18.897	18.897	18.897	18.897	18.897
47.000	18.897	18.897	18.897	18.897	18.897
47.250	18.897	18.897	18.897	18.897	18.897
47.500	18.897	18.897	18.897	18.897	18.897
47.750	18.897	18.897	18.897	18.897	18.897
48.000	18.897	(N/A)	(N/A)	(N/A)	(N/A)

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	18.897	18.897	18.897	18.897	18.897
0.250	18.897	18.897	18.897	18.897	18.897
0.500	18.897	18.897	18.897	18.897	18.897
0.750	18.897	18.897	18.897	18.897	18.897
1.000	18.897	18.897	18.897	18.897	18.897
1.250	18.897	18.897	18.897	18.897	18.897
1.500	18.897	18.897	18.897	18.897	18.897
1.750	18.897	18.897	18.897	18.897	18.897
2.000	18.897	18.897	18.897	18.897	18.897
2.250	18.897	18.897	18.897	18.897	18.897
2.500	18.897	18.897	18.897	18.897	18.897
2.750	18.897	18.897	18.897	18.897	18.897
3.000	18.897	18.897	18.897	18.897	18.897
3.250	18.897	18.897	18.897	18.897	18.897
3.500	18.897	18.897	18.897	18.897	18.897
3.750	18.897	18.897	18.897	18.897	18.897
4.000	18.897	18.897	18.897	18.897	18.897
4.250	18.897	18.897	18.897	18.897	18.897
4.500	18.897	18.897	18.897	18.897	18.897
4.750	18.897	18.897	18.897	18.897	18.897
5.000	18.897	18.897	18.897	18.897	18.897
5.250	18.897	18.897	18.897	18.897	18.897
5.500	18.897	18.897	18.897	18.897	18.897
5.750	18.897	18.897	18.897	18.897	18.897
6.000	18.897	18.897	18.897	18.897	18.897
6.250	18.897	18.897	18.897	18.897	18.897
6.500	18.897	18.897	18.897	18.897	18.897
6.750	18.897	18.897	18.897	18.897	18.897
7.000	18.897	18.897	18.897	18.897	18.897
7.250	18.897	18.897	18.897	18.897	18.897
7.500	18.897	18.897	18.897	18.897	18.897
7.750	18.897	18.897	18.897	18.897	18.897
8.000	18.897	18.897	18.897	18.897	18.897
8.250	18.897	18.897	18.897	18.897	18.897
8.500	18.897	18.897	18.897	18.897	18.897
8.750	18.897	18.897	18.897	18.898	18.899
9.000	18.899	18.900	18.901	18.902	18.904
9.250	18.906	18.909	18.912	18.915	18.919
9.500	18.924	18.929	18.936	18.943	18.951
9.750	18.960	18.971	18.982	18.994	19.008

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.000	19.023	19.039	19.056	19.074	19.094
10.250	19.115	19.137	19.160	19.185	19.211
10.500	19.238	19.266	19.296	19.327	19.359
10.750	19.394	19.430	19.468	19.509	19.552
11.000	19.599	19.649	19.702	19.761	19.824
11.250	19.892	19.967	20.047	20.135	20.230
11.500	20.334	20.447	20.570	20.705	20.853
11.750	21.017	21.201	21.410	21.646	21.920
12.000	22.254	22.662	23.145	23.719	24.418
12.250	25.127	25.913	26.799	27.809	28.947
12.500	30.210	31.513	32.773	34.085	35.447
12.750	36.820	38.159	39.362	40.469	41.495
13.000	42.411	43.222	43.929	44.520	44.984
13.250	45.327	45.556	45.668	45.665	45.553
13.500	45.349	45.065	44.711	44.300	43.842
13.750	43.350	42.832	42.298	41.753	41.202
14.000	40.650	40.102	39.561	39.026	38.488
14.250	37.912	37.348	36.795	36.256	35.736
14.500	35.234	34.748	34.280	33.833	33.406
14.750	32.996	32.605	32.235	31.883	31.549
15.000	31.233	30.915	30.588	30.275	29.975
15.250	29.689	29.416	29.155	28.904	28.665
15.500	28.435	28.214	28.002	27.798	27.601
15.750	27.412	27.229	27.052	26.882	26.718
16.000	26.559	26.406	26.259	26.117	25.980
16.250	25.848	25.721	25.599	25.483	25.370
16.500	25.263	25.161	25.063	24.970	24.881
16.750	24.796	24.716	24.640	24.567	24.498
17.000	24.423	24.346	24.272	24.199	24.127
17.250	24.058	23.990	23.924	23.860	23.798
17.500	23.737	23.678	23.621	23.566	23.512
17.750	23.460	23.409	23.360	23.312	23.265
18.000	23.220	23.176	23.134	23.092	23.052
18.250	23.012	22.974	22.936	22.900	22.864
18.500	22.829	22.795	22.762	22.729	22.697
18.750	22.666	22.636	22.606	22.576	22.547
19.000	22.518	22.490	22.463	22.436	22.409
19.250	22.382	22.356	22.330	22.305	22.280
19.500	22.255	22.230	22.206	22.182	22.158
19.750	22.134	22.111	22.088	22.065	22.042
20.000	22.019	21.996	21.974	21.951	21.929

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.250	21.907	21.885	21.863	21.842	21.820
20.500	21.798	21.777	21.755	21.734	21.713
20.750	21.692	21.670	21.649	21.628	21.607
21.000	21.586	21.565	21.544	21.524	21.503
21.250	21.482	21.461	21.441	21.420	21.399
21.500	21.379	21.358	21.338	21.317	21.296
21.750	21.276	21.255	21.235	21.215	21.194
22.000	21.174	21.153	21.133	21.113	21.092
22.250	21.072	21.051	21.031	21.011	20.990
22.500	20.970	20.950	20.930	20.909	20.889
22.750	20.869	20.849	20.828	20.808	20.788
23.000	20.768	20.748	20.728	20.708	20.687
23.250	20.667	20.647	20.627	20.607	20.587
23.500	20.567	20.547	20.527	20.507	20.487
23.750	20.467	20.447	20.426	20.406	20.386
24.000	20.366	20.346	20.326	20.306	20.285
24.250	20.264	20.243	20.221	20.199	20.176
24.500	20.153	20.128	20.103	20.078	20.051
24.750	20.023	19.995	19.966	19.936	19.906
25.000	19.876	19.845	19.814	19.782	19.751
25.250	19.720	19.689	19.658	19.628	19.598
25.500	19.568	19.540	19.512	19.485	19.458
25.750	19.433	19.408	19.384	19.361	19.339
26.000	19.318	19.297	19.278	19.259	19.241
26.250	19.224	19.207	19.191	19.176	19.162
26.500	19.148	19.135	19.122	19.110	19.099
26.750	19.088	19.078	19.068	19.059	19.050
27.000	19.041	19.033	19.026	19.019	19.012
27.250	19.006	18.999	18.994	18.988	18.983
27.500	18.978	18.973	18.969	18.965	18.961
27.750	18.957	18.954	18.950	18.947	18.944
28.000	18.942	18.939	18.936	18.934	18.932
28.250	18.930	18.928	18.926	18.924	18.923
28.500	18.921	18.919	18.918	18.917	18.916
28.750	18.914	18.913	18.912	18.911	18.910
29.000	18.910	18.909	18.908	18.907	18.907
29.250	18.906	18.906	18.905	18.904	18.904
29.500	18.904	18.903	18.903	18.902	18.902
29.750	18.902	18.901	18.901	18.901	18.901
30.000	18.900	18.900	18.900	18.900	18.900
30.250	18.899	18.899	18.899	18.899	18.899

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.500	18.899	18.899	18.898	18.898	18.898
30.750	18.898	18.898	18.898	18.898	18.898
31.000	18.897	18.897	18.897	18.897	18.897
31.250	18.897	18.897	18.897	18.897	18.897
31.500	18.897	18.897	18.897	18.897	18.897
31.750	18.897	18.897	18.897	18.897	18.897
32.000	18.897	18.897	18.897	18.897	18.897
32.250	18.897	18.897	18.897	18.897	18.897
32.500	18.897	18.897	18.897	18.897	18.897
32.750	18.897	18.897	18.897	18.897	18.897
33.000	18.897	18.897	18.897	18.897	18.897
33.250	18.897	18.897	18.897	18.897	18.897
33.500	18.897	18.897	18.897	18.897	18.897
33.750	18.897	18.897	18.897	18.897	18.897
34.000	18.897	18.897	18.897	18.897	18.897
34.250	18.897	18.897	18.897	18.897	18.897
34.500	18.897	18.897	18.897	18.897	18.897
34.750	18.897	18.897	18.897	18.897	18.897
35.000	18.897	18.897	18.897	18.897	18.897
35.250	18.897	18.897	18.897	18.897	18.897
35.500	18.897	18.897	18.897	18.897	18.897
35.750	18.897	18.897	18.897	18.897	18.897
36.000	18.897	18.897	18.897	18.897	18.897
36.250	18.897	18.897	18.897	18.897	18.897
36.500	18.897	18.897	18.897	18.897	18.897
36.750	18.897	18.897	18.897	18.897	18.897
37.000	18.897	18.897	18.897	18.897	18.897
37.250	18.897	18.897	18.897	18.897	18.897
37.500	18.897	18.897	18.897	18.897	18.897
37.750	18.897	18.897	18.897	18.897	18.897
38.000	18.897	18.897	18.897	18.897	18.897
38.250	18.897	18.897	18.897	18.897	18.897
38.500	18.897	18.897	18.897	18.897	18.897
38.750	18.897	18.897	18.897	18.897	18.897
39.000	18.897	18.897	18.897	18.897	18.897
39.250	18.897	18.897	18.897	18.897	18.897
39.500	18.897	18.897	18.897	18.897	18.897
39.750	18.897	18.897	18.897	18.897	18.897
40.000	18.897	18.897	18.897	18.897	18.897
40.250	18.897	18.897	18.897	18.897	18.897
40.500	18.897	18.897	18.897	18.897	18.897

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
40.750	18.897	18.897	18.897	18.897	18.897
41.000	18.897	18.897	18.897	18.897	18.897
41.250	18.897	18.897	18.897	18.897	18.897
41.500	18.897	18.897	18.897	18.897	18.897
41.750	18.897	18.897	18.897	18.897	18.897
42.000	18.897	18.897	18.897	18.897	18.897
42.250	18.897	18.897	18.897	18.897	18.897
42.500	18.897	18.897	18.897	18.897	18.897
42.750	18.897	18.897	18.897	18.897	18.897
43.000	18.897	18.897	18.897	18.897	18.897
43.250	18.897	18.897	18.897	18.897	18.897
43.500	18.897	18.897	18.897	18.897	18.897
43.750	18.897	18.897	18.897	18.897	18.897
44.000	18.897	18.897	18.897	18.897	18.897
44.250	18.897	18.897	18.897	18.897	18.897
44.500	18.897	18.897	18.897	18.897	18.897
44.750	18.897	18.897	18.897	18.897	18.897
45.000	18.897	18.897	18.897	18.897	18.897
45.250	18.897	18.897	18.897	18.897	18.897
45.500	18.897	18.897	18.897	18.897	18.897
45.750	18.897	18.897	18.897	18.897	18.897
46.000	18.897	18.897	18.897	18.897	18.897
46.250	18.897	18.897	18.897	18.897	18.897
46.500	18.897	18.897	18.897	18.897	18.897
46.750	18.897	18.897	18.897	18.897	18.897
47.000	18.897	18.897	18.897	18.897	18.897
47.250	18.897	18.897	18.897	18.897	18.897
47.500	18.897	18.897	18.897	18.897	18.897
47.750	18.897	18.897	18.897	18.897	18.897
48.000	18.897	(N/A)	(N/A)	(N/A)	(N/A)

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	18.897	18.897	18.897	18.897	18.897
0.250	18.897	18.897	18.897	18.897	18.897
0.500	18.897	18.897	18.897	18.897	18.897
0.750	18.897	18.897	18.897	18.897	18.897
1.000	18.897	18.897	18.897	18.897	18.897
1.250	18.897	18.897	18.897	18.897	18.897
1.500	18.897	18.897	18.897	18.897	18.897
1.750	18.897	18.897	18.897	18.897	18.897
2.000	18.897	18.897	18.897	18.897	18.897
2.250	18.897	18.897	18.897	18.897	18.897
2.500	18.897	18.897	18.897	18.897	18.897
2.750	18.897	18.897	18.897	18.897	18.897
3.000	18.897	18.897	18.897	18.897	18.897
3.250	18.897	18.897	18.897	18.897	18.897
3.500	18.897	18.897	18.897	18.897	18.897
3.750	18.897	18.897	18.897	18.897	18.897
4.000	18.897	18.897	18.897	18.897	18.897
4.250	18.897	18.897	18.897	18.897	18.897
4.500	18.897	18.897	18.897	18.897	18.897
4.750	18.897	18.897	18.897	18.897	18.897
5.000	18.897	18.897	18.897	18.897	18.897
5.250	18.897	18.897	18.897	18.897	18.897
5.500	18.897	18.897	18.897	18.897	18.897
5.750	18.897	18.897	18.897	18.897	18.897
6.000	18.897	18.897	18.897	18.897	18.897
6.250	18.897	18.897	18.897	18.897	18.897
6.500	18.897	18.897	18.897	18.897	18.897
6.750	18.897	18.897	18.897	18.897	18.897
7.000	18.897	18.897	18.897	18.897	18.897
7.250	18.897	18.897	18.897	18.897	18.897
7.500	18.897	18.897	18.897	18.897	18.897
7.750	18.897	18.897	18.897	18.897	18.897
8.000	18.897	18.897	18.897	18.898	18.899
8.250	18.899	18.900	18.901	18.902	18.904
8.500	18.906	18.908	18.911	18.914	18.918
8.750	18.922	18.926	18.931	18.937	18.943
9.000	18.949	18.957	18.965	18.973	18.983
9.250	18.993	19.004	19.016	19.029	19.043
9.500	19.058	19.074	19.091	19.110	19.130
9.750	19.152	19.175	19.200	19.226	19.254

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.000	19.283	19.314	19.347	19.381	19.416
10.250	19.453	19.492	19.532	19.573	19.616
10.500	19.661	19.706	19.754	19.803	19.854
10.750	19.907	19.962	20.020	20.081	20.146
11.000	20.215	20.288	20.367	20.453	20.544
11.250	20.643	20.751	20.867	20.993	21.130
11.500	21.278	21.439	21.615	21.807	22.017
11.750	22.248	22.508	22.802	23.133	23.516
12.000	23.981	24.536	25.089	25.724	26.472
12.250	27.346	28.341	29.476	30.781	32.103
12.500	33.519	35.044	36.654	38.342	39.935
12.750	41.498	42.999	44.439	45.815	47.082
13.000	48.075	48.879	49.517	49.992	50.305
13.250	50.478	50.528	50.461	50.286	50.015
13.500	49.670	49.269	48.822	48.343	47.843
13.750	47.332	46.793	46.200	45.580	44.940
14.000	44.289	43.635	42.983	42.332	41.688
14.250	41.056	40.438	39.833	39.244	38.676
14.500	38.072	37.476	36.899	36.346	35.815
14.750	35.306	34.819	34.357	33.918	33.500
15.000	33.103	32.729	32.376	32.042	31.726
15.250	31.427	31.145	30.850	30.555	30.272
15.500	29.999	29.735	29.481	29.236	28.999
15.750	28.770	28.548	28.334	28.127	27.927
16.000	27.733	27.546	27.365	27.191	27.023
16.250	26.861	26.705	26.556	26.412	26.274
16.500	26.142	26.016	25.896	25.780	25.671
16.750	25.567	25.468	25.373	25.284	25.199
17.000	25.118	25.042	24.969	24.901	24.836
17.250	24.774	24.716	24.661	24.609	24.559
17.500	24.512	24.464	24.413	24.362	24.312
17.750	24.263	24.215	24.168	24.122	24.076
18.000	24.031	23.988	23.944	23.902	23.861
18.250	23.820	23.780	23.741	23.702	23.664
18.500	23.627	23.590	23.554	23.518	23.483
18.750	23.448	23.414	23.381	23.348	23.315
19.000	23.283	23.251	23.219	23.188	23.157
19.250	23.126	23.096	23.066	23.036	23.006
19.500	22.977	22.948	22.919	22.891	22.862
19.750	22.834	22.806	22.778	22.750	22.723
20.000	22.696	22.668	22.641	22.614	22.587

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.250	22.561	22.534	22.507	22.481	22.455
20.500	22.428	22.402	22.376	22.350	22.324
20.750	22.298	22.272	22.246	22.221	22.195
21.000	22.169	22.144	22.118	22.093	22.067
21.250	22.042	22.016	21.991	21.965	21.940
21.500	21.915	21.890	21.864	21.839	21.814
21.750	21.789	21.764	21.739	21.714	21.689
22.000	21.663	21.638	21.613	21.588	21.563
22.250	21.539	21.514	21.489	21.464	21.439
22.500	21.414	21.389	21.364	21.340	21.315
22.750	21.290	21.265	21.240	21.216	21.191
23.000	21.166	21.142	21.117	21.093	21.068
23.250	21.043	21.019	20.994	20.970	20.945
23.500	20.921	20.896	20.872	20.847	20.823
23.750	20.798	20.774	20.749	20.725	20.701
24.000	20.676	20.652	20.627	20.602	20.577
24.250	20.552	20.526	20.499	20.472	20.445
24.500	20.416	20.387	20.356	20.325	20.292
24.750	20.259	20.224	20.189	20.153	20.117
25.000	20.080	20.042	20.004	19.966	19.928
25.250	19.890	19.853	19.816	19.779	19.743
25.500	19.707	19.673	19.639	19.606	19.574
25.750	19.543	19.514	19.485	19.457	19.430
26.000	19.404	19.380	19.356	19.333	19.311
26.250	19.290	19.271	19.251	19.233	19.216
26.500	19.199	19.183	19.168	19.154	19.140
26.750	19.127	19.115	19.103	19.092	19.081
27.000	19.071	19.061	19.052	19.044	19.036
27.250	19.028	19.020	19.013	19.007	19.001
27.500	18.995	18.989	18.984	18.979	18.974
27.750	18.970	18.965	18.961	18.958	18.954
28.000	18.951	18.948	18.945	18.942	18.939
28.250	18.937	18.934	18.932	18.930	18.928
28.500	18.926	18.924	18.922	18.921	18.919
28.750	18.918	18.917	18.915	18.914	18.913
29.000	18.912	18.911	18.910	18.910	18.909
29.250	18.908	18.907	18.907	18.906	18.906
29.500	18.905	18.904	18.904	18.904	18.903
29.750	18.903	18.902	18.902	18.902	18.901
30.000	18.901	18.901	18.901	18.900	18.900
30.250	18.900	18.900	18.900	18.899	18.899

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.500	18.899	18.899	18.899	18.899	18.899
30.750	18.898	18.898	18.898	18.898	18.898
31.000	18.898	18.898	18.898	18.897	18.897
31.250	18.897	18.897	18.897	18.897	18.897
31.500	18.897	18.897	18.897	18.897	18.897
31.750	18.897	18.897	18.897	18.897	18.897
32.000	18.897	18.897	18.897	18.897	18.897
32.250	18.897	18.897	18.897	18.897	18.897
32.500	18.897	18.897	18.897	18.897	18.897
32.750	18.897	18.897	18.897	18.897	18.897
33.000	18.897	18.897	18.897	18.897	18.897
33.250	18.897	18.897	18.897	18.897	18.897
33.500	18.897	18.897	18.897	18.897	18.897
33.750	18.897	18.897	18.897	18.897	18.897
34.000	18.897	18.897	18.897	18.897	18.897
34.250	18.897	18.897	18.897	18.897	18.897
34.500	18.897	18.897	18.897	18.897	18.897
34.750	18.897	18.897	18.897	18.897	18.897
35.000	18.897	18.897	18.897	18.897	18.897
35.250	18.897	18.897	18.897	18.897	18.897
35.500	18.897	18.897	18.897	18.897	18.897
35.750	18.897	18.897	18.897	18.897	18.897
36.000	18.897	18.897	18.897	18.897	18.897
36.250	18.897	18.897	18.897	18.897	18.897
36.500	18.897	18.897	18.897	18.897	18.897
36.750	18.897	18.897	18.897	18.897	18.897
37.000	18.897	18.897	18.897	18.897	18.897
37.250	18.897	18.897	18.897	18.897	18.897
37.500	18.897	18.897	18.897	18.897	18.897
37.750	18.897	18.897	18.897	18.897	18.897
38.000	18.897	18.897	18.897	18.897	18.897
38.250	18.897	18.897	18.897	18.897	18.897
38.500	18.897	18.897	18.897	18.897	18.897
38.750	18.897	18.897	18.897	18.897	18.897
39.000	18.897	18.897	18.897	18.897	18.897
39.250	18.897	18.897	18.897	18.897	18.897
39.500	18.897	18.897	18.897	18.897	18.897
39.750	18.897	18.897	18.897	18.897	18.897
40.000	18.897	18.897	18.897	18.897	18.897
40.250	18.897	18.897	18.897	18.897	18.897
40.500	18.897	18.897	18.897	18.897	18.897

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
40.750	18.897	18.897	18.897	18.897	18.897
41.000	18.897	18.897	18.897	18.897	18.897
41.250	18.897	18.897	18.897	18.897	18.897
41.500	18.897	18.897	18.897	18.897	18.897
41.750	18.897	18.897	18.897	18.897	18.897
42.000	18.897	18.897	18.897	18.897	18.897
42.250	18.897	18.897	18.897	18.897	18.897
42.500	18.897	18.897	18.897	18.897	18.897
42.750	18.897	18.897	18.897	18.897	18.897
43.000	18.897	18.897	18.897	18.897	18.897
43.250	18.897	18.897	18.897	18.897	18.897
43.500	18.897	18.897	18.897	18.897	18.897
43.750	18.897	18.897	18.897	18.897	18.897
44.000	18.897	18.897	18.897	18.897	18.897
44.250	18.897	18.897	18.897	18.897	18.897
44.500	18.897	18.897	18.897	18.897	18.897
44.750	18.897	18.897	18.897	18.897	18.897
45.000	18.897	18.897	18.897	18.897	18.897
45.250	18.897	18.897	18.897	18.897	18.897
45.500	18.897	18.897	18.897	18.897	18.897
45.750	18.897	18.897	18.897	18.897	18.897
46.000	18.897	18.897	18.897	18.897	18.897
46.250	18.897	18.897	18.897	18.897	18.897
46.500	18.897	18.897	18.897	18.897	18.897
46.750	18.897	18.897	18.897	18.897	18.897
47.000	18.897	18.897	18.897	18.897	18.897
47.250	18.897	18.897	18.897	18.897	18.897
47.500	18.897	18.897	18.897	18.897	18.897
47.750	18.897	18.897	18.897	18.897	18.897
48.000	18.897	(N/A)	(N/A)	(N/A)	(N/A)

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	18.897	18.897	18.897	18.897	18.897
0.250	18.897	18.897	18.897	18.897	18.897
0.500	18.897	18.897	18.897	18.897	18.897
0.750	18.897	18.897	18.897	18.897	18.897
1.000	18.897	18.897	18.897	18.897	18.897
1.250	18.897	18.897	18.897	18.897	18.897
1.500	18.897	18.897	18.897	18.897	18.897
1.750	18.897	18.897	18.897	18.897	18.897
2.000	18.897	18.897	18.897	18.897	18.897
2.250	18.897	18.897	18.897	18.897	18.897
2.500	18.897	18.897	18.897	18.897	18.897
2.750	18.897	18.897	18.897	18.897	18.897
3.000	18.897	18.897	18.897	18.897	18.897
3.250	18.897	18.897	18.897	18.897	18.897
3.500	18.897	18.897	18.897	18.897	18.897
3.750	18.897	18.897	18.897	18.897	18.897
4.000	18.897	18.897	18.897	18.897	18.897
4.250	18.897	18.897	18.897	18.897	18.897
4.500	18.897	18.897	18.897	18.897	18.897
4.750	18.897	18.897	18.897	18.897	18.897
5.000	18.897	18.897	18.897	18.897	18.897
5.250	18.897	18.897	18.897	18.897	18.897
5.500	18.897	18.897	18.897	18.897	18.897
5.750	18.897	18.897	18.897	18.897	18.897
6.000	18.897	18.897	18.897	18.897	18.897
6.250	18.897	18.897	18.897	18.897	18.897
6.500	18.897	18.897	18.897	18.897	18.897
6.750	18.897	18.897	18.897	18.897	18.897
7.000	18.897	18.897	18.897	18.897	18.897
7.250	18.897	18.897	18.897	18.897	18.897
7.500	18.898	18.899	18.899	18.900	18.901
7.750	18.903	18.904	18.907	18.909	18.912
8.000	18.915	18.919	18.924	18.929	18.934
8.250	18.941	18.948	18.955	18.963	18.972
8.500	18.982	18.992	19.003	19.015	19.027
8.750	19.040	19.054	19.068	19.083	19.099
9.000	19.115	19.132	19.150	19.168	19.188
9.250	19.208	19.229	19.252	19.275	19.300
9.500	19.326	19.354	19.383	19.415	19.448
9.750	19.483	19.520	19.559	19.600	19.643

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.000	19.688	19.735	19.784	19.835	19.889
10.250	19.944	20.000	20.059	20.119	20.181
10.500	20.245	20.311	20.378	20.448	20.519
10.750	20.594	20.671	20.752	20.836	20.926
11.000	21.022	21.123	21.231	21.348	21.474
11.250	21.610	21.757	21.916	22.089	22.276
11.500	22.478	22.698	22.938	23.200	23.486
11.750	23.802	24.155	24.542	24.914	25.329
12.000	25.818	26.399	27.067	27.846	28.777
12.250	29.875	31.127	32.381	33.808	35.415
12.500	37.198	39.073	40.883	42.758	44.696
12.750	46.634	48.320	49.800	51.116	52.246
13.000	53.166	53.901	54.471	54.871	55.098
13.250	55.173	55.113	54.924	54.613	54.194
13.500	53.693	53.130	52.519	51.874	51.210
13.750	50.538	49.868	49.208	48.563	47.933
14.000	47.323	46.699	46.037	45.358	44.668
14.250	43.978	43.294	42.614	41.944	41.292
14.500	40.659	40.042	39.445	38.872	38.290
14.750	37.695	37.124	36.579	36.060	35.563
15.000	35.091	34.644	34.221	33.819	33.439
15.250	33.079	32.739	32.416	32.109	31.817
15.500	31.540	31.275	31.016	30.736	30.464
15.750	30.200	29.943	29.693	29.451	29.217
16.000	28.989	28.768	28.555	28.349	28.149
16.250	27.956	27.771	27.593	27.421	27.256
16.500	27.098	26.947	26.802	26.664	26.532
16.750	26.407	26.288	26.175	26.067	25.965
17.000	25.868	25.775	25.688	25.605	25.527
17.250	25.453	25.383	25.316	25.253	25.194
17.500	25.137	25.083	25.032	24.984	24.937
17.750	24.893	24.851	24.811	24.772	24.735
18.000	24.700	24.666	24.633	24.602	24.572
18.250	24.542	24.514	24.487	24.455	24.423
18.500	24.391	24.359	24.327	24.294	24.262
18.750	24.230	24.197	24.165	24.132	24.100
19.000	24.067	24.035	24.003	23.970	23.938
19.250	23.906	23.873	23.841	23.809	23.777
19.500	23.745	23.713	23.681	23.649	23.617
19.750	23.586	23.554	23.522	23.491	23.459
20.000	23.428	23.396	23.365	23.334	23.303

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.250	23.271	23.240	23.209	23.178	23.147
20.500	23.116	23.085	23.054	23.024	22.993
20.750	22.962	22.931	22.901	22.870	22.839
21.000	22.809	22.778	22.747	22.717	22.686
21.250	22.656	22.625	22.595	22.565	22.534
21.500	22.504	22.474	22.443	22.413	22.383
21.750	22.353	22.322	22.292	22.262	22.232
22.000	22.202	22.172	22.142	22.111	22.081
22.250	22.051	22.021	21.991	21.961	21.931
22.500	21.901	21.872	21.842	21.812	21.782
22.750	21.752	21.722	21.693	21.663	21.633
23.000	21.604	21.574	21.545	21.515	21.485
23.250	21.456	21.426	21.397	21.367	21.338
23.500	21.308	21.279	21.250	21.220	21.191
23.750	21.162	21.132	21.103	21.074	21.044
24.000	21.015	20.986	20.956	20.926	20.896
24.250	20.866	20.835	20.803	20.771	20.738
24.500	20.704	20.668	20.632	20.594	20.556
24.750	20.516	20.475	20.433	20.390	20.346
25.000	20.302	20.257	20.212	20.167	20.122
25.250	20.076	20.032	19.987	19.944	19.901
25.500	19.858	19.817	19.777	19.738	19.700
25.750	19.663	19.628	19.594	19.561	19.529
26.000	19.498	19.469	19.441	19.414	19.388
26.250	19.363	19.339	19.317	19.295	19.275
26.500	19.255	19.236	19.218	19.201	19.185
26.750	19.169	19.155	19.141	19.128	19.115
27.000	19.103	19.092	19.081	19.071	19.061
27.250	19.052	19.043	19.035	19.027	19.020
27.500	19.013	19.006	19.000	18.994	18.988
27.750	18.983	18.978	18.973	18.969	18.965
28.000	18.961	18.957	18.953	18.950	18.947
28.250	18.944	18.941	18.938	18.936	18.933
28.500	18.931	18.929	18.927	18.925	18.924
28.750	18.922	18.920	18.919	18.918	18.916
29.000	18.915	18.914	18.913	18.912	18.911
29.250	18.910	18.909	18.908	18.908	18.907
29.500	18.906	18.906	18.905	18.905	18.904
29.750	18.904	18.903	18.903	18.903	18.902
30.000	18.902	18.902	18.901	18.901	18.901
30.250	18.901	18.900	18.900	18.900	18.900

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.500	18.899	18.899	18.899	18.899	18.899
30.750	18.899	18.899	18.899	18.898	18.898
31.000	18.898	18.898	18.898	18.898	18.898
31.250	18.898	18.897	18.897	18.897	18.897
31.500	18.897	18.897	18.897	18.897	18.897
31.750	18.897	18.897	18.897	18.897	18.897
32.000	18.897	18.897	18.897	18.897	18.897
32.250	18.897	18.897	18.897	18.897	18.897
32.500	18.897	18.897	18.897	18.897	18.897
32.750	18.897	18.897	18.897	18.897	18.897
33.000	18.897	18.897	18.897	18.897	18.897
33.250	18.897	18.897	18.897	18.897	18.897
33.500	18.897	18.897	18.897	18.897	18.897
33.750	18.897	18.897	18.897	18.897	18.897
34.000	18.897	18.897	18.897	18.897	18.897
34.250	18.897	18.897	18.897	18.897	18.897
34.500	18.897	18.897	18.897	18.897	18.897
34.750	18.897	18.897	18.897	18.897	18.897
35.000	18.897	18.897	18.897	18.897	18.897
35.250	18.897	18.897	18.897	18.897	18.897
35.500	18.897	18.897	18.897	18.897	18.897
35.750	18.897	18.897	18.897	18.897	18.897
36.000	18.897	18.897	18.897	18.897	18.897
36.250	18.897	18.897	18.897	18.897	18.897
36.500	18.897	18.897	18.897	18.897	18.897
36.750	18.897	18.897	18.897	18.897	18.897
37.000	18.897	18.897	18.897	18.897	18.897
37.250	18.897	18.897	18.897	18.897	18.897
37.500	18.897	18.897	18.897	18.897	18.897
37.750	18.897	18.897	18.897	18.897	18.897
38.000	18.897	18.897	18.897	18.897	18.897
38.250	18.897	18.897	18.897	18.897	18.897
38.500	18.897	18.897	18.897	18.897	18.897
38.750	18.897	18.897	18.897	18.897	18.897
39.000	18.897	18.897	18.897	18.897	18.897
39.250	18.897	18.897	18.897	18.897	18.897
39.500	18.897	18.897	18.897	18.897	18.897
39.750	18.897	18.897	18.897	18.897	18.897
40.000	18.897	18.897	18.897	18.897	18.897
40.250	18.897	18.897	18.897	18.897	18.897
40.500	18.897	18.897	18.897	18.897	18.897

BUC871015D_StormwaterReport

Subsection: Time vs. Volume
Label: Buchanan Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
40.750	18.897	18.897	18.897	18.897	18.897
41.000	18.897	18.897	18.897	18.897	18.897
41.250	18.897	18.897	18.897	18.897	18.897
41.500	18.897	18.897	18.897	18.897	18.897
41.750	18.897	18.897	18.897	18.897	18.897
42.000	18.897	18.897	18.897	18.897	18.897
42.250	18.897	18.897	18.897	18.897	18.897
42.500	18.897	18.897	18.897	18.897	18.897
42.750	18.897	18.897	18.897	18.897	18.897
43.000	18.897	18.897	18.897	18.897	18.897
43.250	18.897	18.897	18.897	18.897	18.897
43.500	18.897	18.897	18.897	18.897	18.897
43.750	18.897	18.897	18.897	18.897	18.897
44.000	18.897	18.897	18.897	18.897	18.897
44.250	18.897	18.897	18.897	18.897	18.897
44.500	18.897	18.897	18.897	18.897	18.897
44.750	18.897	18.897	18.897	18.897	18.897
45.000	18.897	18.897	18.897	18.897	18.897
45.250	18.897	18.897	18.897	18.897	18.897
45.500	18.897	18.897	18.897	18.897	18.897
45.750	18.897	18.897	18.897	18.897	18.897
46.000	18.897	18.897	18.897	18.897	18.897
46.250	18.897	18.897	18.897	18.897	18.897
46.500	18.897	18.897	18.897	18.897	18.897
46.750	18.897	18.897	18.897	18.897	18.897
47.000	18.897	18.897	18.897	18.897	18.897
47.250	18.897	18.897	18.897	18.897	18.897
47.500	18.897	18.897	18.897	18.897	18.897
47.750	18.897	18.897	18.897	18.897	18.897
48.000	18.897	(N/A)	(N/A)	(N/A)	(N/A)

BUC871015D_StormwaterReport

Subsection: Elevation-Area Volume Curve
Label: Buchanan Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ac-ft)	Volume (Total) (ac-ft)
875.00	0.0	814.98	0.00	0.000	0.000
876.00	0.0	55,130.73	62,648.73	0.479	0.479
877.00	0.0	134,113.95	275,231.89	2.106	2.586
878.00	0.0	278,713.17	606,164.45	4.639	7.224
878.50	0.0	310,785.73	883,811.79	3.382	10.606
879.00	0.0	347,361.78	986,712.70	3.775	14.381
879.50	0.0	441,343.28	1,180,247.89	4.516	18.897
880.00	0.0	533,565.55	1,460,177.38	5.587	24.484
881.00	0.0	699,048.07	1,843,341.03	14.106	38.589
882.00	0.0	841,060.83	2,306,882.63	17.653	56.242
882.50	0.0	921,216.26	2,642,503.72	10.111	66.353

BUC871015D_StormwaterReport

Subsection: Elevation-Area Volume Curve
Label: Buchanan Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ac-ft)	Volume (Total) (ac-ft)
875.00	0.0	814.98	0.00	0.000	0.000
876.00	0.0	55,130.73	62,648.73	0.479	0.479
877.00	0.0	134,113.95	275,231.89	2.106	2.586
878.00	0.0	278,713.17	606,164.45	4.639	7.224
878.50	0.0	310,785.73	883,811.79	3.382	10.606
879.00	0.0	347,361.78	986,712.70	3.775	14.381
879.50	0.0	441,343.28	1,180,247.89	4.516	18.897
880.00	0.0	533,565.55	1,460,177.38	5.587	24.484
881.00	0.0	699,048.07	1,843,341.03	14.106	38.589
882.00	0.0	841,060.83	2,306,882.63	17.653	56.242
882.50	0.0	921,216.26	2,642,503.72	10.111	66.353

BUC871015D_StormwaterReport

Subsection: Elevation-Area Volume Curve
Label: Buchanan Wetland
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ac-ft)	Volume (Total) (ac-ft)
875.00	0.0	814.98	0.00	0.000	0.000
876.00	0.0	55,130.73	62,648.73	0.479	0.479
877.00	0.0	134,113.95	275,231.89	2.106	2.586
878.00	0.0	278,713.17	606,164.45	4.639	7.224
878.50	0.0	310,785.73	883,811.79	3.382	10.606
879.00	0.0	347,361.78	986,712.70	3.775	14.381
879.50	0.0	441,343.28	1,180,247.89	4.516	18.897
880.00	0.0	533,565.55	1,460,177.38	5.587	24.484
881.00	0.0	699,048.07	1,843,341.03	14.106	38.589
882.00	0.0	841,060.83	2,306,882.63	17.653	56.242
882.50	0.0	921,216.26	2,642,503.72	10.111	66.353

BUC871015D_StormwaterReport

Subsection: Elevation-Area Volume Curve
Label: Buchanan Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ac-ft)	Volume (Total) (ac-ft)
875.00	0.0	814.98	0.00	0.000	0.000
876.00	0.0	55,130.73	62,648.73	0.479	0.479
877.00	0.0	134,113.95	275,231.89	2.106	2.586
878.00	0.0	278,713.17	606,164.45	4.639	7.224
878.50	0.0	310,785.73	883,811.79	3.382	10.606
879.00	0.0	347,361.78	986,712.70	3.775	14.381
879.50	0.0	441,343.28	1,180,247.89	4.516	18.897
880.00	0.0	533,565.55	1,460,177.38	5.587	24.484
881.00	0.0	699,048.07	1,843,341.03	14.106	38.589
882.00	0.0	841,060.83	2,306,882.63	17.653	56.242
882.50	0.0	921,216.26	2,642,503.72	10.111	66.353

Subsection: Outlet Input Data
Label: 80' Sheet Pile with Aux
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Requested Pond Water Surface Elevations	
Minimum (Headwater)	875.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	882.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Irregular Weir	Sheet Pile Weir	Forward	TW	879.50	882.50
Irregular Weir	Aux	Forward	TW	881.50	882.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Sheet Pile Weir
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
9.00	879.50
89.00	879.50
98.00	882.50

Lowest Elevation	879.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Aux
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
10.00	881.50
160.00	881.50
170.00	882.50

Lowest Elevation	881.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Requested Pond Water Surface Elevations	
Minimum (Headwater)	875.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	882.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Irregular Weir	Sheet Pile Weir	Forward	TW	879.50	882.50
Irregular Weir	Aux	Forward	TW	881.50	882.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Sheet Pile Weir
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
9.00	879.50
89.00	879.50
98.00	882.50

Lowest Elevation	879.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Aux
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
10.00	881.50
160.00	881.50
170.00	882.50

Lowest Elevation	881.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Subsection: Outlet Input Data
Label: 80' Sheet Pile with Aux
Scenario: Post-Development 50 year

Return Event: 50 years
Storm Event: 50 year

Requested Pond Water Surface Elevations	
Minimum (Headwater)	875.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	882.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Irregular Weir	Sheet Pile Weir	Forward	TW	879.50	882.50
Irregular Weir	Aux	Forward	TW	881.50	882.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Sheet Pile Weir
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
9.00	879.50
89.00	879.50
98.00	882.50

Lowest Elevation	879.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Aux
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
10.00	881.50
160.00	881.50
170.00	882.50

Lowest Elevation	881.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Requested Pond Water Surface Elevations	
Minimum (Headwater)	875.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	882.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Irregular Weir	Sheet Pile Weir	Forward	TW	879.50	882.50
Irregular Weir	Aux	Forward	TW	881.50	882.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Sheet Pile Weir
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
9.00	879.50
89.00	879.50
98.00	882.50

Lowest Elevation	879.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Aux
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	882.50
10.00	881.50
160.00	881.50
170.00	882.50

Lowest Elevation	881.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

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