Ardaman & Associates, Inc.

Geotechnical, Environmental, and
Materials Consultants

March 25, 2022
File Number 21-13-0031C

Mr. Herbert R. Donica
Donica Receivership Services, LLC
238 E. Davis Boulevard, Ste. 209
Tampa, FL 33606

Subject: Response to FDEP First Request for Additional Information of the Conceptual Terminal Closure for Lined Ponds OGS-N, OGS-S, NGS-N and NGS-S of the Piney Point Phosphogypsum Stack System, Manatee County, Florida

Dear Mr. Donica:

In response to the Request for Additional Information (RAI) from the Florida Department of Environmental Protection (FDEP) dated March 16, 2022, attached please find the updated Conceptual Closure Plan for Ponds NGS-N, NGS-S, OGS-N and OGS-S of the Piney Point Phosphogypsum Stack System addressing FDEP comments 1 through 6. Addendum 1 of this response addresses FDEP comments 7 and 8.

It has been a pleasure assisting you with this phase of the project. We trust that the enclosed supporting attachments meet your current planning and permitting needs. Please contact us if you have any questions or need additional information or assistance.

As requested, we are copying this correspondence to the Department of Environmental Protection on behalf of Mr. Donica for the Department's review under the requirements of Chapter 62-673 F.A.C.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.
*Certificate of Authorization 5950*

Reinaldo Rolo, Ph.D., P.E.
Project Director

Phong Vo
Senior Consultant

MOHAMAD AL-HAWAREE
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No. 58537
3/25/2022
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Mohamad Al-hawaree, P.E.
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CC: Mr. John Coates, P.E. - FDEP

# Updated Conceptual Closure Plan
# for
# Ponds NGS-N, NGS-S, OGS-N and OGS-S
# In Response to FDEP Request for Additional Information

## Piney Point Phosphogypsum Stack System
## Manatee County, Florida

Prepared by

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

March 25, 2022

## SECTION 1 - GENERAL INFORMATION

The Piney Point Phosphogypsum Stack System has been closed under NPDES Permit No. 000124 and included the following general closure features: (i) lined surfaces and inside slopes of the cooling ponds; (ii) lined top surfaces and inside slopes of gypsum stack compartments; (iii) lined stormwater conveyance system; (iv) seepage collection system; and (v) stormwater NPDES outfalls D-001 and D-003. The lined surfaces are covered with either 60-mil or 80-mil high-density polyethylene (HDPE) geomembrane, and only the lined cooling ponds and some portions of the lined OGS were covered with a 24-inch soil cover

The four former gypsum stack compartments, namely NGS-N, NGS-S, OGS-N and OGS-S are considered partially closed (i.e., lined), but do not meet the closure requirements under Rule 62-673 F.A.C. Furthermore, due to dredge operations, significant amounts of soft/loose marine sediments have been deposited in OGS-N and OGS-S, and some sediments have accumulated in the NGS-S pond. Also, a recent bathymetric survey suggests the presence of a layer of sediments at the bottom of pond NGS-N, presumably as a result of constituents precipitating over the years due to the spray evaporation system installed in this pond. Therefore, the biggest challenge for terminal closure of ponds NGS-S, NGS-N, OGS-N and OGS-S is the handling of sediments as described below.

**Pond NGS-S**: This lined pond contains an estimate of over 713,000 cubic yards of soft marine sediments. To close the pond handling of these soft sediments must be addressed, which will likely involve dewatering, consolidating, and entombing them in the lined cover system. Dewatering methods under evaluation include mechanical excavation and drying, mixing and drying, or dredging and pumping into dewatering synthetic bags such as Geotube®. The dewatering of the soft sediments can be very time consuming and costly. It is anticipated that the existing HPDE liner could be damaged during the handling and removal of soft sediments and, therefore, will be replaced with a new HDPE liner. Evaluation of an effective handling method is underway and will be presented at the detailed design phase of the closure plan.

**Pond NGS-N:** This lined pond has been fitted with a spray evaporation system to consume water during closure. The bathymetric survey suggests the presence of an estimated 95,000 cubic yards of sediments, accumulated mainly in the northwest portion of the pond. These sediments are not expected to be soft and will likely be conditioned by mixing with other materials before being entombed under the new liner system.

**Ponds OGS-N and OGS-S:** Approximately half of these ponds contain coarse materials deposited during dredge operations. The other half, which is further away from the point of discharge, contains finer particles from dredge operations. The coarser materials are relatively densely packed, while the finer ones are soft and have high-water content. High strength fabric, a thick layer of clean sand and an underdrain system that would underlay the new top closure geomembrane are being considered for the closure of these areas. An existing liner tear and associated erosion feature in gypsum under the liner at the west wall of the OGS-S pond is currently under investigation. A repair plan is being considered and will be implemented prior to terminal closure.

The conceptual closure plan is only to address terminal closure of the four former gypsum stack compartments mentioned above. The conceptual closure plan does not address the following previously approved elements under existing NPDES permit No. Fl 0000124 supported by the "*Site Report NPDES Permit Renewal Application FL0000124*" by Environmental Consulting & Technology, Inc. (ECT) dated September 2009:

- Groundwater Monitoring Plan
- Long-term care of the gypsum stack system including seepage water management
- Closure of the LPWS pond (seepage collection pond)

## SECTION 2 - CONCEPTUAL CLOSURE DESIGN PLAN

The proposed overall conceptual closure sequence considers the site-specific water management plan with an average annual rainfall of 53.7" and predicted pond water inventory as shown in the Water Balance Projection. The site-specific water management plan includes the following measures:

- The OGS-S pond is currently dried and ready for closure. To take advantage of the dry season (i.e., before June 1st, 2022), closure of the OGS-S Pond will start as soon as the Conceptual Closure Plan is approved by FDEP. Prior to closure construction, rainfall runoff on the dredged materials in this pond is considered dischargeable under the Dredged Materials Containment Agreement (DMCA) with Manatee County Port Authority (Port) under permit No. 0129291EM, as stated in the Site Report prepared by Environmental Consulting Technology, Inc. (dated September 2009). This agreement effectively allows the site to discharge the stormwater from this pond without the need to add it to the pond water inventory. During the active closure construction phase rainfall runoff will be routed to the pond system.
- Following complete closure of pond OGS-S, the next phase will involve closure of ponds NGS-S and OGS-N. This closure phase will not start until the deep well injection system is fully operational, at the injection rate of 1 million gallons per day (MGD), and the total pond water inventory is below 131 million gallons (MG). As system storage capacity is gradually removed as a result of the closure of ponds NGS-S and OGS-N, , the maximum allowable system storage capacity will drop to 243 MG, which would result in a maximum available system rainfall storage capacity of 112 million gallons (i.e., 243 MG of allowable storage capacity minus 131MG of pond water inventory) or 27 inches of rainfall over the open watershed.
- The last closure phase, which will include pond NGS-N and possibly some portions of OGS-N, must be carefully planned and performed in multiple stages if needed to accommodate adequate containment of rainfall runoff on the active closure areas.
- As closure construction of each of the ponds (OGS-S, OGS-N, NGS-N, and NGS-S) is completed, rainfall runoff on closed areas will report to the permitted Outfalls. The lined seepage collection sump (LPWS) will remain available during the long-term care period to store and manage seepage water prior to pumping it to the deep well injection system.
- The site-specific water management plan will be updated annually, with October 1st as the beginning date for the inventory projection. The projection will identify status of closure schedule, changes in watershed area resulting from closure activities, seepage rates from the seepage collection system, injection rates into the deep well injection system, and water removal/consumption from any other available methods.

Preliminary drawings depicting the general closure of the former gypsum stack compartments are included in Figures 1 through 10. A brief description is provided below.

**OGS-S:** Dredged marine deposits were introduced at the south end of this 24-acre pond. The southern 10 acres are covered with relatively dense coarse sediments, while the remaining northern 14 acres contain fine and soft deposits. The pond compartment is currently free of standing water and is not used for any water management in the facility, aside from rainfall

associated with the compartment's own watershed. Thus, it can be closed ahead of, and independently from, the other compartments.

As depicted on Figure 1, closure of the southern area will be accomplished by placing a 60-mil HDPE liner over the existing sediments, covered by 2 feet of compacted soil. A thin cushion layer (sand or gypsum) may need to be place under the liner to prevent sharp particles present in the dredge deposits (rocks and shells) from damaging the liner. A gas venting system will be installed directly below the liner to allow air and gases to escape (see details in Figure 8).

The northern area will require the installation of a high-strength woven geotextile over the soft materials to facilitate placement of a thick layer of sand to act as a surcharge (for the purpose of accelerating consolidation of the soft, compressible materials) and to provide a more stable subgrade for deployment of the HDPE liner and placement of the soil liner cover (see Figure 8). Given that a liner was already installed over the pond surface before storage of the dredge material, the sand layer will also act as a collection zone for the consolidation water. A relief drain may be required within the sand to facilitate drainage and discharge of this water to the seepage collection system. A 60-mil HDPE liner covered with 2 feet of compacted soil will ultimately be used to cap this area. A gas venting system will also be installed below the liner in this area.

The pond will be graded and fitted with runoff collection swales to provide gravity runoff to a new outfall structure to be located at the west wall of the pond (see also cross section in Figure 9). A notch will be excavated in the dike at this location to limit water storage in case of large rain events.

**OGS-N:** This 36-acre pond was similarly filled with dredge deposits from the south end and, as a result, has an approximately 10-acre beach of coarse, relatively dense marine sediments on its southern end. The remaining 26 acres to the north (which are currently ponded) are covered with fine, soft deposits similar to those in OGS-S. As shown in Figure 2 the closure of these 26 acres will be comparable to the closure of the aforementioned northern area of OGS-S, using a high strength geotextile covered with a thick sand layer fitted with a relief drain, and capped with a 60-mil HDPE liner (underlain by a gas vent system) and 2 feet of compacted soil cover (see details in Figure 8).

The 10-acre beach will be utilized to house soft sediments from NGS-S, possibly stored in Geotube® dewatering containers resting on top of the existing coarse deposits (see Detail 3). Once the Geotube® filling operation is complete, the void spaces between tubes will be filled with sandy soils to provide a flat, stable surface prior to the entire area being covered with a 60-mil HDPE liner and 2 feet of compacted soil cover (Detail 4). In areas outside of the Geotube® containers, a thin cushion layer (sand or gypsum) may need to be place under the liner to prevent sharp particles present in the dredge deposits (rocks and shells) from damaging the new liner.

Grading and swales will be incorporated in the design and construction of the closure to provide a positive gradient for runoff to gravity-flow to a new outfall structure to be located at the north end of the pond (see also cross section in Figure 9). An open notch will similarly be provided in the dike at this location to limit water storage in case of large rain events.

**North Relief Ditch:** This ditch is already closed (i.e., fitted with HDPE liner and soil cover) but will be modified to receive the stormwater runoff from the closed OGS-N. The modification involves extending the lined area to a higher elevation so that the ditch can store more water during storm surges (Figure 3) and retrofitting the existing outfall structure at the West end of the

ditch to handle the additional flow (see also Attachment 1 for further details regarding stormwater management considerations).

**NGS-S:** This 72-acre pond is covered by an average 10 feet of soft, compressible, fine carry-over sediments from the dredge operation. To dewater these sediments in a reasonable timeframe, the conceptual plan assumes that the soft deposits will be removed and stored in dewatering synthetic bags (e.g., Geotube® containers). Due to the large volume of bags required and schedule constraints, a number of the bags will be permanently stored in OGS-N as previously described (dimensions of this area will be determined in the design phase). The remaining bags will be stored in a dedicated area at the northeastern end of NGS-S, as depicted in Figure 4 (dimensions of this area will be determined in the design phase). The entire footprint will then be graded so that runoff from approximately the northern one third of the pond will drain towards a point of discharge in the northeast, while runoff from the remaining two thirds of the pond will drain to the southwest. Large notches will be excavated in the existing dike at these two points of discharge to also provide visibility and easy access to the pond. Structures will be installed to control runoff discharge rates (see also Attachment 1).

Given the likelihood that the existing liner covering the 45-acre pond bottom could be damaged as a result of the removal of the soft deposits, a new 60-mil HDPE liner will be installed and connected to the existing liner on the inside slopes (a gas venting system will be provided between the two liners). Two feet of compacted soil will be placed over the entire pond (Figures 4 and 10).

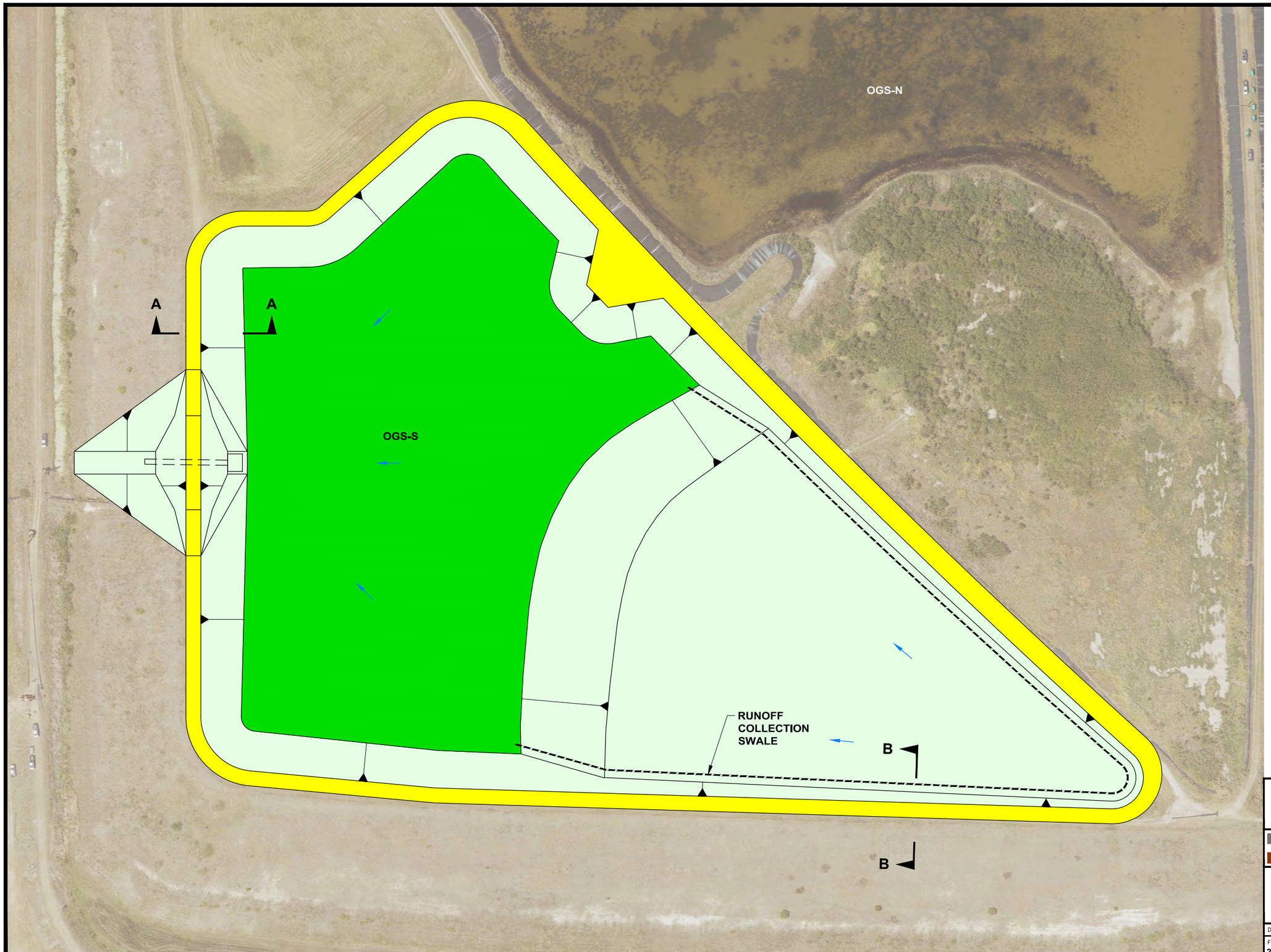
A tear in the liner at the southwest corner of the pond bottom is currently being investigated. A preliminary repair plan is underway to curtail the leak, but a permanent repair will be implemented after emptying the pond and removing the dredge deposits.

**NGS-N:** This pond has a total area of 34 acres and is thought to contain an average of 1.7 feet of materials that have precipitated from the water stored in the pond and from the water being evaporated in the spray evaporation system.

Closure of this pond currently assumes that these precipitated materials can readily be handled, and/or mixed with other soils, in place. A new 60-mil HDPE liner will be installed and connected to the existing liner on the slopes to entomb this material (a gas venting system will be provided between the two liners), see Figures 5 and 10. The current grading of the pond bottom will be maintained, which provides a positive gradient to the northwest of the pond, where a notch will be excavated in the existing dike to allow for stormwater discharge, while providing visibility and easy access to the pond. A structure will be installed to control stormwater discharge rates. Two feet of compacted soil will be placed over the entire pond.

It is important to emphasize that the above closure plans for NGS-N and NGS-S assume that the outside perimeter dikes remain essentially the same as current conditions with the same notches. An alternative that is still under consideration would be to excavate the outside dikes (i.e., entire north wall for NGS-N and east and south walls for NGS-S) (see Figures 6 and 7 and cross section D in Figure 10). This alternative would eliminate the capacity of the ponds to store water, allow much wider access to the ponds and provide unrestricted view. The cut material from lowering the dikes would be consumed inside the ponds as grading fill over the flat areas prior to placing the new HDPE liner system. The elevation of the lowered dike will be such that stormwater will be allowed to surge inside of the pond without overtopping. Hydrological and hydraulic evaluations will be completed during detail design to determine the lowest possible elevation of the dike, which in turn, will allow computation of the gypsum cut that will be available for grading the pond bottom.

Post-closure stormwater flow and management for the entire facility, including downstream from the point of discharge of the four aforementioned ponds, is discussed in more detail in Attachment I (Hydrologic & Hydraulic Evaluations).

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DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

## LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA (SEE DETAIL 1)
- CLOSED GYPSUM STACK SOFT DEPOSIT AREA (SEE DETAIL 2)
- OUTFALL STRUCTURE

**OGS-S CONCEPTUAL CLOSURE LAYOUT**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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APRIL 06, 2021

BY: WOOLPERT AERIAL

## LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA (SEE DETAILS 1 AND 4)
- CLOSED GYPSUM STACK SOFT DEPOSIT AREA (SEE DETAIL 2)
- OUTFALL STRUCTURE

**OGS-N CONCEPTUAL CLOSURE LAYOUT**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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SCALE: 1"=200'

DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

## LEGEND

- DIKE ROAD AREAS
- CLOSED RELIEF DITCH AREA
- APPROXIMATE AREA OF MODIFIED DITCH LINER
- OUTFALL STRUCTURE

**NORTH RELIEF DITCH**
**CONCEPTUAL CLOSURE LAYOUT**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**
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**MANATEE COUNTY, FL**

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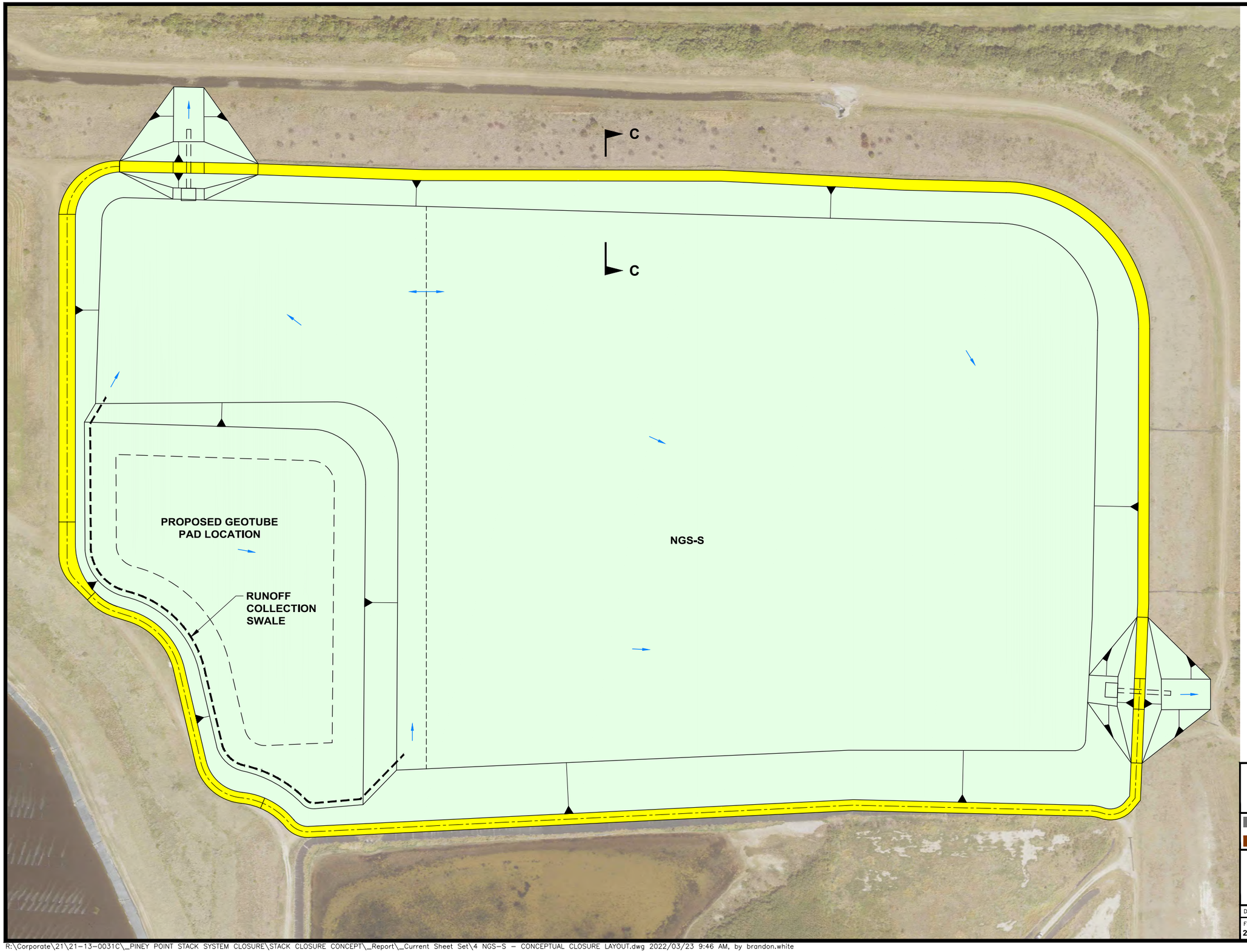


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DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

## LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

**NGS-S - CONCEPTUAL CLOSURE LAYOUT**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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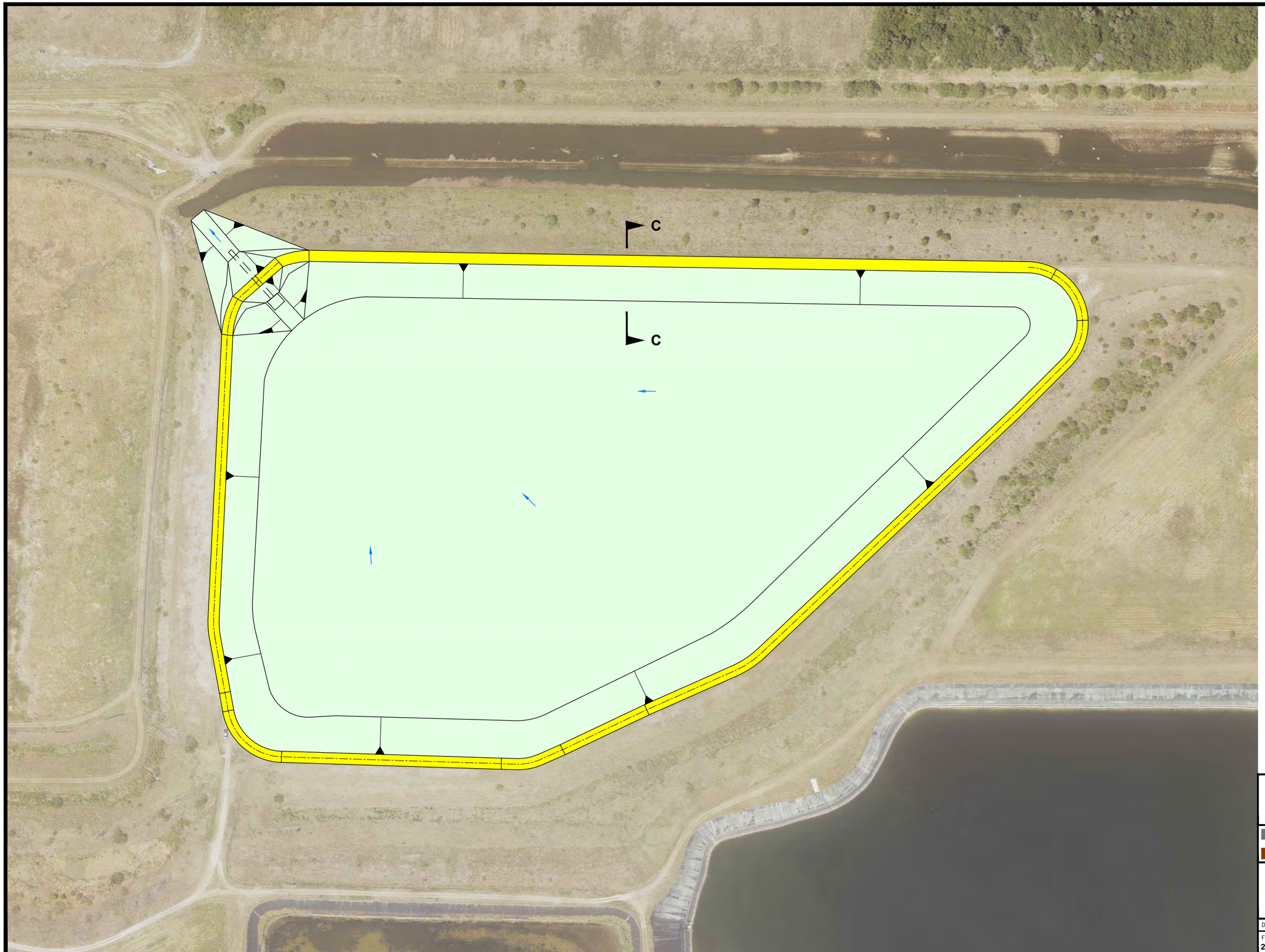


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DATE OF PHOTOGRAPHY:
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## LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

**NGS-N - CONCEPTUAL CLOSURE LAYOUT**

**Ardaman & Associates, Inc.**
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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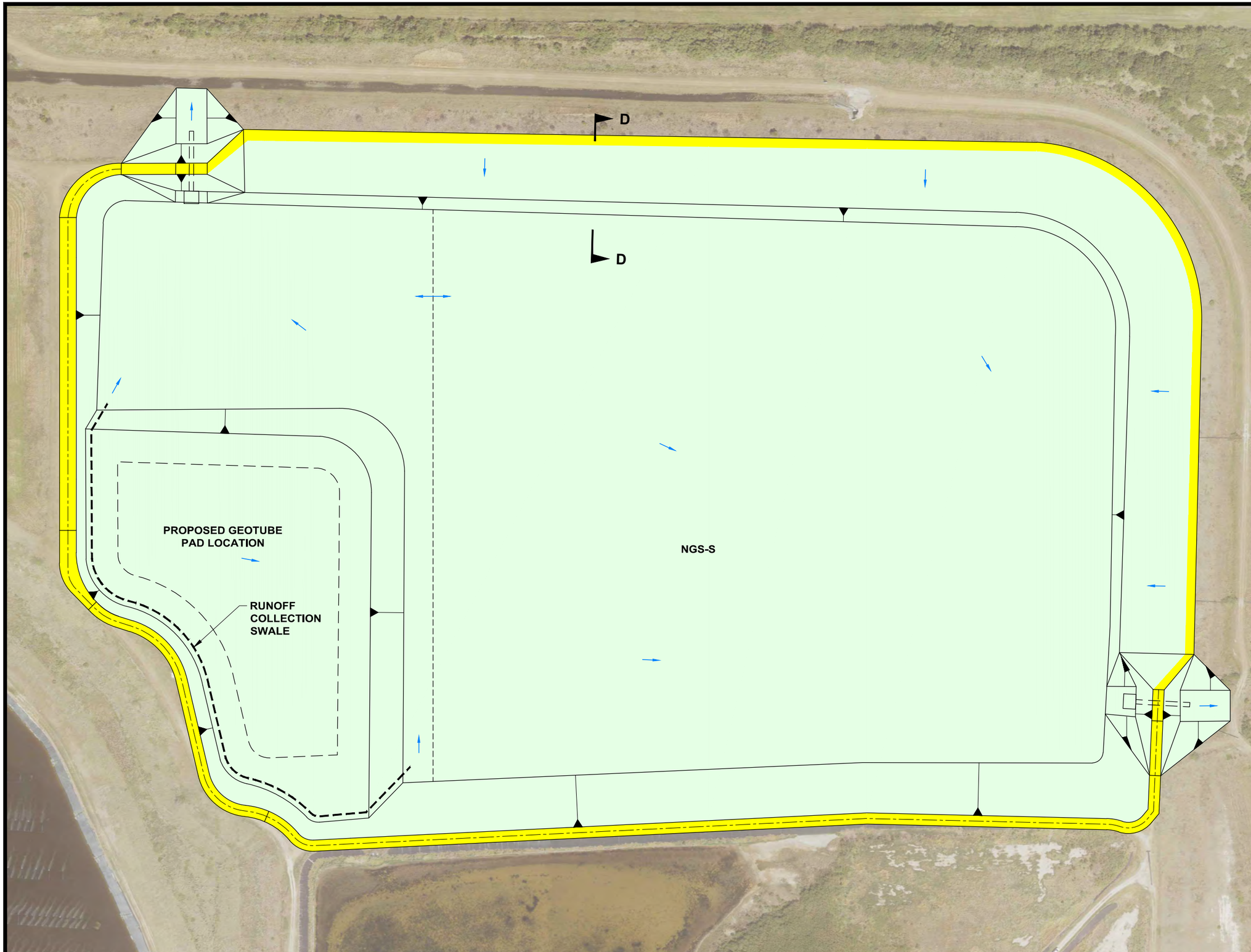


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BY: WOOLPERT AERIAL

## LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

**NGS-S - CONCEPTUAL CLOSURE LAYOUT (ALTERNATIVE OPTION)**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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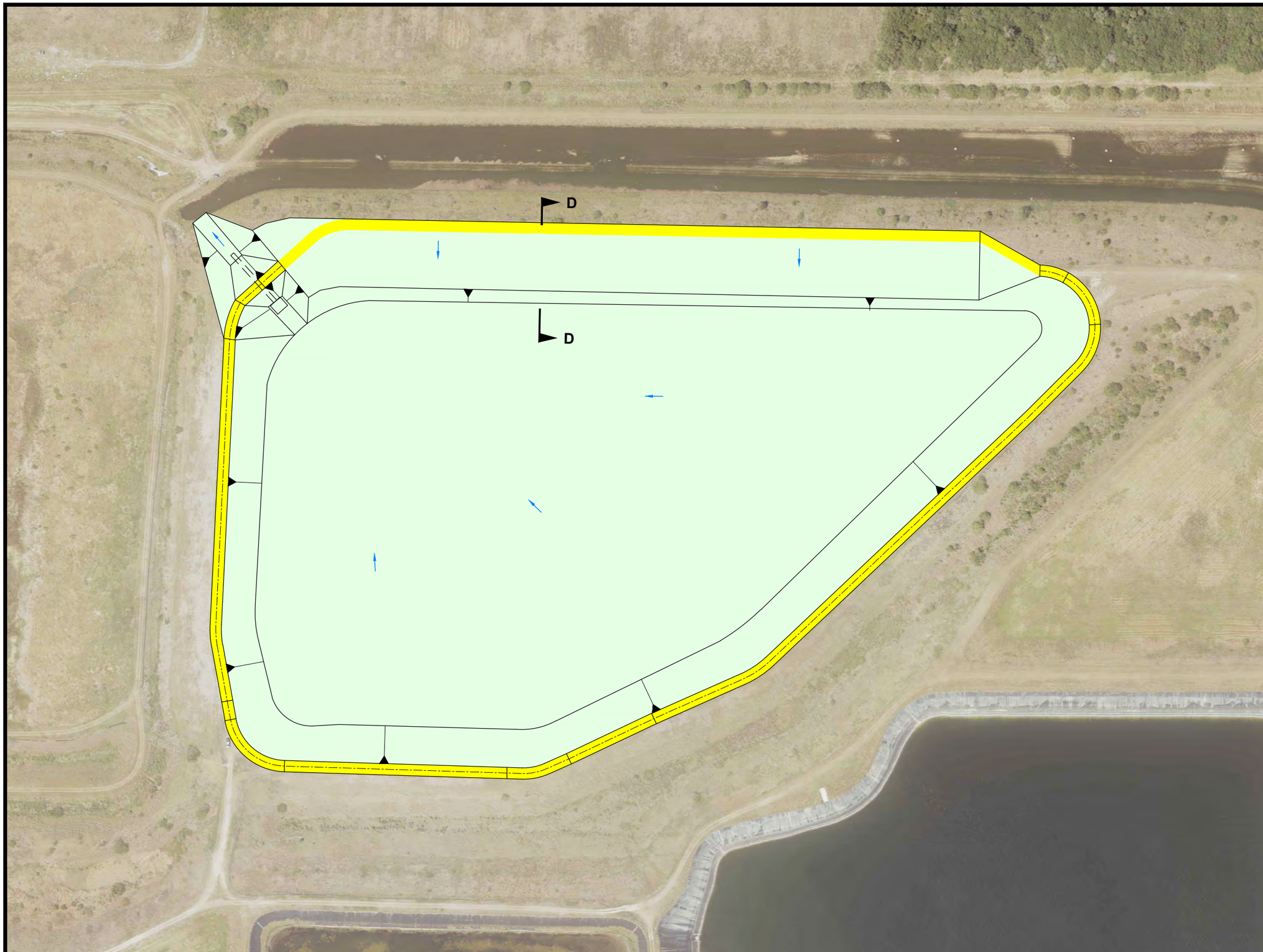


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DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

## LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

**NGS-N - CONCEPTUAL CLOSURE LAYOUT (ALTERNATIVE OPTION)**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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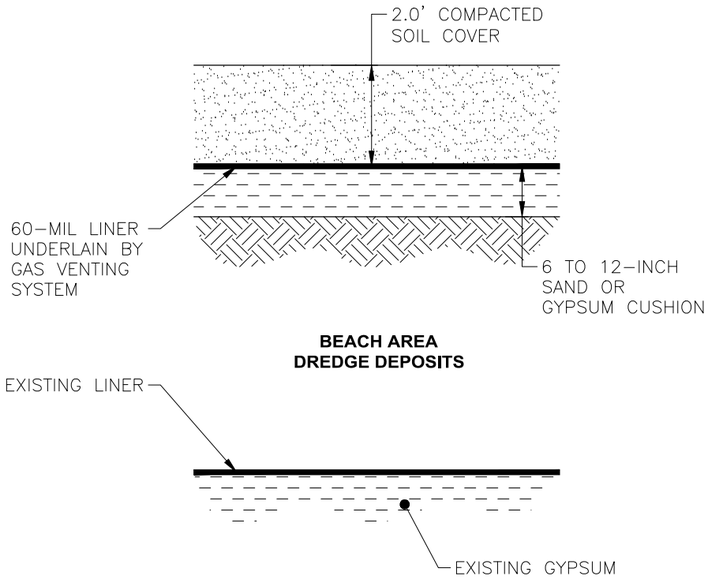


**1 / -** CLOSED ELEVATED DREDGE AREA DETAIL (NO GEOTUBES)

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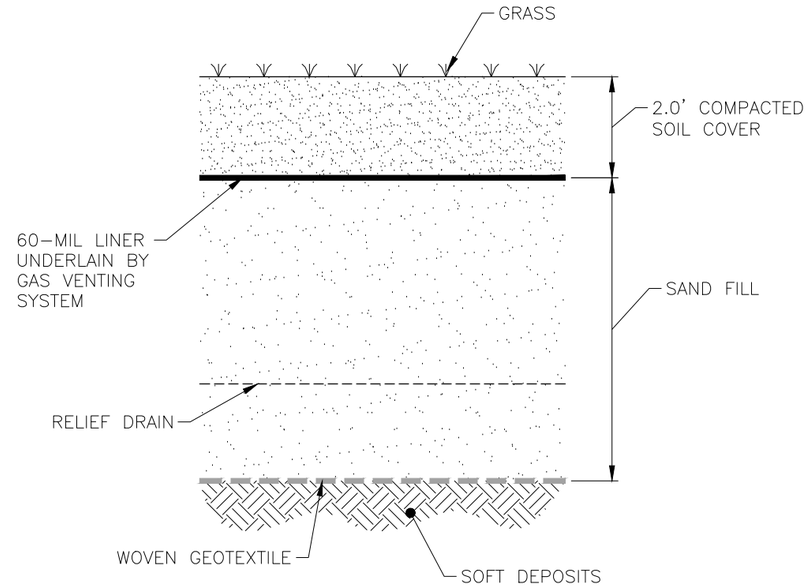


**2 / -** CLOSED SOFT DEPOSIT AREA DETAIL

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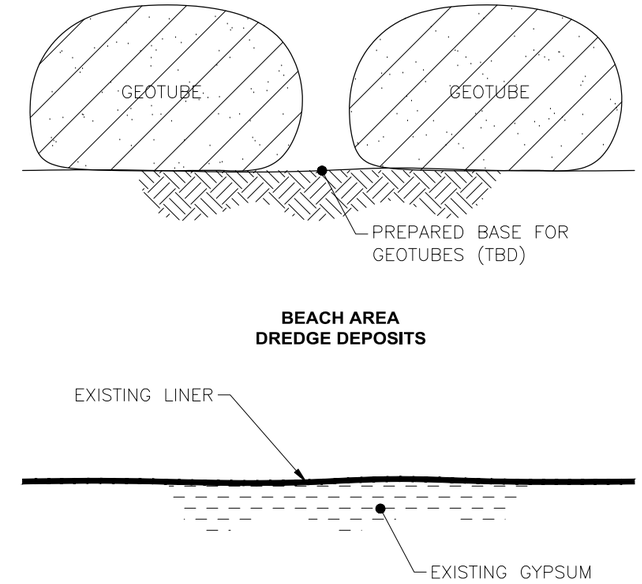


**3 / -** GEOTUBE PAD AREA DETAIL

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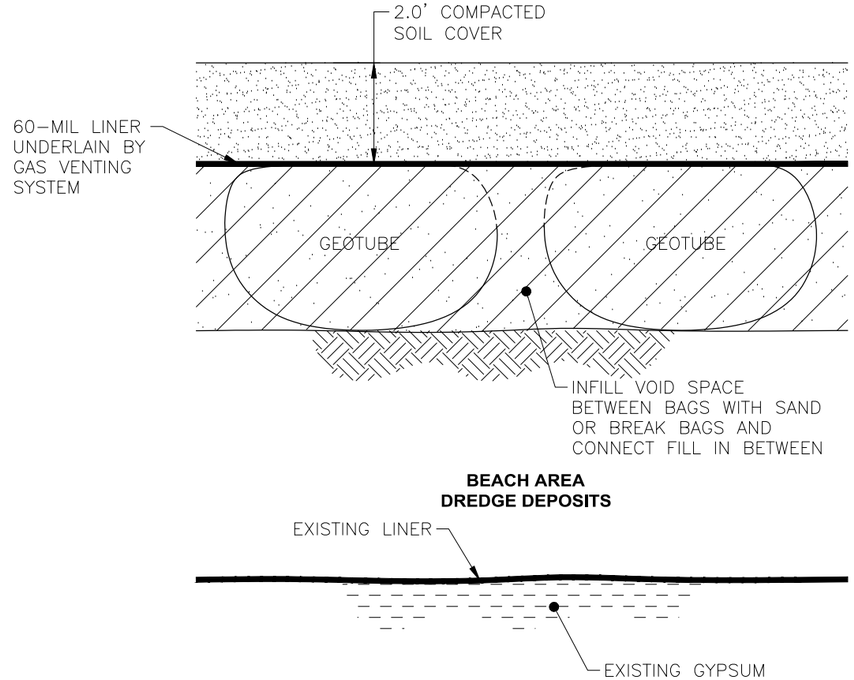


**4 / -** CLOSED GEOTUBE PAD AREA DETAIL

NOT TO SCALE

**MISCELLANEOUS DETAILS**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

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MANATEE COUNTY, FL

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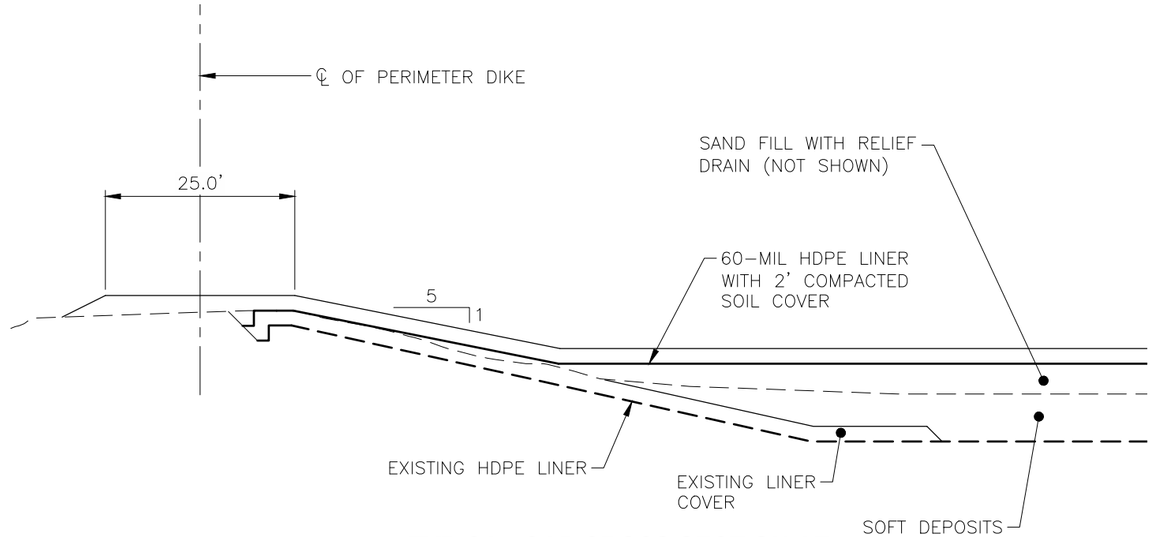
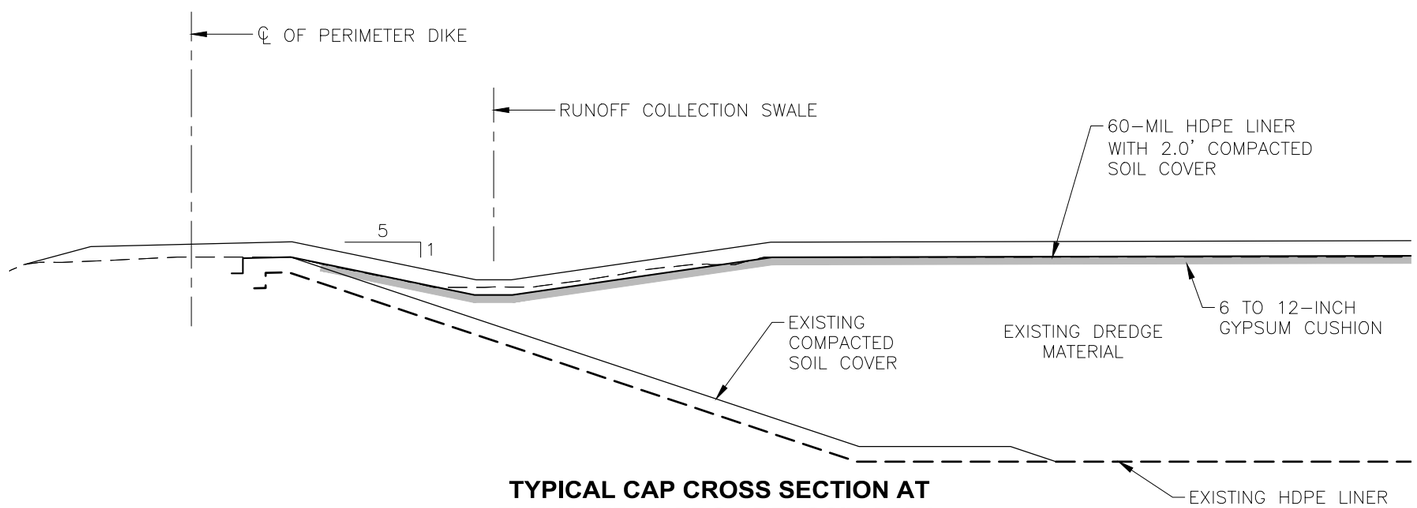



**TYPICAL CAP CROSS SECTION AT SOFT DEPOSIT AREA (OGS-N AND OGS-S)**

A
-

NOT TO SCALE




**TYPICAL CAP CROSS SECTION AT ELEVATED DREDGE DEPOSIT AREA (OGS-N AND OGS-S)**

B
-

NOT TO SCALE

**GENERAL CROSS SECTIONS A AND B**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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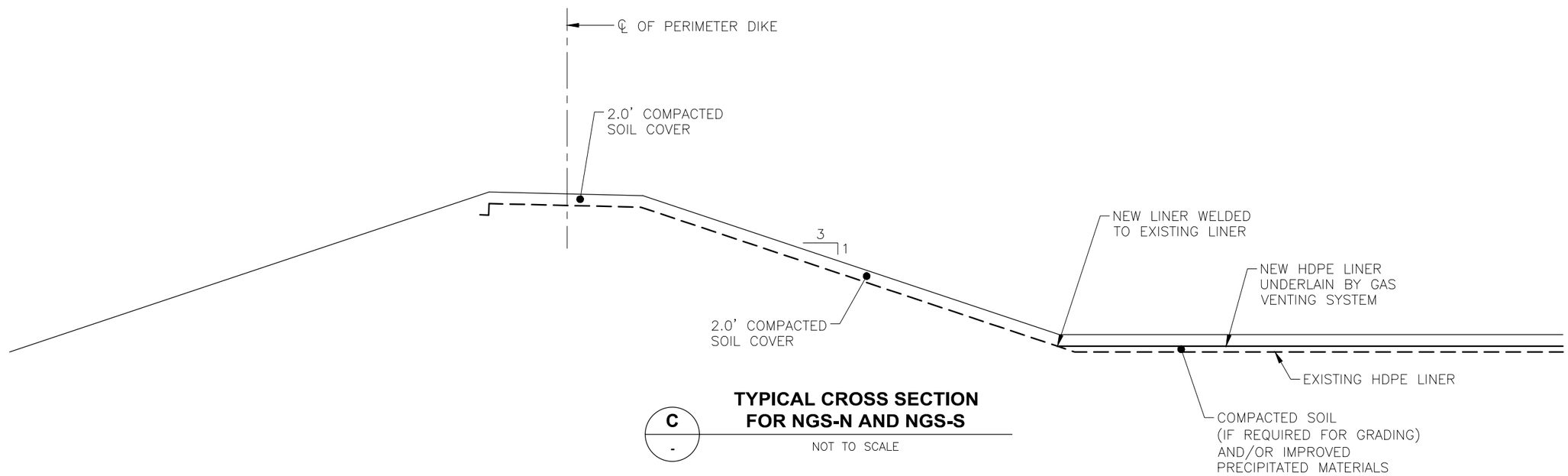


**C / -** **TYPICAL CROSS SECTION FOR NGS-N AND NGS-S**

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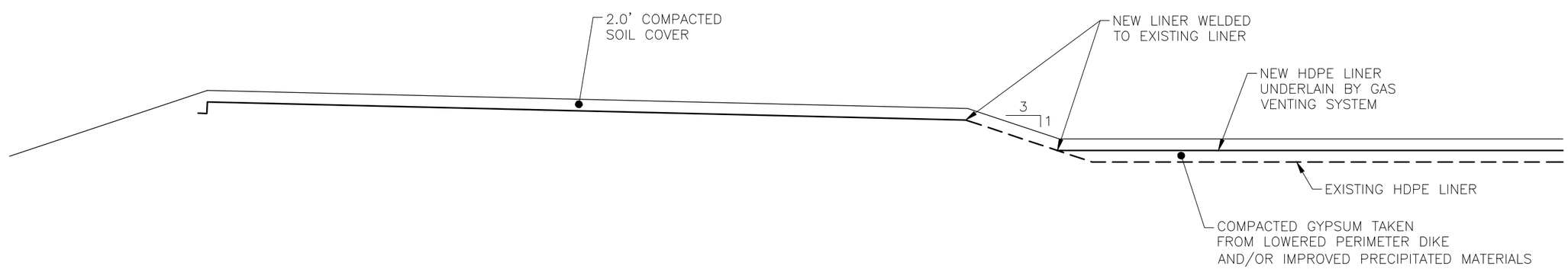


**D / -** **TYPICAL ALTERNATIVE CROSS SECTION FOR NGS-N AND NGS-S**

NOT TO SCALE

**GENERAL CROSS SECTIONS C AND D**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT PHOSPHATES MANATEE COUNTY, FL**

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## SECTION 3 - WATER BALANCE & MANAGEMENT DURING CLOSURE

As of January 1st, 2022**,** the Piney Point Phosphogypsum Stack System has approximately 397 million gallons of ponded water inventory (not accounting for the small volume of water in the seepage collection pond LPWS). It's anticipated that the deep well injection system will be operational in October/November 2022 with an injection rate of 1 million gallons per day (MGD). The water balance projection below (Figure 11) accounted for the following assumptions:

- Approximately 49 million gallons of pore water will drain from the soft sediments in NGS-S
- Deep Well Injection Rate: 1 MGD
- Spray Evaporation System Rate: ~110 GPM and to shut down at 150MM inventory
- POTW Transfer System Rate: 100,000 gallons per day.
- Seepage Rate from the Underdrain Seepage Collection System: 200 GPM
- Average Rainfall: 53.66 inches per year.

The closure timelines of the ponds shown below (Figure 11) reflect the above assumptions for pond inventory reduction and the anticipated progress of the removal and consolidation of the soft sediments in NGS-S. Any deviations from these assumptions can potentially impact the closure timeline.

During closure phases, all rainfall runoff from construction areas will be contained within the pond system. The following describes water management and closure activities during closure of ponds NGS-N, NGS-S, OGS-N and NGS-S:

**OGS-S:** Closure of pond OGS-S is independent of the pond storage capacity as this pond is not being used to store pond inventory. A detailed closure plan will be submitted to the Receiver for submittal to FDEP on April 1st, 2022. Closure activities will commence following approval from FDEP. Stormwater runoff from pond OGS-S during closure will be captured and routed to the pond system (i.e., LPWS, OGS-N, NGS-N and NGS-S)

**OGS-N:** This pond has an approximately 10-acre beach of coarse marine sediments. The area will be used for the initial stages of soft sediment handling activities from NGS-S. Rainfall runoff and consolidation water from the dewatering of soft sediments will be routed to the lower portion of the pond to allow fine sediments to settle. Clear decant water will be routed back to the pond system (i.e., NGS-S or NGS-N).

**NGS-S:** With a deep well injection rate of 1 MGD starting in October/November 2022 and at average rainfall, it is anticipated that all ponded water in the NGS-S pond will be removed by June/July 2023. At that point, minimum water inventory will be kept in the pond at the dredge location to support any remaining soft sediment dredging operations. Following removal of soft sediments, the liner will be inspected for liner damage and any known anomalies will be repaired properly. Additional inspections will be performed for any anomalies below the liner. It is anticipated that the existing liner could be damaged by soft sediment removal activities and will be replaced with a new HDPE liner for terminal closure of the pond.

Evaluation of handling soft sediment is currently underway. If Geotube® dewatering is implemented, the higher northern part of the NGS-S pond will likely be used to place the Geotube® containers to facilitate operations. Rainfall runoff from NGS-S during the soft sediment handling phase and closure phases will be captured and routed to the pond system (NGS-N and OGS-N).

**NGS-N:** It is anticipated that NGS-N will be the last pond to be closed following the removal of all pond inventory. Rainfall runoff from this pond during closure will be collected in a sump with turbidity control measures in place to allow the removal of clean rainfall runoff to the seepage collection pond LPWS.

**Water Management in Support of Deep Well Injection Operations:** During closure activities, a pump and pipe routing system will be installed to allow sending remnant process water and seawater mixtures to the pretreatment system for the deep well injection operations located off site of the gypsum stack system. It is anticipated that the pretreatment system will return a small volume (~36 GPM) of reject turbid water with approximately 2.6 percent solids to the gypsum stack pond system. The closure plan will incorporate measures such as dewatering tubes to capture this reject stream to allow clarification of this water and return to the deep well injection operation.

It is anticipated that when all system pond inventory is depleted, and the last pond is in closure, (i.e., NGS-N as shown below), the deep well injection system will continue to receive, treat and dispose of seepage water from the seepage collection system with no reject stream returned to the Piney Point Phosphogypsum Stack System. Therefore, there are no plans or measures in this closure plan to receive the reject water stream from the pretreatment system after the pond system inventory is depleted. If any areas of the OGS-N pond must remain open to manage (i.e., dewatering tube operations) the reject water stream from the pretreatment system during closure, those areas in OGS-N pond will be closed after the termination of the dewatering tube operations.

**Extreme Weather Conditions:**

The above closure timeline reflects average rainfall and anticipated injection rate of 1 MGD by the deep well injection system. Until the deep well injection system is fully operational, the system rainfall storage capacity for the facility remains vulnerable to extreme rainfall events during the upcoming rainy season of 2022. The facility should continue to monitor system pond inventory, freeboard levels in all ponds, maximize efficiencies of the spray system, maximize transfer of the POTW, and be prepared for the rainy seasons in the events of extreme (above average) rainfall conditions. Contingency measures in the event of extreme rainfall conditions should include utilizing maximum design freeboards in all ponds, inspection of dike system for any available temporary use of the design freeboard of the dike system, seeking authorizations for treatment and discharge in advance where required to prevent overtopping of dike system, and any other available water removal methods.

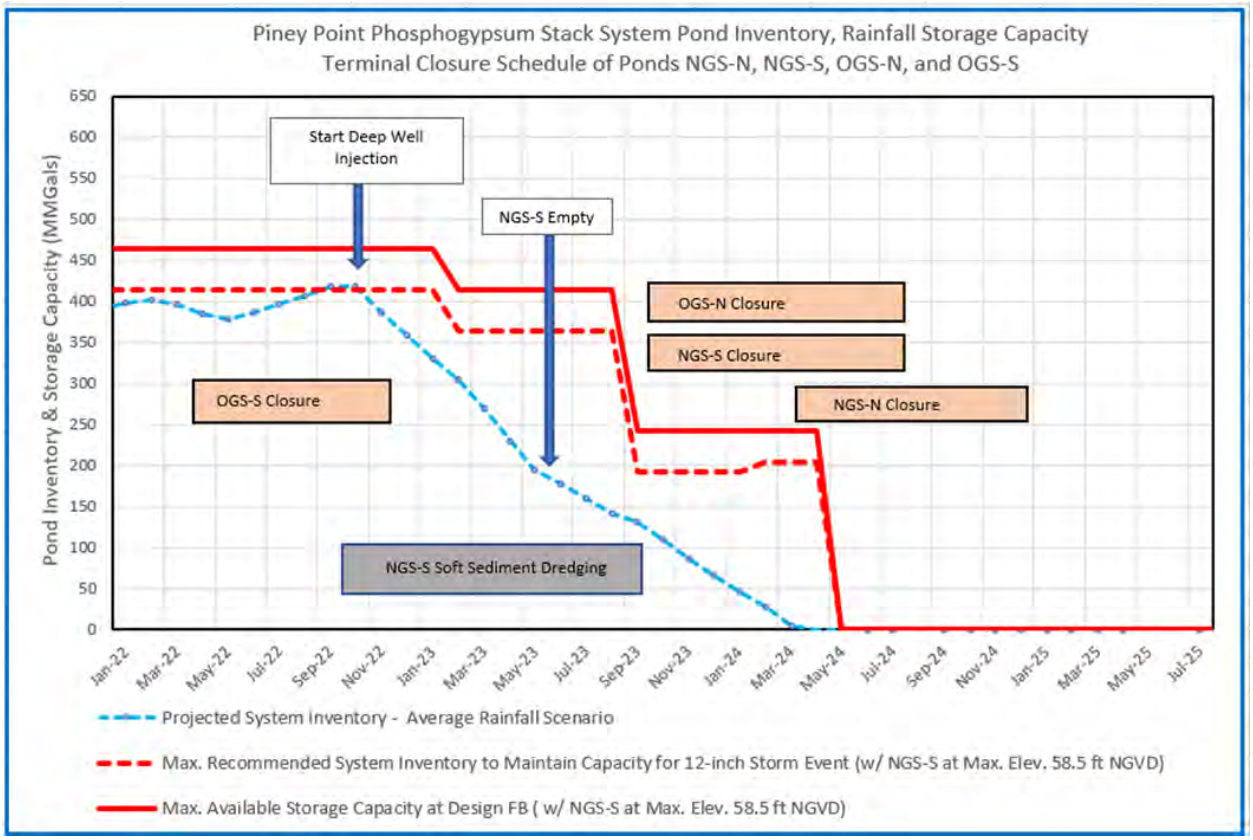


Figure 11: Water Balance Projection and Anticipated Closure Timeline

**ATTACHMENT 1**

**HYDROLOGIC AND HYDRAULIC EVALUATIONS**
**2021 Conceptual Stormwater Management System**
**Gypsum Stack Closure Plan**
**Piney Point, FL Phosphate Complex**
**For Receiver**

Nestor Aceituno, P.E.
Water Resources

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## ATTACHMENTS


| Attachment | Title |
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| A | 2021 Existing Vs Closure Discharge Hydrographs at Outfalls 001 and 003 |
| B | Basin 2 (pre Vs post) Discharge Hydrographs |
| C | Basin 2 (pre Vs Post) Stage Hydrographs |
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## 1. INTRODUCTION

The following report presents an overview of the proposed stormwater management plan for the conceptual final closure of the currently partial closed gypsum stack and associated areas. The study consists of a hydrologic and hydraulic assessment of the assumed 2021 existing (pre) scenario and the proposed closure (post) scenario. The description of engineering methods, assumptions and findings are described in the following sections.

## 2. PROJECT LOCATION

The site is located east of U.S. Highway 41 N and north of Buckeye Road, approximately 9.3 miles north-northeast of Bradenton, Manatee County, Florida. The gypsum stack system is located within portions of Sections 5,6,7 and 8, Township 33 South, Range 18 East, in Northwest Manatee County; Refer to Figure 1.

## 3. SCOPE OF WORK

The primary objective of this work is to develop a stormwater management plan for the complete (terminal) closure of the Piney Point facility. The proposed plan provides stormwater runoff attenuation and treatment, utilizing the existing inactive top areas coupled with the currently closed areas throughout the site.

The extent of these evaluations covers the watersheds reporting to 001 and 003 Outfalls only and therefore Outfall 002 was not included. During the course of these analyses, no previous records of allowed discharges through Outfalls 001 and 003 were found and consequently the evaluations are limited to the existing 2021 peak discharges “pre”, in comparison to the proposed closure “post” scenario discharges.

The stormwater management system was evaluated using traditional hydrologic and hydraulic models; in this case the ICPR v3 model was used. The hydrologic and hydraulic analyses are described in detail throughout the remainder of this report.

## 4. 2021 EXISTING CONDITION – TOPOGRAPHY AND DRAINAGE

Surface water runoff from the <u>partially closed</u> Piney Point facility is currently managed by the existing stormwater system designed to collect, treat, and detain excess runoff from their corresponding contributing areas. The existing stormwater system mainly consist of series of dry detention basins throughout the facility. The stormwater system consists of two main watersheds (east and west) each reporting to NPDES discharge points outfall 001 and outfall 003; Refer to Figure 2. Both outfall structures are equipped with a sharp crested weir for flow measurements. Discharges from outfalls 001 and 003 flow into Buckeye Road drainage ditch, then westward under U.S. Highway 41 N via box culverts, and under railroad via pipe to southernly flowing railroad drainage ditch for ultimate discharge into Bishop Harbor which flows into Tampa Bay.

Currently, the total area from the closed stack reporting to outfall 001 is approximately 197 acres and the total area from the closed stack and other areas reporting to outfall 003 is approximately 108 acres, totaling 305 acres.

Within the facility, a total of 5 areas (currently not closed) are self-contained and therefore not discharging to outfalls. These areas are as follows: the 34.5 acre New Gypsum Stack-North (NGS-N) , the approximately 72.0 acre New Gypsum Stack-South (NGS-S), the approximately 35.6 acre Old Gypsum Stack-North (OGS-N) , the approximately 23.6 acre Old Gypsum Stack-South (OGS-S), and the approximately 11.7 acre Lined Sump (LPWS) . Therefore, the total area currently not reporting to outfalls 001 and 003 is 177.4 acres.

At closure, and including the previously described areas, it is estimated that the total area reporting to outfalls 001 and 003 will be 471 acres combined, excluding 11.7 acres from the Lined Sump (LPWS) which will be closed at later time.

## 5. FUTURE CLOSURE CONDITION

The future (short term) closure condition consists of closing and releasing the self-contained areas previously mentioned (except the LPWS) into their corresponding watersheds reporting to outfalls 001 and 003. The following provides a description of the proposed conceptual closure design features; refer to Figure 3.

### 5.1 Stack Top Areas

A total of 4 top cells hydraulically separated by berms, namely the NGS-N, NGS-S, OGS-N and OGS-S will be closed. For the closure condition, these areas will be lined with two-foot-thick grassed soil cover. These areas will only receive runoff from their own defined catchments, including associated berms, and will be graded to direct runoff to drop inlets connected to HDPE pipes for discharge to lower receiving features. Under normal conditions, they will not be allowed to hold (pond) water. Because the top areas will be completely isolated from gypsum, they are expected to discharge high quality runoff. However, these areas will be provided with a drop inlet structure with associated effluent filtration devices to provide the required water quality treatment while providing attenuation. Drop inlet access will be provided for all cells.

Conceptually, the top area NGS-N will be routed north into to the lined North Stormwater Pond for ultimate discharge into Basin 2 and outfall 001.

The top area NGS-S will be connected to the closed stormwater ditch on the south and east for ultimate discharge into the lined North Stormwater Pond and into Basin 2 and outfall 001.

The Basin 2 existing outlet structure will be retrofitted to limit the existing discharge while maximizing the available storage within Basin 2. This could be achieved by restraining the existing 18-inch HDPE pipe or equivalent approach.

The OGS-S will be routed to the OGS-N, the OGS-N will be directly connected to the Relief Ditch for ultimate discharge through outfall 003.

The NGS-N Relief Ditch and existing outlet structure will be reconditioned to attenuate the additional discharge volumes from OGS-S and OGS-N.

The closed OGS-S CAP area currently flows to the upper ditch west of the side slopes with ultimate discharge into Outfall 003. For the conceptual closure, the existing drop structure pipe will be extended to the west field and therefore into Basin 2 and Outfall 001.

### 5.2 Lined Sump (LPWS)

The 11.7 acres Lined Sump (LPWS) is not part of the (short term) closure plan and therefore not included in these analyses. This area will be closed at a later time as the area will remain operable for the long term care water treatment requirements, (e.g., seepage).

### 5.3 NPDES Outfalls 001 and 003

The existing Outfalls Structures D-001 and D-003 will remain in place after closure of the site. Outfalls D-001 and D-003 eventually discharge into Bishop Harbor, a part of Terra Ceia Bay Aquatic Preserve, which is designated as Outstanding Florida Water (OFW).

The Outfall Structures top openings are approximately 9.0-feet by 9.0-feet, and approximately 5.3-feet deep with sharp crested weirs at elevations 3.0 feet and 7.5 feet NGVD29, respectively. The length of the sharp weirs for both are 3.2 feet. Similar to the 2021 existing condition, the outfalls 001 and 003 will serve as the discharge points leaving the site after terminal closure.

## 6. REGULATORY CRITERIA

The Piney Point facility lies within the Southwest Florida Water Management District (SWFMWD) and as delegated by Manatee County, is subjected to stormwater management rules developed by SWFWMD and Manatee County.

The classification of the receiving waters is OFW (the bay) and therefore projects discharging into Outstanding Florida Water (OFW) shall require to provide treatment for a volume 50 percent more than the required for the selected treatment system.

Based on regulatory criteria, the dry detention system (detention with effluent filtration) planned for stormwater runoff from the closed top-gradient of the stack shall comply with the following requirements:

a) the treatment system shall treat the runoff from the first one inch of rainfall;
b) the stormwater must pass through a minimum of two feet of the filter material before entering the perforated pipe;
c) the total detention volume shall again be available within 36 hours; and
d) the design of the system must be such that the water velocities and associated flow path through the storage pond do not cause the accumulated pollutants to be flushed out of the treatment pond up to the 25-year/24-hour design rainfall event.

One inch of runoff treatment volume will be provided for the terminal closure and therefore more than the required treatment will be provided.

## 7. AVAILABLE DATA AND SOURCES

### 7.1 Topographic Data and Source Documents

Topographic and other survey data used in these evaluations include, the April 2021 Lidar data set provided by FDEP, the 2021 survey from Survtech Solutions, as-built and design drawings for different facility components from various sources, and several engineering 2021 field reconnaissance visits by Ardaman.

### 7.2 Rainfall Data

The 24-hour duration, Mean annual and the 25-year (4.7-inch and 8.5-inch from SWFWMD) return period were selected for these evaluations. The standard SCS Type II (Florida Modified) rainfall distribution is used to be consistent with local and state criteria.

## 8. METHODOLOGY AND MODEL DEVELOPMENT

Hydrologic analyses typically employ specialized mathematical models to define the response of a drainage system to design storm events. A model, in this context, is a computer implemented mathematical representation of the physical and behavioral characteristics of a system. With this mathematical representation, storm event conditions are simulated, and results are analyzed to evaluate drainage system performance.

### 8.1 Model Selection

A hydro-meteorological, hydrodynamic modeling approach was selected for use in defining design flow rates, peak discharges, and water surface elevations. The approach involves computation of runoff, storage, and conveyance in response to a rainfall event that is uniformly distributed over the contributing drainage area.

The Interconnected Pond Routing (ICPR) V3.10 Service Pack 11 model for Windows was selected for use in this study. ICPR is a storm event modeling system that generates runoff hydrographs for basins and performs hydrodynamic routings of that runoff through a surface water conveyance system comprised of lakes, ponds, channels, and drainage structures. It also features extensive import capability for the incorporation of GIS coverage data during model construction.

### 8.2 Model Network Layout

ICPR operates with a model network comprised of a series of node and reach elements. These connections provide a framework for dynamic storage and routing of flows throughout a drainage system. Nodes, located at critical points of interest within the drainage system, have storage and elevation characteristics and are used as locations for delivery of runoff to the drainage system. Model node elements typically represent lakes, ponds, and points of interest in open channels.

Nodes are also used to assign downstream boundary conditions for the modeled system, where a known water surface elevation (called a "tailwater") must be defined.

Reach elements have specific hydraulic characteristics and are used to convey flow between nodes. Model reach elements typically represent open channels and drainage structures (culverts, bridges, weirs, etc.) that provide conveyance through the surface water drainage system.

## 9. HYDROLOGIC APPROACH

### 9.1 Hydrologic Parameterization

To develop design runoff hydrographs, the Soil Conservational Service's (SCS) curve number method was selected as the preferred rainfall excess method.

Subbasin parameterization was performed in order to assign values for hydrologic model development, including Time of Concentration (Tc), Runoff Curve Number (CN), Initial abstraction, Peak Rate Factor (K'), and Antecedent Moisture Condition (AMC). The following parameters were assigned as explained below:

#### 9.1.1 Basin Delineation

Basins represent local drainage areas delineated so that they contribute runoff to a single point or node in the model network. Aerial photographs in combination with available topographic contour maps of the site were used to determine the drainage divides in combination with the proposed closure design conditions.

#### 9.1.2 Time of Concentration

Time of concentration is generally defined as the amount of time it takes for a drop of water to travel from the most hydrologically distant point in a basin to the point where that basin discharges. It is used as a parameter in the computation of a runoff hydrograph, when using the SCS Unit Hydrograph Method for hydrograph generation. The computation is made according to techniques recommended in TR-55 by the NRCS. A minimum travel time of 10 min was used in these evaluations.

Travel segment data for this study was developed using contours, aerial photographs, and land use. The flow path along the surface of the basins was broken into sheet flow and shallow concentrated flow sections.

#### 9.1.3 Land use

Land use categories were used along with soil types to define runoff potential from the site. Categories used to describe land use and cover for the project site areas are based on the Florida Land Use, Cover and Forms Classification System (FLUCFCS). Three general land use categories described as extractive, industrial and reservoirs were found within the site.

9.1.4 Soils

Soils are classified into hydrologic soil groups A,B,C and D, depending on their infiltration rate and rate of water transmission that relate to runoff potential. The natural soils for the area are poorly drained soils. According to the NRCS soil database, the existing soils within the study area are generally classified as dual Hydrologic Soil Group consisting of mainly A/D with few B/D, and C/D.

9.1.5 Runoff Curve Number

The runoff Curve Number method is a parameter used for predicting direct runoff or infiltration from rainfall excess and it is based on combinations of land use and soils. This number usually has a range from 30 to 100; lower numbers indicate low runoff potential while larger numbers are for increasing runoff potential. A CN of 85, which is representative of average antecedent moisture conditions (AMC-II), was selected for the closed stack side slopes while the closed top gradients were modeled with CN of 80. For the remaining reclaimed areas (plant site), CN values were selected based on the existing soil and land used information as follows: CN of 93 is used for the Industrial areas with (A/D and B/D Soils) and a CN of 80 was used for Extractive areas with (A/D and B/D Soils).

9.1.6 Antecedent Moisture Condition (AMC)

Antecedent Moisture condition is the preceding relative moisture of the pervious surfaces prior to the rainfall event. Antecedent Moisture is considered to be low when there has been little preceding rainfall and high when there has been considerable rainfall prior to the modeled rainfall event. For modeling purposes, we consider watersheds to be AMC II, which is essentially an average moisture condition.

9.1.7 Peak Rate Factor

The peak rate factor (K') is a numeric value used to describe the shape of a unit hydrograph for a basin. In this case, a peak rate factor of 256 was used where the watershed has mild slopes with intermittent storage throughout the watershed surrounding the gypsum stack. For the stack slope areas, a peak rate factor of 484 was selected.

## 10. HYDRAULIC APPROACH

### 10.1 Surface Water Runoff Geometric and Hydraulic Parameters

As previously mentioned, the ICPR is a storm event modeling system that performs hydrodynamic routings through a surface water conveyance system comprised of lakes, ponds, channels, and drainage structures.

10.1.1 Storage Representation

ICPR is capable of modeling lakes, wetlands, and floodplains with varying surface areas (and therefore storage volume) as water levels rise and recede within the system. In order to make this possible, surface area at successively higher elevations must be described for

every water body in the model. The only exceptions to this are the riverine or channel reaches where the entire flood plain is defined by channel cross sections.

10.1.2 Conveyance System

Channel storage is accounted for in the definition of the open channel cross section, with channel storage apportioned to the upstream and downstream nodes. Channel cross sections were used to define conveyance within the stormwater system. Channel

roughness parameters were assigned based on assumed design and existing conditions. The length assigned to each open channel reach was measured along the flow line.

10.1.3 Model Initial Conditions

Model initial conditions were set to the control elevation of each hydraulicly connected feature throughout the watershed. The control elevation refers to the lowest elevation of all individual hydraulic features controlling water levels within the area e.g., orifice in a drop structure, pipe invert elevation, etc.

10.1.4 Critical Points

Critical Points (CP's) denote common locations where flows are computed in the 2021 existing condition and the closure scenario. Any location where modeled stormwater runoff exits the Area of Interest (AOI), is considered a Critical Point. The location of the Critical Points is represented by the Outfalls 001 and 003, along with each CP's contributing drainage basins, are depicted in Figures 2 and 3.

10.1.5 Boundary Conditions

Downstream boundary conditions, outfalls 001 and 003 were modeled as fixed tailwater. A fixed tailwater elevation of 1.3 feet NGVD29 was chosen as the Mean High Water (MHW) level for tide influenced outfalls. As previously described, the sharp crested weirs elevations from outfalls 001 and 003 are set to elevations 3.0 feet and 7.5 feet (NGVD29) respectively and therefore, these evaluations assumed free discharge.

10.1.6 Floodplains

Existing flood prone areas were determined using the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) for Manatee County. Based upon review of this document, the 100 year or 1% probability floodplain encompasses the lower west corner of the property. Basin #2 lies within in the floodplain polygon designated as (AE) with a calculated elevation of 8.0 feet NAVD88 or 8.98 feet NGVD29 as shown in Figure 4. According to the revised FEMA Flood Insurance Study (FIS) of August 10, 2021, the flooded area is costal, and it is based on storm surges and waves with same 1% probability. Therefore, the type of flooding previously described is caused by hurricane surge.

Although Basin 2 top of dike is at elevation 14.0 feet NGVD29 or approximately 5.0 feet above the FEMA map, it is possible to backflow Basin 2 via the existing pipe connecting Basin 2 drop structure with Outfall 001. Basin 2 discharge control structure is comprised of one Type C FDOT inlet box with one 18-inch DR21 pipe connecting to Outfall 001. Along

the pipe, a knife gate valve is provided perhaps to prevent from backflowing Basin 2 should this extreme costal event occur. The FDOT Type C top of riser is at elevation 7.28 feet while the pipe upstream elevation is 2.98 feet and the downstream is at elevation 1.96 feet NGVD29.

## 11. STORMWATER MODEL RESULTS COMPARISONS

Locations of the Critical Points (CP's) selected for the 2021 Existing (pre) and the Closure (post) comparisons are shown on Figures 2 and 3 (outfalls 001 and 003). Table 1 below summarizes the performance of the entire system in terms of peak discharge rates relative to two comparative scenarios, the 2021 Existing (pre) and the Closure (post) scenarios in response to a Mean/24hr and a 25-year/24hr storm events.

**Table 1. 2021 Existing (pre) and Closure (post) Scenario Peak Discharges**

| Outfall Location | Critical Point (CP) | Estimated 2021 Existing (Pre) | | Estimated Full Closure (Post) | |
|---|---|---|---|---|---|
| | | Mean-Annual Event (cfs) | 25-year/24hr Event (cfs) | Mean-Annual Event (cfs) | 25-year/24hr Event (cfs) |
| Outfall 001 | 001 | 10.3 | 14.6 | 9.5 | 13.9 |
| Outfall 003 | 003 | 7.5 | 8.9 | 7.5 | 8.8 |
| | Total | 17.8 | 23.5 | 17.0 | 22.7 |

As show in Table 1, the total peak discharges leaving the site closure during a 25-year 24-hour storm event would be about 22.7 cfs, compared to the 2021 existing total of 23.5 cfs. The 2021 existing (pre) vs closure (post) scenario discharge hydrograph plots for critical points 001 and 003 are shown in Attachment A. Attachments B and C shows flow and stage hydrographs resulting from the proposed modification of outfall from Basin 2.

## 12. CLOSING COMMENTS

The conceptual hydrologic and hydraulic analyses presented herein are based on best available information. The current models contain hydrologic data and hydraulic data from recent (2021) LiDAR data, 2021 surveys, recent 2021 field reconnaissance visits and as-builts and design drawings. It is important to note that the conveyance system (ditches) was mainly obtained from as-builts and design data since the 2021 LiDAR data did not accurately capture the bottom of these ditches due to either heavy vegetation or stagnant water at the time of the flight. Basin delineations and hydrologic and hydraulic parameters assignments were derived from best available sources at the time of these analyses. During construction of these hydro-meteorological hydrodynamic models, differences between the LiDAR and design elevations were observed along the tops of dikes. The LiDAR dike elevations were lower by about one foot relative to the design dike elevations. Critical as-builts top of dike elevations should be verified by a Professional Land Surveyor (PLS). Similarly, liner anchor trench elevation should be verified by a PLS.

As shown in Figure 3, it is proposed to retrofit Basin 2 outfall structure with the purpose of reducing the peak discharge in the proposed closure scenario. By doing this, the stage in Basin 2 will increase by 1.0 feet and therefore it may affect the hydraulic performance of all features hydraulically connected to Basin 2. A thorough review is recommended of all non-surveyed features utilized in these analyses before adopting this improvement.

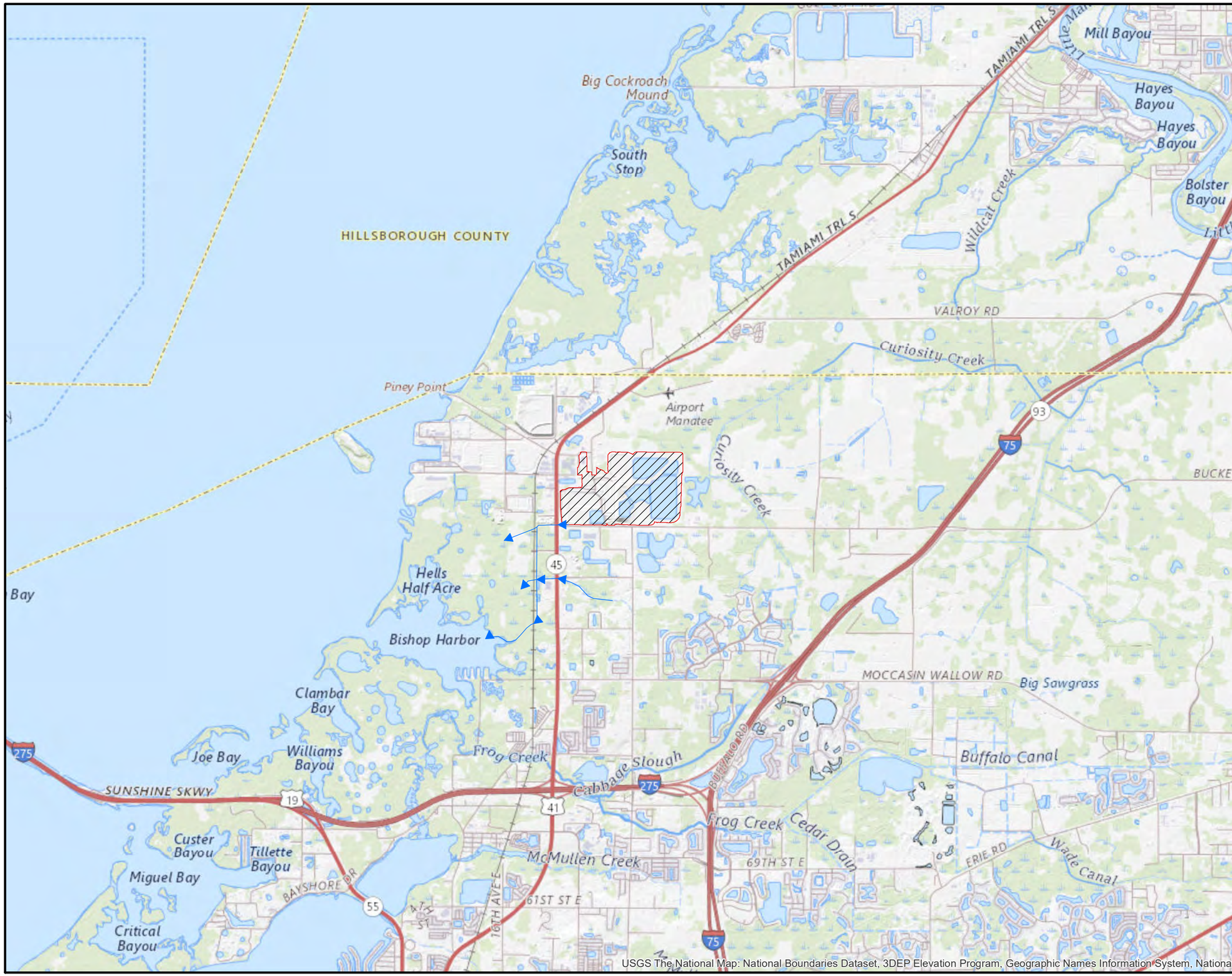
As shown in Figure 3, it is proposed to recondition the NGS-N Relief Ditch by removing the existing 2-feet of soil cover and line the entire area with a new liner and back fill it with previously taken top 2-feet of soil cover. In addition, it is proposed to constraint the existing 12-inch pipe draining the Relief Ditch by replacing the pipe with one 8-inch pipe or equivalent. By doing this, the stage in the NGS-N Relief Ditch could be increased by 5.0 feet and therefore temporarily detain the additional volume from the proposed closure of OGS-S and OGS-N combined.

Few other areas throughout the site are proposed to be improved such as the low-lying area north of the West Field and the area east of Basin 1; refer to Figure 3. It is proposed to slightly regrade these areas to better accommodate the expected additional run-off from the proposed closure. These areas will also be directly connected to the West Field via pipes to improve connectivity and to maximize the available storage. Also, Additional detailed analysis of closure pond tops will be performed to better estimate peak discharges and stages under the closure scenario. A list of final detailed improvements and retrofits will be provided in the final report.

The maximum stage elevation maps produced as ICPR modeling results presented in Figures 5 and 6 were delineated using automated techniques and mapped to check for reasonableness only. From the ICRP model, each node's maximum elevation was assigned to its corresponding basin and compared with the coincident cells of the raster-based digital elevation model (DEM) in GIS. Where the maximum elevation was higher than a coincident DEM cell, a polygon was produced, and all polygons whose edges intersect were merged into a single polygon. This automatically produced polygon output is to be used as a tool to review the various hydraulic and hydrologic scenarios evaluated in these analyses and is <u>not intended to suggest flood risk</u>. This product is only to be used for model result review due to limitations including reduced LiDAR accuracy in wet and vegetated areas, DEM resampling of a LiDAR point cloud to a regular raster grid, and sloping water represented with level pool maximum stages per nodes from the ICPR model.

Model results for the existing condition in response to a 25-year/24-hour synthetic rainfall event, demonstrate that maximum water elevations within the main receiving water features are below the designed anchor trench liner elevation (as-builts liner levels to be verified by a PLS). Based on comparisons of the 2021 Existing (pre) and Closure simulations results, the proposed closure plan will not exceed the existing (pre) scenario peak discharge while allowing for effective management of stormwater runoff. The proposed closure plan shows, through comparative storm event simulations, to include appropriately designed features that limit peak discharge rates, resulting in no adverse impacts to downstream adjacent areas.

# FIGURES




N

Feet
0 5,000 10,000
Scale: 1" = 5,000'

SOURCE: USGS NATIONAL MAP, 2017

Discharge_Ditch
Watershed Boundary

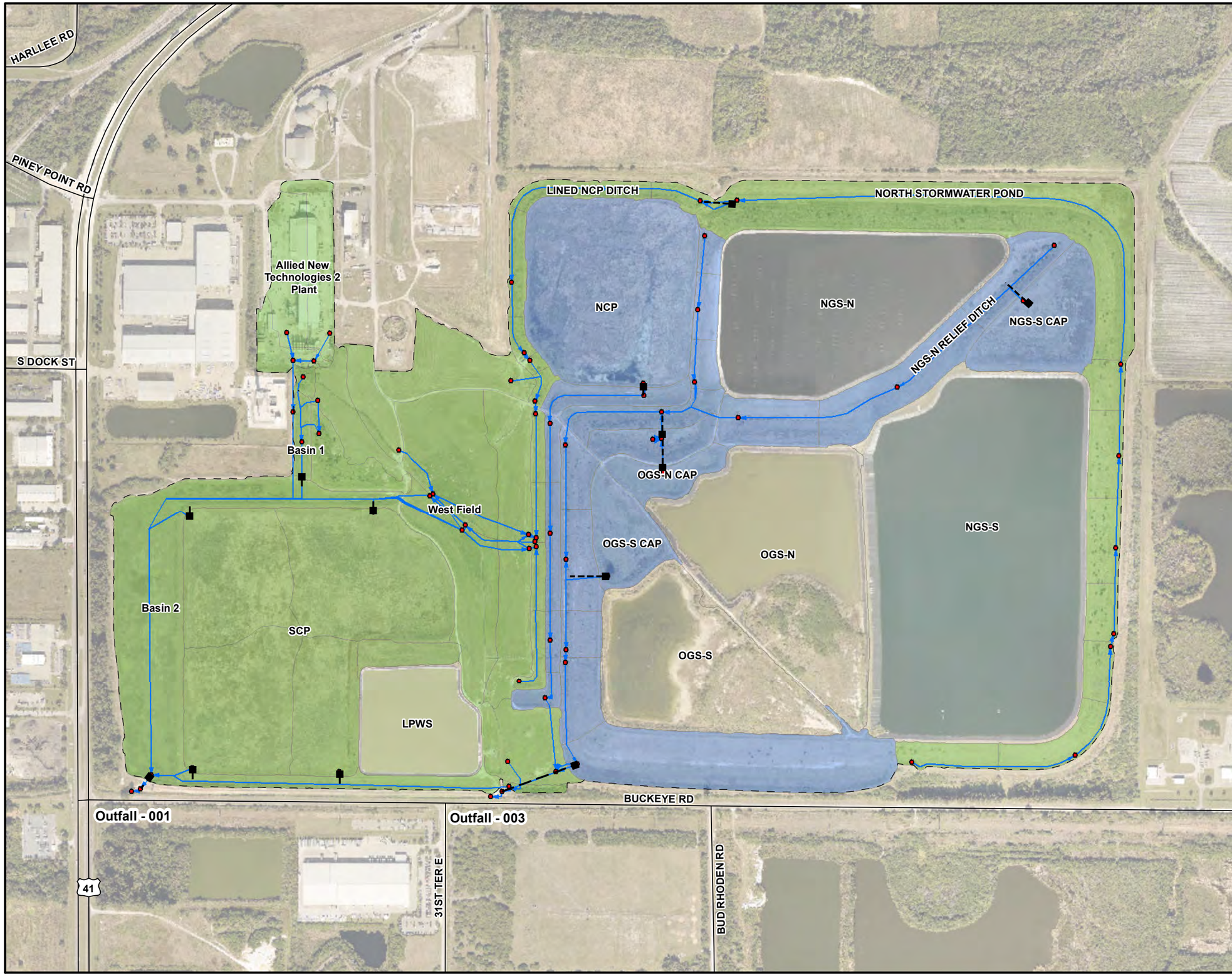
**LOCATION MAP**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**

| | | |
|---|---|---|
| DRAWN BY: TJC | CHECKED BY: NA | DATE: 1/3/22 |
| FILE NO. 21-13-0031C | APPROVED BY: | FIGURE: 1 |

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220222_Report_Figures\Figure_1 Location Map.mxd




N

Feet
0 600 1,200

Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

Watershed Boundary
Node
Reach

Basin System
Isolated
Outfall_001
Outfall_003

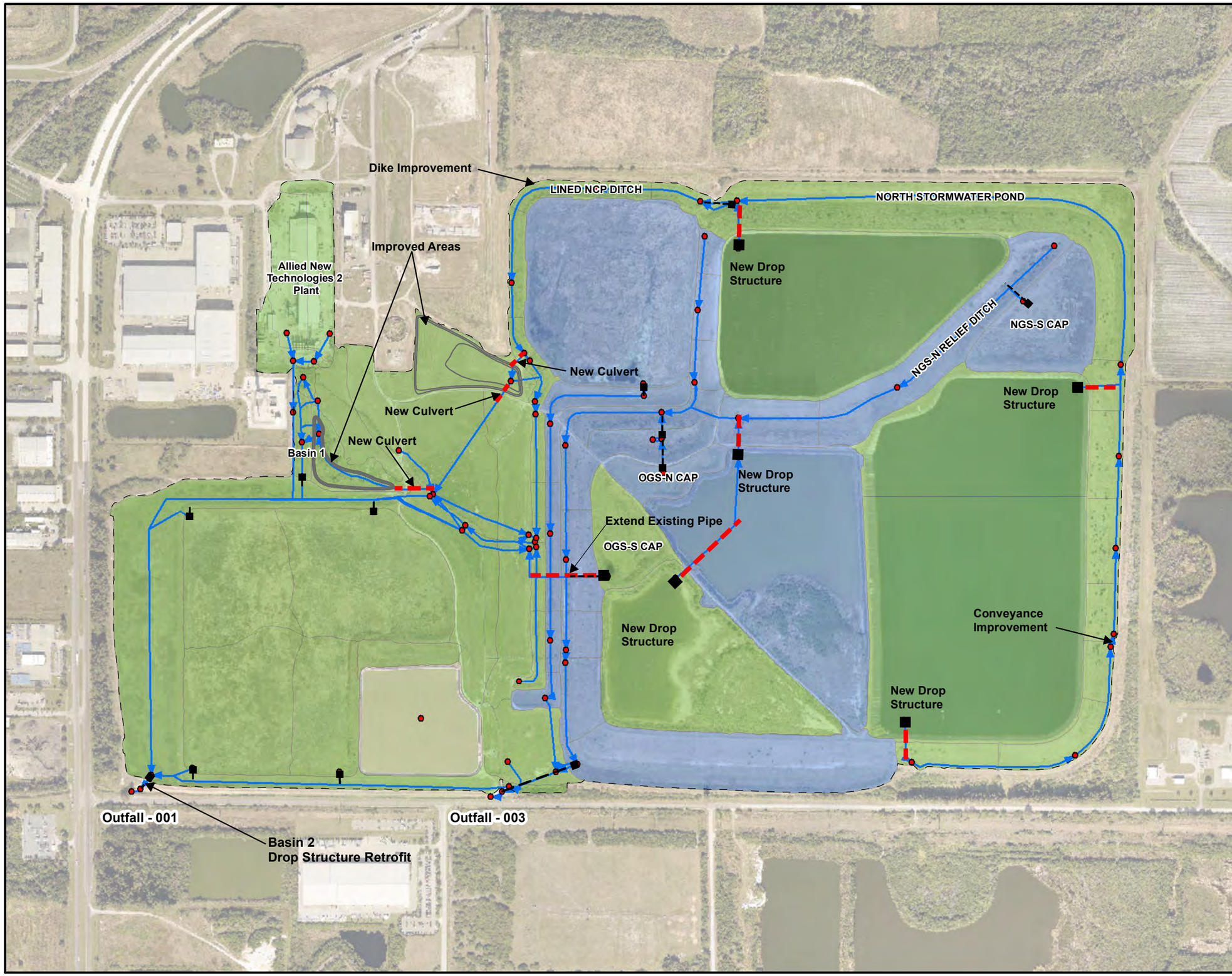
**2021 EXISTING SCENARIO WATERSHED**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**

| | | |
|---|---|---|
| DRAWN BY: TJC | CHECKED BY: NA | DATE: 1/3/22 |
| FILE NO. 21-13-0031C | APPROVED BY: | FIGURE: 2 |

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220224_Report_Figures\Figure_2 2021 Existing Scenario Watershed.mxd




N

Feet
0 600 1,200
Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

Watershed Boundary
Node
Reach
Basin System
Isolated
Outfall_001
Outfall_003
New Structure
New Culvert

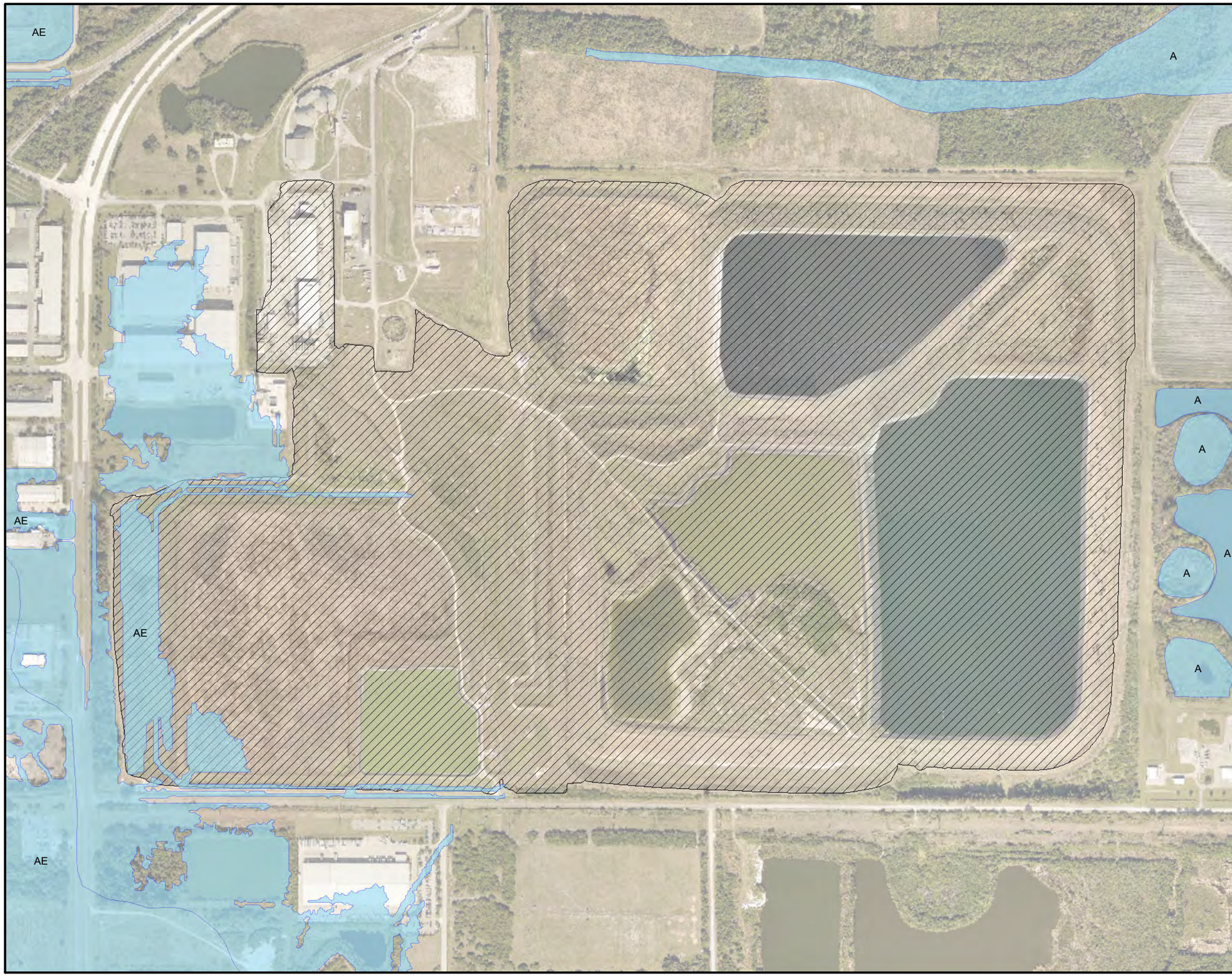
**CLOSURE SCENARIO WATERSHED**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**

| | | |
|---|---|---|
| DRAWN BY: SG | CHECKED BY: NA | DATE: 02/22/22 |
| FILE NO. 21-13-0031C | APPROVED BY: | FIGURE: 3 |

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220224_Report_Figures\Figure_3 Closure Scenario Watershed.mxd




N

Feet

0 600 1,200

Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

FEMA Flood Zone

Watershed Boundary

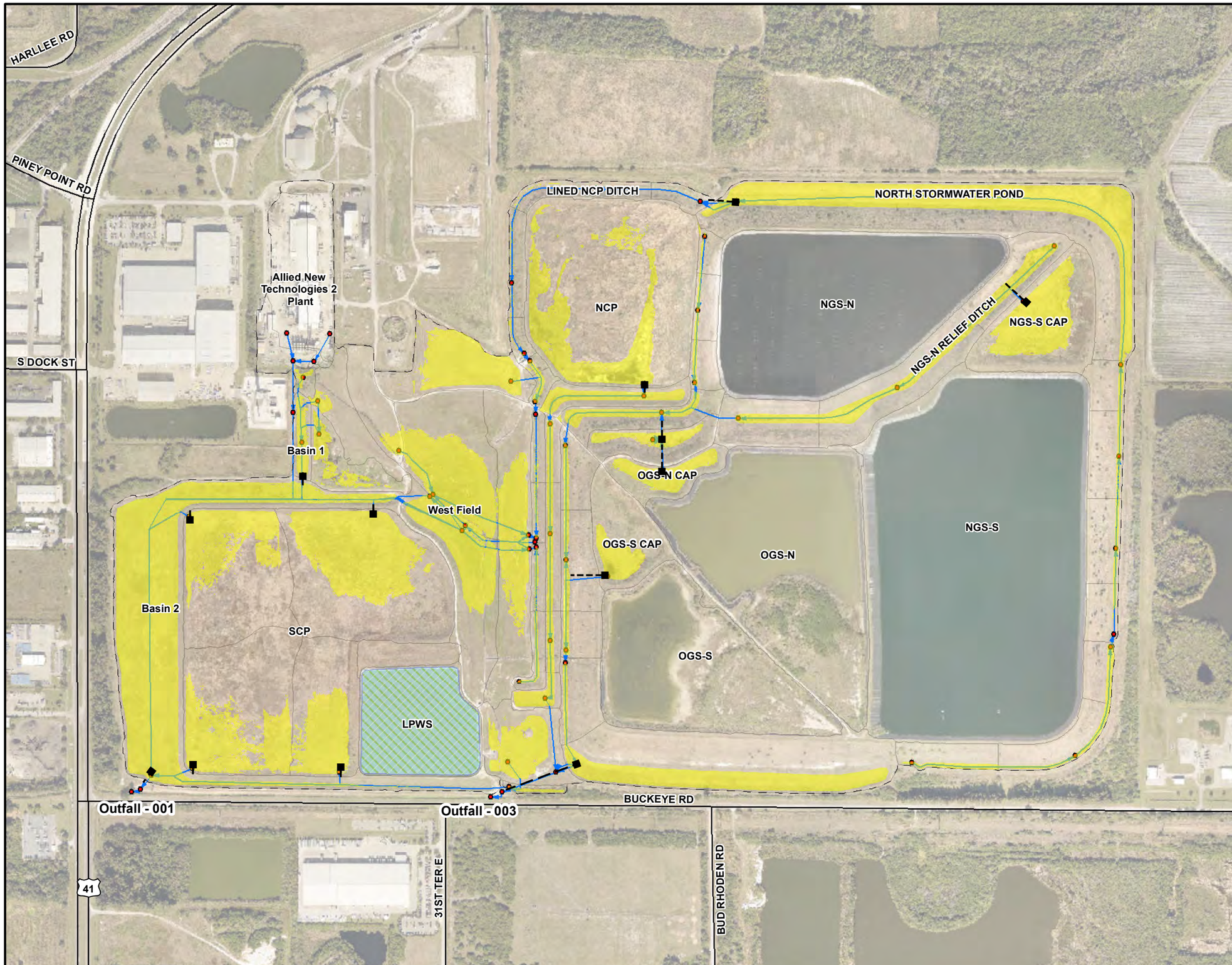
**FEMA 100 YEAR FLOOD FLOOD PLAIN MAP**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**

| | | |
|---|---|---|
| DRAWN BY: **TJC** | CHECKED BY: **NA** | DATE: **1/3/22** |
| FILE NO. **21-13-0031C** | APPROVED BY: | FIGURE: **4** |

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220222_Report_Figures\Figure_4 FEMA 100 Year Flood Plain Map.mxd




N

Feet
0 600 1,200

Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

- Existing Approximate 25y/24h Max Stage Extent
- LPWS
- Watershed Boundary
- Node
- Reach
- Basins

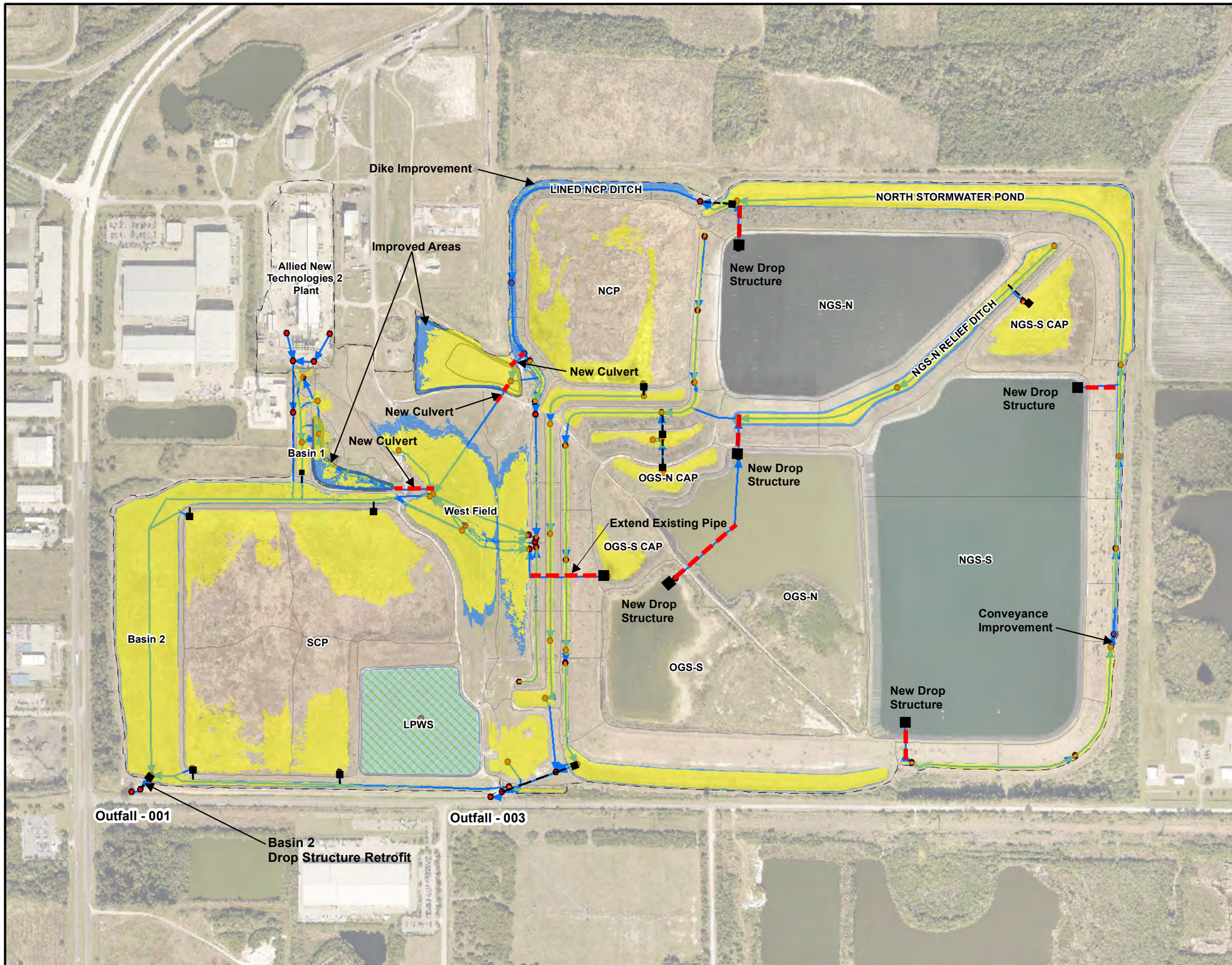
**2021 EXISTING SCENARIO MAXIMUM STAGE APPROX. EXTENT 25-YEAR 24-HOUR EVENT**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**

| | | |
|---|---|---|
| DRAWN BY: SG | CHECKED BY: NA | DATE: 2/24/22 |
| FILE NO. 21-13-0031C | APPROVED BY: | FIGURE: 5 |

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220224_Report_Figures\Figure_5 2021 Existing Max Stage Extent.mxd




N

Feet
0 600 1,200
Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

- Proposed Closure Approximate 25y/24h Max Stage Extent
- Existing Approximate 25y/24h Max Stage Extent
- LPWS
- Watershed Boundary
- Node
- Reach
- Basins
- New Drop Structure
- New Culvert

**EXISTING AND CLOSURE SCENARIOS MAXIMUM STAGE APPROX. EXTENTS 25-YEAR 24-HOUR EVENT**

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

**PINEY POINT**

| | | |
|---|---|---|
| DRAWN BY: SG | CHECKED BY: NA | DATE: 02/22/22 |
| FILE NO. 21-13-0031C | APPROVED BY: | FIGURE: 6 |

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220224_Report_Figures\Figure_6 Closure Max Stage Extent.mxd

# Attachment A

## 2021 Existing (pre) Vs Closure (post) Hydrograph Plots

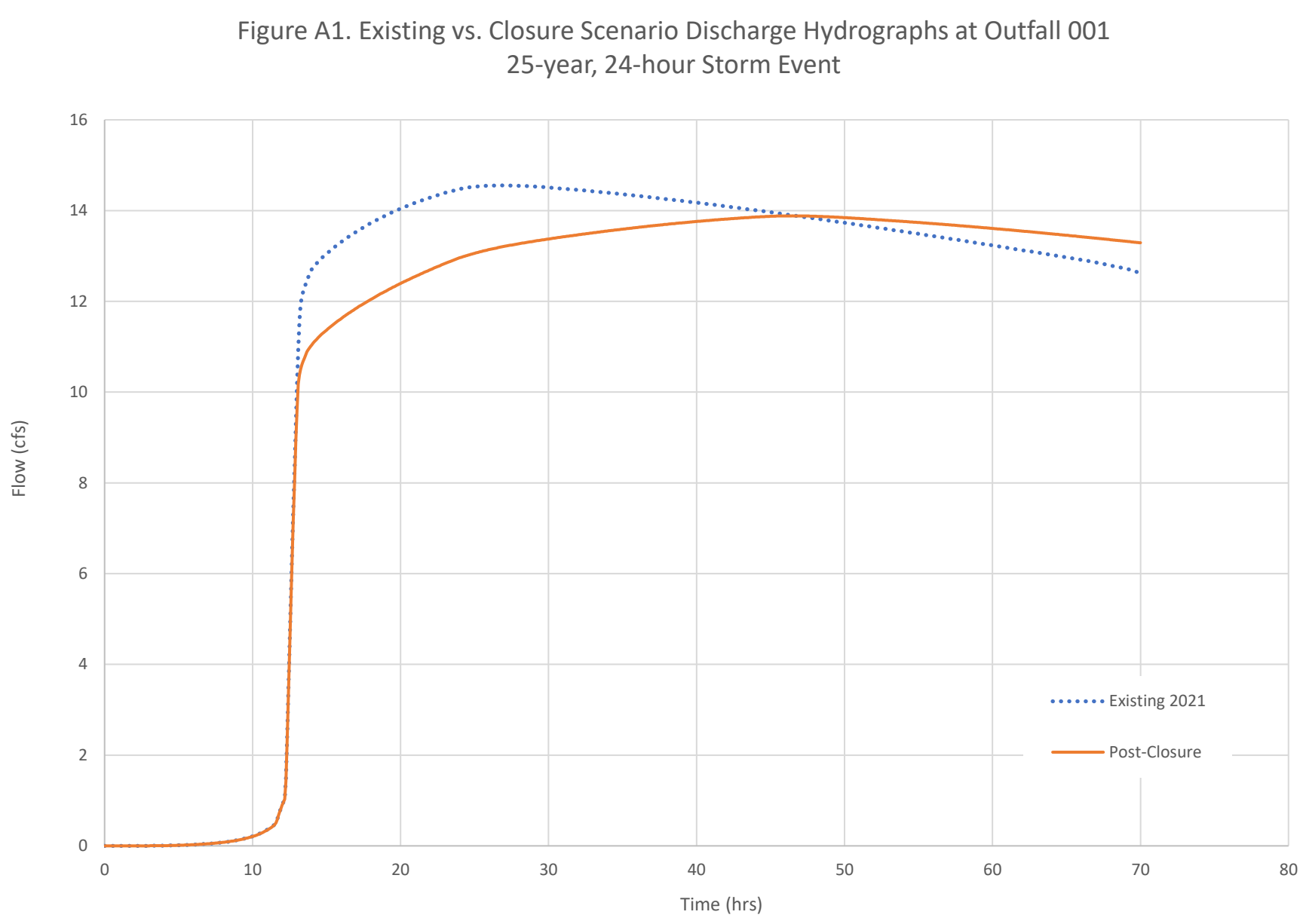


Figure A1. Existing vs. Closure Scenario Discharge Hydrographs at Outfall 001
25-year, 24-hour Storm Event
Flow (cfs)
16
14
12
10
8
6
4
2
0
0
10
20
30
40
50
60
70
80
Time (hrs)
Existing 2021
Post-Closure

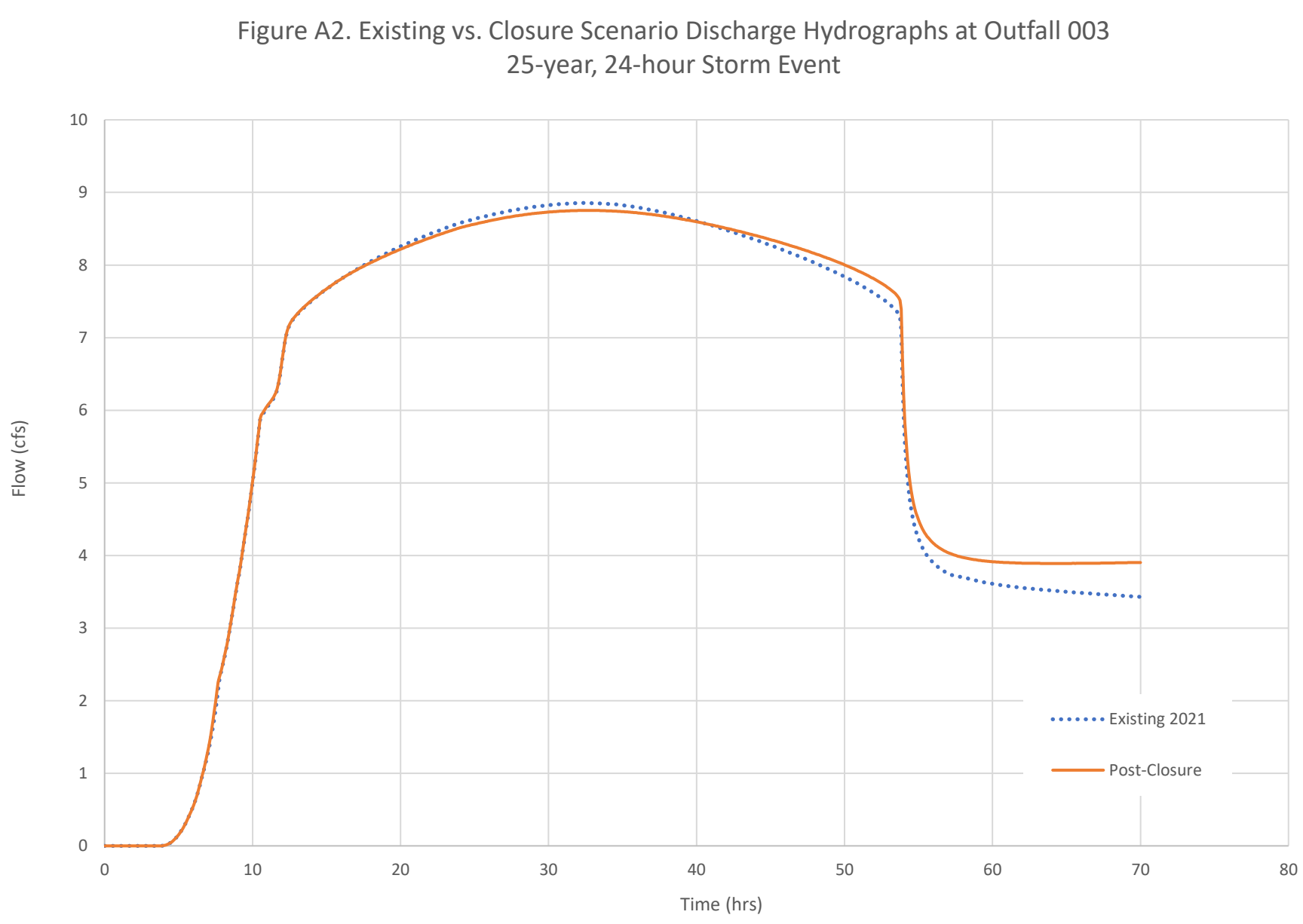
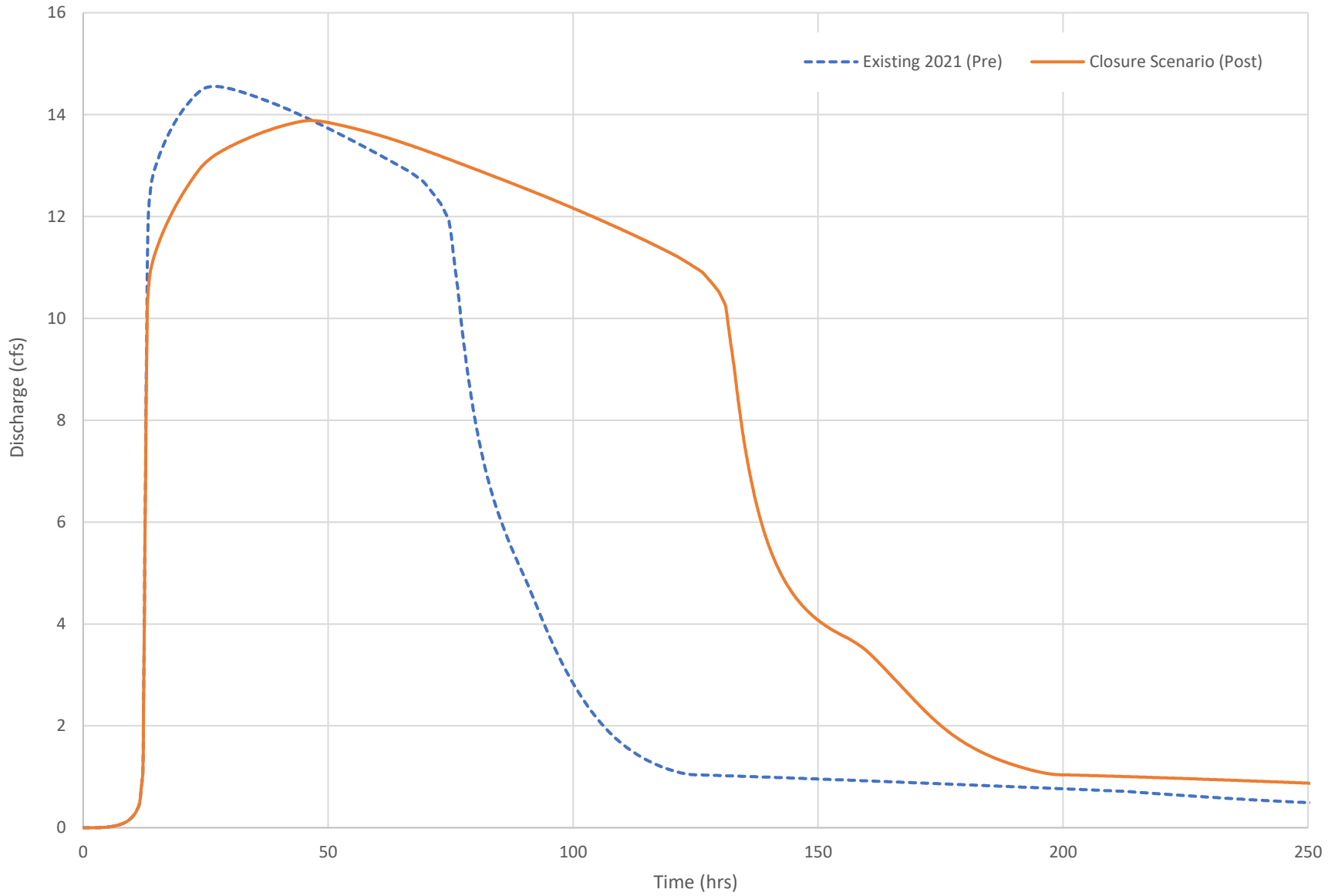


Figure A2. Existing vs. Closure Scenario Discharge Hydrographs at Outfall 003
25-year, 24-hour Storm Event
Flow (cfs)
Time (hrs)
0
1
2
3
4
5
6
7
8
9
10
0
10
20
30
40
50
60
70
80
Existing 2021
Post-Closure

## Attachment B

## Basin 2 (pre Vs post) Discharge Hydrographs

Figure B. Basin 2 (pre Vs post) Discharge Hydrographs



# Attachment C

## Basin 2 (pre Vs post) Stage Hydrographs

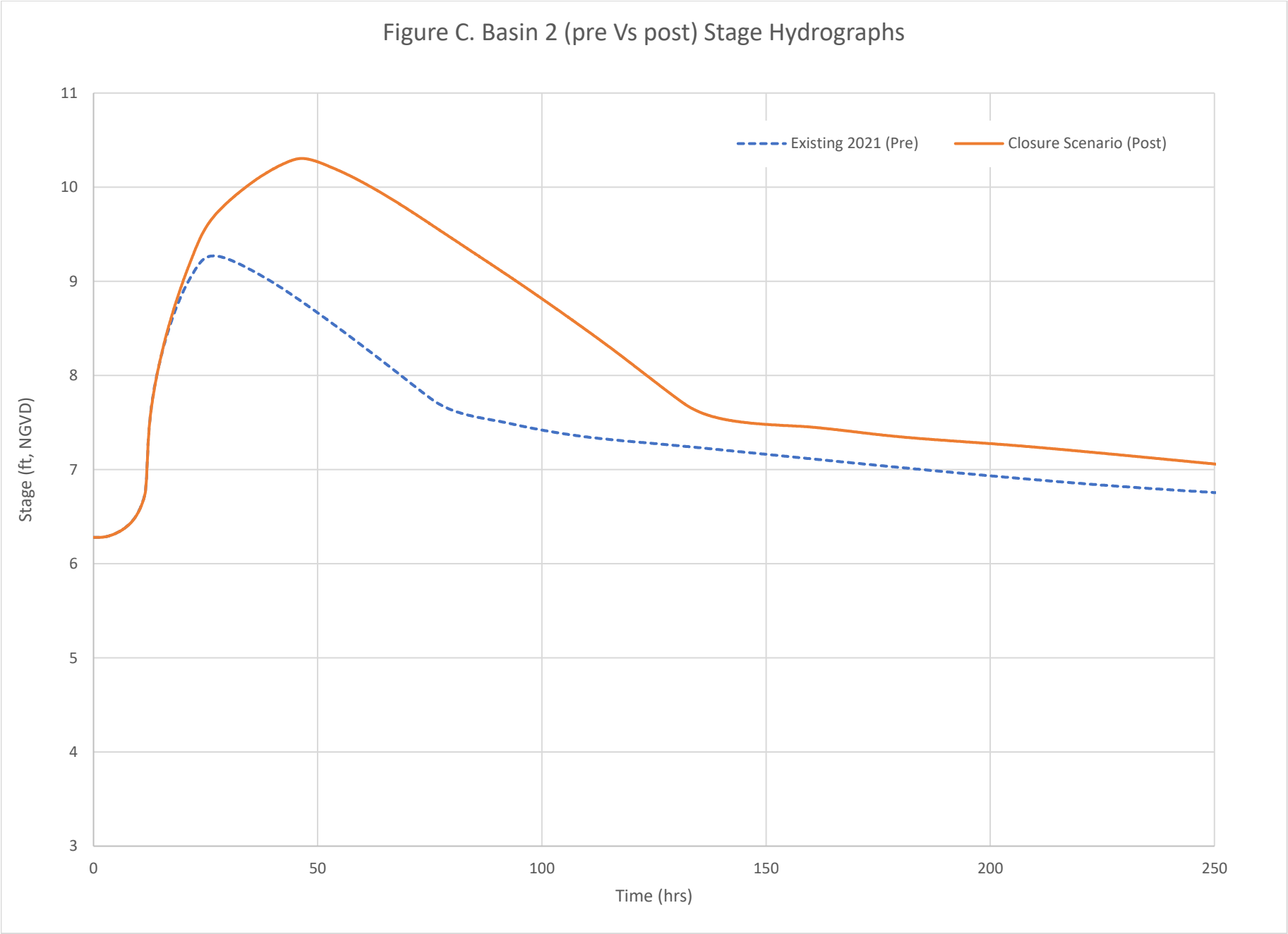


Figure C. Basin 2 (pre Vs post) Stage Hydrographs
Existing 2021 (Pre)
Closure Scenario (Post)
Stage (ft, NGVD)
Time (hrs)
11
10
9
8
7
6
5
4
3
0
50
100
150
200
250

# Attachment D

## ICPR Model Inputs and Outputs Data*

```
==========================================================================================
==== Basins ==============================================================================
==========================================================================================

         Name: B0-NE                    Node: 0-NE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 15.29
            Area(ac): 18.110                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-NW                    Node: 0-NW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 24.38
            Area(ac): 12.592                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SE                    Node: 0-SE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 16.04
            Area(ac): 8.242                      Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SW                    Node: 0-SW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 27.75
            Area(ac): 13.732                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B002                     Node: 002                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 16.907                     Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B003                     Node: 003                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.962                      Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B004                     Node: 004                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
```

```
            Area(ac): 1.743                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005                     Node: 005                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.331                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005B                    Node: 005B                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 5.877                  Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B006                     Node: 006                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.121                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B007                     Node: 007                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.711                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B008                     Node: 008                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.603                  Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B009                     Node: 009                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.465                  Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B010                     Node: 010                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
```

```
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 4.399                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B011                    Node: 011                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 7.248                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B012                    Node: 012                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 3.931                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B013                    Node: 013                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.297                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B014                    Node: 014                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.479                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B015                    Node: 015                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 0.916                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B016                    Node: 016                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.101                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B017                    Node: 017                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 0.869                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B018                     Node: 018                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 1.810                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B019                     Node: 019                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 0.965                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B02                      Node: 02                     Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                    Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 18.45
             Area(ac): 1.874                    Time Shift(hrs): 0.00
         Curve Number: 93.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B020                     Node: 020                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 2.936                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B021                     Node: 021                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 2.314                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B022                     Node: 022                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 3.146                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
```

```
        Name: B023                    Node: 023                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.632                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B024                    Node: 024                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.694                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B025                    Node: 025                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.608                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B026                    Node: 026                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.765                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B027                    Node: 027                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.700                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B028                    Node: 028                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 24.355                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B029                    Node: 029                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.051                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

```
-----------------------------------------------------------------------------------------------------
        Name: B03                     Node: 03                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.219                     Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B030                    Node: 030                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.234                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B031                    Node: 031                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.636                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B032                    Node: 032                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.724                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B033                    Node: 033                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.318                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034                    Node: 034                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.586                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034B                   Node: 034B                  Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 17.90
            Area(ac): 6.673                     Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

```
--------------------------------------------------------------------------------------------------
         Name: B035                    Node: 035                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.909                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B036                    Node: 036                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.755                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B038                    Node: 038                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.886                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B039                    Node: 039                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.236                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B04                     Node: 04                     Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 27.56
            Area(ac): 4.524                      Time Shift(hrs): 0.00
         Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B040                    Node: 040                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 31.64
            Area(ac): 4.868                      Time Shift(hrs): 0.00
         Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B041                    Node: 041                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 18.58
            Area(ac): 5.137                      Time Shift(hrs): 0.00
```

```
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042_B                  Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 11.27
             Area(ac): 2.239                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042A                   Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 13.56
             Area(ac): 8.431                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B043                    Node: 043                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 9.704                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B044                    Node: 044                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 12.33
             Area(ac): 3.148                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B045                    Node: 045                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 5.663                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B046                    Node: 046                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 0.465                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B05                     Node: 05                     Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
```

```
    Rainfall Amount(in): 0.000                Time of Conc(min): 24.88
               Area(ac): 5.013                  Time Shift(hrs): 0.00
           Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B1                      Node: 1                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 1.344                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B2                      Node: 2                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 3.486                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B3                      Node: 3                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.93
               Area(ac): 3.600                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B4                      Node: 4                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 0.553                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BBASIN_2                Node: BASIN_2                Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 26.822                 Time Shift(hrs): 0.00
           Curve Number: 95.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BLPWS                   Node: LPWS                   Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 11.656                 Time Shift(hrs): 0.00
           Curve Number: 100.00            Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BNCOLLING_P             Node: NCOLLING_P             Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 27.750                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-N                    Node: NGS-N                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 34.446                     Time Shift(hrs): 0.00
        Curve Number: 100.00                Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S                    Node: NGS-S                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 72.119                     Time Shift(hrs): 0.00
        Curve Number: 100.00                Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S_CAP                Node: NGS-S_CAP              Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 9.766                      Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-N                    Node: OGS-N                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 35.637                     Time Shift(hrs): 0.00
        Curve Number: 95.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-S                    Node: OGS-S                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 23.611                     Time Shift(hrs): 0.00
        Curve Number: 95.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


===============================================================================================
==== Nodes ====================================================================================
===============================================================================================

      Name: 0-NE                Base Flow(cfs): 0.000          Init Stage(ft): 9.000
     Group: BASE                                               Warn Stage(ft): 13.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
          8.700          0.0000
          9.700          1.9353
         10.700          7.5750
```

| | |
|---|---|
| 11.700 | 12.8416 |
| 12.700 | 15.7512 |
| 13.700 | 16.5189 |
| 14.700 | 16.7168 |
| 15.700 | 16.8417 |
| 16.700 | 16.9569 |
| 17.700 | 17.0643 |
| 18.700 | 17.1677 |
| 19.700 | 17.2726 |
| 20.700 | 17.3781 |
| 21.700 | 17.4871 |
| 22.700 | 17.5933 |
| 23.700 | 17.6920 |
| 24.700 | 17.8044 |
| 25.700 | 18.0903 |
| 26.700 | 18.1110 |
| 27.520 | 18.1114 |

---

Name: 0-NW  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.960 | 0.0000 |
| 9.960 | 0.9966 |
| 10.960 | 3.5226 |
| 11.960 | 8.0966 |
| 12.960 | 11.8522 |
| 13.960 | 12.5666 |
| 14.960 | 12.5930 |
| 15.370 | 12.5931 |

---

Name: 0-SE  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 9.050 | 0.0001 |
| 10.050 | 1.4902 |
| 11.050 | 4.1887 |
| 12.050 | 6.2550 |
| 13.050 | 7.0393 |
| 14.050 | 7.2425 |
| 15.050 | 7.3425 |
| 16.050 | 7.4203 |
| 17.050 | 7.4910 |
| 18.050 | 7.5614 |
| 19.050 | 7.6287 |
| 20.050 | 7.6934 |
| 21.050 | 7.7614 |
| 22.050 | 7.8276 |
| 23.050 | 7.8972 |
| 24.050 | 7.9633 |
| 25.050 | 8.0819 |
| 26.050 | 8.2410 |
| 26.690 | 8.2417 |

---

Name: 0-SW  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.820 | 0.0000 |
| 9.820 | 0.7520 |
| 10.820 | 3.4854 |
| 11.820 | 8.6541 |
| 12.820 | 12.7281 |
| 13.820 | 13.6629 |
| 14.820 | 13.7300 |
| 15.290 | 13.7303 |

---

Name: 001  Base Flow(cfs): 0.000  Init Stage(ft): 13.500
Group: BASE  Warn Stage(ft): 18.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 002 Base Flow(cfs): 0.000 Init Stage(ft): 17.500
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 16.480 | 0.0000 |
| 17.480 | 0.8465 |
| 18.480 | 2.3918 |
| 19.480 | 3.0914 |
| 20.480 | 3.4540 |
| 21.480 | 3.7725 |
| 22.480 | 4.0917 |
| 23.480 | 4.4203 |
| 24.480 | 4.7447 |
| 25.480 | 5.0727 |
| 26.480 | 5.3905 |
| 27.480 | 5.7169 |
| 28.480 | 6.0806 |
| 29.480 | 6.4178 |
| 30.480 | 6.6524 |
| 31.480 | 6.8462 |
| 32.480 | 7.0136 |
| 33.480 | 7.1677 |
| 34.480 | 7.3151 |
| 35.480 | 7.4683 |
| 36.480 | 7.6192 |
| 37.480 | 7.7618 |
| 38.480 | 7.8991 |
| 39.480 | 8.0352 |
| 40.480 | 8.1720 |
| 41.480 | 8.3092 |
| 42.480 | 8.4576 |
| 43.480 | 8.6048 |
| 44.480 | 8.7601 |
| 45.480 | 8.9182 |
| 46.480 | 9.0779 |
| 47.480 | 9.2334 |
| 48.480 | 9.3936 |
| 49.480 | 9.5514 |
| 50.480 | 9.7137 |
| 51.480 | 9.8738 |
| 52.480 | 10.0354 |
| 53.480 | 10.1966 |
| 54.480 | 10.3568 |
| 55.480 | 10.5164 |
| 56.480 | 10.6740 |
| 57.480 | 10.8303 |
| 58.480 | 10.9867 |
| 59.480 | 11.1417 |
| 60.480 | 11.3013 |
| 61.480 | 11.4644 |
| 62.480 | 11.6300 |
| 63.480 | 11.7923 |
| 64.480 | 11.9512 |
| 65.480 | 12.1116 |
| 66.480 | 12.2753 |
| 67.480 | 12.4394 |
| 68.480 | 12.6036 |
| 69.480 | 12.7660 |
| 70.480 | 12.9301 |
| 71.480 | 13.0910 |
| 72.480 | 13.2507 |
| 73.480 | 13.4117 |
| 74.480 | 13.5715 |
| 75.480 | 13.7473 |
| 76.480 | 13.9285 |
| 77.480 | 14.0981 |
| 78.480 | 14.2643 |
| 79.480 | 14.4300 |
| 80.480 | 14.5995 |
| 81.480 | 14.7764 |
| 82.480 | 14.9779 |
| 83.480 | 15.1728 |
| 84.480 | 15.2790 |
| 85.480 | 15.4114 |
| 86.480 | 16.2870 |
| 87.480 | 16.4206 |
| 88.480 | 16.5302 |
| 89.480 | 16.6528 |
| 90.480 | 16.7484 |
| 91.480 | 16.8595 |

| | |
|---|---|
| 92.480 | 16.9005 |
| 93.240 | 16.9095 |

---

Name: 003 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 004 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 005 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 34.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 005B Base Flow(cfs): 0.000 Init Stage(ft): 76.160
Group: BASE Warn Stage(ft): 82.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 75.460 | 0.0000 |
| 76.460 | 0.2122 |
| 77.460 | 0.4066 |
| 78.460 | 0.9553 |
| 79.460 | 1.4878 |
| 80.460 | 2.0940 |
| 81.460 | 2.7105 |
| 82.460 | 3.3906 |
| 83.460 | 4.0673 |
| 84.460 | 4.6060 |
| 85.460 | 4.8908 |
| 86.460 | 5.0713 |
| 87.460 | 5.3024 |
| 88.460 | 5.6746 |
| 89.460 | 5.7884 |
| 90.460 | 5.8467 |
| 91.460 | 5.8746 |
| 92.460 | 5.8764 |
| 92.610 | 5.8764 |

---

Name: 006 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 007 Base Flow(cfs): 0.000 Init Stage(ft): 30.950
Group: BASE Warn Stage(ft): 37.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 29.700 | 0.0003 |
| 30.700 | 0.2348 |
| 31.700 | 0.5205 |
| 32.700 | 0.7105 |
| 33.700 | 0.8616 |
| 34.700 | 1.0000 |
| 35.700 | 1.1362 |
| 36.700 | 1.4003 |

| | |
|---|---|
| 37.700 | 1.6724 |
| 38.700 | 1.7573 |
| 39.700 | 1.8290 |
| 40.700 | 1.9013 |
| 41.700 | 1.9713 |
| 42.700 | 2.0374 |
| 43.700 | 2.1024 |
| 44.700 | 2.1734 |
| 45.700 | 2.2410 |
| 46.700 | 2.3106 |
| 47.700 | 2.3764 |
| 48.700 | 2.4462 |
| 49.700 | 2.5108 |
| 50.700 | 2.5756 |
| 51.700 | 2.6441 |
| 52.700 | 2.7113 |
| 53.700 | 2.7789 |
| 54.700 | 2.8459 |
| 55.700 | 2.9146 |
| 56.700 | 2.9823 |
| 57.700 | 3.0489 |
| 58.700 | 3.1217 |
| 59.700 | 3.2305 |
| 60.700 | 3.3445 |
| 61.700 | 3.4190 |
| 62.700 | 3.4429 |
| 63.700 | 3.4561 |
| 64.700 | 3.4667 |
| 65.700 | 3.4766 |
| 66.700 | 3.4868 |
| 67.700 | 3.4979 |
| 68.700 | 3.5085 |
| 69.700 | 3.5185 |
| 70.700 | 3.5286 |
| 71.700 | 3.5386 |
| 72.700 | 3.5516 |
| 73.700 | 3.5639 |
| 74.700 | 3.5748 |
| 75.700 | 3.6119 |
| 76.700 | 3.6998 |
| 77.700 | 3.7083 |
| 78.400 | 3.7110 |

---

Name: 008 Base Flow(cfs): 0.000 Init Stage(ft): 55.200
Group: BASE Warn Stage(ft): 59.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 53.880 | 0.0000 |
| 54.880 | 0.2202 |
| 55.880 | 0.6918 |
| 56.880 | 1.0233 |
| 57.880 | 1.1896 |
| 58.880 | 1.3431 |
| 59.880 | 1.5155 |
| 60.880 | 1.6559 |
| 61.880 | 1.7608 |
| 62.880 | 1.8412 |
| 63.880 | 1.9170 |
| 64.880 | 1.9969 |
| 65.880 | 2.0717 |
| 66.880 | 2.1443 |
| 67.880 | 2.2175 |
| 68.880 | 2.2852 |
| 69.880 | 2.3524 |
| 70.880 | 2.4193 |
| 71.880 | 2.4892 |
| 72.880 | 2.5566 |
| 73.880 | 2.6226 |
| 74.880 | 2.6915 |
| 75.880 | 2.7537 |
| 76.880 | 2.8407 |
| 77.880 | 2.9242 |
| 78.880 | 3.0003 |
| 79.880 | 3.0654 |
| 80.880 | 3.1295 |
| 81.880 | 3.1944 |
| 82.880 | 3.2869 |
| 83.880 | 3.5208 |
| 84.880 | 3.5931 |
| 85.880 | 3.6024 |
| 86.170 | 3.6026 |

---

Name: 008A Base Flow(cfs): 0.000 Init Stage(ft): 46.400

```
     Group: BASE                                                Warn Stage(ft): 55.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 009                 Base Flow(cfs): 0.000          Init Stage(ft): 80.300
     Group: BASE                                                Warn Stage(ft): 83.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         78.970          0.0000
         79.970          0.4152
         80.970          1.3790
         81.970          1.9540
         82.970          2.2372
         83.970          2.4893
         84.970          2.6691
         85.970          2.8333
         86.970          3.1062
         87.970          3.4281
         88.970          3.4642
         89.970          3.4655
         90.360          3.4657

-------------------------------------------------------------------------------------------
      Name: 01                  Base Flow(cfs): 0.000          Init Stage(ft): 6.830
     Group: BASE                                                Warn Stage(ft): 14.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 010                 Base Flow(cfs): 0.000          Init Stage(ft): 43.900
     Group: BASE                                                Warn Stage(ft): 76.000
      Type: Stage/Area

Liner El. = 54.0 per construction plan

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 011                 Base Flow(cfs): 0.000          Init Stage(ft): 48.000
     Group: BASE                                                Warn Stage(ft): 75.000
      Type: Stage/Area

Liner El. = 54.0 per construction plan

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 012                 Base Flow(cfs): 0.000          Init Stage(ft): 53.200
     Group: BASE                                                Warn Stage(ft): 63.000
      Type: Stage/Area

Liner El. = 57.2 per construction plan

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 013                 Base Flow(cfs): 0.000          Init Stage(ft): 33.300
     Group: BASE                                                Warn Stage(ft): 38.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 014                 Base Flow(cfs): 0.000          Init Stage(ft): 34.200
     Group: BASE                                                Warn Stage(ft): 39.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
```

--- ---

---

Name: 015 Base Flow(cfs): 0.000 Init Stage(ft): 35.500
Group: BASE Warn Stage(ft): 38.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 016 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 23.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 17.610 | 0.0000 |
| 18.610 | 0.3218 |
| 19.610 | 0.4302 |
| 20.610 | 0.5008 |
| 21.610 | 0.5593 |
| 22.610 | 0.6294 |
| 23.610 | 0.7030 |
| 24.610 | 0.8875 |
| 25.610 | 0.9387 |
| 26.610 | 0.9532 |
| 27.610 | 0.9690 |
| 28.610 | 0.9928 |
| 29.480 | 1.1002 |

---

Name: 017 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 24.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 018 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 24.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 019 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 24.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 02 Base Flow(cfs): 0.000 Init Stage(ft): 6.880
Group: BASE Warn Stage(ft): 12.480
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 020 Base Flow(cfs): 0.000 Init Stage(ft): 19.820
Group: BASE Warn Stage(ft): 25.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 18.630 | 0.0000 |
| 19.630 | 0.0914 |
| 20.630 | 0.2376 |
| 21.630 | 0.4010 |
| 22.630 | 0.6186 |

| | |
|---|---|
| 23.630 | 0.8277 |
| 24.630 | 0.9948 |
| 25.630 | 1.1502 |
| 26.630 | 1.2915 |
| 27.630 | 1.4197 |
| 28.630 | 1.5445 |
| 29.630 | 1.6686 |
| 30.630 | 1.7981 |
| 31.630 | 1.9240 |
| 32.630 | 2.0286 |
| 33.630 | 2.3002 |
| 34.630 | 2.4753 |
| 35.630 | 2.5440 |
| 36.630 | 2.6354 |
| 37.630 | 2.8971 |
| 38.630 | 2.9365 |
| 38.900 | 2.9369 |

---

Name: 021 Base Flow(cfs): 0.000 Init Stage(ft): 35.300
Group: BASE Warn Stage(ft): 38.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 022 Base Flow(cfs): 0.000 Init Stage(ft): 30.600
Group: BASE Warn Stage(ft): 34.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 023 Base Flow(cfs): 0.000 Init Stage(ft): 29.480
Group: BASE Warn Stage(ft): 32.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 024 Base Flow(cfs): 0.000 Init Stage(ft): 25.100
Group: BASE Warn Stage(ft): 29.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 025 Base Flow(cfs): 0.000 Init Stage(ft): 24.600
Group: BASE Warn Stage(ft): 29.400
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 026 Base Flow(cfs): 0.000 Init Stage(ft): 24.000
Group: BASE Warn Stage(ft): 29.200
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 027 Base Flow(cfs): 0.000 Init Stage(ft): 23.500
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

```
      Name: 028                 Base Flow(cfs): 0.000          Init Stage(ft): 20.500
     Group: BASE                                              Warn Stage(ft): 28.500
      Type: Stage/Area

Storage below LIDAR El. 25.3 estimated from the Design

      Stage(ft)        Area(ac)
--------------- ---------------
         20.500          0.1000
         25.000          2.6500
         25.300          9.7042
         26.300         11.4477
         27.300         12.0331
         28.300         12.6026
         29.300         13.3008
         30.300         13.5739
         31.300         13.8299
         32.300         14.1049
         33.300         14.3780
         34.300         14.6358
         35.300         14.8904
         36.300         15.1472
         37.300         15.4050
         38.300         15.6724
         39.300         15.9405
         40.300         16.2058
         41.300         16.4608
         42.300         16.7007
         43.300         16.9338
         44.300         17.1620
         45.300         17.4048
         46.300         17.6509
         47.300         17.8896
         48.300         18.1348
         49.300         18.3722
         50.300         18.6043
         51.300         18.8395
         52.300         19.0622
         53.300         19.2821
         54.300         19.5003
         55.300         19.7247
         56.300         19.9467
         57.300         20.1671
         58.300         20.3885
         59.300         20.6070
         60.300         20.8241
         61.300         21.0444
         62.300         21.2632
         63.300         21.5239
         64.300         22.0542
         65.300         22.2391
         66.300         22.4196
         67.300         22.5921
         68.300         22.7528
         69.300         22.9029
         70.300         23.0388
         71.300         23.1711
         72.300         23.3306
         73.300         23.7533
         74.300         24.2280
         75.300         24.3146
         76.170         24.3501

-------------------------------------------------------------------------------------------
      Name: 029                 Base Flow(cfs): 0.000          Init Stage(ft): 15.250
     Group: BASE                                              Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 03                  Base Flow(cfs): 0.000          Init Stage(ft): 6.980
     Group: BASE                                              Warn Stage(ft): 15.130
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 030                 Base Flow(cfs): 0.000          Init Stage(ft): 14.700
     Group: BASE                                              Warn Stage(ft): 17.500
      Type: Stage/Area
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 031                Base Flow(cfs): 0.000         Init Stage(ft): 13.700
     Group: BASE                                             Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 032                Base Flow(cfs): 0.000         Init Stage(ft): 13.670
     Group: BASE                                             Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 033                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                             Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 034                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                             Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 034B               Base Flow(cfs): 0.000         Init Stage(ft): 14.050
     Group: BASE                                             Warn Stage(ft): 16.300
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         13.700          0.0001
         14.150          0.0001
         15.150          2.0356
         16.150          4.6862
         17.150          6.4093
         18.150          6.6558
         19.150          6.6724
         19.180          6.6724

-------------------------------------------------------------------------------------------
      Name: 035                Base Flow(cfs): 0.000         Init Stage(ft): 13.000
     Group: BASE                                             Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 036                Base Flow(cfs): 0.000         Init Stage(ft): 12.500
     Group: BASE                                             Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037                Base Flow(cfs): 0.000         Init Stage(ft): 9.000
     Group: BASE                                             Warn Stage(ft): 19.000
      Type: Stage/Area

48-inch Dia Manhole
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037A                Base Flow(cfs): 0.000          Init Stage(ft): 8.300
     Group: BASE                                               Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037B                Base Flow(cfs): 0.000          Init Stage(ft): 7.820
     Group: BASE                                               Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 038                 Base Flow(cfs): 0.000          Init Stage(ft): 12.500
     Group: BASE                                               Warn Stage(ft): 16.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 039                 Base Flow(cfs): 0.000          Init Stage(ft): 13.500
     Group: BASE                                               Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 04                  Base Flow(cfs): 0.000          Init Stage(ft): 7.080
     Group: BASE                                               Warn Stage(ft): 12.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 040                 Base Flow(cfs): 0.000          Init Stage(ft): 13.140
     Group: BASE                                               Warn Stage(ft): 16.300
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         12.650          0.0001
         13.650          1.3042
         14.650          2.8713
         15.650          4.0654
         16.650          4.5393
         17.650          4.7536
         18.650          4.7902
         19.650          4.8116
         20.650          4.8274
         21.650          4.8380
         22.650          4.8487
         23.650          4.8615
         24.640          4.8687

-------------------------------------------------------------------------------------------
      Name: 041                 Base Flow(cfs): 0.000          Init Stage(ft): 13.160
     Group: BASE                                               Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         12.770          0.0001
         13.770          1.9350
         14.770          3.1670
         15.770          4.2380
```

| | |
|---|---|
| 16.770 | 4.8959 |
| 17.770 | 5.0785 |
| 18.770 | 5.1064 |
| 19.770 | 5.1317 |
| 20.750 | 5.1358 |

---

Name: 042 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 14.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 11.160 | 0.0001 |
| 12.160 | 0.8978 |
| 13.160 | 3.0166 |
| 14.160 | 4.3885 |
| 15.160 | 5.4963 |
| 16.160 | 6.3647 |
| 17.160 | 6.8052 |
| 18.160 | 7.0177 |
| 19.160 | 7.1529 |
| 20.160 | 7.2571 |
| 21.160 | 7.3411 |
| 22.160 | 7.4371 |
| 23.160 | 7.5892 |
| 24.160 | 8.1239 |
| 25.160 | 8.3570 |
| 26.160 | 8.4305 |
| 26.180 | 8.4305 |

---

Name: 043 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 13.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 10.430 | 0.0001 |
| 11.430 | 1.3729 |
| 12.430 | 3.1506 |
| 13.430 | 4.8630 |
| 14.430 | 6.9806 |
| 15.430 | 8.3948 |
| 16.430 | 9.3829 |
| 17.430 | 9.6960 |
| 17.670 | 9.7055 |

---

Name: 044 Base Flow(cfs): 0.000 Init Stage(ft): 12.700
Group: BASE Warn Stage(ft): 12.700
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 12.480 | 0.0001 |
| 13.480 | 0.2257 |
| 14.480 | 0.7996 |
| 15.480 | 1.4866 |
| 16.480 | 2.2975 |
| 17.480 | 3.0542 |
| 18.480 | 3.1375 |
| 19.480 | 3.1413 |
| 20.480 | 3.1461 |
| 20.960 | 3.1474 |

---

Name: 045 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 16.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 12.820 | 0.0000 |
| 13.820 | 0.6587 |
| 14.820 | 2.5233 |
| 15.820 | 3.2643 |
| 16.820 | 3.5009 |
| 17.820 | 3.6994 |
| 18.820 | 4.2301 |
| 19.820 | 4.5500 |

| | |
|---|---|
| 20.820 | 4.7070 |
| 21.820 | 4.8326 |
| 22.820 | 4.9455 |
| 23.820 | 5.0906 |
| 24.820 | 5.2863 |
| 25.820 | 5.3421 |
| 26.820 | 5.3866 |
| 27.820 | 5.4362 |
| 28.820 | 5.6058 |
| 29.350 | 5.6633 |

---

Name: 046 Base Flow(cfs): 0.000 Init Stage(ft): 11.480
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 11.000 | 0.0015 |
| 12.000 | 0.0800 |
| 13.000 | 0.1500 |
| 14.000 | 0.2300 |

---

Name: 05 Base Flow(cfs): 0.000 Init Stage(ft): 6.980
Group: BASE Warn Stage(ft): 11.980
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 1 Base Flow(cfs): 0.000 Init Stage(ft): 8.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 7.720 | 0.0000 |
| 8.720 | 0.1141 |
| 9.720 | 0.3956 |
| 10.720 | 0.6195 |
| 11.720 | 0.7843 |
| 12.720 | 0.9468 |
| 13.720 | 1.2929 |
| 14.400 | 1.3449 |

---

Name: 2 Base Flow(cfs): 0.000 Init Stage(ft): 10.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.030 | 0.0001 |
| 9.030 | 0.0239 |
| 10.030 | 0.1011 |
| 11.030 | 0.5573 |
| 12.030 | 0.9975 |
| 13.030 | 1.6286 |
| 14.030 | 2.2138 |
| 15.030 | 2.5505 |
| 16.030 | 3.1779 |
| 17.030 | 3.4080 |
| 18.030 | 3.4663 |
| 19.030 | 3.4822 |
| 20.030 | 3.4862 |
| 20.580 | 3.4863 |

---

Name: 3 Base Flow(cfs): 0.000 Init Stage(ft): 11.300
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 11.300 | 0.0001 |
| 11.680 | 0.0001 |
| 12.680 | 0.0069 |

| | |
|---|---|
| 13.680 | 0.3857 |
| 14.680 | 1.7427 |
| 15.680 | 2.8830 |
| 16.680 | 3.2278 |
| 17.680 | 3.5154 |
| 18.680 | 3.5625 |
| 19.680 | 3.5872 |
| 20.680 | 3.5958 |
| 21.680 | 3.5991 |
| 22.110 | 3.5995 |

---

Name: 4 Base Flow(cfs): 0.000 Init Stage(ft): 9.330
Group: BASE Warn Stage(ft): 11.300
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.350 | 0.0000 |
| 9.350 | 0.0171 |
| 10.350 | 0.0567 |
| 11.350 | 0.1072 |
| 12.350 | 0.1796 |
| 13.350 | 0.3602 |
| 14.350 | 0.5108 |
| 15.350 | 0.5341 |
| 16.350 | 0.5415 |
| 17.350 | 0.5459 |
| 18.350 | 0.5494 |
| 19.350 | 0.5517 |
| 20.350 | 0.5525 |
| 21.350 | 0.5530 |
| 21.530 | 0.5531 |

---

Name: BASIN_2 Base Flow(cfs): 0.000 Init Stage(ft): 6.280
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Pond Initial stage was set to the orifice invert level

| Stage(ft) | Area(ac) |
|---|---|
| 5.750 | 13.0000 |
| 7.210 | 14.5540 |
| 8.210 | 16.9331 |
| 9.210 | 19.0328 |
| 10.210 | 20.0919 |
| 11.210 | 20.9577 |
| 12.210 | 21.7667 |
| 13.210 | 23.9547 |
| 14.210 | 25.3767 |
| 15.210 | 25.5168 |
| 16.210 | 25.6311 |
| 17.210 | 25.7334 |
| 18.210 | 25.8340 |
| 19.210 | 25.9225 |
| 20.210 | 26.0140 |
| 21.210 | 26.1166 |
| 22.210 | 26.2508 |
| 23.210 | 26.5192 |
| 24.210 | 26.7546 |
| 25.210 | 26.7962 |
| 26.210 | 26.8112 |
| 27.210 | 26.8122 |
| 27.590 | 26.8124 |

---

Name: BOX_001 Base Flow(cfs): 0.000 Init Stage(ft): 3.000
Group: BASE Warn Stage(ft): 8.100
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 0.260 | 0.0014 |
| 8.100 | 0.0014 |

---

Name: BOX_003 Base Flow(cfs): 0.000 Init Stage(ft): 7.500
Group: BASE Warn Stage(ft): 12.900
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

| | |
|---|---|
| 6.530 | 0.0020 |
| 12.900 | 0.0020 |

---

Name: LPWS  Base Flow(cfs): 0.000  Init Stage(ft): 20.200
Group: BASE  Warn Stage(ft): 23.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 20.160 | 10.5829 |
| 21.160 | 10.7484 |
| 22.160 | 10.9322 |
| 23.160 | 11.1223 |
| 24.160 | 11.3931 |
| 25.160 | 11.5225 |
| 26.160 | 11.6577 |
| 26.850 | 11.6602 |

---

Name: NCOLLING_P  Base Flow(cfs): 0.000  Init Stage(ft): 27.200
Group: BASE  Warn Stage(ft): 33.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 27.200 | 0.0001 |
| 27.770 | 0.0001 |
| 28.770 | 4.2938 |
| 29.770 | 7.5798 |
| 30.770 | 11.1430 |
| 31.770 | 15.2281 |
| 32.770 | 18.8204 |
| 33.770 | 21.9343 |
| 34.770 | 23.5564 |
| 35.770 | 25.2042 |
| 36.770 | 26.4725 |
| 37.770 | 27.1428 |
| 38.770 | 27.5476 |
| 39.770 | 27.7520 |
| 39.820 | 27.7522 |

---

Name: NGS-N  Base Flow(cfs): 0.000  Init Stage(ft): 67.700
Group: BASE  Warn Stage(ft): 73.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 37.500 | 0.0010 |
| 48.000 | 22.7000 |
| 67.590 | 31.8853 |
| 68.590 | 32.1925 |
| 69.590 | 32.5496 |
| 70.590 | 32.9304 |
| 71.590 | 33.2720 |
| 72.590 | 33.5857 |
| 73.590 | 33.9084 |
| 74.590 | 34.2087 |
| 75.590 | 34.3437 |
| 76.590 | 34.4380 |
| 77.350 | 34.4428 |

---

Name: NGS-S  Base Flow(cfs): 0.000  Init Stage(ft): 57.200
Group: BASE  Warn Stage(ft): 74.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 36.000 | 0.0001 |
| 40.000 | 4.0000 |
| 49.000 | 50.0000 |
| 57.130 | 58.8116 |
| 58.130 | 59.1489 |
| 59.130 | 59.6192 |
| 60.130 | 60.1959 |
| 61.130 | 60.7219 |
| 62.130 | 61.2051 |
| 63.130 | 61.7112 |

| | |
|---|---|
| 64.130 | 62.2129 |
| 65.130 | 62.7124 |
| 66.130 | 63.2197 |
| 67.130 | 63.7202 |
| 68.130 | 64.2234 |
| 69.130 | 64.7348 |
| 70.130 | 65.2558 |
| 71.130 | 65.7820 |
| 72.130 | 66.3172 |
| 73.130 | 66.8567 |
| 74.130 | 67.4716 |
| 75.130 | 68.3573 |
| 76.130 | 69.0475 |
| 77.130 | 69.6398 |
| 78.130 | 69.9147 |
| 79.130 | 70.0782 |
| 80.130 | 70.2414 |
| 81.130 | 70.4009 |
| 82.130 | 70.5558 |
| 83.130 | 70.7116 |
| 84.130 | 70.8648 |
| 85.130 | 70.9892 |
| 86.130 | 71.1524 |
| 87.130 | 71.5977 |
| 88.130 | 72.0957 |
| 89.130 | 72.1161 |
| 90.130 | 72.1238 |
| 90.530 | 72.1258 |

---

Name: NGS-S_CAP  Base Flow(cfs): 0.000  Init Stage(ft): 56.500
Group: BASE  Warn Stage(ft): 63.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 54.160 | 0.0000 |
| 55.160 | 0.8622 |
| 56.160 | 2.7473 |
| 57.160 | 4.2805 |
| 58.160 | 5.3020 |
| 59.160 | 6.0027 |
| 60.160 | 6.6035 |
| 61.160 | 7.0431 |
| 62.160 | 7.2603 |
| 63.160 | 7.4732 |
| 64.160 | 7.9721 |
| 65.160 | 8.0772 |
| 66.160 | 8.1747 |
| 67.160 | 8.2691 |
| 68.160 | 8.3574 |
| 69.160 | 8.4400 |
| 70.160 | 8.5202 |
| 71.160 | 8.5951 |
| 72.160 | 8.6691 |
| 73.160 | 8.7451 |
| 74.160 | 8.8226 |
| 75.160 | 8.8951 |
| 76.160 | 9.0056 |
| 77.160 | 9.6275 |
| 78.160 | 9.7510 |
| 79.160 | 9.7638 |
| 79.730 | 9.7655 |

---

Name: OGS-N  Base Flow(cfs): 0.000  Init Stage(ft): 77.000
Group: BASE  Warn Stage(ft): 86.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 76.140 | 19.7464 |
| 77.140 | 20.3573 |
| 78.140 | 21.0007 |
| 79.140 | 21.6298 |
| 80.140 | 22.4311 |
| 81.140 | 23.0821 |
| 82.140 | 23.5789 |
| 83.140 | 24.1385 |
| 84.140 | 24.7184 |
| 85.140 | 26.2839 |
| 86.140 | 31.2834 |
| 87.140 | 33.2180 |
| 88.140 | 33.8761 |
| 89.140 | 34.4404 |

| | |
|---|---|
| 90.140 | 35.1960 |
| 91.140 | 35.5109 |
| 92.140 | 35.5718 |
| 93.140 | 35.5879 |
| 94.140 | 35.6006 |
| 95.140 | 35.6091 |
| 96.140 | 35.6166 |
| 97.140 | 35.6236 |
| 98.140 | 35.6288 |
| 99.140 | 35.6338 |
| 100.140 | 35.6350 |
| 100.500 | 35.6351 |

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Name: OGS-S  Base Flow(cfs): 0.000  Init Stage(ft): 75.000
Group: BASE  Warn Stage(ft): 85.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 69.150 | 0.0000 |
| 70.150 | 0.0008 |
| 71.150 | 0.0027 |
| 72.150 | 0.0054 |
| 73.150 | 0.0095 |
| 74.150 | 0.0393 |
| 75.150 | 7.1784 |
| 76.150 | 8.9365 |
| 77.150 | 10.3528 |
| 78.150 | 11.5040 |
| 79.150 | 12.7468 |
| 80.150 | 13.5731 |
| 81.150 | 14.1193 |
| 82.150 | 14.6100 |
| 83.150 | 15.0135 |
| 84.150 | 15.4544 |
| 85.150 | 16.1291 |
| 86.150 | 17.6872 |
| 87.150 | 20.0775 |
| 88.150 | 22.2872 |
| 89.150 | 22.9051 |
| 90.150 | 23.2401 |
| 91.150 | 23.4963 |
| 92.150 | 23.5861 |
| 93.150 | 23.6099 |
| 94.150 | 23.6131 |
| 94.260 | 23.6132 |

---

Name: TW_001  Base Flow(cfs): 0.000  Init Stage(ft): 1.300
Group: BASE  Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level (NGVD29)

| Time(hrs) | Stage(ft) |
|---|---|
| 0.00 | 1.300 |
| 999.00 | 1.300 |

---

Name: TW_003  Base Flow(cfs): 0.000  Init Stage(ft): 1.300
Group: BASE  Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level

| Time(hrs) | Stage(ft) |
|---|---|
| 0.00 | 1.300 |
| 999.00 | 1.300 |

==========
==== Cross Sections ==========
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Name: X003  Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 36.114 | 0.060000 |
| 0.998 | 35.788 | 0.060000 |
| 1.997 | 35.389 | 0.060000 |
| 2.995 | 34.990 | 0.060000 |

| | | |
|---|---|---|
| 3.994 | 34.648 | 0.060000 |
| 4.992 | 34.353 | 0.060000 |
| 5.991 | 34.066 | 0.060000 |
| 6.989 | 33.726 | 0.060000 |
| 7.988 | 33.251 | 0.060000 |
| 8.986 | 32.788 | 0.060000 |
| 9.985 | 32.434 | 0.060000 |
| 10.983 | 32.164 | 0.060000 |
| 11.981 | 31.844 | 0.060000 |
| 12.980 | 31.441 | 0.060000 |
| 13.978 | 31.062 | 0.060000 |
| 14.977 | 30.775 | 0.060000 |
| 15.975 | 30.556 | 0.060000 |
| 16.974 | 30.334 | 0.060000 |
| 17.972 | 30.046 | 0.060000 |
| 18.971 | 29.669 | 0.060000 |
| 19.969 | 29.291 | 0.060000 |
| 20.968 | 29.025 | 0.060000 |
| 21.966 | 28.798 | 0.060000 |
| 22.964 | 28.582 | 0.060000 |
| 23.963 | 28.374 | 0.060000 |
| 24.961 | 28.144 | 0.060000 |
| 25.960 | 27.847 | 0.060000 |
| 26.958 | 27.603 | 0.060000 |
| 27.957 | 27.381 | 0.060000 |
| 28.955 | 27.060 | 0.060000 |
| 29.954 | 26.739 | 0.060000 |
| 30.952 | 26.348 | 0.060000 |
| 31.951 | 26.075 | 0.060000 |
| 32.949 | 25.859 | 0.060000 |
| 33.947 | 25.663 | 0.060000 |
| 34.946 | 25.625 | 0.060000 |
| 35.944 | 25.610 | 0.060000 |
| 36.943 | 25.418 | 0.060000 |
| 37.941 | 25.086 | 0.060000 |
| 38.940 | 24.818 | 0.060000 |
| 39.938 | 24.675 | 0.060000 |
| 40.937 | 24.606 | 0.060000 |
| 41.935 | 24.567 | 0.060000 |
| 42.934 | 24.542 | 0.060000 |
| 43.932 | 24.507 | 0.060000 |
| 44.931 | 24.468 | 0.060000 |
| 45.929 | 24.336 | 0.060000 |
| 46.927 | 24.265 | 0.060000 |
| 47.926 | 24.230 | 0.060000 |
| 48.924 | 24.467 | 0.060000 |
| 49.923 | 24.819 | 0.060000 |
| 50.921 | 25.304 | 0.060000 |
| 51.920 | 25.788 | 0.060000 |
| 52.918 | 26.076 | 0.060000 |
| 53.917 | 25.924 | 0.060000 |
| 54.915 | 25.521 | 0.060000 |
| 55.914 | 25.463 | 0.060000 |
| 56.912 | 25.619 | 0.060000 |
| 57.910 | 25.715 | 0.060000 |
| 58.909 | 26.230 | 0.060000 |
| 59.907 | 26.792 | 0.060000 |
| 60.906 | 27.400 | 0.060000 |
| 61.904 | 27.963 | 0.060000 |
| 62.903 | 28.187 | 0.060000 |
| 63.901 | 28.135 | 0.060000 |
| 64.900 | 28.099 | 0.060000 |
| 65.898 | 28.203 | 0.060000 |
| 66.897 | 28.334 | 0.060000 |
| 67.895 | 28.512 | 0.060000 |
| 68.893 | 28.718 | 0.060000 |
| 69.892 | 28.877 | 0.060000 |
| 70.890 | 28.978 | 0.060000 |
| 71.889 | 28.996 | 0.060000 |
| 72.887 | 28.963 | 0.060000 |
| 73.886 | 28.959 | 0.060000 |
| 74.884 | 28.971 | 0.060000 |
| 75.883 | 28.965 | 0.060000 |
| 76.881 | 28.921 | 0.060000 |
| 77.880 | 28.860 | 0.060000 |
| 78.878 | 28.808 | 0.060000 |
| 79.876 | 28.792 | 0.060000 |
| 80.875 | 28.791 | 0.060000 |
| 81.873 | 28.803 | 0.060000 |
| 82.872 | 28.826 | 0.060000 |
| 83.870 | 28.843 | 0.060000 |
| 84.869 | 28.825 | 0.060000 |
| 85.867 | 28.780 | 0.060000 |

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Name: X005 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 37.840 | 0.060000 |
| 0.988 | 37.495 | 0.060000 |
| 1.976 | 37.204 | 0.060000 |
| 2.964 | 36.954 | 0.060000 |
| 3.952 | 36.669 | 0.060000 |
| 4.940 | 36.244 | 0.060000 |
| 5.928 | 35.768 | 0.060000 |
| 6.916 | 35.375 | 0.060000 |
| 7.904 | 35.018 | 0.060000 |
| 8.892 | 34.676 | 0.060000 |
| 9.879 | 34.380 | 0.060000 |
| 10.867 | 34.045 | 0.060000 |
| 11.855 | 33.707 | 0.060000 |
| 12.843 | 33.485 | 0.060000 |
| 13.831 | 33.271 | 0.060000 |
| 14.819 | 33.004 | 0.060000 |
| 15.807 | 32.749 | 0.060000 |
| 16.795 | 32.529 | 0.060000 |
| 17.783 | 32.282 | 0.060000 |
| 18.771 | 31.970 | 0.060000 |
| 19.759 | 31.758 | 0.060000 |
| 20.747 | 31.629 | 0.060000 |
| 21.735 | 31.297 | 0.060000 |
| 22.723 | 30.822 | 0.060000 |
| 23.711 | 30.452 | 0.060000 |
| 24.699 | 30.255 | 0.060000 |
| 25.687 | 30.058 | 0.060000 |
| 26.675 | 29.858 | 0.060000 |
| 27.663 | 29.699 | 0.060000 |
| 28.650 | 29.653 | 0.060000 |
| 29.638 | 29.630 | 0.060000 |
| 30.626 | 29.528 | 0.060000 |
| 31.614 | 29.424 | 0.060000 |
| 32.602 | 29.344 | 0.060000 |
| 33.590 | 29.328 | 0.060000 |
| 34.578 | 29.340 | 0.060000 |
| 35.566 | 29.335 | 0.060000 |
| 36.554 | 29.324 | 0.060000 |
| 37.542 | 29.335 | 0.060000 |
| 38.530 | 29.353 | 0.060000 |
| 39.518 | 29.356 | 0.060000 |
| 40.506 | 29.371 | 0.060000 |
| 41.494 | 29.361 | 0.060000 |
| 42.482 | 29.345 | 0.060000 |
| 43.470 | 29.333 | 0.060000 |
| 44.458 | 29.327 | 0.060000 |
| 45.446 | 29.322 | 0.060000 |
| 46.434 | 29.394 | 0.060000 |
| 47.421 | 29.582 | 0.060000 |
| 48.409 | 30.408 | 0.060000 |
| 49.397 | 31.012 | 0.060000 |
| 50.385 | 31.496 | 0.060000 |
| 51.373 | 31.913 | 0.060000 |
| 52.361 | 32.243 | 0.060000 |
| 53.349 | 32.375 | 0.060000 |
| 54.337 | 32.647 | 0.060000 |
| 55.325 | 32.904 | 0.060000 |
| 56.313 | 33.035 | 0.060000 |
| 57.301 | 33.170 | 0.060000 |
| 58.289 | 33.425 | 0.060000 |
| 59.277 | 33.666 | 0.060000 |
| 60.265 | 33.871 | 0.060000 |
| 61.253 | 34.044 | 0.060000 |
| 62.241 | 34.148 | 0.060000 |
| 63.229 | 34.196 | 0.060000 |
| 64.217 | 34.190 | 0.060000 |
| 65.205 | 34.150 | 0.060000 |
| 66.192 | 34.083 | 0.060000 |
| 67.180 | 34.015 | 0.060000 |
| 68.168 | 33.985 | 0.060000 |
| 69.156 | 34.002 | 0.060000 |
| 70.144 | 34.010 | 0.060000 |

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Name: X006 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 39.776 | 0.060000 |
| 0.995 | 39.417 | 0.060000 |
| 1.989 | 38.973 | 0.060000 |
| 2.984 | 38.513 | 0.060000 |
| 3.978 | 38.151 | 0.060000 |

| | | |
|---|---|---|
| 4.973 | 37.864 | 0.060000 |
| 5.967 | 37.600 | 0.060000 |
| 6.962 | 37.315 | 0.060000 |
| 7.957 | 36.949 | 0.060000 |
| 8.951 | 36.596 | 0.060000 |
| 9.946 | 36.339 | 0.060000 |
| 10.940 | 36.078 | 0.060000 |
| 11.935 | 35.693 | 0.060000 |
| 12.930 | 35.367 | 0.060000 |
| 13.924 | 35.134 | 0.060000 |
| 14.919 | 34.887 | 0.060000 |
| 15.913 | 34.544 | 0.060000 |
| 16.908 | 34.124 | 0.060000 |
| 17.902 | 33.777 | 0.060000 |
| 18.897 | 33.389 | 0.060000 |
| 19.892 | 33.030 | 0.060000 |
| 20.886 | 32.743 | 0.060000 |
| 21.881 | 32.535 | 0.060000 |
| 22.875 | 32.302 | 0.060000 |
| 23.870 | 32.001 | 0.060000 |
| 24.865 | 31.663 | 0.060000 |
| 25.859 | 31.415 | 0.060000 |
| 26.854 | 31.225 | 0.060000 |
| 27.848 | 31.050 | 0.060000 |
| 28.843 | 31.120 | 0.060000 |
| 29.837 | 31.332 | 0.060000 |
| 30.832 | 31.507 | 0.060000 |
| 31.827 | 31.295 | 0.060000 |
| 32.821 | 30.726 | 0.060000 |
| 33.816 | 30.069 | 0.060000 |
| 34.810 | 29.618 | 0.060000 |
| 35.805 | 29.423 | 0.060000 |
| 36.799 | 29.356 | 0.060000 |
| 37.794 | 29.347 | 0.060000 |
| 38.789 | 29.332 | 0.060000 |
| 39.783 | 29.302 | 0.060000 |
| 40.778 | 29.285 | 0.060000 |
| 41.772 | 29.288 | 0.060000 |
| 42.767 | 29.297 | 0.060000 |
| 43.762 | 29.306 | 0.060000 |
| 44.756 | 29.343 | 0.060000 |
| 45.751 | 29.441 | 0.060000 |
| 46.745 | 29.749 | 0.060000 |
| 47.740 | 30.226 | 0.060000 |
| 48.734 | 30.661 | 0.060000 |
| 49.729 | 31.104 | 0.060000 |
| 50.724 | 31.441 | 0.060000 |
| 51.718 | 31.628 | 0.060000 |
| 52.713 | 31.980 | 0.060000 |
| 53.707 | 32.545 | 0.060000 |
| 54.702 | 33.021 | 0.060000 |
| 55.696 | 33.268 | 0.060000 |
| 56.691 | 33.462 | 0.060000 |
| 57.686 | 33.716 | 0.060000 |
| 58.680 | 34.039 | 0.060000 |
| 59.675 | 34.333 | 0.060000 |
| 60.669 | 34.447 | 0.060000 |
| 61.664 | 34.413 | 0.060000 |
| 62.659 | 34.274 | 0.060000 |
| 63.653 | 34.129 | 0.060000 |
| 64.648 | 34.057 | 0.060000 |
| 65.642 | 33.999 | 0.060000 |
| 66.637 | 33.930 | 0.060000 |
| 67.631 | 33.873 | 0.060000 |
| 68.626 | 33.841 | 0.060000 |
| 69.621 | 33.830 | 0.060000 |
| 70.615 | 33.818 | 0.060000 |
| 71.610 | 33.788 | 0.060000 |
| 72.604 | 33.751 | 0.060000 |
| 73.599 | 33.709 | 0.060000 |
| 74.593 | 33.697 | 0.060000 |
| 75.588 | 33.717 | 0.060000 |
| 76.583 | 33.741 | 0.060000 |
| 77.577 | 33.746 | 0.060000 |
| 78.572 | 33.695 | 0.060000 |
| 79.566 | 33.636 | 0.060000 |
| 80.561 | 33.610 | 0.060000 |

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Name: X007 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 51.214 | 0.060000 |
| 0.995 | 51.096 | 0.060000 |
| 1.990 | 50.780 | 0.060000 |

| | | |
|---|---|---|
| 2.984 | 50.434 | 0.060000 |
| 3.979 | 50.132 | 0.060000 |
| 4.974 | 49.792 | 0.060000 |
| 5.969 | 49.392 | 0.060000 |
| 6.963 | 48.985 | 0.060000 |
| 7.958 | 48.573 | 0.060000 |
| 8.953 | 48.197 | 0.060000 |
| 9.948 | 47.909 | 0.060000 |
| 10.942 | 47.623 | 0.060000 |
| 11.937 | 47.268 | 0.060000 |
| 12.932 | 46.930 | 0.060000 |
| 13.927 | 46.748 | 0.060000 |
| 14.921 | 46.433 | 0.060000 |
| 15.916 | 45.900 | 0.060000 |
| 16.911 | 45.187 | 0.060000 |
| 17.906 | 44.740 | 0.060000 |
| 18.900 | 44.655 | 0.060000 |
| 19.895 | 44.376 | 0.060000 |
| 20.890 | 43.930 | 0.060000 |
| 21.885 | 43.310 | 0.060000 |
| 22.879 | 42.687 | 0.060000 |
| 23.874 | 42.238 | 0.060000 |
| 24.869 | 41.921 | 0.060000 |
| 25.864 | 41.539 | 0.060000 |
| 26.858 | 41.180 | 0.060000 |
| 27.853 | 40.806 | 0.060000 |
| 28.848 | 40.343 | 0.060000 |
| 29.843 | 39.896 | 0.060000 |
| 30.837 | 39.544 | 0.060000 |
| 31.832 | 39.140 | 0.060000 |
| 32.827 | 38.655 | 0.060000 |
| 33.822 | 38.216 | 0.060000 |
| 34.816 | 37.879 | 0.060000 |
| 35.811 | 37.607 | 0.060000 |
| 36.806 | 37.228 | 0.060000 |
| 37.801 | 36.870 | 0.060000 |
| 38.795 | 36.657 | 0.060000 |
| 39.790 | 36.411 | 0.060000 |
| 40.785 | 35.947 | 0.060000 |
| 41.780 | 35.454 | 0.060000 |
| 42.775 | 35.125 | 0.060000 |
| 43.769 | 34.851 | 0.060000 |
| 44.764 | 34.595 | 0.060000 |
| 45.759 | 34.323 | 0.060000 |
| 46.754 | 34.059 | 0.060000 |
| 47.748 | 33.779 | 0.060000 |
| 48.743 | 33.482 | 0.060000 |
| 49.738 | 33.178 | 0.060000 |
| 50.733 | 33.080 | 0.060000 |
| 51.727 | 32.793 | 0.060000 |
| 52.722 | 32.558 | 0.060000 |
| 53.717 | 32.354 | 0.060000 |
| 54.712 | 32.030 | 0.060000 |
| 55.706 | 31.692 | 0.060000 |
| 56.701 | 31.351 | 0.060000 |
| 57.696 | 31.211 | 0.060000 |
| 58.691 | 31.251 | 0.060000 |
| 59.685 | 31.252 | 0.060000 |
| 60.680 | 31.253 | 0.060000 |
| 61.675 | 31.274 | 0.060000 |
| 62.670 | 31.417 | 0.060000 |
| 63.664 | 31.501 | 0.060000 |
| 64.659 | 31.563 | 0.060000 |
| 65.654 | 31.640 | 0.060000 |
| 66.649 | 31.719 | 0.060000 |
| 67.643 | 31.737 | 0.060000 |
| 68.638 | 31.642 | 0.060000 |
| 69.633 | 31.662 | 0.060000 |
| 70.628 | 31.707 | 0.060000 |
| 71.622 | 31.827 | 0.060000 |
| 72.617 | 31.827 | 0.060000 |
| 73.612 | 31.645 | 0.060000 |
| 74.607 | 31.534 | 0.060000 |
| 75.601 | 31.435 | 0.060000 |
| 76.596 | 31.324 | 0.060000 |
| 77.591 | 31.184 | 0.060000 |
| 78.586 | 30.973 | 0.060000 |
| 79.580 | 30.752 | 0.060000 |
| 80.575 | 30.764 | 0.060000 |
| 81.570 | 30.653 | 0.060000 |
| 82.565 | 30.785 | 0.060000 |
| 83.559 | 30.920 | 0.060000 |
| 84.554 | 31.177 | 0.060000 |
| 85.549 | 31.507 | 0.060000 |
| 86.544 | 32.362 | 0.060000 |
| 87.539 | 32.974 | 0.060000 |
| 88.533 | 33.108 | 0.060000 |
| 89.528 | 33.447 | 0.060000 |
| 90.523 | 34.351 | 0.060000 |

| | | |
|---|---|---|
| 91.518 | 35.192 | 0.060000 |
| 92.512 | 35.456 | 0.060000 |
| 93.507 | 35.724 | 0.060000 |
| 94.502 | 35.965 | 0.060000 |
| 95.497 | 36.122 | 0.060000 |
| 96.491 | 36.232 | 0.060000 |
| 97.486 | 36.303 | 0.060000 |
| 98.481 | 36.365 | 0.060000 |
| 99.476 | 36.394 | 0.060000 |
| 100.470 | 36.423 | 0.060000 |
| 101.465 | 36.434 | 0.060000 |
| 102.460 | 36.360 | 0.060000 |
| 103.455 | 36.228 | 0.060000 |
| 104.449 | 36.165 | 0.060000 |
| 105.444 | 36.148 | 0.060000 |
| 106.439 | 36.174 | 0.060000 |
| 107.434 | 36.263 | 0.060000 |
| 108.428 | 36.375 | 0.060000 |
| 109.423 | 36.425 | 0.060000 |
| 110.418 | 36.444 | 0.060000 |

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Name: X011 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 61.013 | 0.060000 |
| 0.994 | 60.768 | 0.060000 |
| 1.989 | 60.359 | 0.060000 |
| 2.983 | 60.016 | 0.060000 |
| 3.978 | 59.663 | 0.060000 |
| 4.972 | 59.264 | 0.060000 |
| 5.967 | 58.861 | 0.060000 |
| 6.961 | 58.564 | 0.060000 |
| 7.956 | 58.233 | 0.060000 |
| 8.950 | 57.948 | 0.060000 |
| 9.944 | 57.630 | 0.060000 |
| 10.939 | 57.359 | 0.060000 |
| 11.933 | 57.079 | 0.060000 |
| 12.928 | 56.855 | 0.060000 |
| 13.922 | 56.688 | 0.060000 |
| 14.917 | 56.425 | 0.060000 |
| 15.911 | 56.170 | 0.060000 |
| 16.906 | 56.001 | 0.060000 |
| 17.900 | 55.900 | 0.060000 |
| 18.894 | 55.631 | 0.060000 |
| 19.889 | 55.144 | 0.060000 |
| 20.883 | 54.753 | 0.060000 |
| 21.878 | 54.567 | 0.060000 |
| 22.872 | 54.367 | 0.060000 |
| 23.867 | 54.079 | 0.060000 |
| 24.861 | 53.675 | 0.060000 |
| 25.856 | 53.330 | 0.060000 |
| 26.850 | 53.040 | 0.060000 |
| 27.844 | 52.809 | 0.060000 |
| 28.839 | 52.549 | 0.060000 |
| 29.833 | 52.238 | 0.060000 |
| 30.828 | 51.912 | 0.060000 |
| 31.822 | 51.646 | 0.060000 |
| 32.817 | 51.345 | 0.060000 |
| 33.811 | 50.958 | 0.060000 |
| 34.806 | 50.708 | 0.060000 |
| 35.800 | 50.641 | 0.060000 |
| 36.794 | 50.505 | 0.060000 |
| 37.789 | 50.271 | 0.060000 |
| 38.783 | 50.102 | 0.060000 |
| 39.778 | 49.902 | 0.060000 |
| 40.772 | 49.638 | 0.060000 |
| 41.767 | 49.361 | 0.060000 |
| 42.761 | 49.038 | 0.060000 |
| 43.756 | 48.608 | 0.060000 |
| 44.750 | 48.273 | 0.060000 |
| 45.744 | 48.049 | 0.060000 |
| 46.739 | 47.743 | 0.060000 |
| 47.733 | 47.349 | 0.060000 |
| 48.728 | 47.109 | 0.060000 |
| 49.722 | 47.052 | 0.060000 |
| 50.717 | 46.999 | 0.060000 |
| 51.711 | 46.892 | 0.060000 |
| 52.706 | 46.846 | 0.060000 |
| 53.700 | 46.808 | 0.060000 |
| 54.694 | 46.632 | 0.060000 |
| 55.689 | 46.430 | 0.060000 |
| 56.683 | 46.399 | 0.060000 |
| 57.678 | 46.381 | 0.060000 |
| 58.672 | 46.335 | 0.060000 |

| | | |
|---|---|---|
| 59.667 | 46.364 | 0.060000 |
| 60.661 | 46.426 | 0.060000 |
| 61.656 | 46.381 | 0.060000 |
| 62.650 | 46.250 | 0.060000 |
| 63.644 | 46.246 | 0.060000 |
| 64.639 | 46.259 | 0.060000 |
| 65.633 | 46.256 | 0.060000 |
| 66.628 | 46.218 | 0.060000 |
| 67.622 | 46.244 | 0.060000 |
| 68.617 | 46.258 | 0.060000 |
| 69.611 | 46.190 | 0.060000 |
| 70.606 | 46.196 | 0.060000 |
| 71.600 | 46.267 | 0.060000 |
| 72.594 | 46.330 | 0.060000 |
| 73.589 | 46.429 | 0.060000 |
| 74.583 | 46.495 | 0.060000 |
| 75.578 | 46.466 | 0.060000 |
| 76.572 | 46.399 | 0.060000 |
| 77.567 | 46.290 | 0.060000 |
| 78.561 | 46.069 | 0.060000 |
| 79.556 | 45.866 | 0.060000 |
| 80.550 | 45.985 | 0.060000 |
| 81.544 | 46.345 | 0.060000 |
| 82.539 | 46.666 | 0.060000 |
| 83.533 | 46.902 | 0.060000 |
| 84.528 | 47.131 | 0.060000 |
| 85.522 | 47.367 | 0.060000 |
| 86.517 | 47.570 | 0.060000 |
| 87.511 | 47.957 | 0.060000 |
| 88.506 | 48.548 | 0.060000 |
| 89.500 | 48.998 | 0.060000 |
| 90.494 | 49.275 | 0.060000 |
| 91.489 | 49.504 | 0.060000 |
| 92.483 | 49.682 | 0.060000 |
| 93.478 | 49.846 | 0.060000 |
| 94.472 | 50.134 | 0.060000 |
| 95.467 | 50.639 | 0.060000 |
| 96.461 | 51.098 | 0.060000 |
| 97.456 | 51.241 | 0.060000 |
| 98.450 | 51.322 | 0.060000 |
| 99.444 | 51.671 | 0.060000 |
| 100.439 | 52.252 | 0.060000 |
| 101.433 | 52.723 | 0.060000 |
| 102.428 | 53.032 | 0.060000 |
| 103.422 | 53.298 | 0.060000 |
| 104.417 | 53.578 | 0.060000 |
| 105.411 | 53.748 | 0.060000 |
| 106.406 | 53.903 | 0.060000 |
| 107.400 | 54.156 | 0.060000 |
| 108.394 | 54.520 | 0.060000 |
| 109.389 | 54.886 | 0.060000 |
| 110.383 | 55.192 | 0.060000 |
| 111.378 | 55.514 | 0.060000 |

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Name: X012 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 59.976 | 0.060000 |
| 0.995 | 59.748 | 0.060000 |
| 1.989 | 59.629 | 0.060000 |
| 2.984 | 59.376 | 0.060000 |
| 3.979 | 59.087 | 0.060000 |
| 4.973 | 58.903 | 0.060000 |
| 5.968 | 58.651 | 0.060000 |
| 6.963 | 58.339 | 0.060000 |
| 7.957 | 58.001 | 0.060000 |
| 8.952 | 57.572 | 0.060000 |
| 9.946 | 57.218 | 0.060000 |
| 10.941 | 56.888 | 0.060000 |
| 11.936 | 56.664 | 0.060000 |
| 12.930 | 56.457 | 0.060000 |
| 13.925 | 56.217 | 0.060000 |
| 14.920 | 55.930 | 0.060000 |
| 15.914 | 55.608 | 0.060000 |
| 16.909 | 55.306 | 0.060000 |
| 17.904 | 55.006 | 0.060000 |
| 18.898 | 54.791 | 0.060000 |
| 19.893 | 54.519 | 0.060000 |
| 20.888 | 54.222 | 0.060000 |
| 21.882 | 53.974 | 0.060000 |
| 22.877 | 53.764 | 0.060000 |
| 23.872 | 53.499 | 0.060000 |
| 24.866 | 53.270 | 0.060000 |
| 25.861 | 53.005 | 0.060000 |

| | | |
|---|---|---|
| 26.856 | 52.696 | 0.060000 |
| 27.850 | 52.399 | 0.060000 |
| 28.845 | 52.131 | 0.060000 |
| 29.839 | 51.900 | 0.060000 |
| 30.834 | 51.630 | 0.060000 |
| 31.829 | 51.390 | 0.060000 |
| 32.823 | 51.183 | 0.060000 |
| 33.818 | 51.063 | 0.060000 |
| 34.813 | 50.893 | 0.060000 |
| 35.807 | 50.628 | 0.060000 |
| 36.802 | 50.324 | 0.060000 |
| 37.797 | 50.050 | 0.060000 |
| 38.791 | 49.955 | 0.060000 |
| 39.786 | 49.934 | 0.060000 |
| 40.781 | 50.105 | 0.060000 |
| 41.775 | 50.145 | 0.060000 |
| 42.770 | 50.105 | 0.060000 |
| 43.765 | 50.076 | 0.060000 |
| 44.759 | 49.905 | 0.060000 |
| 45.754 | 49.636 | 0.060000 |
| 46.748 | 49.428 | 0.060000 |
| 47.743 | 49.465 | 0.060000 |
| 48.738 | 49.749 | 0.060000 |
| 49.732 | 49.921 | 0.060000 |
| 50.727 | 50.068 | 0.060000 |
| 51.722 | 50.109 | 0.060000 |
| 52.716 | 50.059 | 0.060000 |
| 53.711 | 49.938 | 0.060000 |
| 54.706 | 49.808 | 0.060000 |
| 55.700 | 49.723 | 0.060000 |
| 56.695 | 49.602 | 0.060000 |
| 57.690 | 49.637 | 0.060000 |
| 58.684 | 49.894 | 0.060000 |
| 59.679 | 49.985 | 0.060000 |
| 60.674 | 50.016 | 0.060000 |
| 61.668 | 50.016 | 0.060000 |
| 62.663 | 49.921 | 0.060000 |
| 63.658 | 49.807 | 0.060000 |
| 64.652 | 49.817 | 0.060000 |
| 65.647 | 49.843 | 0.060000 |
| 66.641 | 49.865 | 0.060000 |
| 67.636 | 49.839 | 0.060000 |
| 68.631 | 49.735 | 0.060000 |
| 69.625 | 49.740 | 0.060000 |
| 70.620 | 49.826 | 0.060000 |
| 71.615 | 49.824 | 0.060000 |
| 72.609 | 49.698 | 0.060000 |
| 73.604 | 49.595 | 0.060000 |
| 74.599 | 49.505 | 0.060000 |
| 75.593 | 49.406 | 0.060000 |
| 76.588 | 49.336 | 0.060000 |
| 77.583 | 49.405 | 0.060000 |
| 78.577 | 49.464 | 0.060000 |
| 79.572 | 49.655 | 0.060000 |
| 80.567 | 49.853 | 0.060000 |
| 81.561 | 49.886 | 0.060000 |
| 82.556 | 49.728 | 0.060000 |
| 83.550 | 49.574 | 0.060000 |
| 84.545 | 49.400 | 0.060000 |
| 85.540 | 49.328 | 0.060000 |
| 86.534 | 49.322 | 0.060000 |
| 87.529 | 49.445 | 0.060000 |
| 88.524 | 49.638 | 0.060000 |
| 89.518 | 49.839 | 0.060000 |
| 90.513 | 50.083 | 0.060000 |
| 91.508 | 50.350 | 0.060000 |
| 92.502 | 50.688 | 0.060000 |
| 93.497 | 50.955 | 0.060000 |
| 94.492 | 51.159 | 0.060000 |
| 95.486 | 51.365 | 0.060000 |
| 96.481 | 51.589 | 0.060000 |
| 97.476 | 51.984 | 0.060000 |
| 98.470 | 52.371 | 0.060000 |
| 99.465 | 52.545 | 0.060000 |
| 100.460 | 52.435 | 0.060000 |
| 101.454 | 52.621 | 0.060000 |
| 102.449 | 52.933 | 0.060000 |
| 103.443 | 53.338 | 0.060000 |
| 104.438 | 53.705 | 0.060000 |
| 105.433 | 54.014 | 0.060000 |
| 106.427 | 54.306 | 0.060000 |
| 107.422 | 54.601 | 0.060000 |
| 108.417 | 54.942 | 0.060000 |
| 109.411 | 55.284 | 0.060000 |
| 110.406 | 55.524 | 0.060000 |
| 111.401 | 55.784 | 0.060000 |
| 112.395 | 56.093 | 0.060000 |
| 113.390 | 56.438 | 0.060000 |
| 114.385 | 56.798 | 0.060000 |

| | | |
|---|---|---|
| 115.379 | 57.166 | 0.060000 |
| 116.374 | 57.513 | 0.060000 |
| 117.369 | 57.934 | 0.060000 |
| 118.363 | 58.330 | 0.060000 |
| 119.358 | 58.710 | 0.060000 |
| 120.352 | 59.123 | 0.060000 |
| 121.347 | 59.468 | 0.060000 |
| 122.342 | 59.712 | 0.060000 |
| 123.336 | 59.960 | 0.060000 |
| 124.331 | 60.289 | 0.060000 |
| 125.326 | 60.803 | 0.060000 |
| 126.320 | 61.357 | 0.060000 |

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Name: X013W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 40.320 | 0.000000 |
| 0.990 | 39.790 | 0.000000 |
| 1.990 | 39.570 | 0.000000 |
| 2.980 | 39.400 | 0.000000 |
| 3.970 | 39.330 | 0.000000 |
| 4.960 | 39.120 | 0.000000 |
| 5.960 | 38.760 | 0.000000 |
| 6.950 | 38.260 | 0.000000 |
| 7.940 | 38.330 | 0.000000 |
| 8.930 | 38.450 | 0.000000 |
| 9.930 | 38.440 | 0.000000 |
| 10.920 | 38.430 | 0.000000 |
| 11.890 | 38.420 | 0.000000 |
| 12.860 | 38.450 | 0.000000 |
| 13.830 | 38.360 | 0.000000 |
| 14.800 | 38.210 | 0.000000 |
| 15.770 | 38.110 | 0.000000 |
| 16.750 | 38.160 | 0.000000 |
| 17.720 | 38.260 | 0.000000 |
| 18.690 | 38.410 | 0.000000 |
| 19.660 | 38.560 | 0.000000 |
| 20.630 | 38.540 | 0.000000 |
| 21.600 | 38.410 | 0.000000 |
| 22.570 | 38.300 | 0.000000 |
| 23.540 | 38.300 | 0.000000 |
| 24.510 | 38.310 | 0.000000 |
| 25.480 | 38.350 | 0.000000 |
| 26.460 | 38.340 | 0.000000 |
| 27.430 | 38.240 | 0.000000 |

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Name: X015 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 46.010 | 0.060000 |
| 0.988 | 45.571 | 0.060000 |
| 1.975 | 44.994 | 0.060000 |
| 2.963 | 44.367 | 0.060000 |
| 3.950 | 43.887 | 0.060000 |
| 4.938 | 43.527 | 0.060000 |
| 5.925 | 43.178 | 0.060000 |
| 6.913 | 42.837 | 0.060000 |
| 7.900 | 42.468 | 0.060000 |
| 8.888 | 42.033 | 0.060000 |
| 9.875 | 41.666 | 0.060000 |
| 10.863 | 41.356 | 0.060000 |
| 11.850 | 41.008 | 0.060000 |
| 12.838 | 40.606 | 0.060000 |
| 13.825 | 40.233 | 0.060000 |
| 14.813 | 39.924 | 0.060000 |
| 15.800 | 39.615 | 0.060000 |
| 16.788 | 39.248 | 0.060000 |
| 17.775 | 38.844 | 0.060000 |
| 18.763 | 38.466 | 0.060000 |
| 19.750 | 38.108 | 0.060000 |
| 20.738 | 37.784 | 0.060000 |
| 21.725 | 37.520 | 0.060000 |
| 22.713 | 37.276 | 0.060000 |
| 23.700 | 37.046 | 0.060000 |
| 24.688 | 36.845 | 0.060000 |
| 25.675 | 36.689 | 0.060000 |
| 26.663 | 36.554 | 0.060000 |
| 27.650 | 36.329 | 0.060000 |
| 28.638 | 35.997 | 0.060000 |

| | | |
|---|---|---|
| 29.625 | 35.656 | 0.060000 |
| 30.613 | 35.283 | 0.060000 |
| 31.600 | 34.864 | 0.060000 |
| 32.588 | 34.557 | 0.060000 |
| 33.575 | 34.473 | 0.060000 |
| 34.563 | 34.388 | 0.060000 |
| 35.550 | 34.034 | 0.060000 |
| 36.538 | 33.872 | 0.060000 |
| 37.525 | 34.133 | 0.060000 |
| 38.513 | 34.470 | 0.060000 |
| 39.500 | 34.820 | 0.060000 |
| 40.488 | 35.058 | 0.060000 |
| 41.475 | 35.342 | 0.060000 |
| 42.463 | 35.607 | 0.060000 |
| 43.450 | 35.826 | 0.060000 |
| 44.438 | 36.058 | 0.060000 |
| 45.425 | 36.285 | 0.060000 |
| 46.413 | 36.315 | 0.060000 |
| 47.400 | 36.290 | 0.060000 |
| 48.388 | 36.369 | 0.060000 |
| 49.375 | 36.942 | 0.060000 |
| 50.363 | 37.471 | 0.060000 |
| 51.350 | 37.869 | 0.060000 |
| 52.338 | 38.264 | 0.060000 |
| 53.325 | 38.720 | 0.060000 |
| 54.313 | 39.169 | 0.060000 |
| 55.300 | 39.420 | 0.060000 |
| 56.288 | 39.479 | 0.060000 |
| 57.275 | 39.524 | 0.060000 |
| 58.263 | 39.572 | 0.060000 |
| 59.250 | 39.609 | 0.060000 |
| 60.238 | 39.557 | 0.060000 |
| 61.225 | 39.491 | 0.060000 |
| 62.213 | 39.480 | 0.060000 |
| 63.200 | 39.431 | 0.060000 |
| 64.188 | 39.298 | 0.060000 |
| 65.175 | 39.114 | 0.060000 |
| 66.163 | 38.986 | 0.060000 |
| 67.150 | 39.017 | 0.060000 |
| 68.138 | 39.090 | 0.060000 |
| 69.125 | 39.110 | 0.060000 |
| 70.113 | 39.056 | 0.060000 |
| 71.100 | 38.973 | 0.060000 |
| 72.088 | 38.966 | 0.060000 |
| 73.075 | 39.044 | 0.060000 |
| 74.063 | 39.118 | 0.060000 |
| 75.050 | 39.120 | 0.060000 |
| 76.038 | 39.069 | 0.060000 |

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Name: X017 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 30.478 | 0.060000 |
| 0.993 | 30.030 | 0.060000 |
| 1.986 | 29.596 | 0.060000 |
| 2.979 | 29.218 | 0.060000 |
| 3.972 | 28.776 | 0.060000 |
| 4.965 | 28.298 | 0.060000 |
| 5.958 | 27.983 | 0.060000 |
| 6.951 | 27.717 | 0.060000 |
| 7.944 | 27.407 | 0.060000 |
| 8.937 | 27.069 | 0.060000 |
| 9.930 | 26.722 | 0.060000 |
| 10.923 | 26.280 | 0.060000 |
| 11.916 | 25.846 | 0.060000 |
| 12.909 | 25.515 | 0.060000 |
| 13.902 | 25.270 | 0.060000 |
| 14.895 | 25.018 | 0.060000 |
| 15.888 | 24.737 | 0.060000 |
| 16.881 | 24.422 | 0.060000 |
| 17.874 | 24.126 | 0.060000 |
| 18.867 | 23.639 | 0.060000 |
| 19.860 | 23.210 | 0.060000 |
| 20.853 | 22.900 | 0.060000 |
| 21.846 | 22.740 | 0.060000 |
| 22.839 | 22.568 | 0.060000 |
| 23.833 | 22.325 | 0.060000 |
| 24.826 | 22.126 | 0.060000 |
| 25.819 | 21.832 | 0.060000 |
| 26.812 | 21.490 | 0.060000 |
| 27.805 | 21.063 | 0.060000 |
| 28.798 | 20.883 | 0.060000 |
| 29.791 | 20.824 | 0.060000 |
| 30.784 | 20.841 | 0.060000 |

| | | |
|---|---|---|
| 31.777 | 20.805 | 0.060000 |
| 32.770 | 20.347 | 0.060000 |
| 33.763 | 19.553 | 0.060000 |
| 34.756 | 19.125 | 0.060000 |
| 35.749 | 18.867 | 0.060000 |
| 36.742 | 18.778 | 0.060000 |
| 37.735 | 18.666 | 0.060000 |
| 38.728 | 18.668 | 0.060000 |
| 39.721 | 18.903 | 0.060000 |
| 40.714 | 18.905 | 0.060000 |
| 41.707 | 19.045 | 0.060000 |
| 42.700 | 19.119 | 0.060000 |
| 43.693 | 19.156 | 0.060000 |
| 44.686 | 19.141 | 0.060000 |
| 45.679 | 19.381 | 0.060000 |
| 46.672 | 20.038 | 0.060000 |
| 47.665 | 20.884 | 0.060000 |
| 48.658 | 21.631 | 0.060000 |
| 49.651 | 22.113 | 0.060000 |
| 50.644 | 22.254 | 0.060000 |
| 51.637 | 22.371 | 0.060000 |
| 52.630 | 22.573 | 0.060000 |
| 53.623 | 22.675 | 0.060000 |
| 54.616 | 22.688 | 0.060000 |
| 55.609 | 22.738 | 0.060000 |
| 56.602 | 22.760 | 0.060000 |
| 57.595 | 22.774 | 0.060000 |
| 58.588 | 22.732 | 0.060000 |
| 59.581 | 22.709 | 0.060000 |
| 60.574 | 22.844 | 0.060000 |
| 61.567 | 23.079 | 0.060000 |
| 62.560 | 23.314 | 0.060000 |
| 63.553 | 23.497 | 0.060000 |
| 64.546 | 23.676 | 0.060000 |
| 65.539 | 23.860 | 0.060000 |
| 66.532 | 24.073 | 0.060000 |
| 67.525 | 24.352 | 0.060000 |
| 68.518 | 24.538 | 0.060000 |
| 69.511 | 24.617 | 0.060000 |
| 70.504 | 24.631 | 0.060000 |
| 71.497 | 24.592 | 0.060000 |
| 72.491 | 24.666 | 0.060000 |
| 73.484 | 24.752 | 0.060000 |
| 74.477 | 24.776 | 0.060000 |
| 75.470 | 24.764 | 0.060000 |
| 76.463 | 24.721 | 0.060000 |
| 77.456 | 24.734 | 0.060000 |
| 78.449 | 24.840 | 0.060000 |
| 79.442 | 24.945 | 0.060000 |
| 80.435 | 24.923 | 0.060000 |
| 81.428 | 24.839 | 0.060000 |
| 82.421 | 24.778 | 0.060000 |

---

Name: X018 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 33.783 | 0.060000 |
| 0.991 | 33.814 | 0.060000 |
| 1.982 | 33.870 | 0.060000 |
| 2.973 | 33.882 | 0.060000 |
| 3.964 | 33.893 | 0.060000 |
| 4.955 | 33.911 | 0.060000 |
| 5.946 | 33.873 | 0.060000 |
| 6.937 | 33.758 | 0.060000 |
| 7.928 | 33.618 | 0.060000 |
| 8.920 | 33.462 | 0.060000 |
| 9.911 | 33.237 | 0.060000 |
| 10.902 | 32.975 | 0.060000 |
| 11.893 | 32.719 | 0.060000 |
| 12.884 | 32.511 | 0.060000 |
| 13.875 | 32.308 | 0.060000 |
| 14.866 | 32.069 | 0.060000 |
| 15.857 | 31.764 | 0.060000 |
| 16.848 | 31.372 | 0.060000 |
| 17.839 | 30.916 | 0.060000 |
| 18.830 | 30.617 | 0.060000 |
| 19.821 | 30.341 | 0.060000 |
| 20.812 | 30.107 | 0.060000 |
| 21.803 | 29.879 | 0.060000 |
| 22.794 | 29.597 | 0.060000 |
| 23.785 | 29.124 | 0.060000 |
| 24.776 | 28.737 | 0.060000 |
| 25.767 | 28.278 | 0.060000 |
| 26.759 | 27.884 | 0.060000 |

| | | |
|---|---|---|
| 27.750 | 27.509 | 0.060000 |
| 28.741 | 27.153 | 0.060000 |
| 29.732 | 26.861 | 0.060000 |
| 30.723 | 26.555 | 0.060000 |
| 31.714 | 26.269 | 0.060000 |
| 32.705 | 26.001 | 0.060000 |
| 33.696 | 25.704 | 0.060000 |
| 34.687 | 25.378 | 0.060000 |
| 35.678 | 24.886 | 0.060000 |
| 36.669 | 24.510 | 0.060000 |
| 37.660 | 24.307 | 0.060000 |
| 38.651 | 24.164 | 0.060000 |
| 39.642 | 23.944 | 0.060000 |
| 40.633 | 23.407 | 0.060000 |
| 41.624 | 22.974 | 0.060000 |
| 42.615 | 22.746 | 0.060000 |
| 43.606 | 22.616 | 0.060000 |
| 44.598 | 22.461 | 0.060000 |
| 45.589 | 22.303 | 0.060000 |
| 46.580 | 22.080 | 0.060000 |
| 47.571 | 21.757 | 0.060000 |
| 48.562 | 21.389 | 0.060000 |
| 49.553 | 21.211 | 0.060000 |
| 50.544 | 21.381 | 0.060000 |
| 51.535 | 21.091 | 0.060000 |
| 52.526 | 20.906 | 0.060000 |
| 53.517 | 20.732 | 0.060000 |
| 54.508 | 20.404 | 0.060000 |
| 55.499 | 20.166 | 0.060000 |
| 56.490 | 19.916 | 0.060000 |
| 57.481 | 19.626 | 0.060000 |
| 58.472 | 19.474 | 0.060000 |
| 59.463 | 19.388 | 0.060000 |
| 60.454 | 19.338 | 0.060000 |
| 61.446 | 19.321 | 0.060000 |
| 62.437 | 19.267 | 0.060000 |
| 63.428 | 19.215 | 0.060000 |
| 64.419 | 19.199 | 0.060000 |
| 65.410 | 19.271 | 0.060000 |
| 66.401 | 19.444 | 0.060000 |
| 67.392 | 19.724 | 0.060000 |
| 68.383 | 19.959 | 0.060000 |
| 69.374 | 20.155 | 0.060000 |
| 70.365 | 20.517 | 0.060000 |
| 71.356 | 21.000 | 0.060000 |
| 72.347 | 21.332 | 0.060000 |
| 73.338 | 21.704 | 0.060000 |
| 74.329 | 22.103 | 0.060000 |
| 75.320 | 22.545 | 0.060000 |
| 76.311 | 22.906 | 0.060000 |
| 77.302 | 23.082 | 0.060000 |
| 78.293 | 23.218 | 0.060000 |
| 79.285 | 23.312 | 0.060000 |
| 80.276 | 23.372 | 0.060000 |
| 81.267 | 23.445 | 0.060000 |
| 82.258 | 23.580 | 0.060000 |
| 83.249 | 23.744 | 0.060000 |
| 84.240 | 23.983 | 0.060000 |
| 85.231 | 24.247 | 0.060000 |
| 86.222 | 24.396 | 0.060000 |
| 87.213 | 24.479 | 0.060000 |
| 88.204 | 24.476 | 0.060000 |
| 89.195 | 24.415 | 0.060000 |
| 90.186 | 24.365 | 0.060000 |
| 91.177 | 24.356 | 0.060000 |
| 92.168 | 24.391 | 0.060000 |
| 93.159 | 24.427 | 0.060000 |
| 94.150 | 24.428 | 0.060000 |
| 95.141 | 24.406 | 0.060000 |

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Name: X019 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 26.287 | 0.060000 |
| 0.992 | 25.881 | 0.060000 |
| 1.984 | 25.638 | 0.060000 |
| 2.976 | 25.519 | 0.060000 |
| 3.969 | 25.244 | 0.060000 |
| 4.961 | 24.921 | 0.060000 |
| 5.953 | 24.473 | 0.060000 |
| 6.945 | 24.015 | 0.060000 |
| 7.937 | 23.541 | 0.060000 |
| 8.929 | 23.322 | 0.060000 |
| 9.921 | 23.126 | 0.060000 |

| | | |
|---|---|---|
| 10.913 | 22.870 | 0.060000 |
| 11.906 | 22.706 | 0.060000 |
| 12.898 | 22.425 | 0.060000 |
| 13.890 | 21.954 | 0.060000 |
| 14.882 | 21.485 | 0.060000 |
| 15.874 | 21.140 | 0.060000 |
| 16.866 | 20.946 | 0.060000 |
| 17.858 | 20.948 | 0.060000 |
| 18.851 | 20.836 | 0.060000 |
| 19.843 | 20.300 | 0.060000 |
| 20.835 | 19.696 | 0.060000 |
| 21.827 | 19.365 | 0.060000 |
| 22.819 | 19.242 | 0.060000 |
| 23.811 | 19.241 | 0.060000 |
| 24.803 | 19.293 | 0.060000 |
| 25.795 | 19.459 | 0.060000 |
| 26.788 | 19.498 | 0.060000 |
| 27.780 | 19.500 | 0.060000 |
| 28.772 | 19.500 | 0.060000 |
| 29.764 | 19.533 | 0.060000 |
| 30.756 | 19.571 | 0.060000 |
| 31.748 | 19.637 | 0.060000 |
| 32.740 | 19.788 | 0.060000 |
| 33.732 | 19.789 | 0.060000 |
| 34.725 | 20.091 | 0.060000 |
| 35.717 | 20.425 | 0.060000 |
| 36.709 | 20.575 | 0.060000 |
| 37.701 | 20.702 | 0.060000 |
| 38.693 | 20.991 | 0.060000 |
| 39.685 | 21.342 | 0.060000 |
| 40.677 | 21.584 | 0.060000 |
| 41.670 | 21.786 | 0.060000 |
| 42.662 | 21.825 | 0.060000 |
| 43.654 | 21.927 | 0.060000 |
| 44.646 | 22.041 | 0.060000 |
| 45.638 | 22.202 | 0.060000 |
| 46.630 | 22.440 | 0.060000 |
| 47.622 | 22.763 | 0.060000 |
| 48.614 | 23.113 | 0.060000 |
| 49.607 | 23.378 | 0.060000 |
| 50.599 | 23.568 | 0.060000 |
| 51.591 | 23.762 | 0.060000 |
| 52.583 | 23.996 | 0.060000 |
| 53.575 | 24.224 | 0.060000 |
| 54.567 | 24.381 | 0.060000 |
| 55.559 | 24.435 | 0.060000 |
| 56.551 | 24.421 | 0.060000 |
| 57.544 | 24.446 | 0.060000 |
| 58.536 | 24.505 | 0.060000 |
| 59.528 | 24.575 | 0.060000 |

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Name: X020 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 37.372 | 0.060000 |
| 0.997 | 37.385 | 0.060000 |
| 1.995 | 37.372 | 0.060000 |
| 2.992 | 37.316 | 0.060000 |
| 3.989 | 37.233 | 0.060000 |
| 4.987 | 37.164 | 0.060000 |
| 5.984 | 37.128 | 0.060000 |
| 6.982 | 37.158 | 0.060000 |
| 7.979 | 37.004 | 0.060000 |
| 8.976 | 36.693 | 0.060000 |
| 9.974 | 36.301 | 0.060000 |
| 10.971 | 35.919 | 0.060000 |
| 11.968 | 35.532 | 0.060000 |
| 12.966 | 35.132 | 0.060000 |
| 13.963 | 34.718 | 0.060000 |
| 14.961 | 34.378 | 0.060000 |
| 15.958 | 34.077 | 0.060000 |
| 16.955 | 33.770 | 0.060000 |
| 17.953 | 33.411 | 0.060000 |
| 18.950 | 33.005 | 0.060000 |
| 19.947 | 32.619 | 0.060000 |
| 20.945 | 32.162 | 0.060000 |
| 21.942 | 31.785 | 0.060000 |
| 22.939 | 31.489 | 0.060000 |
| 23.937 | 31.158 | 0.060000 |
| 24.934 | 30.817 | 0.060000 |
| 25.932 | 30.454 | 0.060000 |
| 26.929 | 30.162 | 0.060000 |
| 27.926 | 29.678 | 0.060000 |
| 28.924 | 29.136 | 0.060000 |

| | | |
|---|---|---|
| 29.921 | 28.642 | 0.060000 |
| 30.918 | 28.219 | 0.060000 |
| 31.916 | 27.934 | 0.060000 |
| 32.913 | 27.743 | 0.060000 |
| 33.910 | 27.498 | 0.060000 |
| 34.908 | 27.156 | 0.060000 |
| 35.905 | 26.767 | 0.060000 |
| 36.903 | 26.341 | 0.060000 |
| 37.900 | 25.912 | 0.060000 |
| 38.897 | 25.525 | 0.060000 |
| 39.895 | 25.334 | 0.060000 |
| 40.892 | 25.074 | 0.060000 |
| 41.889 | 24.698 | 0.060000 |
| 42.887 | 24.323 | 0.060000 |
| 43.884 | 23.980 | 0.060000 |
| 44.882 | 23.676 | 0.060000 |
| 45.879 | 23.397 | 0.060000 |
| 46.876 | 23.387 | 0.060000 |
| 47.874 | 23.340 | 0.060000 |
| 48.871 | 22.943 | 0.060000 |
| 49.868 | 22.683 | 0.060000 |
| 50.866 | 22.506 | 0.060000 |
| 51.863 | 22.408 | 0.060000 |
| 52.860 | 22.248 | 0.060000 |
| 53.858 | 22.032 | 0.060000 |
| 54.855 | 21.745 | 0.060000 |
| 55.853 | 21.426 | 0.060000 |
| 56.850 | 21.057 | 0.060000 |
| 57.847 | 20.750 | 0.060000 |
| 58.845 | 20.411 | 0.060000 |
| 59.842 | 20.229 | 0.060000 |
| 60.839 | 20.208 | 0.060000 |
| 61.837 | 20.305 | 0.060000 |
| 62.834 | 20.330 | 0.060000 |
| 63.832 | 20.291 | 0.060000 |
| 64.829 | 20.254 | 0.060000 |
| 65.826 | 20.219 | 0.060000 |
| 66.824 | 20.178 | 0.060000 |
| 67.821 | 20.136 | 0.060000 |
| 68.818 | 20.088 | 0.060000 |
| 69.816 | 20.032 | 0.060000 |
| 70.813 | 19.960 | 0.060000 |
| 71.810 | 19.975 | 0.060000 |
| 72.808 | 20.299 | 0.060000 |
| 73.805 | 20.657 | 0.060000 |
| 74.803 | 20.953 | 0.060000 |
| 75.800 | 21.146 | 0.060000 |
| 76.797 | 21.501 | 0.060000 |
| 77.795 | 21.812 | 0.060000 |
| 78.792 | 22.180 | 0.060000 |
| 79.789 | 22.477 | 0.060000 |
| 80.787 | 22.607 | 0.060000 |
| 81.784 | 22.902 | 0.060000 |
| 82.781 | 23.357 | 0.060000 |
| 83.779 | 23.734 | 0.060000 |
| 84.776 | 24.029 | 0.060000 |
| 85.774 | 24.348 | 0.060000 |
| 86.771 | 24.776 | 0.060000 |
| 87.768 | 25.253 | 0.060000 |
| 88.766 | 25.642 | 0.060000 |
| 89.763 | 25.964 | 0.060000 |
| 90.760 | 26.257 | 0.060000 |
| 91.758 | 26.615 | 0.060000 |
| 92.755 | 27.026 | 0.060000 |
| 93.753 | 27.392 | 0.060000 |
| 94.750 | 27.748 | 0.060000 |
| 95.747 | 28.153 | 0.060000 |
| 96.745 | 28.633 | 0.060000 |
| 97.742 | 29.129 | 0.060000 |
| 98.739 | 29.558 | 0.060000 |
| 99.737 | 29.892 | 0.060000 |
| 100.734 | 30.172 | 0.060000 |
| 101.731 | 30.443 | 0.060000 |
| 102.729 | 30.706 | 0.060000 |
| 103.726 | 30.903 | 0.060000 |
| 104.724 | 30.989 | 0.060000 |
| 105.721 | 31.268 | 0.060000 |
| 106.718 | 31.814 | 0.060000 |
| 107.716 | 32.301 | 0.060000 |
| 108.713 | 32.869 | 0.060000 |
| 109.710 | 33.542 | 0.060000 |
| 110.708 | 33.972 | 0.060000 |
| 111.705 | 33.911 | 0.060000 |
| 112.703 | 33.611 | 0.060000 |
| 113.700 | 33.482 | 0.060000 |
| 114.697 | 33.399 | 0.060000 |
| 115.695 | 33.264 | 0.060000 |
| 116.692 | 33.166 | 0.060000 |

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Name: X021 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 43.508 | 0.060000 |
| 0.993 | 43.273 | 0.060000 |
| 1.987 | 42.996 | 0.060000 |
| 2.980 | 42.667 | 0.060000 |
| 3.974 | 42.301 | 0.060000 |
| 4.967 | 41.957 | 0.060000 |
| 5.961 | 41.671 | 0.060000 |
| 6.954 | 41.400 | 0.060000 |
| 7.948 | 41.080 | 0.060000 |
| 8.941 | 40.685 | 0.060000 |
| 9.935 | 40.281 | 0.060000 |
| 10.928 | 39.912 | 0.060000 |
| 11.922 | 39.498 | 0.060000 |
| 12.915 | 39.178 | 0.060000 |
| 13.909 | 38.965 | 0.060000 |
| 14.902 | 38.673 | 0.060000 |
| 15.896 | 38.279 | 0.060000 |
| 16.889 | 37.830 | 0.060000 |
| 17.883 | 37.370 | 0.060000 |
| 18.876 | 36.835 | 0.060000 |
| 19.870 | 36.414 | 0.060000 |
| 20.863 | 36.220 | 0.060000 |
| 21.857 | 35.949 | 0.060000 |
| 22.850 | 35.559 | 0.060000 |
| 23.844 | 35.172 | 0.060000 |
| 24.837 | 34.782 | 0.060000 |
| 25.831 | 34.504 | 0.060000 |
| 26.824 | 34.294 | 0.060000 |
| 27.818 | 34.088 | 0.060000 |
| 28.811 | 33.800 | 0.060000 |
| 29.805 | 33.372 | 0.060000 |
| 30.798 | 32.957 | 0.060000 |
| 31.792 | 32.651 | 0.060000 |
| 32.785 | 32.545 | 0.060000 |
| 33.779 | 32.389 | 0.060000 |
| 34.772 | 32.094 | 0.060000 |
| 35.766 | 31.992 | 0.060000 |
| 36.759 | 31.842 | 0.060000 |
| 37.753 | 31.821 | 0.060000 |
| 38.746 | 31.955 | 0.060000 |
| 39.740 | 32.069 | 0.060000 |
| 40.733 | 31.951 | 0.060000 |
| 41.727 | 32.162 | 0.060000 |
| 42.720 | 32.336 | 0.060000 |
| 43.714 | 32.469 | 0.060000 |
| 44.707 | 32.754 | 0.060000 |
| 45.701 | 33.100 | 0.060000 |
| 46.694 | 33.496 | 0.060000 |
| 47.688 | 33.842 | 0.060000 |
| 48.681 | 34.145 | 0.060000 |
| 49.675 | 34.448 | 0.060000 |
| 50.668 | 34.749 | 0.060000 |
| 51.662 | 35.024 | 0.060000 |
| 52.655 | 35.207 | 0.060000 |
| 53.649 | 35.311 | 0.060000 |
| 54.642 | 35.381 | 0.060000 |
| 55.636 | 35.426 | 0.060000 |
| 56.629 | 35.429 | 0.060000 |
| 57.623 | 35.369 | 0.060000 |
| 58.616 | 35.250 | 0.060000 |
| 59.610 | 35.147 | 0.060000 |
| 60.603 | 35.101 | 0.060000 |
| 61.597 | 35.113 | 0.060000 |
| 62.590 | 35.113 | 0.060000 |
| 63.584 | 35.077 | 0.060000 |
| 64.577 | 35.013 | 0.060000 |
| 65.570 | 34.922 | 0.060000 |
| 66.564 | 34.863 | 0.060000 |
| 67.557 | 34.853 | 0.060000 |
| 68.551 | 34.811 | 0.060000 |
| 69.544 | 34.702 | 0.060000 |
| 70.538 | 34.557 | 0.060000 |

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Name: X022 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|

| | | |
|---|---|---|
| 0.000 | 36.881 | 0.060000 |
| 0.984 | 36.509 | 0.060000 |
| 1.969 | 36.162 | 0.060000 |
| 2.953 | 35.871 | 0.060000 |
| 3.938 | 35.665 | 0.060000 |
| 4.922 | 35.459 | 0.060000 |
| 5.907 | 35.196 | 0.060000 |
| 6.891 | 34.857 | 0.060000 |
| 7.876 | 34.413 | 0.060000 |
| 8.860 | 33.999 | 0.060000 |
| 9.845 | 33.678 | 0.060000 |
| 10.829 | 33.483 | 0.060000 |
| 11.814 | 33.258 | 0.060000 |
| 12.798 | 32.857 | 0.060000 |
| 13.783 | 32.454 | 0.060000 |
| 14.767 | 32.074 | 0.060000 |
| 15.752 | 31.720 | 0.060000 |
| 16.736 | 31.375 | 0.060000 |
| 17.721 | 31.084 | 0.060000 |
| 18.705 | 30.772 | 0.060000 |
| 19.689 | 30.494 | 0.060000 |
| 20.674 | 30.242 | 0.060000 |
| 21.658 | 29.953 | 0.060000 |
| 22.643 | 29.618 | 0.060000 |
| 23.627 | 29.355 | 0.060000 |
| 24.612 | 29.336 | 0.060000 |
| 25.596 | 29.449 | 0.060000 |
| 26.581 | 29.488 | 0.060000 |
| 27.565 | 29.425 | 0.060000 |
| 28.550 | 29.378 | 0.060000 |
| 29.534 | 29.329 | 0.060000 |
| 30.519 | 29.442 | 0.060000 |
| 31.503 | 29.667 | 0.060000 |
| 32.488 | 29.849 | 0.060000 |
| 33.472 | 30.057 | 0.060000 |
| 34.457 | 30.312 | 0.060000 |
| 35.441 | 30.582 | 0.060000 |
| 36.426 | 30.859 | 0.060000 |
| 37.410 | 31.181 | 0.060000 |
| 38.395 | 31.488 | 0.060000 |
| 39.379 | 31.826 | 0.060000 |
| 40.363 | 32.138 | 0.060000 |
| 41.348 | 32.394 | 0.060000 |
| 42.332 | 32.686 | 0.060000 |
| 43.317 | 33.007 | 0.060000 |
| 44.301 | 33.286 | 0.060000 |
| 45.286 | 33.472 | 0.060000 |
| 46.270 | 33.548 | 0.060000 |
| 47.255 | 33.551 | 0.060000 |
| 48.239 | 33.538 | 0.060000 |
| 49.224 | 33.513 | 0.060000 |
| 50.208 | 33.459 | 0.060000 |
| 51.193 | 33.389 | 0.060000 |
| 52.177 | 33.332 | 0.060000 |
| 53.162 | 33.289 | 0.060000 |
| 54.146 | 33.262 | 0.060000 |
| 55.131 | 33.236 | 0.060000 |
| 56.115 | 33.196 | 0.060000 |
| 57.100 | 33.169 | 0.060000 |
| 58.084 | 33.179 | 0.060000 |
| 59.068 | 33.198 | 0.060000 |
| 60.053 | 33.213 | 0.060000 |
| 61.037 | 33.211 | 0.060000 |
| 62.022 | 33.203 | 0.060000 |

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Name: X024 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 61.000

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 36.763 | 0.060000 |
| 1.000 | 36.414 | 0.060000 |
| 1.999 | 36.107 | 0.060000 |
| 2.999 | 35.829 | 0.060000 |
| 3.998 | 35.498 | 0.060000 |
| 4.998 | 35.034 | 0.060000 |
| 5.997 | 34.553 | 0.060000 |
| 6.997 | 34.113 | 0.060000 |
| 7.996 | 33.652 | 0.060000 |
| 8.996 | 33.200 | 0.060000 |
| 9.995 | 32.727 | 0.060000 |
| 10.995 | 32.278 | 0.060000 |
| 11.994 | 31.917 | 0.060000 |
| 12.994 | 31.571 | 0.060000 |
| 13.993 | 31.261 | 0.060000 |

| | | |
|---|---|---|
| 14.993 | 30.978 | 0.060000 |
| 15.992 | 30.677 | 0.060000 |
| 16.992 | 30.379 | 0.060000 |
| 17.991 | 30.097 | 0.060000 |
| 18.991 | 29.825 | 0.060000 |
| 19.990 | 29.532 | 0.060000 |
| 20.990 | 29.226 | 0.060000 |
| 21.989 | 28.931 | 0.060000 |
| 22.989 | 28.563 | 0.060000 |
| 23.988 | 28.168 | 0.060000 |
| 24.988 | 27.857 | 0.060000 |
| 25.987 | 27.569 | 0.060000 |
| 26.987 | 27.231 | 0.060000 |
| 27.986 | 26.882 | 0.060000 |
| 28.986 | 26.572 | 0.060000 |
| 29.985 | 26.320 | 0.060000 |
| 30.985 | 26.159 | 0.060000 |
| 31.984 | 26.065 | 0.060000 |
| 32.984 | 26.026 | 0.060000 |
| 33.983 | 26.032 | 0.060000 |
| 34.983 | 26.050 | 0.060000 |
| 35.982 | 26.083 | 0.060000 |
| 36.982 | 26.116 | 0.060000 |
| 37.981 | 26.149 | 0.060000 |
| 38.981 | 26.145 | 0.060000 |
| 39.980 | 26.086 | 0.060000 |
| 40.980 | 26.018 | 0.060000 |
| 41.979 | 25.985 | 0.060000 |
| 42.979 | 25.989 | 0.060000 |
| 43.978 | 26.042 | 0.060000 |
| 44.978 | 26.210 | 0.060000 |
| 45.977 | 26.299 | 0.060000 |
| 46.977 | 26.308 | 0.060000 |
| 47.976 | 26.412 | 0.060000 |
| 48.976 | 26.569 | 0.060000 |
| 49.975 | 26.745 | 0.060000 |
| 50.975 | 26.953 | 0.060000 |
| 51.974 | 27.217 | 0.060000 |
| 52.974 | 27.518 | 0.060000 |
| 53.973 | 27.811 | 0.060000 |
| 54.973 | 28.063 | 0.060000 |
| 55.972 | 28.254 | 0.060000 |
| 56.972 | 28.462 | 0.060000 |
| 57.971 | 28.724 | 0.060000 |
| 58.971 | 28.963 | 0.060000 |
| 59.970 | 29.128 | 0.060000 |
| 60.970 | 29.199 | 0.060000 |
| 61.969 | 29.182 | 0.060000 |
| 62.969 | 29.125 | 0.060000 |
| 63.968 | 29.069 | 0.060000 |
| 64.968 | 29.003 | 0.060000 |
| 65.967 | 28.923 | 0.060000 |
| 66.967 | 28.852 | 0.060000 |
| 67.966 | 28.807 | 0.060000 |
| 68.966 | 28.775 | 0.060000 |
| 69.965 | 28.758 | 0.060000 |
| 70.965 | 28.757 | 0.060000 |
| 71.964 | 28.733 | 0.060000 |
| 72.964 | 28.684 | 0.060000 |
| 73.964 | 28.649 | 0.060000 |
| 74.963 | 28.634 | 0.060000 |
| 75.963 | 28.624 | 0.060000 |

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Name: X025 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 33.522 | 0.060000 |
| 1.000 | 33.249 | 0.060000 |
| 1.999 | 32.965 | 0.060000 |
| 2.999 | 32.586 | 0.060000 |
| 3.998 | 32.204 | 0.060000 |
| 4.998 | 31.936 | 0.060000 |
| 5.997 | 31.685 | 0.060000 |
| 6.997 | 31.401 | 0.060000 |
| 7.996 | 31.090 | 0.060000 |
| 8.996 | 30.737 | 0.060000 |
| 9.995 | 30.390 | 0.060000 |
| 10.995 | 30.079 | 0.060000 |
| 11.994 | 29.795 | 0.060000 |
| 12.994 | 29.514 | 0.060000 |
| 13.993 | 29.236 | 0.060000 |
| 14.993 | 28.960 | 0.060000 |
| 15.992 | 28.675 | 0.060000 |
| 16.992 | 28.310 | 0.060000 |

| | | |
|---|---|---|
| 17.991 | 27.935 | 0.060000 |
| 18.991 | 27.609 | 0.060000 |
| 19.990 | 27.319 | 0.060000 |
| 20.990 | 27.054 | 0.060000 |
| 21.989 | 26.763 | 0.060000 |
| 22.989 | 26.486 | 0.060000 |
| 23.988 | 26.272 | 0.060000 |
| 24.988 | 26.105 | 0.060000 |
| 25.987 | 26.001 | 0.060000 |
| 26.987 | 25.987 | 0.060000 |
| 27.986 | 25.963 | 0.060000 |
| 28.986 | 25.911 | 0.060000 |
| 29.985 | 25.905 | 0.060000 |
| 30.985 | 25.963 | 0.060000 |
| 31.984 | 26.082 | 0.060000 |
| 32.984 | 26.302 | 0.060000 |
| 33.983 | 26.646 | 0.060000 |
| 34.983 | 26.893 | 0.060000 |
| 35.982 | 26.927 | 0.060000 |
| 36.982 | 26.825 | 0.060000 |
| 37.981 | 26.660 | 0.060000 |
| 38.981 | 26.518 | 0.060000 |
| 39.980 | 26.341 | 0.060000 |
| 40.980 | 26.201 | 0.060000 |
| 41.979 | 26.162 | 0.060000 |
| 42.979 | 26.209 | 0.060000 |
| 43.978 | 26.161 | 0.060000 |
| 44.978 | 26.174 | 0.060000 |
| 45.977 | 26.306 | 0.060000 |
| 46.977 | 26.388 | 0.060000 |
| 47.976 | 26.585 | 0.060000 |
| 48.976 | 26.917 | 0.060000 |
| 49.975 | 27.168 | 0.060000 |
| 50.975 | 27.410 | 0.060000 |
| 51.974 | 27.746 | 0.060000 |
| 52.974 | 28.021 | 0.060000 |
| 53.973 | 28.285 | 0.060000 |
| 54.973 | 28.569 | 0.060000 |
| 55.972 | 28.841 | 0.060000 |
| 56.972 | 29.063 | 0.060000 |
| 57.971 | 29.199 | 0.060000 |
| 58.971 | 29.252 | 0.060000 |
| 59.970 | 29.247 | 0.060000 |
| 60.970 | 29.190 | 0.060000 |
| 61.969 | 29.097 | 0.060000 |
| 62.969 | 29.003 | 0.060000 |
| 63.968 | 28.940 | 0.060000 |
| 64.968 | 28.911 | 0.060000 |
| 65.967 | 28.900 | 0.060000 |
| 66.967 | 28.904 | 0.060000 |
| 67.966 | 28.903 | 0.060000 |
| 68.966 | 28.883 | 0.060000 |
| 69.965 | 28.855 | 0.060000 |
| 70.965 | 28.842 | 0.060000 |
| 71.964 | 28.849 | 0.060000 |
| 72.964 | 28.879 | 0.060000 |
| 73.964 | 28.912 | 0.060000 |
| 74.963 | 28.943 | 0.060000 |
| 75.963 | 28.934 | 0.060000 |

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Name: X026 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 31.579 | 0.060000 |
| 0.994 | 31.188 | 0.060000 |
| 1.988 | 30.776 | 0.060000 |
| 2.983 | 30.457 | 0.060000 |
| 3.977 | 30.196 | 0.060000 |
| 4.971 | 29.964 | 0.060000 |
| 5.965 | 29.728 | 0.060000 |
| 6.959 | 29.478 | 0.060000 |
| 7.953 | 29.216 | 0.060000 |
| 8.948 | 28.933 | 0.060000 |
| 9.942 | 28.677 | 0.060000 |
| 10.936 | 28.475 | 0.060000 |
| 11.930 | 28.230 | 0.060000 |
| 12.924 | 27.896 | 0.060000 |
| 13.919 | 27.581 | 0.060000 |
| 14.913 | 27.293 | 0.060000 |
| 15.907 | 27.036 | 0.060000 |
| 16.901 | 26.805 | 0.060000 |
| 17.895 | 26.506 | 0.060000 |
| 18.889 | 26.229 | 0.060000 |
| 19.884 | 26.008 | 0.060000 |

| | | |
|---|---|---|
| 20.878 | 25.784 | 0.060000 |
| 21.872 | 25.587 | 0.060000 |
| 22.866 | 25.388 | 0.060000 |
| 23.860 | 25.201 | 0.060000 |
| 24.854 | 25.093 | 0.060000 |
| 25.849 | 25.077 | 0.060000 |
| 26.843 | 25.131 | 0.060000 |
| 27.837 | 25.205 | 0.060000 |
| 28.831 | 25.277 | 0.060000 |
| 29.825 | 25.331 | 0.060000 |
| 30.820 | 25.350 | 0.060000 |
| 31.814 | 25.328 | 0.060000 |
| 32.808 | 25.286 | 0.060000 |
| 33.802 | 25.305 | 0.060000 |
| 34.796 | 25.401 | 0.060000 |
| 35.790 | 25.467 | 0.060000 |
| 36.785 | 25.494 | 0.060000 |
| 37.779 | 25.474 | 0.060000 |
| 38.773 | 25.448 | 0.060000 |
| 39.767 | 25.369 | 0.060000 |
| 40.761 | 25.278 | 0.060000 |
| 41.756 | 25.304 | 0.060000 |
| 42.750 | 25.333 | 0.060000 |
| 43.744 | 25.398 | 0.060000 |
| 44.738 | 25.561 | 0.060000 |
| 45.732 | 25.777 | 0.060000 |
| 46.726 | 25.935 | 0.060000 |
| 47.721 | 26.112 | 0.060000 |
| 48.715 | 26.315 | 0.060000 |
| 49.709 | 26.550 | 0.060000 |
| 50.703 | 26.808 | 0.060000 |
| 51.697 | 26.997 | 0.060000 |
| 52.692 | 27.129 | 0.060000 |
| 53.686 | 27.268 | 0.060000 |
| 54.680 | 27.520 | 0.060000 |
| 55.674 | 27.933 | 0.060000 |
| 56.668 | 28.404 | 0.060000 |
| 57.662 | 28.728 | 0.060000 |
| 58.657 | 28.896 | 0.060000 |
| 59.651 | 28.961 | 0.060000 |
| 60.645 | 28.957 | 0.060000 |
| 61.639 | 28.892 | 0.060000 |
| 62.633 | 28.824 | 0.060000 |
| 63.627 | 28.775 | 0.060000 |
| 64.622 | 28.774 | 0.060000 |
| 65.616 | 28.779 | 0.060000 |
| 66.610 | 28.768 | 0.060000 |
| 67.604 | 28.736 | 0.060000 |
| 68.598 | 28.709 | 0.060000 |

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Name: X027W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 31.100 | 0.000000 |
| 1.000 | 30.860 | 0.000000 |
| 2.000 | 30.570 | 0.000000 |
| 2.990 | 30.170 | 0.000000 |
| 3.990 | 29.780 | 0.000000 |
| 4.990 | 29.550 | 0.000000 |
| 5.990 | 29.360 | 0.000000 |
| 6.990 | 29.110 | 0.000000 |
| 7.980 | 28.810 | 0.000000 |
| 8.980 | 28.520 | 0.000000 |
| 9.980 | 28.230 | 0.000000 |
| 10.980 | 27.950 | 0.000000 |
| 11.980 | 27.690 | 0.000000 |
| 12.970 | 27.440 | 0.000000 |
| 13.970 | 27.160 | 0.000000 |
| 14.970 | 26.880 | 0.000000 |
| 15.970 | 26.590 | 0.000000 |
| 16.970 | 26.340 | 0.000000 |
| 17.970 | 26.150 | 0.000000 |
| 18.960 | 25.970 | 0.000000 |
| 19.960 | 25.810 | 0.000000 |
| 20.960 | 25.630 | 0.000000 |
| 21.960 | 25.450 | 0.000000 |
| 22.960 | 25.310 | 0.000000 |
| 23.950 | 25.180 | 0.000000 |
| 24.950 | 25.100 | 0.000000 |
| 25.950 | 25.070 | 0.000000 |
| 26.950 | 25.160 | 0.000000 |
| 27.950 | 25.210 | 0.000000 |
| 28.940 | 25.200 | 0.000000 |
| 29.940 | 25.170 | 0.000000 |

| | | |
|---|---|---|
| 30.940 | 25.140 | 0.000000 |
| 31.940 | 25.150 | 0.000000 |
| 32.940 | 25.160 | 0.000000 |
| 33.930 | 25.110 | 0.000000 |
| 34.930 | 25.050 | 0.000000 |
| 35.930 | 25.050 | 0.000000 |
| 36.930 | 25.060 | 0.000000 |
| 37.930 | 25.060 | 0.000000 |
| 38.920 | 25.070 | 0.000000 |
| 39.920 | 25.060 | 0.000000 |
| 40.920 | 25.050 | 0.000000 |
| 41.920 | 25.030 | 0.000000 |
| 42.920 | 25.000 | 0.000000 |
| 43.910 | 24.980 | 0.000000 |
| 44.910 | 24.960 | 0.000000 |
| 45.910 | 24.960 | 0.000000 |
| 46.910 | 25.080 | 0.000000 |
| 47.910 | 25.270 | 0.000000 |
| 48.900 | 25.500 | 0.000000 |
| 49.900 | 25.780 | 0.000000 |
| 50.900 | 26.120 | 0.000000 |
| 51.900 | 26.490 | 0.000000 |
| 52.900 | 26.840 | 0.000000 |
| 53.900 | 27.140 | 0.000000 |
| 54.890 | 27.390 | 0.000000 |
| 55.890 | 27.670 | 0.000000 |
| 56.890 | 28.030 | 0.000000 |
| 57.890 | 28.380 | 0.000000 |
| 58.890 | 28.680 | 0.000000 |
| 59.880 | 28.890 | 0.000000 |
| 60.880 | 29.030 | 0.000000 |
| 61.880 | 29.150 | 0.000000 |

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Name: X029 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 66.000

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 20.931 | 0.060000 |
| 0.997 | 20.682 | 0.060000 |
| 1.994 | 20.441 | 0.060000 |
| 2.990 | 20.143 | 0.060000 |
| 3.987 | 19.838 | 0.060000 |
| 4.984 | 19.532 | 0.060000 |
| 5.981 | 19.286 | 0.060000 |
| 6.978 | 19.094 | 0.060000 |
| 7.974 | 18.902 | 0.060000 |
| 8.971 | 18.695 | 0.060000 |
| 9.968 | 18.417 | 0.060000 |
| 10.965 | 18.189 | 0.060000 |
| 11.961 | 18.053 | 0.060000 |
| 12.958 | 17.970 | 0.060000 |
| 13.955 | 17.958 | 0.060000 |
| 14.952 | 17.811 | 0.060000 |
| 15.949 | 17.485 | 0.060000 |
| 16.945 | 17.290 | 0.060000 |
| 17.942 | 17.133 | 0.060000 |
| 18.939 | 17.044 | 0.060000 |
| 19.936 | 16.986 | 0.060000 |
| 20.933 | 17.236 | 0.060000 |
| 21.929 | 17.362 | 0.060000 |
| 22.926 | 17.463 | 0.060000 |
| 23.923 | 17.501 | 0.060000 |
| 24.920 | 17.432 | 0.060000 |
| 25.917 | 17.280 | 0.060000 |
| 26.913 | 17.178 | 0.060000 |
| 27.910 | 17.094 | 0.060000 |
| 28.907 | 17.105 | 0.060000 |
| 29.904 | 17.087 | 0.060000 |
| 30.900 | 17.058 | 0.060000 |
| 31.897 | 17.079 | 0.060000 |
| 32.894 | 17.071 | 0.060000 |
| 33.891 | 17.047 | 0.060000 |
| 34.888 | 16.996 | 0.060000 |
| 35.884 | 17.043 | 0.060000 |
| 36.881 | 17.218 | 0.060000 |
| 37.878 | 17.227 | 0.060000 |
| 38.875 | 17.212 | 0.060000 |
| 39.872 | 17.196 | 0.060000 |
| 40.868 | 17.087 | 0.060000 |
| 41.865 | 16.830 | 0.060000 |
| 42.862 | 16.801 | 0.060000 |
| 43.859 | 16.870 | 0.060000 |
| 44.856 | 17.007 | 0.060000 |
| 45.852 | 17.187 | 0.060000 |

| | | |
|---|---|---|
| 46.849 | 17.369 | 0.060000 |
| 47.846 | 17.491 | 0.060000 |
| 48.843 | 17.568 | 0.060000 |
| 49.839 | 17.615 | 0.060000 |
| 50.836 | 17.636 | 0.060000 |
| 51.833 | 17.621 | 0.060000 |
| 52.830 | 17.612 | 0.060000 |
| 53.827 | 17.629 | 0.060000 |
| 54.823 | 17.673 | 0.060000 |
| 55.820 | 17.720 | 0.060000 |
| 56.817 | 17.761 | 0.060000 |
| 57.814 | 17.771 | 0.060000 |
| 58.811 | 17.774 | 0.060000 |
| 59.807 | 17.786 | 0.060000 |
| 60.804 | 17.784 | 0.060000 |
| 61.801 | 17.790 | 0.060000 |
| 62.798 | 17.821 | 0.060000 |
| 63.795 | 17.838 | 0.060000 |
| 64.791 | 17.826 | 0.060000 |
| 65.788 | 17.808 | 0.060000 |
| 66.785 | 17.780 | 0.060000 |
| 67.782 | 17.718 | 0.060000 |
| 68.778 | 17.616 | 0.060000 |
| 69.775 | 17.459 | 0.060000 |
| 70.772 | 17.271 | 0.060000 |
| 71.769 | 17.037 | 0.060000 |
| 72.766 | 16.768 | 0.060000 |
| 73.762 | 16.499 | 0.060000 |
| 74.759 | 16.232 | 0.060000 |
| 75.756 | 15.988 | 0.060000 |
| 76.753 | 15.763 | 0.060000 |
| 77.750 | 15.538 | 0.060000 |

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Name: X030 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 21.847 | 0.060000 |
| 0.997 | 21.640 | 0.060000 |
| 1.994 | 21.457 | 0.060000 |
| 2.991 | 21.291 | 0.060000 |
| 3.988 | 21.095 | 0.060000 |
| 4.985 | 20.870 | 0.060000 |
| 5.981 | 20.672 | 0.060000 |
| 6.978 | 20.577 | 0.060000 |
| 7.975 | 20.573 | 0.060000 |
| 8.972 | 20.453 | 0.060000 |
| 9.969 | 20.293 | 0.060000 |
| 10.966 | 20.127 | 0.060000 |
| 11.963 | 19.857 | 0.060000 |
| 12.960 | 19.586 | 0.060000 |
| 13.957 | 19.290 | 0.060000 |
| 14.954 | 19.111 | 0.060000 |
| 15.951 | 18.936 | 0.060000 |
| 16.948 | 18.674 | 0.060000 |
| 17.944 | 18.577 | 0.060000 |
| 18.941 | 18.511 | 0.060000 |
| 19.938 | 18.244 | 0.060000 |
| 20.935 | 18.008 | 0.060000 |
| 21.932 | 17.823 | 0.060000 |
| 22.929 | 17.685 | 0.060000 |
| 23.926 | 17.473 | 0.060000 |
| 24.923 | 17.217 | 0.060000 |
| 25.920 | 17.000 | 0.060000 |
| 26.917 | 17.001 | 0.060000 |
| 27.914 | 17.102 | 0.060000 |
| 28.910 | 17.103 | 0.060000 |
| 29.907 | 16.944 | 0.060000 |
| 30.904 | 16.745 | 0.060000 |
| 31.901 | 16.569 | 0.060000 |
| 32.898 | 16.437 | 0.060000 |
| 33.895 | 16.297 | 0.060000 |
| 34.892 | 16.273 | 0.060000 |
| 35.889 | 16.295 | 0.060000 |
| 36.886 | 16.335 | 0.060000 |
| 37.883 | 16.399 | 0.060000 |
| 38.880 | 16.467 | 0.060000 |
| 39.877 | 16.496 | 0.060000 |
| 40.873 | 16.501 | 0.060000 |
| 41.870 | 16.474 | 0.060000 |
| 42.867 | 16.428 | 0.060000 |
| 43.864 | 16.380 | 0.060000 |
| 44.861 | 16.334 | 0.060000 |
| 45.858 | 16.290 | 0.060000 |
| 46.855 | 16.261 | 0.060000 |

| | | |
|---|---|---|
| 47.852 | 16.260 | 0.060000 |
| 48.849 | 16.242 | 0.060000 |
| 49.846 | 16.302 | 0.060000 |
| 50.843 | 16.385 | 0.060000 |
| 51.839 | 16.435 | 0.060000 |
| 52.836 | 16.448 | 0.060000 |
| 53.833 | 16.463 | 0.060000 |
| 54.830 | 16.504 | 0.060000 |
| 55.827 | 16.519 | 0.060000 |
| 56.824 | 16.513 | 0.060000 |
| 57.821 | 16.536 | 0.060000 |
| 58.818 | 16.648 | 0.060000 |
| 59.815 | 16.818 | 0.060000 |
| 60.812 | 17.021 | 0.060000 |
| 61.809 | 17.193 | 0.060000 |
| 62.806 | 17.305 | 0.060000 |
| 63.802 | 17.308 | 0.060000 |
| 64.799 | 17.275 | 0.060000 |
| 65.796 | 17.259 | 0.060000 |
| 66.793 | 17.319 | 0.060000 |
| 67.790 | 17.386 | 0.060000 |
| 68.787 | 17.407 | 0.060000 |
| 69.784 | 17.394 | 0.060000 |
| 70.781 | 17.372 | 0.060000 |
| 71.778 | 17.365 | 0.060000 |
| 72.775 | 17.372 | 0.060000 |
| 73.772 | 17.415 | 0.060000 |
| 74.768 | 17.431 | 0.060000 |
| 75.765 | 17.430 | 0.060000 |
| 76.762 | 17.446 | 0.060000 |
| 77.759 | 17.431 | 0.060000 |
| 78.756 | 17.367 | 0.060000 |

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Name: X031 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 68.000

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 23.424 | 0.060000 |
| 0.991 | 23.127 | 0.060000 |
| 1.982 | 22.829 | 0.060000 |
| 2.973 | 22.540 | 0.060000 |
| 3.963 | 22.352 | 0.060000 |
| 4.954 | 22.221 | 0.060000 |
| 5.945 | 21.937 | 0.060000 |
| 6.936 | 21.680 | 0.060000 |
| 7.927 | 21.475 | 0.060000 |
| 8.918 | 21.274 | 0.060000 |
| 9.909 | 21.057 | 0.060000 |
| 10.899 | 20.872 | 0.060000 |
| 11.890 | 20.722 | 0.060000 |
| 12.881 | 20.517 | 0.060000 |
| 13.872 | 20.252 | 0.060000 |
| 14.863 | 19.978 | 0.060000 |
| 15.854 | 19.746 | 0.060000 |
| 16.845 | 19.545 | 0.060000 |
| 17.835 | 19.284 | 0.060000 |
| 18.826 | 19.018 | 0.060000 |
| 19.817 | 18.730 | 0.060000 |
| 20.808 | 18.385 | 0.060000 |
| 21.799 | 18.102 | 0.060000 |
| 22.790 | 17.912 | 0.060000 |
| 23.780 | 17.708 | 0.060000 |
| 24.771 | 17.421 | 0.060000 |
| 25.762 | 17.089 | 0.060000 |
| 26.753 | 16.888 | 0.060000 |
| 27.744 | 16.892 | 0.060000 |
| 28.735 | 16.967 | 0.060000 |
| 29.726 | 17.096 | 0.060000 |
| 30.716 | 17.210 | 0.060000 |
| 31.707 | 17.296 | 0.060000 |
| 32.698 | 17.364 | 0.060000 |
| 33.689 | 17.271 | 0.060000 |
| 34.680 | 16.942 | 0.060000 |
| 35.671 | 16.637 | 0.060000 |
| 36.662 | 16.456 | 0.060000 |
| 37.652 | 16.370 | 0.060000 |
| 38.643 | 16.326 | 0.060000 |
| 39.634 | 16.289 | 0.060000 |
| 40.625 | 16.277 | 0.060000 |
| 41.616 | 16.263 | 0.060000 |
| 42.607 | 16.256 | 0.060000 |
| 43.598 | 16.281 | 0.060000 |
| 44.588 | 16.307 | 0.060000 |
| 45.579 | 16.328 | 0.060000 |

| | | |
|---|---|---|
| 46.570 | 16.363 | 0.060000 |
| 47.561 | 16.368 | 0.060000 |
| 48.552 | 16.337 | 0.060000 |
| 49.543 | 16.325 | 0.060000 |
| 50.534 | 16.358 | 0.060000 |
| 51.524 | 16.355 | 0.060000 |
| 52.515 | 16.399 | 0.060000 |
| 53.506 | 16.441 | 0.060000 |
| 54.497 | 16.381 | 0.060000 |
| 55.488 | 16.373 | 0.060000 |
| 56.479 | 16.351 | 0.060000 |
| 57.470 | 16.301 | 0.060000 |
| 58.460 | 16.303 | 0.060000 |
| 59.451 | 16.351 | 0.060000 |
| 60.442 | 16.432 | 0.060000 |
| 61.433 | 16.538 | 0.060000 |
| 62.424 | 16.664 | 0.060000 |
| 63.415 | 16.798 | 0.060000 |
| 64.405 | 16.933 | 0.060000 |
| 65.396 | 17.042 | 0.060000 |
| 66.387 | 17.106 | 0.060000 |
| 67.378 | 17.161 | 0.060000 |
| 68.369 | 17.201 | 0.060000 |
| 69.360 | 17.117 | 0.060000 |
| 70.351 | 16.999 | 0.060000 |
| 71.341 | 16.960 | 0.060000 |
| 72.332 | 16.909 | 0.060000 |
| 73.323 | 16.905 | 0.060000 |
| 74.314 | 16.931 | 0.060000 |
| 75.305 | 16.951 | 0.060000 |
| 76.296 | 16.971 | 0.060000 |
| 77.287 | 16.901 | 0.060000 |
| 78.277 | 16.746 | 0.060000 |
| 79.268 | 16.705 | 0.060000 |
| 80.259 | 16.738 | 0.060000 |
| 81.250 | 16.711 | 0.060000 |

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Name: X033 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 27.474 | 0.060000 |
| 0.993 | 27.106 | 0.060000 |
| 1.987 | 26.659 | 0.060000 |
| 2.980 | 26.257 | 0.060000 |
| 3.973 | 25.904 | 0.060000 |
| 4.967 | 25.567 | 0.060000 |
| 5.960 | 25.271 | 0.060000 |
| 6.953 | 24.973 | 0.060000 |
| 7.947 | 24.718 | 0.060000 |
| 8.940 | 24.486 | 0.060000 |
| 9.933 | 24.229 | 0.060000 |
| 10.927 | 23.904 | 0.060000 |
| 11.920 | 23.515 | 0.060000 |
| 12.913 | 23.185 | 0.060000 |
| 13.907 | 22.829 | 0.060000 |
| 14.900 | 22.459 | 0.060000 |
| 15.894 | 22.116 | 0.060000 |
| 16.887 | 21.750 | 0.060000 |
| 17.880 | 21.384 | 0.060000 |
| 18.874 | 21.042 | 0.060000 |
| 19.867 | 20.649 | 0.060000 |
| 20.860 | 20.193 | 0.060000 |
| 21.854 | 19.722 | 0.060000 |
| 22.847 | 19.295 | 0.060000 |
| 23.840 | 18.928 | 0.060000 |
| 24.834 | 18.546 | 0.060000 |
| 25.827 | 18.222 | 0.060000 |
| 26.820 | 17.943 | 0.060000 |
| 27.814 | 17.503 | 0.060000 |
| 28.807 | 17.260 | 0.060000 |
| 29.800 | 16.918 | 0.060000 |
| 30.794 | 16.642 | 0.060000 |
| 31.787 | 16.515 | 0.060000 |
| 32.780 | 16.551 | 0.060000 |
| 33.774 | 16.521 | 0.060000 |
| 34.767 | 16.553 | 0.060000 |
| 35.760 | 16.391 | 0.060000 |
| 36.754 | 16.291 | 0.060000 |
| 37.747 | 16.136 | 0.060000 |
| 38.740 | 16.042 | 0.060000 |
| 39.734 | 16.014 | 0.060000 |
| 40.727 | 16.036 | 0.060000 |
| 41.720 | 16.145 | 0.060000 |
| 42.714 | 16.140 | 0.060000 |

| | | |
|---|---|---|
| 43.707 | 16.036 | 0.060000 |
| 44.700 | 15.998 | 0.060000 |
| 45.694 | 15.979 | 0.060000 |
| 46.687 | 15.952 | 0.060000 |
| 47.680 | 15.925 | 0.060000 |
| 48.674 | 15.900 | 0.060000 |
| 49.667 | 15.885 | 0.060000 |
| 50.661 | 15.888 | 0.060000 |
| 51.654 | 15.895 | 0.060000 |
| 52.647 | 15.902 | 0.060000 |
| 53.641 | 15.909 | 0.060000 |
| 54.634 | 15.919 | 0.060000 |
| 55.627 | 15.932 | 0.060000 |
| 56.621 | 15.948 | 0.060000 |
| 57.614 | 15.970 | 0.060000 |
| 58.607 | 15.991 | 0.060000 |
| 59.601 | 16.013 | 0.060000 |
| 60.594 | 16.031 | 0.060000 |
| 61.587 | 16.038 | 0.060000 |
| 62.581 | 16.040 | 0.060000 |
| 63.574 | 16.038 | 0.060000 |
| 64.567 | 16.028 | 0.060000 |
| 65.561 | 16.070 | 0.060000 |
| 66.554 | 16.144 | 0.060000 |
| 67.547 | 16.151 | 0.060000 |
| 68.541 | 16.195 | 0.060000 |
| 69.534 | 16.207 | 0.060000 |
| 70.527 | 16.234 | 0.060000 |
| 71.521 | 16.309 | 0.060000 |
| 72.514 | 16.283 | 0.060000 |
| 73.507 | 16.205 | 0.060000 |
| 74.501 | 16.157 | 0.060000 |
| 75.494 | 16.161 | 0.060000 |
| 76.487 | 16.207 | 0.060000 |
| 77.481 | 16.406 | 0.060000 |
| 78.474 | 16.656 | 0.060000 |
| 79.467 | 16.794 | 0.060000 |
| 80.461 | 16.911 | 0.060000 |
| 81.454 | 16.992 | 0.060000 |
| 82.448 | 16.972 | 0.060000 |
| 83.441 | 16.919 | 0.060000 |
| 84.434 | 16.950 | 0.060000 |
| 85.428 | 17.055 | 0.060000 |
| 86.421 | 17.206 | 0.060000 |
| 87.414 | 17.359 | 0.060000 |
| 88.408 | 17.433 | 0.060000 |
| 89.401 | 17.374 | 0.060000 |
| 90.394 | 17.334 | 0.060000 |
| 91.388 | 17.319 | 0.060000 |
| 92.381 | 17.275 | 0.060000 |
| 93.374 | 17.278 | 0.060000 |
| 94.368 | 17.281 | 0.060000 |
| 95.361 | 17.259 | 0.060000 |
| 96.354 | 17.204 | 0.060000 |
| 97.348 | 17.182 | 0.060000 |
| 98.341 | 17.208 | 0.060000 |
| 99.334 | 17.243 | 0.060000 |
| 100.328 | 17.260 | 0.060000 |

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Name: X035 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 24.846 | 0.060000 |
| 0.993 | 24.787 | 0.060000 |
| 1.987 | 24.742 | 0.060000 |
| 2.980 | 24.765 | 0.060000 |
| 3.973 | 24.784 | 0.060000 |
| 4.966 | 24.676 | 0.060000 |
| 5.960 | 24.475 | 0.060000 |
| 6.953 | 24.239 | 0.060000 |
| 7.946 | 24.017 | 0.060000 |
| 8.940 | 23.724 | 0.060000 |
| 9.933 | 23.336 | 0.060000 |
| 10.926 | 22.955 | 0.060000 |
| 11.920 | 22.637 | 0.060000 |
| 12.913 | 22.277 | 0.060000 |
| 13.906 | 22.008 | 0.060000 |
| 14.899 | 21.690 | 0.060000 |
| 15.893 | 21.229 | 0.060000 |
| 16.886 | 20.876 | 0.060000 |
| 17.879 | 20.705 | 0.060000 |
| 18.873 | 20.485 | 0.060000 |
| 19.866 | 20.027 | 0.060000 |
| 20.859 | 19.520 | 0.060000 |

| | | |
|---|---|---|
| 21.852 | 19.043 | 0.060000 |
| 22.846 | 18.752 | 0.060000 |
| 23.839 | 18.540 | 0.060000 |
| 24.832 | 18.322 | 0.060000 |
| 25.826 | 17.965 | 0.060000 |
| 26.819 | 17.534 | 0.060000 |
| 27.812 | 17.078 | 0.060000 |
| 28.805 | 16.662 | 0.060000 |
| 29.799 | 16.390 | 0.060000 |
| 30.792 | 16.183 | 0.060000 |
| 31.785 | 15.950 | 0.060000 |
| 32.779 | 15.800 | 0.060000 |
| 33.772 | 15.612 | 0.060000 |
| 34.765 | 15.277 | 0.060000 |
| 35.759 | 15.013 | 0.060000 |
| 36.752 | 14.926 | 0.060000 |
| 37.745 | 14.859 | 0.060000 |
| 38.738 | 14.686 | 0.060000 |
| 39.732 | 14.576 | 0.060000 |
| 40.725 | 14.446 | 0.060000 |
| 41.718 | 14.457 | 0.060000 |
| 42.712 | 14.505 | 0.060000 |
| 43.705 | 14.550 | 0.060000 |
| 44.698 | 14.578 | 0.060000 |
| 45.691 | 14.684 | 0.060000 |
| 46.685 | 14.734 | 0.060000 |
| 47.678 | 14.788 | 0.060000 |
| 48.671 | 14.847 | 0.060000 |
| 49.665 | 14.904 | 0.060000 |
| 50.658 | 14.934 | 0.060000 |
| 51.651 | 14.950 | 0.060000 |
| 52.644 | 14.957 | 0.060000 |
| 53.638 | 14.951 | 0.060000 |
| 54.631 | 14.771 | 0.060000 |
| 55.624 | 14.800 | 0.060000 |
| 56.618 | 14.946 | 0.060000 |
| 57.611 | 14.888 | 0.060000 |
| 58.604 | 14.817 | 0.060000 |
| 59.598 | 14.955 | 0.060000 |
| 60.591 | 15.226 | 0.060000 |
| 61.584 | 15.602 | 0.060000 |
| 62.577 | 15.915 | 0.060000 |
| 63.571 | 16.066 | 0.060000 |
| 64.564 | 16.128 | 0.060000 |
| 65.557 | 16.172 | 0.060000 |
| 66.551 | 16.235 | 0.060000 |
| 67.544 | 16.360 | 0.060000 |
| 68.537 | 16.525 | 0.060000 |
| 69.530 | 16.676 | 0.060000 |
| 70.524 | 16.775 | 0.060000 |
| 71.517 | 16.816 | 0.060000 |
| 72.510 | 16.815 | 0.060000 |
| 73.504 | 16.777 | 0.060000 |
| 74.497 | 16.735 | 0.060000 |
| 75.490 | 16.730 | 0.060000 |
| 76.484 | 16.756 | 0.060000 |
| 77.477 | 16.786 | 0.060000 |
| 78.470 | 16.806 | 0.060000 |

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Name: X039 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 24.575 | 0.060000 |
| 0.992 | 24.606 | 0.060000 |
| 1.984 | 24.619 | 0.060000 |
| 2.975 | 24.609 | 0.060000 |
| 3.967 | 24.620 | 0.060000 |
| 4.959 | 24.659 | 0.060000 |
| 5.951 | 24.649 | 0.060000 |
| 6.943 | 24.605 | 0.060000 |
| 7.934 | 24.571 | 0.060000 |
| 8.926 | 24.451 | 0.060000 |
| 9.918 | 24.280 | 0.060000 |
| 10.910 | 24.136 | 0.060000 |
| 11.902 | 24.036 | 0.060000 |
| 12.893 | 23.922 | 0.060000 |
| 13.885 | 23.679 | 0.060000 |
| 14.877 | 23.283 | 0.060000 |
| 15.869 | 22.886 | 0.060000 |
| 16.861 | 22.517 | 0.060000 |
| 17.852 | 22.185 | 0.060000 |
| 18.844 | 21.839 | 0.060000 |
| 19.836 | 21.467 | 0.060000 |
| 20.828 | 21.087 | 0.060000 |

| | | |
|---|---|---|
| 21.820 | 20.650 | 0.060000 |
| 22.811 | 20.317 | 0.060000 |
| 23.803 | 20.055 | 0.060000 |
| 24.795 | 19.806 | 0.060000 |
| 25.787 | 19.522 | 0.060000 |
| 26.779 | 19.217 | 0.060000 |
| 27.770 | 18.837 | 0.060000 |
| 28.762 | 18.507 | 0.060000 |
| 29.754 | 18.228 | 0.060000 |
| 30.746 | 17.890 | 0.060000 |
| 31.738 | 17.500 | 0.060000 |
| 32.729 | 17.232 | 0.060000 |
| 33.721 | 16.847 | 0.060000 |
| 34.713 | 16.466 | 0.060000 |
| 35.705 | 16.196 | 0.060000 |
| 36.697 | 15.985 | 0.060000 |
| 37.688 | 15.760 | 0.060000 |
| 38.680 | 15.453 | 0.060000 |
| 39.672 | 15.158 | 0.060000 |
| 40.664 | 14.860 | 0.060000 |
| 41.656 | 14.648 | 0.060000 |
| 42.647 | 14.410 | 0.060000 |
| 43.639 | 14.174 | 0.060000 |
| 44.631 | 14.147 | 0.060000 |
| 45.623 | 14.055 | 0.060000 |
| 46.615 | 13.881 | 0.060000 |
| 47.606 | 13.713 | 0.060000 |
| 48.598 | 13.613 | 0.060000 |
| 49.590 | 13.672 | 0.060000 |
| 50.582 | 13.760 | 0.060000 |
| 51.574 | 13.745 | 0.060000 |
| 52.565 | 13.752 | 0.060000 |
| 53.557 | 13.803 | 0.060000 |
| 54.549 | 13.817 | 0.060000 |
| 55.541 | 13.825 | 0.060000 |
| 56.533 | 13.829 | 0.060000 |
| 57.524 | 13.822 | 0.060000 |
| 58.516 | 13.787 | 0.060000 |
| 59.508 | 13.823 | 0.060000 |
| 60.500 | 13.893 | 0.060000 |
| 61.492 | 13.880 | 0.060000 |
| 62.483 | 13.888 | 0.060000 |
| 63.475 | 13.919 | 0.060000 |
| 64.467 | 13.967 | 0.060000 |
| 65.459 | 14.230 | 0.060000 |
| 66.451 | 14.525 | 0.060000 |
| 67.442 | 14.796 | 0.060000 |
| 68.434 | 15.235 | 0.060000 |
| 69.426 | 15.602 | 0.060000 |
| 70.418 | 15.880 | 0.060000 |
| 71.410 | 16.068 | 0.060000 |
| 72.401 | 16.230 | 0.060000 |
| 73.393 | 16.388 | 0.060000 |
| 74.385 | 16.472 | 0.060000 |
| 75.377 | 16.549 | 0.060000 |
| 76.368 | 16.650 | 0.060000 |
| 77.360 | 16.669 | 0.060000 |
| 78.352 | 16.678 | 0.060000 |
| 79.344 | 16.712 | 0.060000 |
| 80.336 | 16.776 | 0.060000 |
| 81.328 | 16.862 | 0.060000 |
| 82.319 | 16.943 | 0.060000 |
| 83.311 | 16.985 | 0.060000 |
| 84.303 | 16.971 | 0.060000 |
| 85.295 | 16.980 | 0.060000 |
| 86.286 | 17.059 | 0.060000 |
| 87.278 | 17.157 | 0.060000 |
| 88.270 | 17.181 | 0.060000 |
| 89.262 | 17.165 | 0.060000 |
| 90.254 | 17.169 | 0.060000 |
| 91.245 | 17.197 | 0.060000 |
| 92.237 | 17.190 | 0.060000 |

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Name: X040W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.020 | 0.000000 |
| 1.000 | 14.020 | 0.000000 |
| 1.990 | 14.040 | 0.000000 |
| 2.990 | 14.060 | 0.000000 |
| 3.990 | 14.050 | 0.000000 |
| 4.980 | 14.040 | 0.000000 |
| 5.980 | 14.090 | 0.000000 |
| 6.980 | 14.100 | 0.000000 |

| | | |
|---|---|---|
| 7.980 | 14.080 | 0.000000 |
| 8.970 | 14.170 | 0.000000 |
| 9.970 | 14.260 | 0.000000 |
| 10.970 | 14.220 | 0.000000 |
| 11.960 | 13.940 | 0.000000 |
| 12.960 | 13.710 | 0.000000 |
| 13.960 | 13.630 | 0.000000 |
| 14.950 | 13.550 | 0.000000 |
| 15.950 | 13.480 | 0.000000 |
| 16.950 | 13.410 | 0.000000 |
| 17.940 | 13.360 | 0.000000 |
| 18.940 | 13.360 | 0.000000 |
| 19.940 | 13.340 | 0.000000 |
| 20.930 | 13.320 | 0.000000 |
| 21.930 | 13.290 | 0.000000 |
| 22.930 | 13.250 | 0.000000 |
| 23.930 | 13.210 | 0.000000 |
| 24.920 | 13.180 | 0.000000 |
| 25.920 | 13.170 | 0.000000 |
| 26.920 | 13.180 | 0.000000 |
| 27.910 | 13.220 | 0.000000 |
| 28.910 | 13.310 | 0.000000 |
| 29.910 | 13.350 | 0.000000 |
| 30.900 | 13.330 | 0.000000 |
| 31.900 | 13.340 | 0.000000 |
| 32.900 | 13.340 | 0.000000 |
| 33.890 | 13.360 | 0.000000 |
| 34.890 | 13.390 | 0.000000 |
| 35.890 | 13.420 | 0.000000 |
| 36.880 | 13.440 | 0.000000 |
| 37.880 | 13.430 | 0.000000 |
| 38.880 | 13.420 | 0.000000 |
| 39.880 | 13.420 | 0.000000 |
| 40.870 | 13.440 | 0.000000 |
| 41.870 | 13.470 | 0.000000 |
| 42.870 | 13.460 | 0.000000 |
| 43.860 | 13.420 | 0.000000 |
| 44.860 | 13.400 | 0.000000 |
| 45.860 | 13.410 | 0.000000 |
| 46.850 | 13.400 | 0.000000 |
| 47.850 | 13.370 | 0.000000 |
| 48.850 | 13.360 | 0.000000 |
| 49.840 | 13.410 | 0.000000 |
| 50.840 | 13.470 | 0.000000 |
| 51.840 | 13.480 | 0.000000 |
| 52.830 | 13.430 | 0.000000 |
| 53.830 | 13.400 | 0.000000 |
| 54.830 | 13.390 | 0.000000 |
| 55.830 | 13.390 | 0.000000 |
| 56.820 | 13.390 | 0.000000 |
| 57.820 | 13.390 | 0.000000 |
| 58.820 | 13.410 | 0.000000 |
| 59.810 | 13.420 | 0.000000 |
| 60.810 | 13.380 | 0.000000 |
| 61.810 | 13.340 | 0.000000 |
| 62.800 | 13.320 | 0.000000 |
| 63.800 | 13.300 | 0.000000 |
| 64.800 | 13.280 | 0.000000 |
| 65.790 | 13.270 | 0.000000 |
| 66.790 | 13.280 | 0.000000 |
| 67.790 | 13.280 | 0.000000 |
| 68.780 | 13.260 | 0.000000 |
| 69.780 | 13.270 | 0.000000 |
| 70.780 | 13.280 | 0.000000 |
| 71.780 | 13.280 | 0.000000 |
| 72.770 | 13.320 | 0.000000 |
| 73.770 | 13.340 | 0.000000 |
| 74.770 | 13.320 | 0.000000 |
| 75.770 | 13.290 | 0.000000 |
| 76.770 | 13.270 | 0.000000 |
| 77.770 | 13.270 | 0.000000 |
| 78.770 | 13.290 | 0.000000 |
| 79.770 | 13.300 | 0.000000 |
| 80.760 | 13.310 | 0.000000 |
| 81.760 | 13.300 | 0.000000 |
| 82.760 | 13.280 | 0.000000 |
| 83.760 | 13.270 | 0.000000 |
| 84.760 | 13.270 | 0.000000 |
| 85.760 | 13.280 | 0.000000 |
| 86.760 | 13.260 | 0.000000 |
| 87.760 | 13.240 | 0.000000 |
| 88.760 | 13.250 | 0.000000 |
| 89.750 | 13.260 | 0.000000 |
| 90.750 | 13.240 | 0.000000 |
| 91.750 | 13.240 | 0.000000 |
| 92.750 | 13.250 | 0.000000 |
| 93.750 | 13.260 | 0.000000 |
| 94.750 | 13.260 | 0.000000 |
| 95.750 | 13.250 | 0.000000 |

| | | |
|---|---|---|
| 96.750 | 13.260 | 0.000000 |
| 97.740 | 13.290 | 0.000000 |
| 98.740 | 13.390 | 0.000000 |
| 99.740 | 13.510 | 0.000000 |
| 100.740 | 13.600 | 0.000000 |
| 101.740 | 13.660 | 0.000000 |
| 102.740 | 13.650 | 0.000000 |
| 103.740 | 13.560 | 0.000000 |
| 104.740 | 13.460 | 0.000000 |
| 105.740 | 13.460 | 0.000000 |
| 106.730 | 13.480 | 0.000000 |
| 107.730 | 13.430 | 0.000000 |
| 108.730 | 13.350 | 0.000000 |
| 109.730 | 13.300 | 0.000000 |
| 110.730 | 13.280 | 0.000000 |
| 111.730 | 13.270 | 0.000000 |
| 112.730 | 13.280 | 0.000000 |
| 113.730 | 13.280 | 0.000000 |
| 114.730 | 13.280 | 0.000000 |
| 115.720 | 13.280 | 0.000000 |
| 116.720 | 13.280 | 0.000000 |
| 117.720 | 13.280 | 0.000000 |
| 118.720 | 13.280 | 0.000000 |
| 119.720 | 13.280 | 0.000000 |
| 120.720 | 13.280 | 0.000000 |
| 121.720 | 13.280 | 0.000000 |
| 122.720 | 13.290 | 0.000000 |
| 123.710 | 13.280 | 0.000000 |
| 124.710 | 13.280 | 0.000000 |
| 125.710 | 13.280 | 0.000000 |
| 126.710 | 13.290 | 0.000000 |
| 127.710 | 13.280 | 0.000000 |
| 128.710 | 13.280 | 0.000000 |
| 129.710 | 13.270 | 0.000000 |
| 130.710 | 13.270 | 0.000000 |
| 131.710 | 13.280 | 0.000000 |
| 132.700 | 13.290 | 0.000000 |
| 133.700 | 13.280 | 0.000000 |
| 134.700 | 13.270 | 0.000000 |
| 135.700 | 13.280 | 0.000000 |
| 136.700 | 13.290 | 0.000000 |
| 137.700 | 13.280 | 0.000000 |
| 138.700 | 13.280 | 0.000000 |
| 139.700 | 13.270 | 0.000000 |
| 140.690 | 13.270 | 0.000000 |
| 141.690 | 13.280 | 0.000000 |
| 142.690 | 13.270 | 0.000000 |
| 143.690 | 13.260 | 0.000000 |
| 144.690 | 13.260 | 0.000000 |
| 145.690 | 13.270 | 0.000000 |
| 146.690 | 13.290 | 0.000000 |
| 147.690 | 13.290 | 0.000000 |
| 148.690 | 13.280 | 0.000000 |
| 149.680 | 13.290 | 0.000000 |
| 150.680 | 13.280 | 0.000000 |
| 151.680 | 13.270 | 0.000000 |
| 152.680 | 13.260 | 0.000000 |
| 153.680 | 13.270 | 0.000000 |
| 154.680 | 13.280 | 0.000000 |
| 155.680 | 13.280 | 0.000000 |
| 156.680 | 13.280 | 0.000000 |
| 157.670 | 13.290 | 0.000000 |
| 158.670 | 13.300 | 0.000000 |
| 159.670 | 13.320 | 0.000000 |
| 160.670 | 13.360 | 0.000000 |
| 161.670 | 13.370 | 0.000000 |
| 162.670 | 13.360 | 0.000000 |
| 163.670 | 13.380 | 0.000000 |
| 164.670 | 13.400 | 0.000000 |
| 165.670 | 13.420 | 0.000000 |
| 166.660 | 13.440 | 0.000000 |
| 167.660 | 13.460 | 0.000000 |
| 168.660 | 13.470 | 0.000000 |
| 169.660 | 13.520 | 0.000000 |
| 170.660 | 13.680 | 0.000000 |
| 171.660 | 13.800 | 0.000000 |
| 172.660 | 13.680 | 0.000000 |
| 173.660 | 13.520 | 0.000000 |
| 174.660 | 13.490 | 0.000000 |
| 175.650 | 13.490 | 0.000000 |
| 176.650 | 13.460 | 0.000000 |
| 177.650 | 13.450 | 0.000000 |
| 178.650 | 13.430 | 0.000000 |
| 179.650 | 13.410 | 0.000000 |
| 180.650 | 13.410 | 0.000000 |
| 181.650 | 13.430 | 0.000000 |
| 182.650 | 13.530 | 0.000000 |
| 183.640 | 13.700 | 0.000000 |
| 184.640 | 13.820 | 0.000000 |

| | | |
|---|---|---|
| 185.640 | 13.810 | 0.000000 |
| 186.640 | 13.780 | 0.000000 |
| 187.640 | 13.730 | 0.000000 |
| 188.640 | 13.620 | 0.000000 |
| 189.640 | 13.470 | 0.000000 |
| 190.640 | 13.380 | 0.000000 |
| 191.640 | 13.350 | 0.000000 |
| 192.630 | 13.340 | 0.000000 |
| 193.630 | 13.340 | 0.000000 |
| 194.630 | 13.360 | 0.000000 |
| 195.630 | 13.410 | 0.000000 |
| 196.630 | 13.510 | 0.000000 |
| 197.630 | 13.660 | 0.000000 |
| 198.630 | 13.840 | 0.000000 |
| 199.630 | 14.030 | 0.000000 |
| 200.620 | 14.250 | 0.000000 |
| 201.620 | 14.600 | 0.000000 |
| 202.620 | 14.990 | 0.000000 |
| 203.620 | 15.230 | 0.000000 |
| 204.620 | 15.350 | 0.000000 |
| 205.620 | 15.520 | 0.000000 |
| 206.620 | 15.780 | 0.000000 |
| 207.620 | 16.010 | 0.000000 |
| 208.620 | 16.160 | 0.000000 |
| 209.610 | 16.300 | 0.000000 |
| 210.610 | 16.430 | 0.000000 |
| 211.610 | 16.520 | 0.000000 |
| 212.610 | 16.550 | 0.000000 |
| 213.610 | 16.530 | 0.000000 |
| 214.610 | 16.450 | 0.000000 |
| 215.610 | 16.360 | 0.000000 |

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Name: X042W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.130 | 0.000000 |
| 0.990 | 14.140 | 0.000000 |
| 1.980 | 14.120 | 0.000000 |
| 2.980 | 14.140 | 0.000000 |
| 3.970 | 14.160 | 0.000000 |
| 4.960 | 14.130 | 0.000000 |
| 5.950 | 14.110 | 0.000000 |
| 6.940 | 14.100 | 0.000000 |
| 7.940 | 14.090 | 0.000000 |
| 8.930 | 14.060 | 0.000000 |
| 9.920 | 14.030 | 0.000000 |
| 10.910 | 14.000 | 0.000000 |
| 11.900 | 13.970 | 0.000000 |
| 12.900 | 13.980 | 0.000000 |
| 13.890 | 14.010 | 0.000000 |
| 14.880 | 14.020 | 0.000000 |
| 15.870 | 14.010 | 0.000000 |
| 16.860 | 14.000 | 0.000000 |
| 17.860 | 13.970 | 0.000000 |
| 18.850 | 13.950 | 0.000000 |
| 19.840 | 13.940 | 0.000000 |
| 20.830 | 13.920 | 0.000000 |
| 21.820 | 13.900 | 0.000000 |
| 22.820 | 13.890 | 0.000000 |
| 23.810 | 13.880 | 0.000000 |
| 24.800 | 13.870 | 0.000000 |
| 25.790 | 13.860 | 0.000000 |
| 26.780 | 13.890 | 0.000000 |
| 27.780 | 13.920 | 0.000000 |
| 28.770 | 13.910 | 0.000000 |
| 29.760 | 13.880 | 0.000000 |
| 30.750 | 13.890 | 0.000000 |
| 31.740 | 13.910 | 0.000000 |
| 32.740 | 13.930 | 0.000000 |
| 33.730 | 13.950 | 0.000000 |
| 34.720 | 13.950 | 0.000000 |
| 35.710 | 13.920 | 0.000000 |
| 36.700 | 13.890 | 0.000000 |
| 37.700 | 13.870 | 0.000000 |
| 38.690 | 13.870 | 0.000000 |
| 39.690 | 13.870 | 0.000000 |
| 40.680 | 13.830 | 0.000000 |
| 41.680 | 13.840 | 0.000000 |
| 42.680 | 13.840 | 0.000000 |
| 43.670 | 13.830 | 0.000000 |
| 44.670 | 13.830 | 0.000000 |
| 45.660 | 13.850 | 0.000000 |
| 46.660 | 13.890 | 0.000000 |
| 47.660 | 13.900 | 0.000000 |

| | | |
|---|---|---|
| 48.650 | 13.870 | 0.000000 |
| 49.650 | 13.850 | 0.000000 |
| 50.640 | 13.860 | 0.000000 |
| 51.640 | 13.930 | 0.000000 |
| 52.640 | 13.970 | 0.000000 |
| 53.630 | 13.920 | 0.000000 |
| 54.630 | 13.930 | 0.000000 |
| 55.620 | 13.950 | 0.000000 |
| 56.620 | 13.990 | 0.000000 |
| 57.620 | 14.000 | 0.000000 |
| 58.610 | 14.010 | 0.000000 |
| 59.610 | 14.010 | 0.000000 |
| 60.600 | 14.010 | 0.000000 |
| 61.600 | 14.030 | 0.000000 |
| 62.600 | 14.030 | 0.000000 |
| 63.590 | 14.020 | 0.000000 |
| 64.590 | 14.040 | 0.000000 |
| 65.580 | 14.140 | 0.000000 |
| 66.580 | 14.200 | 0.000000 |
| 67.580 | 14.170 | 0.000000 |
| 68.570 | 14.130 | 0.000000 |
| 69.570 | 14.170 | 0.000000 |
| 70.560 | 14.210 | 0.000000 |
| 71.560 | 14.160 | 0.000000 |
| 72.560 | 14.130 | 0.000000 |
| 73.550 | 14.110 | 0.000000 |
| 74.550 | 14.130 | 0.000000 |
| 75.540 | 14.120 | 0.000000 |
| 76.540 | 14.110 | 0.000000 |
| 77.540 | 14.060 | 0.000000 |
| 78.530 | 14.090 | 0.000000 |
| 79.530 | 14.080 | 0.000000 |
| 80.520 | 14.080 | 0.000000 |
| 81.520 | 14.080 | 0.000000 |
| 82.520 | 14.070 | 0.000000 |
| 83.510 | 14.040 | 0.000000 |
| 84.510 | 14.030 | 0.000000 |
| 85.500 | 14.090 | 0.000000 |
| 86.500 | 14.100 | 0.000000 |
| 87.500 | 14.090 | 0.000000 |
| 88.490 | 14.080 | 0.000000 |
| 89.490 | 14.080 | 0.000000 |
| 90.490 | 14.090 | 0.000000 |
| 91.480 | 14.110 | 0.000000 |
| 92.480 | 14.180 | 0.000000 |
| 93.480 | 14.230 | 0.000000 |
| 94.470 | 14.230 | 0.000000 |
| 95.470 | 14.250 | 0.000000 |
| 96.460 | 14.240 | 0.000000 |
| 97.460 | 14.240 | 0.000000 |
| 98.460 | 14.220 | 0.000000 |
| 99.450 | 14.250 | 0.000000 |
| 100.450 | 14.270 | 0.000000 |
| 101.450 | 14.290 | 0.000000 |
| 102.440 | 14.310 | 0.000000 |
| 103.440 | 14.330 | 0.000000 |
| 104.440 | 14.380 | 0.000000 |
| 105.430 | 14.440 | 0.000000 |
| 106.430 | 14.440 | 0.000000 |
| 107.430 | 14.420 | 0.000000 |
| 108.420 | 14.390 | 0.000000 |
| 109.420 | 14.430 | 0.000000 |
| 110.410 | 14.470 | 0.000000 |
| 111.410 | 14.440 | 0.000000 |
| 112.410 | 14.430 | 0.000000 |
| 113.400 | 14.470 | 0.000000 |
| 114.400 | 14.480 | 0.000000 |
| 115.400 | 14.470 | 0.000000 |
| 116.390 | 14.480 | 0.000000 |
| 117.390 | 14.520 | 0.000000 |
| 118.390 | 14.530 | 0.000000 |
| 119.380 | 14.530 | 0.000000 |
| 120.380 | 14.530 | 0.000000 |
| 121.380 | 14.490 | 0.000000 |
| 122.370 | 14.480 | 0.000000 |
| 123.370 | 14.510 | 0.000000 |
| 124.360 | 14.530 | 0.000000 |
| 125.360 | 14.470 | 0.000000 |
| 126.360 | 14.430 | 0.000000 |
| 127.350 | 14.410 | 0.000000 |
| 128.330 | 14.410 | 0.000000 |
| 129.310 | 14.420 | 0.000000 |
| 130.290 | 14.420 | 0.000000 |
| 131.270 | 14.400 | 0.000000 |
| 132.250 | 14.380 | 0.000000 |
| 133.230 | 14.390 | 0.000000 |
| 134.210 | 14.400 | 0.000000 |
| 135.190 | 14.400 | 0.000000 |
| 136.170 | 14.400 | 0.000000 |

| | | |
|---|---|---|
| 137.150 | 14.420 | 0.000000 |
| 138.130 | 14.470 | 0.000000 |
| 139.110 | 14.540 | 0.000000 |
| 140.090 | 14.580 | 0.000000 |
| 141.070 | 14.550 | 0.000000 |
| 142.050 | 14.500 | 0.000000 |
| 143.030 | 14.480 | 0.000000 |
| 144.010 | 14.470 | 0.000000 |
| 144.990 | 14.460 | 0.000000 |
| 145.970 | 14.450 | 0.000000 |
| 146.950 | 14.450 | 0.000000 |
| 147.930 | 14.440 | 0.000000 |
| 148.910 | 14.420 | 0.000000 |
| 149.890 | 14.410 | 0.000000 |
| 150.870 | 14.400 | 0.000000 |
| 151.850 | 14.400 | 0.000000 |
| 152.830 | 14.390 | 0.000000 |
| 153.810 | 14.460 | 0.000000 |
| 154.790 | 14.550 | 0.000000 |
| 155.770 | 14.630 | 0.000000 |
| 156.760 | 14.680 | 0.000000 |
| 157.760 | 14.680 | 0.000000 |
| 158.760 | 14.670 | 0.000000 |
| 159.750 | 14.680 | 0.000000 |
| 160.750 | 14.710 | 0.000000 |
| 161.740 | 14.750 | 0.000000 |
| 162.740 | 14.770 | 0.000000 |
| 163.740 | 14.800 | 0.000000 |
| 164.730 | 14.760 | 0.000000 |
| 165.730 | 14.670 | 0.000000 |
| 166.720 | 14.640 | 0.000000 |
| 167.720 | 14.730 | 0.000000 |
| 168.720 | 14.870 | 0.000000 |
| 169.710 | 14.870 | 0.000000 |
| 170.710 | 14.790 | 0.000000 |
| 171.700 | 14.730 | 0.000000 |
| 172.700 | 14.770 | 0.000000 |
| 173.690 | 14.810 | 0.000000 |
| 174.690 | 14.820 | 0.000000 |
| 175.690 | 14.880 | 0.000000 |
| 176.680 | 14.910 | 0.000000 |
| 177.680 | 14.910 | 0.000000 |
| 178.670 | 14.880 | 0.000000 |
| 179.670 | 14.890 | 0.000000 |
| 180.670 | 14.940 | 0.000000 |
| 181.660 | 14.970 | 0.000000 |
| 182.660 | 14.990 | 0.000000 |
| 183.650 | 15.040 | 0.000000 |
| 184.650 | 15.090 | 0.000000 |
| 185.650 | 15.000 | 0.000000 |
| 186.640 | 14.930 | 0.000000 |
| 187.640 | 14.880 | 0.000000 |
| 188.630 | 14.880 | 0.000000 |
| 189.630 | 14.880 | 0.000000 |
| 190.620 | 14.880 | 0.000000 |
| 191.620 | 14.830 | 0.000000 |
| 192.620 | 14.780 | 0.000000 |
| 193.610 | 14.840 | 0.000000 |
| 194.610 | 14.860 | 0.000000 |
| 195.600 | 14.850 | 0.000000 |
| 196.600 | 14.810 | 0.000000 |
| 197.600 | 14.790 | 0.000000 |
| 198.590 | 14.800 | 0.000000 |
| 199.590 | 14.870 | 0.000000 |
| 200.580 | 14.910 | 0.000000 |
| 201.580 | 14.910 | 0.000000 |
| 202.580 | 14.850 | 0.000000 |
| 203.570 | 14.840 | 0.000000 |
| 204.570 | 14.910 | 0.000000 |
| 205.560 | 15.010 | 0.000000 |
| 206.560 | 15.060 | 0.000000 |
| 207.550 | 15.090 | 0.000000 |
| 208.550 | 15.020 | 0.000000 |
| 209.540 | 14.970 | 0.000000 |
| 210.530 | 14.920 | 0.000000 |
| 211.530 | 14.900 | 0.000000 |
| 212.520 | 14.920 | 0.000000 |
| 213.510 | 14.920 | 0.000000 |
| 214.500 | 14.930 | 0.000000 |
| 215.500 | 14.880 | 0.000000 |
| 216.490 | 14.900 | 0.000000 |
| 217.480 | 14.960 | 0.000000 |
| 218.470 | 14.970 | 0.000000 |
| 219.470 | 14.940 | 0.000000 |
| 220.460 | 14.910 | 0.000000 |
| 221.450 | 14.930 | 0.000000 |
| 222.440 | 14.900 | 0.000000 |
| 223.430 | 14.920 | 0.000000 |
| 224.430 | 14.960 | 0.000000 |

| | | |
|---|---|---|
| 225.420 | 14.980 | 0.000000 |
| 226.410 | 14.970 | 0.000000 |
| 227.400 | 14.940 | 0.000000 |
| 228.400 | 14.930 | 0.000000 |
| 229.390 | 14.920 | 0.000000 |
| 230.380 | 14.910 | 0.000000 |
| 231.370 | 14.920 | 0.000000 |
| 232.360 | 14.950 | 0.000000 |
| 233.360 | 14.970 | 0.000000 |
| 234.350 | 15.050 | 0.000000 |
| 235.340 | 15.070 | 0.000000 |
| 236.330 | 15.020 | 0.000000 |
| 237.330 | 14.950 | 0.000000 |
| 238.320 | 14.890 | 0.000000 |
| 239.310 | 14.840 | 0.000000 |
| 240.300 | 14.820 | 0.000000 |
| 241.300 | 14.820 | 0.000000 |
| 242.290 | 14.840 | 0.000000 |
| 243.280 | 14.880 | 0.000000 |
| 244.270 | 14.910 | 0.000000 |
| 245.260 | 14.910 | 0.000000 |
| 246.260 | 14.910 | 0.000000 |
| 247.250 | 14.910 | 0.000000 |
| 248.240 | 14.930 | 0.000000 |
| 249.230 | 14.960 | 0.000000 |
| 250.230 | 14.960 | 0.000000 |
| 251.220 | 14.960 | 0.000000 |
| 252.210 | 14.960 | 0.000000 |
| 253.200 | 14.950 | 0.000000 |
| 254.190 | 14.930 | 0.000000 |
| 255.190 | 14.910 | 0.000000 |
| 256.180 | 14.880 | 0.000000 |
| 257.170 | 14.850 | 0.000000 |
| 258.160 | 14.810 | 0.000000 |
| 259.160 | 14.740 | 0.000000 |
| 260.150 | 14.690 | 0.000000 |
| 261.140 | 14.670 | 0.000000 |
| 262.130 | 14.670 | 0.000000 |
| 263.120 | 14.690 | 0.000000 |
| 264.120 | 14.720 | 0.000000 |
| 265.110 | 14.720 | 0.000000 |
| 266.100 | 14.710 | 0.000000 |
| 267.090 | 14.720 | 0.000000 |
| 268.090 | 14.700 | 0.000000 |
| 269.080 | 14.690 | 0.000000 |
| 270.070 | 14.720 | 0.000000 |
| 271.060 | 14.730 | 0.000000 |
| 272.060 | 14.710 | 0.000000 |
| 273.050 | 14.700 | 0.000000 |
| 274.040 | 14.740 | 0.000000 |
| 275.030 | 14.810 | 0.000000 |
| 276.020 | 14.830 | 0.000000 |
| 277.020 | 14.790 | 0.000000 |
| 278.010 | 14.710 | 0.000000 |
| 279.000 | 14.620 | 0.000000 |
| 279.990 | 14.570 | 0.000000 |
| 280.990 | 14.610 | 0.000000 |
| 281.980 | 14.650 | 0.000000 |
| 282.970 | 14.670 | 0.000000 |
| 283.960 | 14.670 | 0.000000 |
| 284.950 | 14.660 | 0.000000 |
| 285.950 | 14.660 | 0.000000 |
| 286.940 | 14.660 | 0.000000 |
| 287.930 | 14.660 | 0.000000 |
| 288.920 | 14.670 | 0.000000 |
| 289.920 | 14.680 | 0.000000 |
| 290.910 | 14.700 | 0.000000 |
| 291.900 | 14.700 | 0.000000 |
| 292.890 | 14.720 | 0.000000 |
| 293.880 | 14.770 | 0.000000 |
| 294.880 | 14.790 | 0.000000 |
| 295.870 | 14.770 | 0.000000 |
| 296.860 | 14.780 | 0.000000 |
| 297.850 | 14.760 | 0.000000 |
| 298.850 | 14.760 | 0.000000 |
| 299.840 | 14.790 | 0.000000 |
| 300.830 | 14.810 | 0.000000 |
| 301.820 | 14.790 | 0.000000 |
| 302.820 | 14.780 | 0.000000 |
| 303.810 | 14.790 | 0.000000 |
| 304.800 | 14.820 | 0.000000 |
| 305.790 | 14.820 | 0.000000 |
| 306.780 | 14.800 | 0.000000 |
| 307.780 | 14.800 | 0.000000 |
| 308.770 | 14.840 | 0.000000 |
| 309.760 | 14.900 | 0.000000 |
| 310.750 | 14.900 | 0.000000 |
| 311.750 | 14.880 | 0.000000 |
| 312.740 | 14.880 | 0.000000 |

| | | |
|---|---|---|
| 313.730 | 14.880 | 0.000000 |
| 314.720 | 14.900 | 0.000000 |
| 315.710 | 14.920 | 0.000000 |
| 316.710 | 14.930 | 0.000000 |
| 317.700 | 14.920 | 0.000000 |
| 318.690 | 14.920 | 0.000000 |
| 319.680 | 14.890 | 0.000000 |
| 320.680 | 14.900 | 0.000000 |
| 321.670 | 14.960 | 0.000000 |
| 322.660 | 15.010 | 0.000000 |
| 323.650 | 15.050 | 0.000000 |
| 324.640 | 15.080 | 0.000000 |
| 325.640 | 15.110 | 0.000000 |

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Name: X042W2 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 13.880 | 0.000000 |
| 0.990 | 13.880 | 0.000000 |
| 1.980 | 13.900 | 0.000000 |
| 2.970 | 13.900 | 0.000000 |
| 3.960 | 13.870 | 0.000000 |
| 4.950 | 13.850 | 0.000000 |
| 5.940 | 13.840 | 0.000000 |
| 6.930 | 13.830 | 0.000000 |
| 7.930 | 13.800 | 0.000000 |
| 8.920 | 13.760 | 0.000000 |
| 9.910 | 13.720 | 0.000000 |
| 10.900 | 13.670 | 0.000000 |
| 11.890 | 13.650 | 0.000000 |
| 12.880 | 13.620 | 0.000000 |
| 13.870 | 13.570 | 0.000000 |
| 14.860 | 13.540 | 0.000000 |
| 15.850 | 13.510 | 0.000000 |
| 16.840 | 13.490 | 0.000000 |
| 17.830 | 13.470 | 0.000000 |
| 18.820 | 13.450 | 0.000000 |
| 19.810 | 13.420 | 0.000000 |
| 20.800 | 13.400 | 0.000000 |
| 21.790 | 13.400 | 0.000000 |
| 22.780 | 13.410 | 0.000000 |
| 23.780 | 13.420 | 0.000000 |
| 24.770 | 13.450 | 0.000000 |
| 25.760 | 13.460 | 0.000000 |
| 26.750 | 13.430 | 0.000000 |
| 27.740 | 13.410 | 0.000000 |
| 28.730 | 13.400 | 0.000000 |
| 29.720 | 13.400 | 0.000000 |
| 30.710 | 13.390 | 0.000000 |
| 31.700 | 13.370 | 0.000000 |
| 32.690 | 13.350 | 0.000000 |
| 33.680 | 13.350 | 0.000000 |
| 34.670 | 13.350 | 0.000000 |
| 35.660 | 13.340 | 0.000000 |
| 36.650 | 13.310 | 0.000000 |
| 37.640 | 13.280 | 0.000000 |
| 38.630 | 13.260 | 0.000000 |
| 39.630 | 13.250 | 0.000000 |
| 40.620 | 13.260 | 0.000000 |
| 41.610 | 13.260 | 0.000000 |
| 42.600 | 13.250 | 0.000000 |
| 43.590 | 13.250 | 0.000000 |
| 44.580 | 13.270 | 0.000000 |
| 45.570 | 13.270 | 0.000000 |
| 46.560 | 13.260 | 0.000000 |
| 47.550 | 13.260 | 0.000000 |
| 48.540 | 13.270 | 0.000000 |
| 49.530 | 13.270 | 0.000000 |
| 50.520 | 13.260 | 0.000000 |
| 51.510 | 13.250 | 0.000000 |
| 52.500 | 13.270 | 0.000000 |
| 53.490 | 13.300 | 0.000000 |
| 54.480 | 13.320 | 0.000000 |
| 55.480 | 13.350 | 0.000000 |
| 56.470 | 13.350 | 0.000000 |
| 57.460 | 13.360 | 0.000000 |
| 58.450 | 13.360 | 0.000000 |
| 59.440 | 13.350 | 0.000000 |
| 60.430 | 13.310 | 0.000000 |
| 61.420 | 13.280 | 0.000000 |
| 62.410 | 13.270 | 0.000000 |
| 63.400 | 13.270 | 0.000000 |
| 64.390 | 13.300 | 0.000000 |
| 65.380 | 13.300 | 0.000000 |

| | | |
|---|---|---|
| 66.370 | 13.300 | 0.000000 |
| 67.360 | 13.300 | 0.000000 |
| 68.350 | 13.290 | 0.000000 |
| 69.340 | 13.280 | 0.000000 |
| 70.330 | 13.270 | 0.000000 |
| 71.330 | 13.270 | 0.000000 |
| 72.320 | 13.260 | 0.000000 |
| 73.310 | 13.270 | 0.000000 |
| 74.300 | 13.260 | 0.000000 |
| 75.290 | 13.270 | 0.000000 |
| 76.280 | 13.270 | 0.000000 |
| 77.270 | 13.270 | 0.000000 |
| 78.260 | 13.270 | 0.000000 |
| 79.250 | 13.270 | 0.000000 |
| 80.250 | 13.260 | 0.000000 |
| 81.250 | 13.240 | 0.000000 |
| 82.250 | 13.230 | 0.000000 |
| 83.250 | 13.230 | 0.000000 |
| 84.250 | 13.230 | 0.000000 |
| 85.240 | 13.230 | 0.000000 |
| 86.240 | 13.250 | 0.000000 |
| 87.240 | 13.270 | 0.000000 |
| 88.240 | 13.280 | 0.000000 |
| 89.240 | 13.290 | 0.000000 |
| 90.240 | 13.290 | 0.000000 |
| 91.240 | 13.280 | 0.000000 |
| 92.240 | 13.280 | 0.000000 |
| 93.240 | 13.280 | 0.000000 |
| 94.240 | 13.300 | 0.000000 |
| 95.240 | 13.320 | 0.000000 |
| 96.230 | 13.300 | 0.000000 |
| 97.230 | 13.280 | 0.000000 |
| 98.230 | 13.270 | 0.000000 |
| 99.230 | 13.270 | 0.000000 |
| 100.230 | 13.290 | 0.000000 |
| 101.230 | 13.290 | 0.000000 |
| 102.230 | 13.310 | 0.000000 |
| 103.230 | 13.360 | 0.000000 |
| 104.230 | 13.360 | 0.000000 |
| 105.230 | 13.340 | 0.000000 |
| 106.220 | 13.300 | 0.000000 |
| 107.220 | 13.280 | 0.000000 |
| 108.220 | 13.270 | 0.000000 |
| 109.220 | 13.260 | 0.000000 |
| 110.220 | 13.270 | 0.000000 |
| 111.220 | 13.270 | 0.000000 |
| 112.220 | 13.270 | 0.000000 |
| 113.220 | 13.270 | 0.000000 |
| 114.220 | 13.270 | 0.000000 |
| 115.220 | 13.270 | 0.000000 |
| 116.220 | 13.260 | 0.000000 |
| 117.210 | 13.250 | 0.000000 |
| 118.210 | 13.250 | 0.000000 |
| 119.210 | 13.250 | 0.000000 |
| 120.210 | 13.250 | 0.000000 |
| 121.210 | 13.270 | 0.000000 |
| 122.210 | 13.270 | 0.000000 |
| 123.210 | 13.270 | 0.000000 |
| 124.210 | 13.270 | 0.000000 |
| 125.210 | 13.280 | 0.000000 |
| 126.210 | 13.270 | 0.000000 |
| 127.200 | 13.270 | 0.000000 |
| 128.200 | 13.280 | 0.000000 |
| 129.200 | 13.290 | 0.000000 |
| 130.200 | 13.310 | 0.000000 |
| 131.200 | 13.330 | 0.000000 |
| 132.200 | 13.350 | 0.000000 |
| 133.200 | 13.340 | 0.000000 |
| 134.200 | 13.340 | 0.000000 |
| 135.200 | 13.320 | 0.000000 |
| 136.200 | 13.310 | 0.000000 |
| 137.200 | 13.300 | 0.000000 |
| 138.190 | 13.280 | 0.000000 |
| 139.190 | 13.280 | 0.000000 |
| 140.190 | 13.280 | 0.000000 |
| 141.190 | 13.280 | 0.000000 |
| 142.190 | 13.280 | 0.000000 |
| 143.190 | 13.270 | 0.000000 |
| 144.190 | 13.260 | 0.000000 |
| 145.190 | 13.240 | 0.000000 |
| 146.190 | 13.230 | 0.000000 |
| 147.190 | 13.230 | 0.000000 |
| 148.180 | 13.240 | 0.000000 |
| 149.180 | 13.240 | 0.000000 |
| 150.180 | 13.220 | 0.000000 |
| 151.180 | 13.220 | 0.000000 |
| 152.180 | 13.220 | 0.000000 |
| 153.180 | 13.220 | 0.000000 |
| 154.180 | 13.230 | 0.000000 |

| | | |
|---|---|---|
| 155.180 | 13.240 | 0.000000 |
| 156.180 | 13.250 | 0.000000 |
| 157.180 | 13.240 | 0.000000 |
| 158.180 | 13.230 | 0.000000 |
| 159.170 | 13.250 | 0.000000 |
| 160.170 | 13.270 | 0.000000 |
| 161.170 | 13.280 | 0.000000 |
| 162.170 | 13.260 | 0.000000 |
| 163.170 | 13.270 | 0.000000 |
| 164.170 | 13.280 | 0.000000 |
| 165.170 | 13.300 | 0.000000 |
| 166.170 | 13.310 | 0.000000 |
| 167.170 | 13.310 | 0.000000 |
| 168.170 | 13.300 | 0.000000 |
| 169.170 | 13.290 | 0.000000 |
| 170.170 | 13.300 | 0.000000 |
| 171.170 | 13.310 | 0.000000 |
| 172.170 | 13.300 | 0.000000 |
| 173.170 | 13.310 | 0.000000 |
| 174.170 | 13.300 | 0.000000 |
| 175.170 | 13.300 | 0.000000 |
| 176.170 | 13.300 | 0.000000 |
| 177.170 | 13.300 | 0.000000 |
| 178.170 | 13.320 | 0.000000 |
| 179.170 | 13.290 | 0.000000 |
| 180.170 | 13.280 | 0.000000 |
| 181.170 | 13.300 | 0.000000 |
| 182.170 | 13.300 | 0.000000 |
| 183.170 | 13.300 | 0.000000 |
| 184.170 | 13.300 | 0.000000 |
| 185.170 | 13.310 | 0.000000 |
| 186.170 | 13.290 | 0.000000 |
| 187.170 | 13.280 | 0.000000 |
| 188.170 | 13.250 | 0.000000 |
| 189.170 | 13.250 | 0.000000 |
| 190.170 | 13.280 | 0.000000 |
| 191.170 | 13.310 | 0.000000 |
| 192.170 | 13.320 | 0.000000 |
| 193.170 | 13.290 | 0.000000 |
| 194.170 | 13.290 | 0.000000 |
| 195.170 | 13.280 | 0.000000 |
| 196.170 | 13.270 | 0.000000 |
| 197.170 | 13.260 | 0.000000 |
| 198.170 | 13.250 | 0.000000 |
| 199.170 | 13.250 | 0.000000 |
| 200.170 | 13.240 | 0.000000 |
| 201.170 | 13.270 | 0.000000 |
| 202.160 | 13.290 | 0.000000 |
| 203.160 | 13.300 | 0.000000 |
| 204.160 | 13.290 | 0.000000 |
| 205.160 | 13.290 | 0.000000 |
| 206.160 | 13.290 | 0.000000 |
| 207.160 | 13.280 | 0.000000 |
| 208.160 | 13.270 | 0.000000 |
| 209.160 | 13.260 | 0.000000 |
| 210.160 | 13.260 | 0.000000 |
| 211.160 | 13.260 | 0.000000 |
| 212.160 | 13.240 | 0.000000 |
| 213.160 | 13.230 | 0.000000 |
| 214.160 | 13.230 | 0.000000 |
| 215.160 | 13.230 | 0.000000 |
| 216.160 | 13.240 | 0.000000 |
| 217.160 | 13.230 | 0.000000 |
| 218.160 | 13.230 | 0.000000 |
| 219.160 | 13.240 | 0.000000 |
| 220.160 | 13.250 | 0.000000 |
| 221.160 | 13.270 | 0.000000 |
| 222.160 | 13.340 | 0.000000 |
| 223.160 | 13.420 | 0.000000 |
| 224.160 | 13.390 | 0.000000 |
| 225.160 | 13.350 | 0.000000 |
| 226.160 | 13.370 | 0.000000 |
| 227.160 | 13.350 | 0.000000 |
| 228.160 | 13.370 | 0.000000 |
| 229.160 | 13.340 | 0.000000 |
| 230.160 | 13.320 | 0.000000 |
| 231.160 | 13.290 | 0.000000 |
| 232.160 | 13.290 | 0.000000 |
| 233.160 | 13.270 | 0.000000 |
| 234.160 | 13.240 | 0.000000 |
| 235.160 | 13.230 | 0.000000 |
| 236.160 | 13.240 | 0.000000 |
| 237.160 | 13.250 | 0.000000 |
| 238.160 | 13.250 | 0.000000 |
| 239.160 | 13.260 | 0.000000 |
| 240.160 | 13.260 | 0.000000 |
| 241.160 | 13.270 | 0.000000 |
| 242.160 | 13.290 | 0.000000 |
| 243.160 | 13.300 | 0.000000 |

| | | |
|---|---|---|
| 244.160 | 13.280 | 0.000000 |
| 245.160 | 13.260 | 0.000000 |
| 246.160 | 13.250 | 0.000000 |
| 247.160 | 13.250 | 0.000000 |
| 248.160 | 13.310 | 0.000000 |
| 249.160 | 13.290 | 0.000000 |
| 250.160 | 13.270 | 0.000000 |
| 251.160 | 13.320 | 0.000000 |
| 252.160 | 13.380 | 0.000000 |
| 253.160 | 13.380 | 0.000000 |
| 254.160 | 13.400 | 0.000000 |
| 255.160 | 13.440 | 0.000000 |
| 256.160 | 13.440 | 0.000000 |
| 257.160 | 13.360 | 0.000000 |
| 258.150 | 13.310 | 0.000000 |
| 259.150 | 13.300 | 0.000000 |
| 260.150 | 13.280 | 0.000000 |
| 261.150 | 13.280 | 0.000000 |
| 262.150 | 13.270 | 0.000000 |
| 263.150 | 13.290 | 0.000000 |
| 264.150 | 13.300 | 0.000000 |
| 265.150 | 13.300 | 0.000000 |
| 266.150 | 13.300 | 0.000000 |
| 267.150 | 13.300 | 0.000000 |
| 268.150 | 13.300 | 0.000000 |
| 269.150 | 13.300 | 0.000000 |
| 270.150 | 13.310 | 0.000000 |
| 271.150 | 13.310 | 0.000000 |
| 272.150 | 13.320 | 0.000000 |
| 273.150 | 13.340 | 0.000000 |
| 274.150 | 13.340 | 0.000000 |
| 275.150 | 13.340 | 0.000000 |
| 276.150 | 13.340 | 0.000000 |
| 277.150 | 13.310 | 0.000000 |
| 278.150 | 13.280 | 0.000000 |
| 279.150 | 13.300 | 0.000000 |
| 280.150 | 13.360 | 0.000000 |
| 281.150 | 13.490 | 0.000000 |
| 282.150 | 13.620 | 0.000000 |
| 283.150 | 13.780 | 0.000000 |
| 284.150 | 13.910 | 0.000000 |
| 285.150 | 14.010 | 0.000000 |
| 286.150 | 13.930 | 0.000000 |
| 287.150 | 13.700 | 0.000000 |
| 288.150 | 13.860 | 0.000000 |
| 289.150 | 13.850 | 0.000000 |
| 290.150 | 13.810 | 0.000000 |
| 291.150 | 13.790 | 0.000000 |
| 292.150 | 13.810 | 0.000000 |
| 293.150 | 13.790 | 0.000000 |
| 294.150 | 13.830 | 0.000000 |
| 295.150 | 13.880 | 0.000000 |
| 296.150 | 13.860 | 0.000000 |
| 297.150 | 13.770 | 0.000000 |
| 298.150 | 13.720 | 0.000000 |
| 299.150 | 13.680 | 0.000000 |
| 300.150 | 13.670 | 0.000000 |
| 301.150 | 13.730 | 0.000000 |
| 302.150 | 13.770 | 0.000000 |
| 303.150 | 13.700 | 0.000000 |
| 304.130 | 13.780 | 0.000000 |
| 305.120 | 13.880 | 0.000000 |
| 306.110 | 13.890 | 0.000000 |
| 307.100 | 13.810 | 0.000000 |
| 308.090 | 13.710 | 0.000000 |
| 309.070 | 13.680 | 0.000000 |
| 310.060 | 13.640 | 0.000000 |
| 311.050 | 13.530 | 0.000000 |
| 312.040 | 13.540 | 0.000000 |
| 313.020 | 13.600 | 0.000000 |
| 314.010 | 13.600 | 0.000000 |
| 315.000 | 13.590 | 0.000000 |
| 315.990 | 13.620 | 0.000000 |
| 316.970 | 13.670 | 0.000000 |
| 317.960 | 13.710 | 0.000000 |
| 318.950 | 13.660 | 0.000000 |
| 319.940 | 13.670 | 0.000000 |
| 320.920 | 13.640 | 0.000000 |
| 321.910 | 13.630 | 0.000000 |
| 322.900 | 13.640 | 0.000000 |
| 323.890 | 13.540 | 0.000000 |
| 324.880 | 13.510 | 0.000000 |
| 325.860 | 13.500 | 0.000000 |
| 326.850 | 13.490 | 0.000000 |
| 327.840 | 13.480 | 0.000000 |
| 328.830 | 13.410 | 0.000000 |
| 329.810 | 13.410 | 0.000000 |
| 330.800 | 13.410 | 0.000000 |
| 331.790 | 13.390 | 0.000000 |

| | | |
|---|---|---|
| 332.780 | 13.380 | 0.000000 |
| 333.760 | 13.400 | 0.000000 |
| 334.750 | 13.410 | 0.000000 |
| 335.740 | 13.420 | 0.000000 |
| 336.730 | 13.450 | 0.000000 |
| 337.710 | 13.490 | 0.000000 |
| 338.700 | 13.570 | 0.000000 |
| 339.690 | 13.620 | 0.000000 |
| 340.680 | 13.530 | 0.000000 |
| 341.670 | 13.440 | 0.000000 |
| 342.650 | 13.420 | 0.000000 |
| 343.640 | 13.430 | 0.000000 |
| 344.630 | 13.470 | 0.000000 |
| 345.620 | 13.490 | 0.000000 |
| 346.600 | 13.500 | 0.000000 |
| 347.590 | 13.510 | 0.000000 |
| 348.580 | 13.520 | 0.000000 |
| 349.570 | 13.510 | 0.000000 |
| 350.550 | 13.510 | 0.000000 |
| 351.540 | 13.520 | 0.000000 |
| 352.530 | 13.510 | 0.000000 |
| 353.520 | 13.520 | 0.000000 |
| 354.500 | 13.570 | 0.000000 |
| 355.490 | 13.630 | 0.000000 |
| 356.480 | 13.580 | 0.000000 |
| 357.470 | 13.530 | 0.000000 |
| 358.460 | 13.520 | 0.000000 |
| 359.440 | 13.510 | 0.000000 |
| 360.430 | 13.500 | 0.000000 |
| 361.420 | 13.540 | 0.000000 |
| 362.410 | 13.560 | 0.000000 |
| 363.390 | 13.550 | 0.000000 |
| 364.380 | 13.540 | 0.000000 |
| 365.370 | 13.540 | 0.000000 |
| 366.360 | 13.540 | 0.000000 |
| 367.340 | 13.560 | 0.000000 |
| 368.330 | 13.570 | 0.000000 |
| 369.320 | 13.570 | 0.000000 |
| 370.310 | 13.570 | 0.000000 |
| 371.290 | 13.590 | 0.000000 |
| 372.280 | 13.630 | 0.000000 |
| 373.270 | 13.640 | 0.000000 |
| 374.260 | 13.630 | 0.000000 |
| 375.250 | 13.610 | 0.000000 |
| 376.230 | 13.620 | 0.000000 |
| 377.220 | 13.660 | 0.000000 |
| 378.210 | 13.670 | 0.000000 |
| 379.200 | 13.630 | 0.000000 |
| 380.190 | 13.580 | 0.000000 |
| 381.180 | 13.570 | 0.000000 |
| 382.180 | 13.570 | 0.000000 |
| 383.170 | 13.560 | 0.000000 |
| 384.160 | 13.580 | 0.000000 |
| 385.150 | 13.580 | 0.000000 |
| 386.150 | 13.550 | 0.000000 |
| 387.140 | 13.490 | 0.000000 |
| 388.130 | 13.430 | 0.000000 |
| 389.130 | 13.420 | 0.000000 |
| 390.120 | 13.400 | 0.000000 |
| 391.110 | 13.380 | 0.000000 |
| 392.110 | 13.380 | 0.000000 |
| 393.100 | 13.350 | 0.000000 |
| 394.090 | 13.380 | 0.000000 |
| 395.090 | 13.390 | 0.000000 |
| 396.080 | 13.370 | 0.000000 |
| 397.070 | 13.370 | 0.000000 |
| 398.070 | 13.400 | 0.000000 |
| 399.060 | 13.440 | 0.000000 |
| 400.050 | 13.500 | 0.000000 |
| 401.040 | 13.540 | 0.000000 |
| 402.040 | 13.510 | 0.000000 |
| 403.030 | 13.430 | 0.000000 |
| 404.020 | 13.370 | 0.000000 |
| 405.020 | 13.330 | 0.000000 |
| 406.010 | 13.310 | 0.000000 |
| 407.000 | 13.300 | 0.000000 |
| 408.000 | 13.320 | 0.000000 |
| 408.990 | 13.350 | 0.000000 |
| 409.980 | 13.390 | 0.000000 |
| 410.980 | 13.410 | 0.000000 |
| 411.970 | 13.420 | 0.000000 |
| 412.960 | 13.430 | 0.000000 |
| 413.960 | 13.450 | 0.000000 |
| 414.950 | 13.510 | 0.000000 |
| 415.940 | 13.540 | 0.000000 |
| 416.930 | 13.560 | 0.000000 |
| 417.930 | 13.560 | 0.000000 |
| 418.920 | 13.570 | 0.000000 |
| 419.910 | 13.600 | 0.000000 |

| | | |
|---|---|---|
| 420.910 | 13.610 | 0.000000 |
| 421.900 | 13.570 | 0.000000 |
| 422.890 | 13.570 | 0.000000 |
| 423.890 | 13.550 | 0.000000 |
| 424.880 | 13.560 | 0.000000 |
| 425.870 | 13.580 | 0.000000 |
| 426.870 | 13.580 | 0.000000 |
| 427.860 | 13.580 | 0.000000 |
| 428.850 | 13.580 | 0.000000 |
| 429.850 | 13.550 | 0.000000 |
| 430.840 | 13.540 | 0.000000 |
| 431.830 | 13.580 | 0.000000 |
| 432.820 | 13.620 | 0.000000 |
| 433.820 | 13.640 | 0.000000 |
| 434.810 | 13.660 | 0.000000 |
| 435.800 | 13.680 | 0.000000 |

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Name: X043W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.190 | 0.000000 |
| 0.980 | 14.180 | 0.000000 |
| 1.970 | 14.190 | 0.000000 |
| 2.950 | 14.160 | 0.000000 |
| 3.940 | 14.130 | 0.000000 |
| 4.920 | 14.110 | 0.000000 |
| 5.900 | 14.100 | 0.000000 |
| 6.890 | 14.100 | 0.000000 |
| 7.870 | 14.090 | 0.000000 |
| 8.860 | 14.060 | 0.000000 |
| 9.840 | 14.040 | 0.000000 |
| 10.830 | 14.020 | 0.000000 |
| 11.810 | 14.000 | 0.000000 |
| 12.790 | 14.000 | 0.000000 |
| 13.780 | 14.000 | 0.000000 |
| 14.760 | 14.000 | 0.000000 |
| 15.750 | 13.990 | 0.000000 |
| 16.730 | 13.980 | 0.000000 |
| 17.710 | 13.990 | 0.000000 |
| 18.700 | 13.970 | 0.000000 |
| 19.680 | 13.950 | 0.000000 |
| 20.670 | 13.960 | 0.000000 |
| 21.650 | 13.970 | 0.000000 |
| 22.630 | 13.970 | 0.000000 |
| 23.620 | 13.960 | 0.000000 |
| 24.600 | 13.940 | 0.000000 |
| 25.590 | 13.920 | 0.000000 |
| 26.570 | 13.940 | 0.000000 |
| 27.550 | 13.940 | 0.000000 |
| 28.540 | 13.940 | 0.000000 |
| 29.520 | 13.960 | 0.000000 |
| 30.510 | 13.960 | 0.000000 |
| 31.490 | 13.960 | 0.000000 |
| 32.480 | 13.940 | 0.000000 |
| 33.460 | 13.910 | 0.000000 |
| 34.440 | 13.910 | 0.000000 |
| 35.430 | 13.910 | 0.000000 |
| 36.410 | 13.890 | 0.000000 |
| 37.400 | 13.880 | 0.000000 |
| 38.380 | 13.870 | 0.000000 |
| 39.360 | 13.850 | 0.000000 |
| 40.350 | 13.860 | 0.000000 |
| 41.330 | 13.880 | 0.000000 |
| 42.320 | 13.870 | 0.000000 |
| 43.300 | 13.860 | 0.000000 |
| 44.280 | 13.850 | 0.000000 |
| 45.270 | 13.830 | 0.000000 |
| 46.250 | 13.820 | 0.000000 |
| 47.240 | 13.830 | 0.000000 |
| 48.220 | 13.830 | 0.000000 |
| 49.210 | 13.840 | 0.000000 |
| 50.190 | 13.870 | 0.000000 |
| 51.170 | 13.880 | 0.000000 |
| 52.160 | 13.900 | 0.000000 |
| 53.150 | 13.910 | 0.000000 |
| 54.140 | 13.910 | 0.000000 |
| 55.140 | 13.950 | 0.000000 |
| 56.130 | 14.000 | 0.000000 |
| 57.120 | 13.970 | 0.000000 |
| 58.110 | 13.920 | 0.000000 |
| 59.110 | 13.880 | 0.000000 |
| 60.100 | 13.860 | 0.000000 |
| 61.090 | 13.820 | 0.000000 |
| 62.090 | 13.800 | 0.000000 |

| | | |
|---|---|---|
| 63.080 | 13.800 | 0.000000 |
| 64.070 | 13.790 | 0.000000 |
| 65.060 | 13.800 | 0.000000 |
| 66.060 | 13.800 | 0.000000 |
| 67.050 | 13.790 | 0.000000 |
| 68.040 | 13.780 | 0.000000 |
| 69.040 | 13.790 | 0.000000 |
| 70.030 | 13.790 | 0.000000 |
| 71.020 | 13.780 | 0.000000 |
| 72.010 | 13.760 | 0.000000 |
| 73.010 | 13.750 | 0.000000 |
| 74.000 | 13.750 | 0.000000 |
| 74.990 | 13.770 | 0.000000 |
| 75.990 | 13.780 | 0.000000 |
| 76.980 | 13.800 | 0.000000 |
| 77.970 | 13.770 | 0.000000 |
| 78.970 | 13.750 | 0.000000 |
| 79.960 | 13.750 | 0.000000 |
| 80.950 | 13.750 | 0.000000 |
| 81.940 | 13.740 | 0.000000 |
| 82.940 | 13.730 | 0.000000 |
| 83.930 | 13.710 | 0.000000 |
| 84.920 | 13.690 | 0.000000 |
| 85.920 | 13.690 | 0.000000 |
| 86.910 | 13.700 | 0.000000 |
| 87.900 | 13.700 | 0.000000 |
| 88.890 | 13.700 | 0.000000 |
| 89.890 | 13.720 | 0.000000 |
| 90.880 | 13.750 | 0.000000 |
| 91.870 | 13.760 | 0.000000 |
| 92.870 | 13.770 | 0.000000 |
| 93.860 | 13.800 | 0.000000 |
| 94.850 | 13.830 | 0.000000 |
| 95.840 | 13.830 | 0.000000 |
| 96.840 | 13.810 | 0.000000 |
| 97.830 | 13.800 | 0.000000 |
| 98.820 | 13.760 | 0.000000 |
| 99.820 | 13.760 | 0.000000 |
| 100.810 | 13.750 | 0.000000 |
| 101.800 | 13.740 | 0.000000 |
| 102.790 | 13.750 | 0.000000 |
| 103.790 | 13.770 | 0.000000 |
| 104.780 | 13.820 | 0.000000 |
| 105.770 | 13.850 | 0.000000 |
| 106.760 | 13.810 | 0.000000 |
| 107.750 | 13.750 | 0.000000 |
| 108.730 | 13.720 | 0.000000 |
| 109.720 | 13.750 | 0.000000 |
| 110.710 | 13.810 | 0.000000 |
| 111.700 | 13.820 | 0.000000 |
| 112.680 | 13.770 | 0.000000 |
| 113.670 | 13.710 | 0.000000 |
| 114.660 | 13.680 | 0.000000 |
| 115.650 | 13.660 | 0.000000 |
| 116.630 | 13.660 | 0.000000 |
| 117.620 | 13.670 | 0.000000 |
| 118.610 | 13.650 | 0.000000 |
| 119.590 | 13.640 | 0.000000 |
| 120.580 | 13.650 | 0.000000 |
| 121.570 | 13.720 | 0.000000 |
| 122.560 | 13.800 | 0.000000 |
| 123.540 | 13.790 | 0.000000 |
| 124.530 | 13.770 | 0.000000 |
| 125.520 | 13.770 | 0.000000 |
| 126.510 | 13.750 | 0.000000 |
| 127.490 | 13.730 | 0.000000 |
| 128.480 | 13.750 | 0.000000 |
| 129.470 | 13.770 | 0.000000 |
| 130.450 | 13.750 | 0.000000 |
| 131.440 | 13.730 | 0.000000 |
| 132.430 | 13.700 | 0.000000 |
| 133.420 | 13.710 | 0.000000 |
| 134.400 | 13.720 | 0.000000 |
| 135.390 | 13.720 | 0.000000 |
| 136.380 | 13.740 | 0.000000 |
| 137.370 | 13.780 | 0.000000 |
| 138.350 | 13.830 | 0.000000 |
| 139.340 | 13.870 | 0.000000 |
| 140.330 | 13.850 | 0.000000 |
| 141.310 | 13.790 | 0.000000 |
| 142.300 | 13.760 | 0.000000 |
| 143.290 | 13.730 | 0.000000 |
| 144.280 | 13.680 | 0.000000 |
| 145.260 | 13.650 | 0.000000 |
| 146.250 | 13.630 | 0.000000 |
| 147.240 | 13.620 | 0.000000 |
| 148.230 | 13.630 | 0.000000 |
| 149.210 | 13.620 | 0.000000 |
| 150.200 | 13.610 | 0.000000 |

| | | |
|---|---|---|
| 151.190 | 13.630 | 0.000000 |
| 152.170 | 13.630 | 0.000000 |
| 153.160 | 13.630 | 0.000000 |
| 154.150 | 13.650 | 0.000000 |
| 155.140 | 13.670 | 0.000000 |
| 156.120 | 13.680 | 0.000000 |
| 157.110 | 13.690 | 0.000000 |
| 158.100 | 13.690 | 0.000000 |
| 159.090 | 13.710 | 0.000000 |
| 160.070 | 13.730 | 0.000000 |
| 161.060 | 13.740 | 0.000000 |
| 162.050 | 13.760 | 0.000000 |
| 163.030 | 13.780 | 0.000000 |
| 164.020 | 13.830 | 0.000000 |
| 165.010 | 13.850 | 0.000000 |
| 166.000 | 13.840 | 0.000000 |
| 166.980 | 13.800 | 0.000000 |
| 167.970 | 13.780 | 0.000000 |
| 168.960 | 13.770 | 0.000000 |
| 169.950 | 13.760 | 0.000000 |
| 170.930 | 13.770 | 0.000000 |
| 171.920 | 13.790 | 0.000000 |
| 172.910 | 13.820 | 0.000000 |
| 173.890 | 13.840 | 0.000000 |
| 174.880 | 13.850 | 0.000000 |
| 175.880 | 13.830 | 0.000000 |
| 176.870 | 13.790 | 0.000000 |
| 177.860 | 13.740 | 0.000000 |
| 178.850 | 13.720 | 0.000000 |
| 179.840 | 13.710 | 0.000000 |
| 180.830 | 13.690 | 0.000000 |
| 181.820 | 13.670 | 0.000000 |
| 182.810 | 13.660 | 0.000000 |
| 183.800 | 13.670 | 0.000000 |
| 184.790 | 13.670 | 0.000000 |
| 185.780 | 13.670 | 0.000000 |
| 186.770 | 13.670 | 0.000000 |
| 187.760 | 13.670 | 0.000000 |
| 188.750 | 13.680 | 0.000000 |
| 189.750 | 13.680 | 0.000000 |
| 190.740 | 13.670 | 0.000000 |
| 191.730 | 13.670 | 0.000000 |
| 192.720 | 13.670 | 0.000000 |
| 193.710 | 13.660 | 0.000000 |
| 194.700 | 13.670 | 0.000000 |
| 195.690 | 13.670 | 0.000000 |
| 196.680 | 13.660 | 0.000000 |
| 197.670 | 13.650 | 0.000000 |
| 198.660 | 13.650 | 0.000000 |
| 199.650 | 13.660 | 0.000000 |
| 200.640 | 13.660 | 0.000000 |
| 201.630 | 13.670 | 0.000000 |
| 202.620 | 13.680 | 0.000000 |
| 203.610 | 13.670 | 0.000000 |
| 204.610 | 13.670 | 0.000000 |
| 205.600 | 13.660 | 0.000000 |
| 206.590 | 13.680 | 0.000000 |
| 207.580 | 13.700 | 0.000000 |
| 208.570 | 13.720 | 0.000000 |
| 209.560 | 13.730 | 0.000000 |
| 210.550 | 13.750 | 0.000000 |
| 211.540 | 13.790 | 0.000000 |
| 212.530 | 13.800 | 0.000000 |
| 213.520 | 13.780 | 0.000000 |
| 214.510 | 13.750 | 0.000000 |
| 215.500 | 13.730 | 0.000000 |
| 216.490 | 13.730 | 0.000000 |
| 217.480 | 13.730 | 0.000000 |
| 218.480 | 13.720 | 0.000000 |
| 219.470 | 13.690 | 0.000000 |
| 220.460 | 13.680 | 0.000000 |
| 221.450 | 13.660 | 0.000000 |
| 222.440 | 13.650 | 0.000000 |
| 223.430 | 13.630 | 0.000000 |
| 224.420 | 13.620 | 0.000000 |
| 225.410 | 13.640 | 0.000000 |
| 226.400 | 13.680 | 0.000000 |
| 227.390 | 13.680 | 0.000000 |
| 228.380 | 13.660 | 0.000000 |
| 229.370 | 13.670 | 0.000000 |
| 230.360 | 13.680 | 0.000000 |
| 231.350 | 13.690 | 0.000000 |
| 232.340 | 13.710 | 0.000000 |
| 233.340 | 13.710 | 0.000000 |
| 234.330 | 13.720 | 0.000000 |
| 235.320 | 13.710 | 0.000000 |
| 236.310 | 13.700 | 0.000000 |
| 237.300 | 13.690 | 0.000000 |
| 238.290 | 13.720 | 0.000000 |

| | | |
|---|---|---|
| 239.280 | 13.740 | 0.000000 |
| 240.270 | 13.730 | 0.000000 |
| 241.260 | 13.710 | 0.000000 |
| 242.250 | 13.700 | 0.000000 |
| 243.240 | 13.690 | 0.000000 |
| 244.230 | 13.720 | 0.000000 |
| 245.220 | 13.740 | 0.000000 |
| 246.210 | 13.740 | 0.000000 |
| 247.210 | 13.720 | 0.000000 |
| 248.200 | 13.710 | 0.000000 |
| 249.180 | 13.740 | 0.000000 |
| 250.160 | 13.750 | 0.000000 |
| 251.140 | 13.750 | 0.000000 |
| 252.120 | 13.750 | 0.000000 |
| 253.100 | 13.760 | 0.000000 |
| 254.090 | 13.760 | 0.000000 |
| 255.070 | 13.760 | 0.000000 |
| 256.050 | 13.770 | 0.000000 |
| 257.030 | 13.810 | 0.000000 |
| 258.010 | 13.830 | 0.000000 |
| 259.000 | 13.840 | 0.000000 |
| 259.980 | 13.860 | 0.000000 |
| 260.960 | 13.860 | 0.000000 |
| 261.940 | 13.840 | 0.000000 |
| 262.920 | 13.810 | 0.000000 |
| 263.900 | 13.810 | 0.000000 |
| 264.890 | 13.820 | 0.000000 |
| 265.870 | 13.840 | 0.000000 |
| 266.850 | 13.860 | 0.000000 |
| 267.830 | 13.900 | 0.000000 |
| 268.810 | 13.910 | 0.000000 |
| 269.790 | 13.910 | 0.000000 |
| 270.780 | 13.910 | 0.000000 |
| 271.760 | 13.890 | 0.000000 |
| 272.740 | 13.880 | 0.000000 |
| 273.720 | 13.890 | 0.000000 |
| 274.700 | 13.900 | 0.000000 |
| 275.680 | 13.910 | 0.000000 |
| 276.670 | 13.920 | 0.000000 |
| 277.650 | 13.920 | 0.000000 |
| 278.630 | 13.940 | 0.000000 |
| 279.610 | 13.950 | 0.000000 |
| 280.590 | 13.960 | 0.000000 |
| 281.570 | 13.970 | 0.000000 |
| 282.560 | 13.950 | 0.000000 |
| 283.540 | 13.920 | 0.000000 |
| 284.520 | 13.920 | 0.000000 |
| 285.500 | 13.930 | 0.000000 |
| 286.480 | 13.930 | 0.000000 |
| 287.470 | 13.940 | 0.000000 |
| 288.450 | 13.950 | 0.000000 |
| 289.430 | 13.970 | 0.000000 |
| 290.410 | 13.980 | 0.000000 |
| 291.390 | 13.990 | 0.000000 |
| 292.390 | 13.990 | 0.000000 |
| 293.390 | 13.990 | 0.000000 |
| 294.380 | 14.000 | 0.000000 |
| 295.380 | 14.000 | 0.000000 |
| 296.380 | 14.000 | 0.000000 |
| 297.370 | 14.010 | 0.000000 |
| 298.370 | 14.010 | 0.000000 |
| 299.370 | 14.010 | 0.000000 |
| 300.360 | 14.010 | 0.000000 |
| 301.360 | 13.990 | 0.000000 |
| 302.360 | 13.970 | 0.000000 |
| 303.350 | 13.970 | 0.000000 |
| 304.350 | 13.990 | 0.000000 |
| 305.350 | 14.000 | 0.000000 |
| 306.340 | 13.980 | 0.000000 |
| 307.340 | 13.980 | 0.000000 |
| 308.340 | 13.990 | 0.000000 |
| 309.330 | 14.000 | 0.000000 |
| 310.330 | 13.980 | 0.000000 |
| 311.330 | 13.980 | 0.000000 |
| 312.320 | 13.990 | 0.000000 |
| 313.320 | 14.020 | 0.000000 |
| 314.320 | 14.030 | 0.000000 |
| 315.320 | 14.010 | 0.000000 |
| 316.310 | 14.010 | 0.000000 |
| 317.310 | 14.010 | 0.000000 |
| 318.310 | 14.010 | 0.000000 |
| 319.300 | 14.000 | 0.000000 |
| 320.300 | 14.010 | 0.000000 |
| 321.300 | 14.060 | 0.000000 |
| 322.290 | 14.080 | 0.000000 |
| 323.290 | 14.080 | 0.000000 |
| 324.280 | 14.080 | 0.000000 |
| 325.270 | 14.070 | 0.000000 |
| 326.270 | 14.060 | 0.000000 |

| | | |
|---|---|---|
| 327.260 | 14.050 | 0.000000 |
| 328.260 | 14.040 | 0.000000 |
| 329.250 | 14.050 | 0.000000 |
| 330.240 | 14.050 | 0.000000 |
| 331.240 | 14.040 | 0.000000 |
| 332.230 | 14.060 | 0.000000 |
| 333.220 | 14.090 | 0.000000 |
| 334.220 | 14.100 | 0.000000 |
| 335.210 | 14.080 | 0.000000 |
| 336.210 | 14.080 | 0.000000 |
| 337.200 | 14.090 | 0.000000 |
| 338.190 | 14.120 | 0.000000 |
| 339.190 | 14.170 | 0.000000 |
| 340.180 | 14.260 | 0.000000 |
| 341.180 | 14.310 | 0.000000 |
| 342.170 | 14.220 | 0.000000 |
| 343.160 | 14.090 | 0.000000 |
| 344.160 | 13.980 | 0.000000 |
| 345.150 | 13.930 | 0.000000 |
| 346.140 | 13.970 | 0.000000 |

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Name: X044W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.010 | 0.000000 |
| 0.990 | 14.010 | 0.000000 |
| 1.980 | 13.970 | 0.000000 |
| 2.970 | 13.940 | 0.000000 |
| 3.950 | 13.910 | 0.000000 |
| 4.940 | 13.900 | 0.000000 |
| 5.930 | 13.890 | 0.000000 |
| 6.920 | 13.870 | 0.000000 |
| 7.910 | 13.850 | 0.000000 |
| 8.900 | 13.830 | 0.000000 |
| 9.890 | 13.810 | 0.000000 |
| 10.870 | 13.800 | 0.000000 |
| 11.860 | 13.780 | 0.000000 |
| 12.850 | 13.770 | 0.000000 |
| 13.840 | 13.750 | 0.000000 |
| 14.830 | 13.730 | 0.000000 |
| 15.820 | 13.710 | 0.000000 |
| 16.810 | 13.690 | 0.000000 |
| 17.790 | 13.670 | 0.000000 |
| 18.780 | 13.660 | 0.000000 |
| 19.770 | 13.650 | 0.000000 |
| 20.760 | 13.640 | 0.000000 |
| 21.750 | 13.620 | 0.000000 |
| 22.740 | 13.600 | 0.000000 |
| 23.730 | 13.590 | 0.000000 |
| 24.710 | 13.590 | 0.000000 |
| 25.700 | 13.580 | 0.000000 |
| 26.690 | 13.570 | 0.000000 |
| 27.680 | 13.570 | 0.000000 |
| 28.670 | 13.570 | 0.000000 |
| 29.660 | 13.560 | 0.000000 |
| 30.650 | 13.540 | 0.000000 |
| 31.630 | 13.550 | 0.000000 |
| 32.620 | 13.560 | 0.000000 |
| 33.610 | 13.560 | 0.000000 |
| 34.600 | 13.560 | 0.000000 |
| 35.590 | 13.560 | 0.000000 |
| 36.580 | 13.550 | 0.000000 |
| 37.570 | 13.530 | 0.000000 |
| 38.560 | 13.520 | 0.000000 |
| 39.540 | 13.520 | 0.000000 |
| 40.520 | 13.520 | 0.000000 |
| 41.500 | 13.520 | 0.000000 |
| 42.480 | 13.510 | 0.000000 |
| 43.460 | 13.510 | 0.000000 |
| 44.440 | 13.510 | 0.000000 |
| 45.410 | 13.510 | 0.000000 |
| 46.390 | 13.510 | 0.000000 |
| 47.370 | 13.520 | 0.000000 |
| 48.350 | 13.530 | 0.000000 |
| 49.330 | 13.540 | 0.000000 |
| 50.300 | 13.540 | 0.000000 |
| 51.280 | 13.560 | 0.000000 |
| 52.260 | 13.570 | 0.000000 |
| 53.240 | 13.560 | 0.000000 |
| 54.220 | 13.560 | 0.000000 |
| 55.200 | 13.570 | 0.000000 |
| 56.170 | 13.590 | 0.000000 |
| 57.150 | 13.600 | 0.000000 |
| 58.130 | 13.600 | 0.000000 |

| | | |
|---|---|---|
| 59.110 | 13.600 | 0.000000 |
| 60.090 | 13.590 | 0.000000 |
| 61.070 | 13.590 | 0.000000 |
| 62.040 | 13.590 | 0.000000 |
| 63.020 | 13.590 | 0.000000 |
| 64.000 | 13.590 | 0.000000 |
| 64.980 | 13.590 | 0.000000 |
| 65.960 | 13.590 | 0.000000 |
| 66.940 | 13.580 | 0.000000 |
| 67.910 | 13.570 | 0.000000 |
| 68.890 | 13.570 | 0.000000 |
| 69.870 | 13.550 | 0.000000 |
| 70.850 | 13.530 | 0.000000 |
| 71.830 | 13.510 | 0.000000 |
| 72.810 | 13.500 | 0.000000 |
| 73.780 | 13.510 | 0.000000 |
| 74.760 | 13.500 | 0.000000 |
| 75.740 | 13.500 | 0.000000 |
| 76.720 | 13.500 | 0.000000 |
| 77.700 | 13.500 | 0.000000 |
| 78.680 | 13.500 | 0.000000 |
| 79.670 | 13.480 | 0.000000 |
| 80.660 | 13.460 | 0.000000 |
| 81.640 | 13.440 | 0.000000 |
| 82.630 | 13.430 | 0.000000 |
| 83.620 | 13.420 | 0.000000 |
| 84.600 | 13.410 | 0.000000 |
| 85.590 | 13.390 | 0.000000 |
| 86.580 | 13.370 | 0.000000 |
| 87.560 | 13.370 | 0.000000 |
| 88.550 | 13.360 | 0.000000 |
| 89.540 | 13.350 | 0.000000 |
| 90.520 | 13.340 | 0.000000 |
| 91.510 | 13.330 | 0.000000 |
| 92.500 | 13.330 | 0.000000 |
| 93.480 | 13.330 | 0.000000 |
| 94.470 | 13.330 | 0.000000 |
| 95.450 | 13.320 | 0.000000 |
| 96.440 | 13.310 | 0.000000 |
| 97.430 | 13.310 | 0.000000 |
| 98.410 | 13.310 | 0.000000 |
| 99.390 | 13.320 | 0.000000 |
| 100.370 | 13.330 | 0.000000 |
| 101.350 | 13.350 | 0.000000 |
| 102.330 | 13.350 | 0.000000 |
| 103.310 | 13.350 | 0.000000 |
| 104.290 | 13.350 | 0.000000 |
| 105.270 | 13.350 | 0.000000 |
| 106.250 | 13.350 | 0.000000 |
| 107.230 | 13.350 | 0.000000 |
| 108.210 | 13.330 | 0.000000 |
| 109.200 | 13.300 | 0.000000 |
| 110.180 | 13.270 | 0.000000 |
| 111.160 | 13.280 | 0.000000 |
| 112.140 | 13.290 | 0.000000 |
| 113.120 | 13.300 | 0.000000 |
| 114.100 | 13.330 | 0.000000 |
| 115.080 | 13.360 | 0.000000 |
| 116.060 | 13.390 | 0.000000 |
| 117.040 | 13.420 | 0.000000 |
| 118.020 | 13.440 | 0.000000 |
| 119.000 | 13.450 | 0.000000 |
| 119.980 | 13.440 | 0.000000 |
| 120.960 | 13.420 | 0.000000 |
| 121.940 | 13.420 | 0.000000 |
| 122.920 | 13.420 | 0.000000 |
| 123.900 | 13.420 | 0.000000 |
| 124.880 | 13.410 | 0.000000 |
| 125.860 | 13.410 | 0.000000 |
| 126.840 | 13.410 | 0.000000 |
| 127.820 | 13.410 | 0.000000 |
| 128.800 | 13.420 | 0.000000 |
| 129.780 | 13.430 | 0.000000 |
| 130.760 | 13.440 | 0.000000 |
| 131.740 | 13.450 | 0.000000 |
| 132.720 | 13.430 | 0.000000 |
| 133.700 | 13.420 | 0.000000 |
| 134.680 | 13.440 | 0.000000 |
| 135.660 | 13.440 | 0.000000 |
| 136.640 | 13.430 | 0.000000 |
| 137.620 | 13.430 | 0.000000 |
| 138.600 | 13.420 | 0.000000 |
| 139.580 | 13.390 | 0.000000 |
| 140.560 | 13.370 | 0.000000 |
| 141.540 | 13.350 | 0.000000 |
| 142.520 | 13.330 | 0.000000 |
| 143.490 | 13.320 | 0.000000 |
| 144.450 | 13.320 | 0.000000 |
| 145.420 | 13.340 | 0.000000 |

| | | |
|---|---|---|
| 146.390 | 13.340 | 0.000000 |
| 147.360 | 13.360 | 0.000000 |
| 148.330 | 13.350 | 0.000000 |
| 149.300 | 13.350 | 0.000000 |
| 150.270 | 13.360 | 0.000000 |
| 151.240 | 13.360 | 0.000000 |
| 152.200 | 13.340 | 0.000000 |
| 153.170 | 13.340 | 0.000000 |
| 154.140 | 13.350 | 0.000000 |
| 155.110 | 13.360 | 0.000000 |
| 156.080 | 13.380 | 0.000000 |
| 157.050 | 13.420 | 0.000000 |
| 158.020 | 13.440 | 0.000000 |
| 158.980 | 13.410 | 0.000000 |
| 159.950 | 13.390 | 0.000000 |
| 160.920 | 13.390 | 0.000000 |
| 161.890 | 13.410 | 0.000000 |
| 162.860 | 13.420 | 0.000000 |
| 163.830 | 13.440 | 0.000000 |
| 164.800 | 13.460 | 0.000000 |
| 165.770 | 13.480 | 0.000000 |
| 166.730 | 13.500 | 0.000000 |
| 167.700 | 13.540 | 0.000000 |
| 168.670 | 13.570 | 0.000000 |
| 169.640 | 13.590 | 0.000000 |
| 170.610 | 13.620 | 0.000000 |
| 171.580 | 13.660 | 0.000000 |
| 172.540 | 13.690 | 0.000000 |
| 173.510 | 13.730 | 0.000000 |
| 174.480 | 13.770 | 0.000000 |
| 175.450 | 13.820 | 0.000000 |
| 176.420 | 13.880 | 0.000000 |
| 177.390 | 13.930 | 0.000000 |
| 178.350 | 13.990 | 0.000000 |
| 179.320 | 14.060 | 0.000000 |
| 180.290 | 14.130 | 0.000000 |
| 181.260 | 14.220 | 0.000000 |
| 182.230 | 14.300 | 0.000000 |
| 183.190 | 14.390 | 0.000000 |
| 184.160 | 14.460 | 0.000000 |
| 185.130 | 14.540 | 0.000000 |
| 186.100 | 14.620 | 0.000000 |
| 187.070 | 14.710 | 0.000000 |
| 188.040 | 14.790 | 0.000000 |
| 189.000 | 14.890 | 0.000000 |
| 189.970 | 14.990 | 0.000000 |
| 190.940 | 15.100 | 0.000000 |

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Name: X045W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 17.460 | 0.000000 |
| 0.950 | 17.360 | 0.000000 |
| 1.910 | 17.300 | 0.000000 |
| 2.860 | 17.250 | 0.000000 |
| 3.810 | 17.230 | 0.000000 |
| 4.760 | 17.230 | 0.000000 |
| 5.720 | 17.230 | 0.000000 |
| 6.670 | 17.190 | 0.000000 |
| 7.620 | 17.140 | 0.000000 |
| 8.570 | 17.100 | 0.000000 |
| 9.530 | 17.030 | 0.000000 |
| 10.480 | 16.980 | 0.000000 |
| 11.430 | 17.000 | 0.000000 |
| 12.380 | 17.040 | 0.000000 |
| 13.340 | 17.250 | 0.000000 |
| 14.290 | 17.640 | 0.000000 |
| 15.240 | 17.900 | 0.000000 |
| 16.190 | 17.940 | 0.000000 |
| 17.150 | 17.810 | 0.000000 |
| 18.100 | 17.750 | 0.000000 |
| 19.050 | 17.890 | 0.000000 |
| 20.030 | 17.990 | 0.000000 |
| 21.010 | 17.990 | 0.000000 |
| 21.990 | 17.670 | 0.000000 |
| 22.970 | 17.010 | 0.000000 |
| 23.950 | 16.400 | 0.000000 |
| 24.930 | 16.110 | 0.000000 |
| 25.910 | 16.020 | 0.000000 |
| 26.890 | 16.030 | 0.000000 |
| 27.870 | 15.960 | 0.000000 |
| 28.840 | 15.900 | 0.000000 |
| 29.820 | 15.890 | 0.000000 |
| 30.800 | 15.860 | 0.000000 |

| | | |
|---|---|---|
| 31.780 | 15.760 | 0.000000 |
| 32.760 | 15.770 | 0.000000 |
| 33.740 | 15.830 | 0.000000 |
| 34.670 | 15.900 | 0.000000 |
| 35.600 | 15.950 | 0.000000 |
| 36.530 | 15.900 | 0.000000 |
| 37.460 | 15.870 | 0.000000 |
| 38.390 | 15.820 | 0.000000 |
| 39.320 | 15.690 | 0.000000 |
| 40.250 | 15.690 | 0.000000 |
| 41.180 | 15.660 | 0.000000 |
| 42.110 | 15.660 | 0.000000 |
| 43.050 | 15.720 | 0.000000 |
| 43.980 | 15.780 | 0.000000 |
| 44.910 | 15.860 | 0.000000 |
| 45.840 | 15.890 | 0.000000 |
| 46.770 | 15.960 | 0.000000 |
| 47.710 | 16.080 | 0.000000 |
| 48.640 | 16.230 | 0.000000 |
| 49.570 | 16.410 | 0.000000 |
| 50.510 | 16.530 | 0.000000 |
| 51.440 | 16.570 | 0.000000 |
| 52.380 | 16.600 | 0.000000 |
| 53.310 | 16.570 | 0.000000 |
| 54.250 | 16.540 | 0.000000 |
| 55.180 | 16.450 | 0.000000 |
| 56.120 | 16.260 | 0.000000 |
| 57.050 | 16.080 | 0.000000 |
| 57.980 | 15.810 | 0.000000 |
| 58.920 | 15.620 | 0.000000 |
| 59.850 | 15.550 | 0.000000 |
| 60.850 | 15.570 | 0.000000 |
| 61.840 | 15.520 | 0.000000 |
| 62.830 | 15.430 | 0.000000 |
| 63.830 | 15.420 | 0.000000 |
| 64.820 | 15.440 | 0.000000 |
| 65.810 | 15.490 | 0.000000 |
| 66.810 | 15.550 | 0.000000 |
| 67.800 | 15.520 | 0.000000 |
| 68.790 | 15.450 | 0.000000 |
| 69.790 | 15.450 | 0.000000 |
| 70.780 | 15.430 | 0.000000 |
| 71.770 | 15.410 | 0.000000 |
| 72.770 | 15.370 | 0.000000 |
| 73.760 | 15.320 | 0.000000 |
| 74.750 | 15.270 | 0.000000 |
| 75.740 | 15.220 | 0.000000 |
| 76.740 | 15.230 | 0.000000 |
| 77.730 | 15.270 | 0.000000 |
| 78.720 | 15.260 | 0.000000 |
| 79.720 | 15.210 | 0.000000 |
| 80.710 | 15.170 | 0.000000 |
| 81.700 | 15.190 | 0.000000 |
| 82.700 | 15.190 | 0.000000 |
| 83.690 | 15.180 | 0.000000 |
| 84.680 | 15.150 | 0.000000 |
| 85.680 | 15.140 | 0.000000 |
| 86.670 | 15.140 | 0.000000 |
| 87.660 | 15.130 | 0.000000 |
| 88.660 | 15.110 | 0.000000 |
| 89.650 | 15.130 | 0.000000 |
| 90.640 | 15.210 | 0.000000 |
| 91.640 | 15.250 | 0.000000 |
| 92.630 | 15.300 | 0.000000 |
| 93.620 | 15.430 | 0.000000 |
| 94.590 | 15.480 | 0.000000 |
| 95.560 | 15.430 | 0.000000 |
| 96.540 | 15.340 | 0.000000 |
| 97.510 | 15.240 | 0.000000 |
| 98.480 | 15.210 | 0.000000 |
| 99.450 | 15.250 | 0.000000 |
| 100.420 | 15.280 | 0.000000 |
| 101.390 | 15.250 | 0.000000 |
| 102.360 | 15.220 | 0.000000 |
| 103.340 | 15.170 | 0.000000 |
| 104.310 | 15.100 | 0.000000 |
| 105.280 | 15.080 | 0.000000 |
| 106.250 | 15.090 | 0.000000 |
| 107.220 | 15.120 | 0.000000 |
| 108.190 | 15.140 | 0.000000 |
| 109.160 | 15.150 | 0.000000 |
| 110.130 | 15.130 | 0.000000 |
| 111.110 | 15.150 | 0.000000 |
| 112.080 | 15.170 | 0.000000 |
| 113.050 | 15.180 | 0.000000 |
| 114.020 | 15.200 | 0.000000 |
| 114.990 | 15.240 | 0.000000 |
| 115.960 | 15.280 | 0.000000 |
| 116.930 | 15.310 | 0.000000 |

| | | |
|---|---|---|
| 117.900 | 15.290 | 0.000000 |
| 118.880 | 15.250 | 0.000000 |
| 119.850 | 15.230 | 0.000000 |
| 120.820 | 15.240 | 0.000000 |
| 121.790 | 15.240 | 0.000000 |
| 122.790 | 15.230 | 0.000000 |
| 123.780 | 15.210 | 0.000000 |
| 124.780 | 15.170 | 0.000000 |
| 125.770 | 15.170 | 0.000000 |
| 126.770 | 15.200 | 0.000000 |
| 127.770 | 15.210 | 0.000000 |
| 128.760 | 15.200 | 0.000000 |
| 129.760 | 15.190 | 0.000000 |
| 130.750 | 15.220 | 0.000000 |
| 131.750 | 15.280 | 0.000000 |
| 132.750 | 15.330 | 0.000000 |
| 133.740 | 15.340 | 0.000000 |
| 134.740 | 15.380 | 0.000000 |
| 135.730 | 15.610 | 0.000000 |
| 136.730 | 15.950 | 0.000000 |
| 137.720 | 16.130 | 0.000000 |
| 138.720 | 16.150 | 0.000000 |
| 139.720 | 16.000 | 0.000000 |
| 140.710 | 15.930 | 0.000000 |
| 141.710 | 16.050 | 0.000000 |
| 142.700 | 16.160 | 0.000000 |
| 143.700 | 16.390 | 0.000000 |
| 144.700 | 16.640 | 0.000000 |
| 145.690 | 16.910 | 0.000000 |
| 146.690 | 17.250 | 0.000000 |
| 147.680 | 17.600 | 0.000000 |

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Name: X3B Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.000 | 0.000000 |
| 0.980 | 13.920 | 0.000000 |
| 1.960 | 13.890 | 0.000000 |
| 2.940 | 13.860 | 0.000000 |
| 3.920 | 13.830 | 0.000000 |
| 4.900 | 13.780 | 0.000000 |
| 5.880 | 13.740 | 0.000000 |
| 6.860 | 13.720 | 0.000000 |
| 7.840 | 13.700 | 0.000000 |
| 8.820 | 13.650 | 0.000000 |
| 9.800 | 13.640 | 0.000000 |
| 10.780 | 13.640 | 0.000000 |
| 11.760 | 13.640 | 0.000000 |
| 12.740 | 13.630 | 0.000000 |
| 13.720 | 13.600 | 0.000000 |
| 14.700 | 13.590 | 0.000000 |
| 15.680 | 13.580 | 0.000000 |
| 16.660 | 13.560 | 0.000000 |
| 17.640 | 13.560 | 0.000000 |
| 18.620 | 13.560 | 0.000000 |
| 19.600 | 13.550 | 0.000000 |
| 20.580 | 13.550 | 0.000000 |
| 21.560 | 13.530 | 0.000000 |
| 22.540 | 13.490 | 0.000000 |
| 23.520 | 13.460 | 0.000000 |
| 24.500 | 13.460 | 0.000000 |
| 25.480 | 13.450 | 0.000000 |
| 26.460 | 13.430 | 0.000000 |
| 27.420 | 13.420 | 0.000000 |
| 28.390 | 13.420 | 0.000000 |
| 29.350 | 13.420 | 0.000000 |
| 30.320 | 13.410 | 0.000000 |
| 31.280 | 13.400 | 0.000000 |
| 32.250 | 13.390 | 0.000000 |
| 33.210 | 13.370 | 0.000000 |
| 34.180 | 13.350 | 0.000000 |
| 35.140 | 13.360 | 0.000000 |
| 36.110 | 13.390 | 0.000000 |
| 37.070 | 13.420 | 0.000000 |
| 38.040 | 13.450 | 0.000000 |
| 39.000 | 13.450 | 0.000000 |
| 39.970 | 13.420 | 0.000000 |
| 40.930 | 13.410 | 0.000000 |
| 41.900 | 13.400 | 0.000000 |
| 42.860 | 13.390 | 0.000000 |
| 43.830 | 13.360 | 0.000000 |
| 44.790 | 13.350 | 0.000000 |
| 45.760 | 13.360 | 0.000000 |
| 46.720 | 13.360 | 0.000000 |

| | | |
|---|---|---|
| 47.690 | 13.350 | 0.000000 |
| 48.650 | 13.360 | 0.000000 |
| 49.610 | 13.380 | 0.000000 |
| 50.580 | 13.390 | 0.000000 |
| 51.540 | 13.380 | 0.000000 |
| 52.500 | 13.370 | 0.000000 |
| 53.470 | 13.400 | 0.000000 |
| 54.430 | 13.410 | 0.000000 |
| 55.390 | 13.420 | 0.000000 |
| 56.350 | 13.410 | 0.000000 |
| 57.320 | 13.430 | 0.000000 |
| 58.280 | 13.430 | 0.000000 |
| 59.240 | 13.450 | 0.000000 |
| 60.210 | 13.460 | 0.000000 |
| 61.170 | 13.460 | 0.000000 |
| 62.130 | 13.480 | 0.000000 |
| 63.090 | 13.490 | 0.000000 |
| 64.060 | 13.510 | 0.000000 |
| 65.020 | 13.510 | 0.000000 |
| 65.980 | 13.510 | 0.000000 |
| 66.950 | 13.500 | 0.000000 |
| 67.910 | 13.500 | 0.000000 |
| 68.870 | 13.490 | 0.000000 |
| 69.830 | 13.470 | 0.000000 |
| 70.800 | 13.450 | 0.000000 |
| 71.760 | 13.450 | 0.000000 |
| 72.730 | 13.480 | 0.000000 |
| 73.690 | 13.490 | 0.000000 |
| 74.660 | 13.450 | 0.000000 |
| 75.620 | 13.400 | 0.000000 |
| 76.590 | 13.400 | 0.000000 |
| 77.550 | 13.410 | 0.000000 |
| 78.510 | 13.390 | 0.000000 |
| 79.480 | 13.390 | 0.000000 |
| 80.440 | 13.380 | 0.000000 |
| 81.410 | 13.360 | 0.000000 |
| 82.370 | 13.350 | 0.000000 |
| 83.340 | 13.330 | 0.000000 |
| 84.300 | 13.300 | 0.000000 |
| 85.270 | 13.310 | 0.000000 |
| 86.240 | 13.330 | 0.000000 |
| 87.210 | 13.320 | 0.000000 |
| 88.180 | 13.320 | 0.000000 |
| 89.140 | 13.320 | 0.000000 |
| 90.110 | 13.290 | 0.000000 |
| 91.080 | 13.250 | 0.000000 |
| 92.050 | 13.230 | 0.000000 |
| 93.020 | 13.220 | 0.000000 |
| 93.990 | 13.230 | 0.000000 |
| 94.950 | 13.240 | 0.000000 |
| 95.920 | 13.240 | 0.000000 |
| 96.890 | 13.240 | 0.000000 |
| 97.850 | 13.250 | 0.000000 |
| 98.820 | 13.270 | 0.000000 |
| 99.780 | 13.310 | 0.000000 |
| 100.750 | 13.340 | 0.000000 |
| 101.710 | 13.340 | 0.000000 |
| 102.670 | 13.340 | 0.000000 |
| 103.640 | 13.370 | 0.000000 |
| 104.600 | 13.340 | 0.000000 |
| 105.570 | 13.320 | 0.000000 |
| 106.530 | 13.340 | 0.000000 |
| 107.500 | 13.370 | 0.000000 |
| 108.460 | 13.360 | 0.000000 |
| 109.420 | 13.350 | 0.000000 |
| 110.390 | 13.350 | 0.000000 |
| 111.350 | 13.370 | 0.000000 |
| 112.320 | 13.390 | 0.000000 |
| 113.280 | 13.430 | 0.000000 |
| 114.240 | 13.440 | 0.000000 |
| 115.210 | 13.440 | 0.000000 |

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==== Operating Tables ==========
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Name: Group: BASE
Type: Bottom Clip
Function: Time vs. Depth of Clip

| Time(hrs) | Clip Depth(in) |
|---|---|

==========
==== Pipes ==========
==========

```
         Name: R001                From Node: 001                Length(ft): 438.00
        Group: BASE                  To Node: BOX_003                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 1.40
     Rise(in): 22.15          22.15                          Exit Loss Coef: 1.00
   Invert(ft): 13.500         10.880                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech and
Construction Plan - Gypsum Stack System Closure, Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 45, 60, and 90 deg Ell


-----------------------------------------------------------------------------------------------
         Name: R007                From Node: 007                Length(ft): 155.00
        Group: BASE                  To Node: 006                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 16.00          16.00                      Entrance Loss Coef: 0.50
     Rise(in): 16.00          16.00                          Exit Loss Coef: 1.00
   Invert(ft): 30.950         30.370                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


-----------------------------------------------------------------------------------------------
         Name: R008                From Node: 008A               Length(ft): 132.00
        Group: BASE                  To Node: 007                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 46.400         32.500                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R01                 From Node: 01                 Length(ft): 370.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 48.00          48.00                      Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                          Exit Loss Coef: 1.00
   Invert(ft): 6.830          6.780                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R013                From Node: 013                Length(ft): 62.00
        Group: BASE                  To Node: 007                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 33.300         32.320                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
-----------------------------------------------------------------------------------------------
         Name: R02                 From Node: 02                 Length(ft): 370.00
        Group: BASE                  To Node: 01                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 48.00          48.00                      Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                          Exit Loss Coef: 1.00
   Invert(ft): 6.880          6.830                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R020                From Node: 020                Length(ft): 85.00
        Group: BASE                  To Node: 019                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 19.330         19.820                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
-----------------------------------------------------------------------------------------------
         Name: R03                 From Node: 03                 Length(ft): 118.00
        Group: BASE                  To Node: 02                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 36.00          36.00                      Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                          Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

---

```
         Name: R032A              From Node: 032               Length(ft): 57.00
        Group: BASE                 To Node: 033                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.670         13.580                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

---

```
         Name: R032B              From Node: 032               Length(ft): 57.00
        Group: BASE                 To Node: 033                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.790         13.560                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

---

```
         Name: R034               From Node: 034               Length(ft): 93.00
        Group: BASE                 To Node: 035                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 14.00          14.00                      Entrance Loss Coef: 0.50
     Rise(in): 14.00          14.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.350         13.130                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

---

```
         Name: R034B              From Node: 034B              Length(ft): 145.00
        Group: BASE                 To Node: 034                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 14.050         13.450                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
```

```
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

 Source: 2021 Survey Data by SurvTech for US Inv and Size; and
Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
         Name: R036                From Node: 036                Length(ft): 30.00
        Group: BASE                  To Node: 037                     Count: 1
                                                               Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                     Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 11.53          11.53                          Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                              Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                             Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                         Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                              Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R037                From Node: 037                Length(ft): 470.00
        Group: BASE                  To Node: 037A                    Count: 1
                                                               Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                     Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 22.15          22.15                          Entrance Loss Coef: 0.50
     Rise(in): 22.15          22.15                              Exit Loss Coef: 0.00
   Invert(ft): 9.000          8.300                              Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                         Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                              Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R037A               From Node: 037A               Length(ft): 290.00
        Group: BASE                  To Node: 037B                    Count: 1
                                                               Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                     Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 22.15          22.15                          Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                              Exit Loss Coef: 0.00
   Invert(ft): 8.300          7.820                              Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                         Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                              Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R037B               From Node: 037B               Length(ft): 220.00
        Group: BASE                  To Node: BASIN_2                  Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 22.15          22.15                        Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                            Exit Loss Coef: 1.00
   Invert(ft): 7.820          7.500                            Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R038                From Node: 038                Length(ft): 30.00
        Group: BASE                  To Node: 037                      Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                        Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                            Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R04                 From Node: 04                 Length(ft): 225.00
        Group: BASE                  To Node: 03                       Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 36.00          36.00                        Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                            Exit Loss Coef: 1.00
   Invert(ft): 7.080          6.980                            Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R040                From Node: 040                Length(ft): 45.00
        Group: BASE                  To Node: 038                      Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
```

```
   Invert(ft): 13.140         12.510                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R041                From Node: 041                Length(ft): 45.00
        Group: BASE                  To Node: 036                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
   Invert(ft): 13.160         12.370                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R042_A              From Node: 042                Length(ft): 40.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.480         13.030                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R042_B              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.010         13.880                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R042_C              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
```

```
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 18.00          18.00                     Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                         Exit Loss Coef: 1.00
   Invert(ft): 13.640         13.710                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R045                From Node: 045                Length(ft): 62.00
        Group: BASE                  To Node: 046                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 1.00
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 13.500         12.000                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe, 90 deg. ELL at the end


-----------------------------------------------------------------------------------------------
         Name: R046                From Node: 046                Length(ft): 95.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 11.480         9.400                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R05                 From Node: 05                 Length(ft): 205.00
        Group: BASE                  To Node: 02                      Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 42.00          42.00                     Entrance Loss Coef: 0.50
     Rise(in): 42.00          42.00                         Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                         Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R2                 From Node: 2                 Length(ft): 45.00
        Group: BASE                 To Node: 1                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                       Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                           Exit Loss Coef: 1.00
   Invert(ft): 10.000         9.800                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R3A                From Node: 3                 Length(ft): 70.00
        Group: BASE                 To Node: 1                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                       Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                           Exit Loss Coef: 1.00
   Invert(ft): 11.300         10.300                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R4                 From Node: 4                 Length(ft): 34.00
        Group: BASE                 To Node: 1                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 33.00          33.00                       Entrance Loss Coef: 0.50
     Rise(in): 33.00          33.00                           Exit Loss Coef: 1.00
   Invert(ft): 9.330          8.980                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Existing Pipe in ERP Construction Plan, Allied New Technologies 2 Plant

```
===============================================================================================
==== Channels =================================================================================
===============================================================================================

          Name: R003                From Node: 003                Length(ft): 510.00
         Group: BASE                  To Node: 002                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                 Solution Algorithm: Automatic
    Invert(ft): 25.000         25.000                                   Flow: Both
```

```
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R005                From Node: 005                Length(ft): 569.00
         Group: BASE                  To Node: 004                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R006                From Node: 006                Length(ft): 724.00
         Group: BASE                  To Node: 005                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R011                From Node: 011                Length(ft): 1047.00
         Group: BASE                  To Node: 010                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 48.000         43.900                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
```

```
 Bot Width(ft): 23.400         8.600
  LtSdSlp(h/v): 3.50           3.50
  RtSdSlp(h/v): 3.50           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R012                From Node: 012                Length(ft): 1337.00
         Group: BASE                  To Node: 011                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 53.200         48.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                     Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                            Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 65.000         40.500
  LtSdSlp(h/v): 3.70           3.50
  RtSdSlp(h/v): 3.60           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R014                From Node: 014                Length(ft): 460.00
         Group: BASE                  To Node: 013                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 34.200         33.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                     Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                            Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R015                From Node: 015                Length(ft): 468.00
         Group: BASE                  To Node: 014                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 35.500         34.200                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                     Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                            Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R017                From Node: 017                Length(ft): 200.00
         Group: BASE                  To Node: 016                     Count: 1
```

```
                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R018                From Node: 018                Length(ft): 672.00
         Group: BASE                  To Node: 017                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R019                From Node: 019                Length(ft): 696.00
         Group: BASE                  To Node: 018                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R021                From Node: 021                Length(ft): 1057.00
         Group: BASE                  To Node: 022                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 35.300         30.600                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
```

```
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R022                From Node: 022                Length(ft): 762.00
         Group: BASE                  To Node: 023                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.600         29.100                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                        Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                       Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                           Exit Loss Coef: 0.000
     Main XSec:                                              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                               Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R024                From Node: 024                Length(ft): 541.00
         Group: BASE                  To Node: 025                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 25.100         24.600                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                        Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                       Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                           Exit Loss Coef: 0.000
     Main XSec:                                              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                               Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R025                From Node: 025                Length(ft): 582.00
         Group: BASE                  To Node: 026                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 24.600         24.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                        Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                       Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                           Exit Loss Coef: 0.000
     Main XSec:                                              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                               Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II
```

```
-----------------------------------------------------------------------------------------------------
          Name: R026                From Node: 026                Length(ft): 577.00
         Group: BASE                  To Node: 027                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 24.000         23.500                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------------
          Name: R029                From Node: 029                Length(ft): 670.00
         Group: BASE                  To Node: 030                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 15.250         14.700                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R030                From Node: 030                Length(ft): 1035.00
         Group: BASE                  To Node: 031                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 14.700         13.700                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R031                From Node: 031                Length(ft): 471.00
         Group: BASE                  To Node: 032                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.700         13.300                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
```

```
  Bot Clip(ft): 0.000          0.000                        Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R033                From Node: 033                Length(ft): 287.00
         Group: BASE                  To Node: 034                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.300         13.250                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         20.000
  LtSdSlp(h/v): 4.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R035                From Node: 035                Length(ft): 784.00
         Group: BASE                  To Node: 036                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.000         12.500                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 13.600         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R039                From Node: 039                Length(ft): 935.00
         Group: BASE                  To Node: 038                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.500         12.500                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 12.800         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00
```

```
Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


==========================================================================================
==== Drop Structures ======================================================================
==========================================================================================

         Name: R0-NE              From Node: 0-NE              Length(ft): 70.00
        Group: BASE                 To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.850                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-NE ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-NW              From Node: 0-NW              Length(ft): 70.00
        Group: BASE                 To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.880                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe

*** Weir 1 of 1 for Drop Structure R0-NW ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-SE              From Node: 0-SE              Length(ft): 80.00
        Group: BASE                 To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.370                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10
```

```
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SE ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 10.350
              Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-SW               From Node: 0-SW               Length(ft): 80.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.080                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SW ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 10.350
              Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R002A               From Node: 002                Length(ft): 125.00
        Group: BASE                  To Node: 001                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                   Flow: Both
     Rise(in): 7.96           7.96                      Entrance Loss Coef: 1.300
   Invert(ft): 13.800         13.800                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
8-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet, butterfly valve, 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R002A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 36.00                       Invert(ft): 17.500
              Rise(in): 36.00                  Control Elev(ft): 17.500


-----------------------------------------------------------------------------------------------
         Name: R002B               From Node: 002                Length(ft): 135.00
        Group: BASE                  To Node: 001                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 22.15          22.15                                  Flow: Both
     Rise(in): 22.15          22.15                     Entrance Loss Coef: 0.500
   Invert(ft): 20.000         13.500                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 48-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R002B ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 27.000
              Rise(in): 48.00                  Control Elev(ft): 27.000


-----------------------------------------------------------------------------------------------
         Name: R004                From Node: 004                Length(ft): 75.00
        Group: BASE                  To Node: 003                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.61          16.61                                  Flow: Both
     Rise(in): 16.61          16.61                     Entrance Loss Coef: 0.500
   Invert(ft): 26.000         25.500                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
18-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R004 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 30.500
              Rise(in): 36.00                  Control Elev(ft): 30.500


-----------------------------------------------------------------------------------------------
         Name: R005B               From Node: 005B               Length(ft): 215.00
        Group: BASE                  To Node: 005                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                  Flow: Both
     Rise(in): 16.00          16.00                     Entrance Loss Coef: 0.500
   Invert(ft): 69.610         30.950                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

```
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

*** Weir 1 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 76.160
              Rise(in): 6.00                   Control Elev(ft): 76.160

*** Weir 2 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 79.410
              Rise(in): 30.00                  Control Elev(ft): 79.410


-----------------------------------------------------------------------------------------------------
         Name: R009                From Node: 009                Length(ft): 217.50
        Group: BASE                  To Node: 008A                    Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                     Entrance Loss Coef: 0.500
   Invert(ft): 72.900         47.100                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration



*** Weir 1 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 80.300
              Rise(in): 6.00                   Control Elev(ft): 80.300

*** Weir 2 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 81.200
              Rise(in): 30.00                  Control Elev(ft): 81.200


-----------------------------------------------------------------------------------------------------
         Name: R010                From Node: 010                Length(ft): 300.00
        Group: BASE                  To Node: 007                    Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                Flow: Both
     Rise(in): 12.00          12.00                     Entrance Loss Coef: 1.700
   Invert(ft): 38.620         36.500                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

```
Circular Concrete: Square edge w/ headwall

Source:  2021 Survey Data by SurvTech
5.5 ft X 7.0 ft Inlet Box
Pipe DS Invert per Construction Plan - Gypsum Stack System Closure
NGS-S CAP and NGS-N Relief Ditch


*** Weir 1 of 1 for Drop Structure R010 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 84.00                       Invert(ft): 43.900
               Rise(in): 66.00                  Control Elev(ft): 43.900


-----------------------------------------------------------------------------------------------
         Name: R016                From Node: 016                Length(ft): 420.00
        Group: BASE                  To Node: 001                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                      Entrance Loss Coef: 0.500
   Invert(ft): 15.710         13.500                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
Type C Inlet with 12-inch DR21 HDPE Pipe


*** Weir 1 of 1 for Drop Structure R016 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 19.000
               Rise(in): 24.00                  Control Elev(ft): 19.000


-----------------------------------------------------------------------------------------------
         Name: R023                From Node: 023                Length(ft): 71.50
        Group: BASE                  To Node: 024                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                  Flow: Both
     Rise(in): 12.00          12.00                      Entrance Loss Coef: 0.500
   Invert(ft): 25.360         25.590                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


*** Weir 1 of 1 for Drop Structure R023 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 30.00                       Invert(ft): 29.480
               Rise(in): 30.00                  Control Elev(ft): 29.480


-----------------------------------------------------------------------------------------------
         Name: R028A               From Node: 028                Length(ft): 100.00
```

```
        Group: BASE                 To Node: 029                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                  Flow: Both
     Rise(in): 7.96           7.96                     Entrance Loss Coef: 1.350
   Invert(ft): 16.630         15.880                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Clousre Phase II
36-inch HDPE Riser with 8-inch DR26 HDPE Pipe, butterfly valve, 45 deg ell


*** Weir 1 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 22.000
              Rise(in): 36.00                  Control Elev(ft): 22.000

*** Weir 2 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 20.500
              Rise(in): 6.00                   Control Elev(ft): 20.500


-------------------------------------------------------------------------------------------------
         Name: R028B               From Node: 028                Length(ft): 170.00
        Group: BASE                 To Node: 029                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 21.17          21.17                                 Flow: Both
     Rise(in): 21.17          21.17                    Entrance Loss Coef: 1.100
   Invert(ft): 20.000         15.800                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Closure Phase II
48-inch HDPE Riser with 24-inch DR17 HDPE Pipe, 3x 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R028B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 27.000
              Rise(in): 48.00                  Control Elev(ft): 27.000


-------------------------------------------------------------------------------------------------
         Name: R042                From Node: 042                Length(ft): 25.00
        Group: BASE                 To Node: 037A                   Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.700
   Invert(ft): 9.500          8.790                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
```

```
 Bot Clip(in): 0.000         0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R042 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R042 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                 Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------
         Name: R043                From Node: 043                Length(ft): 25.00
        Group: BASE                  To Node: 037B                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.700
   Invert(ft): 8.770          8.320                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R043 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R043 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                 Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------
         Name: R1                  From Node: 1                  Length(ft): 75.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.500
   Invert(ft): 8.000          7.200                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
```

```
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
TYpe C Inlet Box with 12-inch DR21 HDPE Pipe



*** Weir 1 of 2 for Drop Structure R1 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 11.000
               Rise(in): 24.00                  Control Elev(ft): 11.000

*** Weir 2 of 2 for Drop Structure R1 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 8.000
               Rise(in): 6.00                   Control Elev(ft): 8.000


-----------------------------------------------------------------------------------------------
         Name: RBASIN_2            From Node: BASIN_2            Length(ft): 95.00
        Group: BASE                  To Node: BOX_001                 Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                Flow: Both
     Rise(in): 16.00          16.00                     Entrance Loss Coef: 0.600
   Invert(ft): 2.980          1.960                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Gate valve in the discharge line

*** Weir 1 of 2 for Drop Structure RBASIN_2 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 6.280
               Rise(in): 6.00                   Control Elev(ft): 6.280

*** Weir 2 of 2 for Drop Structure RBASIN_2 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 37.20                       Invert(ft): 7.280
               Rise(in): 27.60                  Control Elev(ft): 7.280


-----------------------------------------------------------------------------------------------
         Name: RCOLLING_P          From Node: NCOLLING_P         Length(ft): 61.00
        Group: BASE                  To Node: 020                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 15.88          15.88                                Flow: Both
     Rise(in): 15.88          15.88                     Entrance Loss Coef: 0.700
   Invert(ft): 22.500         21.300                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
```

```
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Drawings - Gypsum Stack Closure - North Cooling Pond
Modified Type "E" Inlet with 18-inch DR-17 HDPE Pipe, 45 deg. Ell


*** Weir 1 of 2 for Drop Structure RCOLLING_P ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 54.00                       Invert(ft): 27.200
               Rise(in): 45.60                  Control Elev(ft): 27.200

*** Weir 2 of 2 for Drop Structure RCOLLING_P ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 54.00                       Invert(ft): 31.000
               Rise(in): 36.00                  Control Elev(ft): 31.000


-----------------------------------------------------------------------------------------------------
         Name: RNGS-N              From Node: NGS-N              Length(ft): 350.00
        Group: BASE                  To Node: 029                    Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 14.73          14.73                                  Flow: None
     Rise(in): 14.73          14.73                      Entrance Loss Coef: 1.600
   Invert(ft): 30.070         28.360                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

No flow in Current (2021) Condition
Source: Gypsum Stack Syatem Closure - Phase I Construction Drawings
18-inch DR-11 HDPE Pipe, 2 butteerfly valves, 1 Tee


*** Weir 1 of 1 for Drop Structure RNGS-N ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 14.73                       Invert(ft): 37.500
               Rise(in): 14.73                  Control Elev(ft): 37.500


-----------------------------------------------------------------------------------------------------
         Name: RNGS-S              From Node: NGS-S              Length(ft): 3000.00
        Group: BASE                  To Node: BOX_003                Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                  Flow: None
     Rise(in): 14.72          14.72                      Entrance Loss Coef: 1.100
   Invert(ft): 31.170         13.300                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

No flow in current (2021) Condition
```

```
Future outlet based on currently installed structure
Source: Construction Plan - Gypsum Stack System Closure
Closure Modifications - OGS and NGS-S Ponds
18-inch DR11 HDPE Pipe with 2 gate values, 90 deg Ell, DS inv inferred - Outfall 3 Top El.

*** Weir 1 of 1 for Drop Structure RNGS-S ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 14.72                       Invert(ft): 36.000
               Rise(in): 14.72                  Control Elev(ft): 36.000


-----------------------------------------------------------------------------------------------------
         Name: RNGS-S_CAP          From Node: NGS-S_CAP          Length(ft): 120.00
        Group: BASE                  To Node: 011                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.10          11.10                                  Flow: Both
     Rise(in): 11.10          11.10                      Entrance Loss Coef: 0.500
   Invert(ft): 54.000         52.300                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
NGS-N CAP and NGS-N Relief Ditch
12-inch DR15.5 HDPE Pipe with Type C Inlet Box


*** Weir 1 of 1 for Drop Structure RNGS-S_CAP ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 56.500
               Rise(in): 24.00                  Control Elev(ft): 56.500


-----------------------------------------------------------------------------------------------------
         Name: ROGS-N              From Node: OGS-N              Length(ft): 600.00
        Group: BASE                  To Node: 020                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                  Flow: None
     Rise(in): 18.00          18.00                      Entrance Loss Coef: 0.500
   Invert(ft): 73.000         23.000                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Inferred Element - No flow current (2021) condition
This outlet needs to be re-designed for the closure

*** Weir 1 of 1 for Drop Structure ROGS-N ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 77.000
               Rise(in): 48.00                  Control Elev(ft): 77.000


-----------------------------------------------------------------------------------------------------
         Name: ROGS-S              From Node: OGS-S              Length(ft): 300.00
        Group: BASE                  To Node: 004                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
```

```
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                  Flow: None
     Rise(in): 18.00          18.00                     Entrance Loss Coef: 0.500
   Invert(ft): 71.000         31.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Inferred Element - No flow current (2021) condition
This outlet needs to be re-designed for the closure

*** Weir 1 of 1 for Drop Structure ROGS-S ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 75.000
              Rise(in): 36.00                  Control Elev(ft): 75.000


==========================================================================================
==== Weirs ===============================================================================
==========================================================================================

         Name: R008_O              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                   Span(in): 6.00
                   Rise(in): 6.00
                 Invert(ft): 55.200
       Control Elevation(ft): 55.200
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration


-------------------------------------------------------------------------------------------------------
         Name: R008_W              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Circular

                   Span(in): 30.00
                   Rise(in): 30.00
                 Invert(ft): 56.700
       Control Elevation(ft): 56.700
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech


-------------------------------------------------------------------------------------------------------
         Name: R013W               From Node: 013
        Group: BASE                  To Node: 007
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                       XSec: X013W
                 Invert(ft): 38.110
       Control Elevation(ft): 38.110
      Struct Opening Dim(ft): 9999.00
                                        TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------------
```

```
         Name: R027W               From Node: 027
        Group: BASE                  To Node: 028
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
       Left Side Slope(h/v): 3.00
      Right Side Slope(h/v): 3.00
                  Invert(ft): 23.500
      Control Elevation(ft): 23.500
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
         Name: R040W               From Node: 040
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X040W
                  Invert(ft): 13.170
      Control Elevation(ft): 13.170
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W               From Node: 042
        Group: BASE                  To Node: 040
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W
                  Invert(ft): 13.830
      Control Elevation(ft): 13.830
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W2              From Node: 042
        Group: BASE                  To Node: 043
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W2
                  Invert(ft): 13.220
      Control Elevation(ft): 13.220
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R043W               From Node: 043
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X043W
                  Invert(ft): 13.610
      Control Elevation(ft): 13.610
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
```

```
      Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: R044W               From Node: 044
        Group: BASE                  To Node: 043
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X044W
                  Invert(ft): 13.270
       Control Elevation(ft): 13.270
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: R3B                 From Node: 3
        Group: BASE                  To Node: 2
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X3B
                  Invert(ft): 13.220
       Control Elevation(ft): 13.220
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: W_001               From Node: BOX_001
        Group: BASE                  To Node: TW_001
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 38.40
                    Rise(in): 9999.00
                  Invert(ft): 3.000
       Control Elevation(ft): 3.000
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.2 ft wide weir

-----------------------------------------------------------------------------------------------
         Name: W_003               From Node: BOX_003
        Group: BASE                  To Node: TW_003
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 38.64
                    Rise(in): 9999.00
                  Invert(ft): 7.500
       Control Elevation(ft): 7.500
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.22 ft wide weir

==============================================================================================
==== Hydrology Simulations ===================================================================
==============================================================================================

         Name: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\25YR_24HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.50
```

```
Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------------
         Name: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\Mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 4.70

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

=========================================================================================
==== Routing Simulations ================================================================
=========================================================================================

         Name: 25YR_24HR           Hydrology Sim: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\25YR_24HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------------
         Name: Mean                Hydrology Sim: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\Mean.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

| Name | Group | Simulation | Max Time Stage hrs | Max Stage ft | Warning Stage ft | Max Delta Stage ft | Max Surf Area ft2 | Max Time Inflow hrs | Max Inflow cfs | Max Time Outflow hrs | Max Outflow cfs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-NE | BASE | 25YR_24HR | 15.11 | 10.77 | 13.00 | 0.0013 | 345510 | 12.08 | 64.21 | 15.11 | 4.76 |
| 0-NW | BASE | 25YR_24HR | 14.16 | 11.17 | 13.00 | 0.0016 | 195589 | 12.17 | 35.32 | 14.16 | 5.89 |
| 0-SE | BASE | 25YR_24HR | 13.39 | 10.74 | 13.00 | -0.0500 | 145704 | 12.08 | 28.59 | 13.39 | 5.11 |
| 0-SW | BASE | 25YR_24HR | 14.49 | 11.16 | 13.00 | 0.0016 | 229142 | 12.25 | 36.18 | 13.94 | 5.87 |
| 001 | BASE | 25YR_24HR | 32.58 | 15.14 | 18.50 | 0.0028 | 404 | 32.48 | 8.85 | 32.58 | 8.86 |
| 002 | BASE | 25YR_24HR | 35.72 | 25.61 | 29.00 | 0.0023 | 228768 | 12.00 | 127.02 | 35.91 | 3.56 |
| 003 | BASE | 25YR_24HR | 12.04 | 26.52 | 29.00 | 0.0016 | 7123 | 12.00 | 33.05 | 12.04 | 32.27 |
| 004 | BASE | 25YR_24HR | 12.58 | 32.47 | 33.50 | 0.0017 | 10034 | 12.00 | 24.26 | 12.58 | 17.34 |
| 005 | BASE | 25YR_24HR | 12.58 | 32.49 | 34.00 | 0.0015 | 22715 | 12.00 | 30.82 | 13.67 | 15.73 |
| 005B | BASE | 25YR_24HR | 14.67 | 79.11 | 82.00 | 0.0019 | 56793 | 12.00 | 30.84 | 14.67 | 1.55 |
| 006 | BASE | 25YR_24HR | 12.59 | 32.51 | 33.50 | 0.0014 | 12794 | 12.00 | 19.46 | 17.91 | 12.47 |
| 007 | BASE | 25YR_24HR | 16.33 | 35.48 | 37.00 | 0.0026 | 48254 | 12.00 | 34.98 | 17.99 | 11.86 |
| 008 | BASE | 25YR_24HR | 13.63 | 56.76 | 59.50 | 0.0010 | 42800 | 12.00 | 18.91 | 13.63 | 1.40 |
| 008A | BASE | 25YR_24HR | 13.72 | 47.16 | 55.50 | 0.0036 | 205 | 13.71 | 2.50 | 13.69 | 2.50 |
| 009 | BASE | 25YR_24HR | 14.13 | 81.26 | 83.50 | 0.0006 | 67263 | 12.00 | 18.19 | 14.13 | 1.12 |
| 01 | BASE | 25YR_24HR | 12.22 | 10.31 | 14.48 | 0.0050 | 1099 | 12.20 | 38.41 | 12.22 | 38.36 |
| 010 | BASE | 25YR_24HR | 16.89 | 50.39 | 76.00 | 0.0050 | 26574 | 12.00 | 54.72 | 16.89 | 7.99 |
| 011 | BASE | 25YR_24HR | 16.88 | 50.39 | 75.00 | 0.0025 | 62567 | 12.00 | 62.94 | 12.03 | 30.25 |
| 012 | BASE | 25YR_24HR | 12.09 | 53.52 | 63.00 | -0.0005 | 42067 | 12.00 | 22.14 | 12.09 | 18.68 |
| 013 | BASE | 25YR_24HR | 12.41 | 36.56 | 38.50 | 0.0027 | 5760 | 12.00 | 11.26 | 12.16 | 6.12 |
| 014 | BASE | 25YR_24HR | 12.41 | 36.56 | 39.00 | 0.0022 | 8969 | 12.00 | 12.29 | 12.12 | 4.07 |
| 015 | BASE | 25YR_24HR | 12.40 | 36.58 | 38.50 | -0.0013 | 3247 | 12.00 | 5.16 | 12.01 | 3.97 |
| 016 | BASE | 25YR_24HR | 30.11 | 23.43 | 23.50 | 0.0018 | 33722 | 12.03 | 19.80 | 29.97 | 5.34 |
| 017 | BASE | 25YR_24HR | 30.11 | 23.43 | 24.00 | 0.0018 | 16075 | 12.06 | 18.15 | 12.07 | 14.03 |
| 018 | BASE | 25YR_24HR | 30.10 | 23.44 | 24.50 | 0.0023 | 25157 | 12.00 | 18.96 | 12.09 | 13.82 |
| 019 | BASE | 25YR_24HR | 30.10 | 23.44 | 24.50 | 0.0029 | 12858 | 12.00 | 11.70 | 12.10 | 9.14 |
| 02 | BASE | 25YR_24HR | 12.21 | 10.78 | 12.48 | 0.0049 | 435 | 12.17 | 38.52 | 12.20 | 38.41 |
| 020 | BASE | 25YR_24HR | 24.02 | 27.34 | 25.00 | 0.0042 | 60252 | 12.00 | 32.11 | 18.35 | 7.72 |
| 021 | BASE | 25YR_24HR | 12.04 | 36.27 | 38.00 | 0.0015 | 6314 | 12.00 | 13.03 | 12.05 | 12.17 |
| 022 | BASE | 25YR_24HR | 12.53 | 32.83 | 34.00 | -0.0023 | 18245 | 12.00 | 29.43 | 11.99 | 15.83 |
| 023 | BASE | 25YR_24HR | 12.54 | 32.82 | 32.50 | -0.0040 | 11567 | 12.00 | 25.01 | 12.54 | 9.26 |
| 024 | BASE | 25YR_24HR | 12.12 | 26.74 | 29.50 | -0.0025 | 5592 | 12.00 | 17.81 | 12.09 | 16.03 |
| 025 | BASE | 25YR_24HR | 12.13 | 26.52 | 29.40 | 0.0019 | 12166 | 12.00 | 30.18 | 12.12 | 26.13 |
| 026 | BASE | 25YR_24HR | 12.15 | 26.13 | 29.20 | 0.0017 | 13130 | 12.05 | 39.57 | 12.13 | 36.10 |
| 027 | BASE | 25YR_24HR | 23.61 | 26.13 | 29.00 | 0.0026 | 7331 | 12.09 | 43.53 | 12.11 | 41.25 |
| 028 | BASE | 25YR_24HR | 23.65 | 26.13 | 28.50 | 0.0036 | 485481 | 12.00 | 171.39 | 23.65 | 3.66 |
| 029 | BASE | 25YR_24HR | 12.39 | 16.41 | 17.80 | 0.0047 | 6459 | 12.00 | 9.37 | 12.05 | 7.61 |
| 03 | BASE | 25YR_24HR | 12.22 | 10.94 | 15.13 | -0.0049 | 139 | 12.25 | 15.06 | 12.25 | 15.08 |
| 030 | BASE | 25YR_24HR | 12.66 | 16.35 | 17.50 | 0.0019 | 19060 | 12.00 | 20.04 | 12.09 | 12.29 |
| 031 | BASE | 25YR_24HR | 12.76 | 16.31 | 17.00 | 0.0021 | 20675 | 12.01 | 20.83 | 12.15 | 9.05 |
| 032 | BASE | 25YR_24HR | 12.77 | 16.30 | 17.00 | 0.0023 | 7255 | 12.06 | 12.45 | 12.21 | 8.62 |
| 033 | BASE | 25YR_24HR | 12.86 | 16.14 | 16.50 | -0.0047 | 4677 | 12.08 | 9.88 | 13.59 | 16.91 |
| 034 | BASE | 25YR_24HR | 12.86 | 16.14 | 17.80 | 0.0041 | 5213 | 13.59 | 15.31 | 13.86 | 6.02 |
| 034B | BASE | 25YR_24HR | 18.91 | 15.93 | 16.30 | 0.0031 | 178235 | 12.08 | 21.71 | 28.89 | 1.47 |
| 035 | BASE | 25YR_24HR | 12.60 | 14.76 | 16.50 | 0.0014 | 9513 | 12.00 | 10.31 | 12.59 | 6.78 |
| 036 | BASE | 25YR_24HR | 12.60 | 14.73 | 16.50 | 0.0025 | 9368 | 12.00 | 8.40 | 12.60 | 4.59 |
| 037 | BASE | 25YR_24HR | 15.66 | 11.71 | 19.00 | -0.0047 | 158 | 12.37 | 8.21 | 12.39 | 8.20 |
| 037A | BASE | 25YR_24HR | 15.85 | 11.29 | 11.70 | 0.0114 | 148 | 15.14 | 9.85 | 15.19 | 9.84 |
| 037B | BASE | 25YR_24HR | 16.11 | 10.59 | 11.70 | 0.0049 | 178 | 16.11 | 13.83 | 16.11 | 13.83 |
| 038 | BASE | 25YR_24HR | 12.31 | 14.15 | 16.00 | 0.0011 | 9139 | 12.00 | 8.12 | 12.31 | 3.66 |
| 039 | BASE | 25YR_24HR | 12.21 | 14.28 | 16.50 | -0.0008 | 8548 | 12.00 | 6.96 | 12.07 | 4.35 |
| 04 | BASE | 25YR_24HR | 12.22 | 11.12 | 12.48 | 0.0049 | 130 | 12.25 | 14.25 | 12.25 | 14.26 |
| 040 | BASE | 25YR_24HR | 12.57 | 13.86 | 16.30 | 0.0006 | 71249 | 12.25 | 11.92 | 12.61 | 10.39 |
| 041 | BASE | 25YR_24HR | 12.57 | 13.86 | 16.50 | 0.0006 | 88994 | 12.08 | 13.74 | 9.44 | 0.04 |
| 042 | BASE | 25YR_24HR | 16.60 | 13.71 | 14.00 | 0.0013 | 164087 | 12.08 | 40.52 | 12.80 | 13.64 |
| 043 | BASE | 25YR_24HR | 16.60 | 13.71 | 13.50 | 0.0019 | 237387 | 12.08 | 51.92 | 19.18 | 0.98 |
| 044 | BASE | 25YR_24HR | 16.59 | 13.71 | 12.70 | 0.0015 | 15515 | 12.08 | 12.24 | 12.09 | 12.10 |
| 045 | BASE | 25YR_24HR | 13.59 | 14.77 | 16.00 | 0.0009 | 105518 | 12.08 | 23.27 | 13.59 | 2.45 |
| 046 | BASE | 25YR_24HR | 12.80 | 12.73 | 13.20 | 0.0008 | 5737 | 12.09 | 3.79 | 12.80 | 2.85 |
| 05 | BASE | 25YR_24HR | 12.21 | 10.90 | 11.98 | 0.0037 | 131 | 12.17 | 16.68 | 12.17 | 16.61 |
| 1 | BASE | 25YR_24HR | 13.23 | 11.39 | 13.00 | 0.0023 | 31872 | 12.08 | 14.12 | 13.23 | 5.75 |
| 2 | BASE | 25YR_24HR | 12.82 | 12.05 | 13.00 | 0.0016 | 44120 | 12.03 | 27.73 | 12.23 | 3.90 |
| 3 | BASE | 25YR_24HR | 12.03 | 13.52 | 13.20 | 0.0050 | 14205 | 12.00 | 18.59 | 12.03 | 18.01 |
| 4 | BASE | 25YR_24HR | 13.23 | 11.39 | 11.30 | 0.0023 | 4839 | 12.08 | 2.27 | 12.00 | 0.94 |
| BASIN_2 | BASE | 25YR_24HR | 26.78 | 9.27 | 13.00 | 0.0011 | 832688 | 12.00 | 204.49 | 26.78 | 14.55 |
| BOX_001 | BASE | 25YR_24HR | 26.79 | 4.32 | 8.10 | 0.0021 | 113 | 26.78 | 14.55 | 26.79 | 14.55 |
| BOX_003 | BASE | 25YR_24HR | 32.59 | 8.44 | 12.90 | 0.0018 | 479 | 32.58 | 8.86 | 32.59 | 8.85 |
| LPWS | BASE | 25YR_24HR | 24.50 | 20.97 | 23.50 | 0.0004 | 466860 | 12.00 | 72.52 | 0.00 | 0.00 |
| NCOLLING_P | BASE | 25YR_24HR | 13.05 | 29.45 | 33.00 | -0.0184 | 284696 | 12.00 | 145.64 | 12.06 | 15.58 |
| NGS-N | BASE | 25YR_24HR | 24.50 | 68.46 | 73.00 | 0.0003 | 1400575 | 12.00 | 214.32 | 0.00 | 0.00 |
| NGS-S | BASE | 25YR_24HR | 24.50 | 58.07 | 74.00 | 0.0004 | 2575572 | 12.00 | 448.71 | 0.00 | 0.00 |
| NGS-S_CAP | BASE | 25YR_24HR | 12.97 | 57.18 | 63.00 | 0.0005 | 187233 | 12.00 | 51.25 | 12.97 | 5.34 |
| OGS-N | BASE | 25YR_24HR | 24.50 | 78.14 | 86.00 | 0.0006 | 914668 | 12.00 | 218.98 | 0.00 | 0.00 |
| OGS-S | BASE | 25YR_24HR | 24.50 | 76.84 | 85.00 | 0.0008 | 431638 | 12.00 | 145.08 | 0.00 | 0.00 |
| TW_001 | BASE | 25YR_24HR | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 26.79 | 14.55 | 0.00 | 0.00 |
| TW_003 | BASE | 25YR_24HR | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 32.59 | 8.85 | 0.00 | 0.00 |
| 0-NE | BASE | Mean | 24.14 | 10.42 | 13.00 | 0.0013 | 262315 | 12.08 | 27.83 | 24.14 | 0.61 |
| 0-NW | BASE | Mean | 14.04 | 10.57 | 13.00 | 0.0017 | 110846 | 12.25 | 15.33 | 14.04 | 3.16 |
| 0-SE | BASE | Mean | 19.96 | 10.42 | 13.00 | -0.0500 | 108327 | 12.08 | 12.36 | 19.96 | 0.55 |
| 0-SW | BASE | Mean | 14.27 | 10.58 | 13.00 | 0.0019 | 123382 | 12.25 | 15.63 | 14.27 | 3.33 |
| 001 | BASE | Mean | 23.72 | 14.98 | 18.50 | 0.0034 | 456 | 23.64 | 7.54 | 23.49 | 7.54 |
| 002 | BASE | Mean | 26.61 | 21.75 | 29.00 | 0.0019 | 173504 | 12.00 | 62.96 | 33.55 | 2.97 |
| 003 | BASE | Mean | 12.12 | 26.24 | 29.00 | 0.0018 | 6754 | 12.07 | 21.49 | 12.12 | 20.68 |
| 004 | BASE | Mean | 12.35 | 31.24 | 33.50 | 0.0011 | 7984 | 12.10 | 16.20 | 12.35 | 15.00 |
| 005 | BASE | Mean | 12.35 | 31.38 | 34.00 | 0.0014 | 18385 | 12.08 | 16.77 | 12.36 | 13.24 |
| 005B | BASE | Mean | 13.57 | 78.01 | 82.00 | 0.0025 | 30778 | 12.00 | 13.67 | 13.57 | 1.19 |
| 006 | BASE | Mean | 12.36 | 31.45 | 33.50 | 0.0015 | 10521 | 12.05 | 10.61 | 16.56 | 9.01 |
| 007 | BASE | Mean | 16.79 | 33.81 | 37.00 | -0.0032 | 38304 | 12.00 | 20.56 | 16.79 | 8.79 |
| 008 | BASE | Mean | 13.62 | 55.99 | 59.50 | 0.0010 | 31683 | 12.00 | 8.38 | 13.62 | 0.69 |
| 008A | BASE | Mean | 13.99 | 46.85 | 55.50 | 0.0032 | 196 | 13.94 | 1.08 | 13.94 | 1.08 |
| 009 | BASE | Mean | 15.58 | 80.80 | 83.50 | 0.0006 | 52761 | 12.00 | 8.06 | 15.58 | 0.39 |
| 01 | BASE | Mean | 12.29 | 9.23 | 14.48 | 0.0038 | 1550 | 12.26 | 19.83 | 12.29 | 19.75 |
| 010 | BASE | Mean | 13.75 | 48.30 | 76.00 | 0.0050 | 19195 | 12.08 | 29.29 | 13.75 | 7.33 |
| 011 | BASE | Mean | 12.37 | 48.69 | 75.00 | 0.0011 | 49165 | 12.02 | 28.93 | 12.15 | 19.58 |
| 012 | BASE | Mean | 12.11 | 53.39 | 63.00 | 0.0004 | 40915 | 12.00 | 10.61 | 12.11 | 8.33 |
| 013 | BASE | Mean | 12.31 | 35.28 | 38.50 | 0.0033 | 4021 | 12.00 | 6.87 | 12.31 | 4.52 |
| 014 | BASE | Mean | 12.31 | 35.33 | 39.00 | -0.0021 | 5721 | 12.00 | 6.12 | 12.05 | 3.45 |
| 015 | BASE | Mean | 12.09 | 35.97 | 38.50 | 0.0009 | 2132 | 12.00 | 2.47 | 12.05 | 2.21 |
| 016 | BASE | Mean | 21.72 | 21.43 | 23.50 | 0.0017 | 26366 | 12.10 | 10.21 | 21.56 | 4.72 |
| 017 | BASE | Mean | 21.72 | 21.43 | 24.00 | 0.0020 | 10841 | 12.12 | 9.20 | 12.27 | 8.42 |
| 018 | BASE | Mean | 21.69 | 21.44 | 24.50 | 0.0027 | 16965 | 12.03 | 10.07 | 12.32 | 7.97 |
| 019 | BASE | Mean | 21.64 | 21.45 | 24.50 | 0.0028 | 8699 | 15.02 | 7.56 | 15.05 | 7.15 |

| Name | Group | Simulation | Max Time Stage hrs | Max Stage ft | Warning Stage ft | Max Delta Stage ft | Max Surf Area ft2 | Max Time Inflow hrs | Max Inflow cfs | Max Time Outflow hrs | Max Outflow cfs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 02 | BASE | Mean | 12.28 | 9.50 | 12.48 | 0.0037 | 1254 | 12.24 | 19.94 | 12.26 | 19.83 |
| 020 | BASE | Mean | 15.43 | 25.05 | 25.00 | 0.0049 | 46150 | 12.00 | 22.59 | 15.02 | 7.43 |
| 021 | BASE | Mean | 12.06 | 35.96 | 38.00 | 0.0012 | 5023 | 12.00 | 6.25 | 12.08 | 5.76 |
| 022 | BASE | Mean | 12.18 | 31.54 | 34.00 | 0.0018 | 11879 | 12.00 | 13.80 | 12.10 | 10.61 |
| 023 | BASE | Mean | 12.42 | 31.12 | 32.50 | -0.0035 | 7885 | 12.08 | 14.44 | 12.42 | 7.94 |
| 024 | BASE | Mean | 12.13 | 26.30 | 29.50 | -0.0031 | 4833 | 12.00 | 11.76 | 12.10 | 10.95 |
| 025 | BASE | Mean | 12.17 | 25.96 | 29.40 | -0.0027 | 10292 | 12.01 | 17.47 | 12.16 | 14.92 |
| 026 | BASE | Mean | 12.22 | 25.48 | 29.20 | 0.0024 | 10706 | 12.08 | 20.90 | 12.22 | 18.79 |
| 027 | BASE | Mean | 17.63 | 25.10 | 29.00 | 0.0014 | 5561 | 12.14 | 21.48 | 12.19 | 21.36 |
| 028 | BASE | Mean | 17.65 | 25.10 | 28.50 | 0.0042 | 219591 | 12.00 | 82.02 | 17.65 | 3.46 |
| 029 | BASE | Mean | 12.11 | 16.05 | 17.80 | 0.0017 | 5413 | 12.00 | 5.92 | 12.09 | 5.43 |
| 03 | BASE | Mean | 12.27 | 9.55 | 15.13 | -0.0049 | 476 | 12.25 | 7.88 | 12.26 | 7.84 |
| 030 | BASE | Mean | 12.28 | 15.65 | 17.50 | 0.0016 | 14628 | 12.00 | 11.20 | 12.18 | 7.89 |
| 031 | BASE | Mean | 12.91 | 15.27 | 17.00 | 0.0022 | 15436 | 12.08 | 11.35 | 12.31 | 6.32 |
| 032 | BASE | Mean | 12.95 | 15.25 | 17.00 | 0.0021 | 5537 | 12.23 | 7.25 | 12.39 | 5.97 |
| 033 | BASE | Mean | 14.61 | 15.18 | 16.50 | 0.0049 | 3742 | 12.33 | 6.29 | 20.66 | 8.00 |
| 034 | BASE | Mean | 14.99 | 15.17 | 17.80 | -0.0041 | 4350 | 20.66 | 8.80 | 14.99 | 4.90 |
| 034B | BASE | Mean | 16.63 | 15.21 | 16.30 | 0.0026 | 95225 | 12.17 | 9.44 | 48.01 | 0.81 |
| 035 | BASE | Mean | 15.64 | 14.18 | 16.50 | 0.0015 | 8139 | 12.08 | 5.48 | 15.51 | 5.00 |
| 036 | BASE | Mean | 15.66 | 14.11 | 16.50 | 0.0027 | 7931 | 12.02 | 4.97 | 15.66 | 3.59 |
| 037 | BASE | Mean | 12.73 | 10.22 | 19.00 | 0.0022 | 551 | 12.72 | 5.51 | 5.35 | 7.72 |
| 037A | BASE | Mean | 12.82 | 9.63 | 11.70 | 0.0114 | 785 | 5.35 | 7.72 | 12.80 | 6.35 |
| 037B | BASE | Mean | 12.86 | 9.37 | 11.70 | 0.0024 | 533 | 12.84 | 6.94 | 12.86 | 6.93 |
| 038 | BASE | Mean | 12.56 | 13.52 | 16.00 | 0.0014 | 7510 | 12.05 | 4.56 | 12.54 | 2.24 |
| 039 | BASE | Mean | 12.15 | 13.91 | 16.50 | 0.0008 | 7273 | 12.00 | 3.34 | 12.11 | 2.27 |
| 04 | BASE | Mean | 12.27 | 9.60 | 12.48 | 0.0050 | 358 | 12.25 | 7.49 | 12.25 | 7.46 |
| 040 | BASE | Mean | 14.04 | 13.73 | 16.30 | 0.0006 | 62170 | 12.33 | 5.16 | 13.84 | 1.64 |
| 041 | BASE | Mean | 14.05 | 13.73 | 16.50 | 0.0006 | 80766 | 12.25 | 6.45 | 51.34 | 0.44 |
| 042 | BASE | Mean | 17.58 | 12.90 | 14.00 | 0.0011 | 106999 | 12.08 | 17.69 | 17.58 | 0.92 |
| 043 | BASE | Mean | 24.64 | 12.87 | 13.50 | 0.0007 | 170259 | 12.08 | 22.77 | 40.23 | 0.77 |
| 044 | BASE | Mean | 12.10 | 13.45 | 12.70 | 0.0018 | 9550 | 12.08 | 5.36 | 12.10 | 5.24 |
| 045 | BASE | Mean | 13.26 | 14.27 | 16.00 | 0.0009 | 64870 | 12.08 | 10.26 | 13.25 | 1.37 |
| 046 | BASE | Mean | 13.16 | 12.25 | 13.20 | 0.0008 | 4302 | 12.33 | 1.66 | 13.12 | 1.49 |
| 05 | BASE | Mean | 12.27 | 9.54 | 11.98 | -0.0038 | 429 | 12.17 | 8.76 | 12.23 | 8.61 |
| 1 | BASE | Mean | 14.73 | 10.73 | 13.00 | 0.0026 | 27163 | 12.15 | 9.25 | 14.73 | 1.34 |
| 2 | BASE | Mean | 12.72 | 10.99 | 13.00 | 0.0011 | 23434 | 12.08 | 6.60 | 12.97 | 2.04 |
| 3 | BASE | Mean | 12.19 | 13.34 | 13.20 | 0.0050 | 11235 | 12.00 | 8.21 | 12.19 | 5.15 |
| 4 | BASE | Mean | 14.74 | 10.73 | 11.30 | 0.0019 | 3361 | 12.08 | 1.00 | 12.15 | 1.29 |
| BASIN_2 | BASE | Mean | 24.70 | 7.71 | 13.00 | 0.0008 | 686222 | 12.00 | 106.64 | 24.70 | 10.31 |
| BOX_001 | BASE | Mean | 24.70 | 4.05 | 8.10 | 0.0010 | 113 | 24.70 | 10.31 | 24.70 | 10.31 |
| BOX_003 | BASE | Mean | 23.70 | 8.35 | 12.90 | 0.0022 | 495 | 23.49 | 7.54 | 23.70 | 7.54 |
| LPWS | BASE | Mean | 24.50 | 20.63 | 23.50 | 0.0003 | 464373 | 12.00 | 40.10 | 0.00 | 0.00 |
| NCOLLING_P | BASE | Mean | 12.50 | 28.69 | 33.00 | -0.0110 | 171264 | 12.00 | 64.56 | 12.50 | 15.38 |
| NGS-N | BASE | Mean | 24.50 | 68.12 | 73.00 | 0.0003 | 1396033 | 12.00 | 118.49 | 0.00 | 0.00 |
| NGS-S | BASE | Mean | 24.50 | 57.68 | 74.00 | 0.0003 | 2569898 | 12.00 | 248.08 | 0.00 | 0.00 |
| NGS-S_CAP | BASE | Mean | 12.59 | 56.78 | 63.00 | 0.0004 | 161240 | 12.00 | 22.72 | 12.59 | 4.50 |
| OGS-N | BASE | Mean | 24.50 | 77.60 | 86.00 | 0.0004 | 899590 | 12.00 | 118.27 | 0.00 | 0.00 |
| OGS-S | BASE | Mean | 24.50 | 76.04 | 85.00 | 0.0008 | 381026 | 12.00 | 78.36 | 0.00 | 0.00 |
| TW_001 | BASE | Mean | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 24.70 | 10.31 | 0.00 | 0.00 |
| TW_003 | BASE | Mean | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 23.70 | 7.54 | 0.00 | 0.00 |

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==========================================================================================
==== Basins ==============================================================================
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         Name: B0-NE                    Node: 0-NE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 15.29
            Area(ac): 18.110                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-NW                    Node: 0-NW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 24.38
            Area(ac): 12.592                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SE                    Node: 0-SE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 16.04
            Area(ac): 8.242                      Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


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         Name: B0-SW                    Node: 0-SW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 27.75
            Area(ac): 13.732                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B002                     Node: 002                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 16.907                     Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B003                     Node: 003                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.962                      Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B004                     Node: 004                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
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              Area(ac): 1.743                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005                     Node: 005                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.331                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005B                    Node: 005B                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 5.877                  Time Shift(hrs): 0.00
           Curve Number: 80.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B006                     Node: 006                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 2.121                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B007                     Node: 007                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.711                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B008                     Node: 008                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.603                  Time Shift(hrs): 0.00
           Curve Number: 80.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B009                     Node: 009                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.465                  Time Shift(hrs): 0.00
           Curve Number: 80.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B010                     Node: 010                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
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         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 4.399                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B011                    Node: 011                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 7.248                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B012                    Node: 012                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 3.931                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B013                    Node: 013                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.297                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B014                    Node: 014                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.479                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B015                    Node: 015                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 0.916                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B016                    Node: 016                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.101                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B017                    Node: 017                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.869                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B018                    Node: 018                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.810                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B019                    Node: 019                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.965                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B02                     Node: 02                     Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 18.45
            Area(ac): 1.874                    Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B020                    Node: 020                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.936                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B021                    Node: 021                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.314                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B022                    Node: 022                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.146                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


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```

```
        Name: B023                    Node: 023                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.632                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B024                    Node: 024                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.694                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B025                    Node: 025                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.608                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B026                    Node: 026                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.765                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B027                    Node: 027                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.700                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B028                    Node: 028                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 24.355                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B029                    Node: 029                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.051                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

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-----------------------------------------------------------------------------------------------------
        Name: B03                     Node: 03                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.219                    Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B030                    Node: 030                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 2.234                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B031                    Node: 031                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 1.636                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B032                    Node: 032                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.724                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B033                    Node: 033                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.318                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034                    Node: 034                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.586                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034B                   Node: 034B                  Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 17.90
            Area(ac): 6.673                    Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

```
-----------------------------------------------------------------------------------------------
        Name: B035                    Node: 035                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.909                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B036                    Node: 036                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.755                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B038                    Node: 038                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.886                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B039                    Node: 039                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.236                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B04                     Node: 04                     Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 27.56
            Area(ac): 4.524                     Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B040                    Node: 040                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 31.64
            Area(ac): 4.868                     Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B041                    Node: 041                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 18.58
            Area(ac): 5.137                     Time Shift(hrs): 0.00
```

```
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042_B                  Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 11.27
             Area(ac): 2.239                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042A                   Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 13.56
             Area(ac): 8.431                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B043                    Node: 043                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 9.704                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B044                    Node: 044                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 12.33
             Area(ac): 3.148                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B045                    Node: 045                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 5.663                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B046                    Node: 046                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 0.465                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B05                     Node: 05                     Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
```

```
    Rainfall Amount(in): 0.000                Time of Conc(min): 24.88
               Area(ac): 5.013                  Time Shift(hrs): 0.00
           Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B1                      Node: 1                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 1.344                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B2                      Node: 2                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 3.486                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B3                      Node: 3                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.93
               Area(ac): 3.600                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B4                      Node: 4                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 0.553                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BBASIN_2                Node: BASIN_2                Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 26.822                 Time Shift(hrs): 0.00
           Curve Number: 95.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BLPWS                   Node: LPWS                   Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 11.656                 Time Shift(hrs): 0.00
           Curve Number: 100.00            Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BNCOLLING_P             Node: NCOLLING_P             Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 27.750                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-N                    Node: NGS-N                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 34.446                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S                    Node: NGS-S                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 48.890                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S2                   Node: NGS-S2                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 23.230                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S_CAP                Node: NGS-S_CAP               Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 9.766                      Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-N                    Node: OGS-N                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 35.637                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-S                    Node: OGS-S                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 23.611                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


===============================================================================================
==== Nodes ====================================================================================
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Name: 0-NE  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.700 | 0.0000 |
| 9.700 | 1.9353 |
| 10.700 | 7.5750 |
| 11.700 | 12.8416 |
| 12.700 | 15.7512 |
| 13.700 | 16.5189 |
| 14.700 | 16.7168 |
| 15.700 | 16.8417 |
| 16.700 | 16.9569 |
| 17.700 | 17.0643 |
| 18.700 | 17.1677 |
| 19.700 | 17.2726 |
| 20.700 | 17.3781 |
| 21.700 | 17.4871 |
| 22.700 | 17.5933 |
| 23.700 | 17.6920 |
| 24.700 | 17.8044 |
| 25.700 | 18.0903 |
| 26.700 | 18.1110 |
| 27.520 | 18.1114 |

---

Name: 0-NW  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.960 | 0.0000 |
| 9.960 | 0.9966 |
| 10.960 | 3.5226 |
| 11.960 | 8.0966 |
| 12.960 | 11.8522 |
| 13.960 | 12.5666 |
| 14.960 | 12.5930 |
| 15.370 | 12.5931 |

---

Name: 0-SE  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 0.000 | 0.0000 |
| 9.050 | 0.0001 |
| 10.050 | 1.4902 |
| 11.050 | 4.1887 |
| 12.050 | 6.2550 |
| 13.050 | 7.0393 |
| 14.050 | 7.2425 |
| 15.050 | 7.3425 |
| 16.050 | 7.4203 |
| 17.050 | 7.4910 |
| 18.050 | 7.5614 |
| 19.050 | 7.6287 |
| 20.050 | 7.6934 |
| 21.050 | 7.7614 |
| 22.050 | 7.8276 |
| 23.050 | 7.8972 |
| 24.050 | 7.9633 |
| 25.050 | 8.0819 |
| 26.050 | 8.2410 |
| 26.690 | 8.2417 |

---

Name: 0-SW  Base Flow(cfs): 0.000  Init Stage(ft): 9.000
Group: BASE  Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.820 | 0.0000 |

| | |
|---|---|
| 9.820 | 0.7520 |
| 10.820 | 3.4854 |
| 11.820 | 8.6541 |
| 12.820 | 12.7281 |
| 13.820 | 13.6629 |
| 14.820 | 13.7300 |
| 15.290 | 13.7303 |

---

Name: 001 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 18.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 002 Base Flow(cfs): 0.000 Init Stage(ft): 17.500
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 16.480 | 0.0000 |
| 17.480 | 0.8465 |
| 18.480 | 2.3918 |
| 19.480 | 3.0914 |
| 20.480 | 3.4540 |
| 21.480 | 3.7725 |
| 22.480 | 4.0917 |
| 23.480 | 4.4203 |
| 24.480 | 4.7447 |
| 25.480 | 5.0727 |
| 26.480 | 5.3905 |
| 27.480 | 5.7169 |
| 28.480 | 6.0806 |
| 29.480 | 6.4178 |
| 30.480 | 6.6524 |
| 31.480 | 6.8462 |
| 32.480 | 7.0136 |
| 33.480 | 7.1677 |
| 34.480 | 7.3151 |
| 35.480 | 7.4683 |
| 36.480 | 7.6192 |
| 37.480 | 7.7618 |
| 38.480 | 7.8991 |
| 39.480 | 8.0352 |
| 40.480 | 8.1720 |
| 41.480 | 8.3092 |
| 42.480 | 8.4576 |
| 43.480 | 8.6048 |
| 44.480 | 8.7601 |
| 45.480 | 8.9182 |
| 46.480 | 9.0779 |
| 47.480 | 9.2334 |
| 48.480 | 9.3936 |
| 49.480 | 9.5514 |
| 50.480 | 9.7137 |
| 51.480 | 9.8738 |
| 52.480 | 10.0354 |
| 53.480 | 10.1966 |
| 54.480 | 10.3568 |
| 55.480 | 10.5164 |
| 56.480 | 10.6740 |
| 57.480 | 10.8303 |
| 58.480 | 10.9867 |
| 59.480 | 11.1417 |
| 60.480 | 11.3013 |
| 61.480 | 11.4644 |
| 62.480 | 11.6300 |
| 63.480 | 11.7923 |
| 64.480 | 11.9512 |
| 65.480 | 12.1116 |
| 66.480 | 12.2753 |
| 67.480 | 12.4394 |
| 68.480 | 12.6036 |
| 69.480 | 12.7660 |
| 70.480 | 12.9301 |
| 71.480 | 13.0910 |
| 72.480 | 13.2507 |
| 73.480 | 13.4117 |
| 74.480 | 13.5715 |
| 75.480 | 13.7473 |
| 76.480 | 13.9285 |
| 77.480 | 14.0981 |

| | |
|---|---|
| 78.480 | 14.2643 |
| 79.480 | 14.4300 |
| 80.480 | 14.5995 |
| 81.480 | 14.7764 |
| 82.480 | 14.9779 |
| 83.480 | 15.1728 |
| 84.480 | 15.2790 |
| 85.480 | 15.4114 |
| 86.480 | 16.2870 |
| 87.480 | 16.4206 |
| 88.480 | 16.5302 |
| 89.480 | 16.6528 |
| 90.480 | 16.7484 |
| 91.480 | 16.8595 |
| 92.480 | 16.9005 |
| 93.240 | 16.9095 |

---

Name: 003 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 004 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 005 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 34.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 005B Base Flow(cfs): 0.000 Init Stage(ft): 76.160
Group: BASE Warn Stage(ft): 82.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 75.460 | 0.0000 |
| 76.460 | 0.2122 |
| 77.460 | 0.4066 |
| 78.460 | 0.9553 |
| 79.460 | 1.4878 |
| 80.460 | 2.0940 |
| 81.460 | 2.7105 |
| 82.460 | 3.3906 |
| 83.460 | 4.0673 |
| 84.460 | 4.6060 |
| 85.460 | 4.8908 |
| 86.460 | 5.0713 |
| 87.460 | 5.3024 |
| 88.460 | 5.6746 |
| 89.460 | 5.7884 |
| 90.460 | 5.8467 |
| 91.460 | 5.8746 |
| 92.460 | 5.8764 |
| 92.610 | 5.8764 |

---

Name: 006 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 007 Base Flow(cfs): 0.000 Init Stage(ft): 30.950
Group: BASE Warn Stage(ft): 37.000

Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 29.700 | 0.0003 |
| 30.700 | 0.2348 |
| 31.700 | 0.5205 |
| 32.700 | 0.7105 |
| 33.700 | 0.8616 |
| 34.700 | 1.0000 |
| 35.700 | 1.1362 |
| 36.700 | 1.4003 |
| 37.700 | 1.6724 |
| 38.700 | 1.7573 |
| 39.700 | 1.8290 |
| 40.700 | 1.9013 |
| 41.700 | 1.9713 |
| 42.700 | 2.0374 |
| 43.700 | 2.1024 |
| 44.700 | 2.1734 |
| 45.700 | 2.2410 |
| 46.700 | 2.3106 |
| 47.700 | 2.3764 |
| 48.700 | 2.4462 |
| 49.700 | 2.5108 |
| 50.700 | 2.5756 |
| 51.700 | 2.6441 |
| 52.700 | 2.7113 |
| 53.700 | 2.7789 |
| 54.700 | 2.8459 |
| 55.700 | 2.9146 |
| 56.700 | 2.9823 |
| 57.700 | 3.0489 |
| 58.700 | 3.1217 |
| 59.700 | 3.2305 |
| 60.700 | 3.3445 |
| 61.700 | 3.4190 |
| 62.700 | 3.4429 |
| 63.700 | 3.4561 |
| 64.700 | 3.4667 |
| 65.700 | 3.4766 |
| 66.700 | 3.4868 |
| 67.700 | 3.4979 |
| 68.700 | 3.5085 |
| 69.700 | 3.5185 |
| 70.700 | 3.5286 |
| 71.700 | 3.5386 |
| 72.700 | 3.5516 |
| 73.700 | 3.5639 |
| 74.700 | 3.5748 |
| 75.700 | 3.6119 |
| 76.700 | 3.6998 |
| 77.700 | 3.7083 |
| 78.400 | 3.7110 |

---

Name: 008 Base Flow(cfs): 0.000 Init Stage(ft): 55.200
Group: BASE Warn Stage(ft): 59.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 53.880 | 0.0000 |
| 54.880 | 0.2202 |
| 55.880 | 0.6918 |
| 56.880 | 1.0233 |
| 57.880 | 1.1896 |
| 58.880 | 1.3431 |
| 59.880 | 1.5155 |
| 60.880 | 1.6559 |
| 61.880 | 1.7608 |
| 62.880 | 1.8412 |
| 63.880 | 1.9170 |
| 64.880 | 1.9969 |
| 65.880 | 2.0717 |
| 66.880 | 2.1443 |
| 67.880 | 2.2175 |
| 68.880 | 2.2852 |
| 69.880 | 2.3524 |
| 70.880 | 2.4193 |
| 71.880 | 2.4892 |
| 72.880 | 2.5566 |
| 73.880 | 2.6226 |
| 74.880 | 2.6915 |
| 75.880 | 2.7537 |

| | |
|---|---|
| 76.880 | 2.8407 |
| 77.880 | 2.9242 |
| 78.880 | 3.0003 |
| 79.880 | 3.0654 |
| 80.880 | 3.1295 |
| 81.880 | 3.1944 |
| 82.880 | 3.2869 |
| 83.880 | 3.5208 |
| 84.880 | 3.5931 |
| 85.880 | 3.6024 |
| 86.170 | 3.6026 |

---

Name: 008A  Base Flow(cfs): 0.000  Init Stage(ft): 46.400
Group: BASE  Warn Stage(ft): 55.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 009  Base Flow(cfs): 0.000  Init Stage(ft): 80.300
Group: BASE  Warn Stage(ft): 83.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 78.970 | 0.0000 |
| 79.970 | 0.4152 |
| 80.970 | 1.3790 |
| 81.970 | 1.9540 |
| 82.970 | 2.2372 |
| 83.970 | 2.4893 |
| 84.970 | 2.6691 |
| 85.970 | 2.8333 |
| 86.970 | 3.1062 |
| 87.970 | 3.4281 |
| 88.970 | 3.4642 |
| 89.970 | 3.4655 |
| 90.360 | 3.4657 |

---

Name: 01  Base Flow(cfs): 0.000  Init Stage(ft): 6.830
Group: BASE  Warn Stage(ft): 14.480
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 010  Base Flow(cfs): 0.000  Init Stage(ft): 43.900
Group: BASE  Warn Stage(ft): 76.000
Type: Stage/Area

Liner El. = 54.0 per construction plan

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 011  Base Flow(cfs): 0.000  Init Stage(ft): 48.000
Group: BASE  Warn Stage(ft): 75.000
Type: Stage/Area

Liner El. = 54.0 per construction plan

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 012  Base Flow(cfs): 0.000  Init Stage(ft): 53.200
Group: BASE  Warn Stage(ft): 63.000
Type: Stage/Area

Liner El. = 57.2 per construction plan

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 013  Base Flow(cfs): 0.000  Init Stage(ft): 33.300
Group: BASE  Warn Stage(ft): 38.500
Type: Stage/Area

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 014                 Base Flow(cfs): 0.000          Init Stage(ft): 34.200
     Group: BASE                                               Warn Stage(ft): 39.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 015                 Base Flow(cfs): 0.000          Init Stage(ft): 35.500
     Group: BASE                                               Warn Stage(ft): 38.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 016                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 23.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         17.610          0.0000
         18.610          0.3218
         19.610          0.4302
         20.610          0.5008
         21.610          0.5593
         22.610          0.6294
         23.610          0.7030
         24.610          0.8875
         25.610          0.9387
         26.610          0.9532
         27.610          0.9690
         28.610          0.9928
         29.480          1.1002
-------------------------------------------------------------------------------------------
      Name: 017                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 24.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 018                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 24.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 019                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 24.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 02                  Base Flow(cfs): 0.000          Init Stage(ft): 6.880
     Group: BASE                                               Warn Stage(ft): 12.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
```

```
-------------------------------------------------------------------------------------------
      Name: 020                 Base Flow(cfs): 0.000          Init Stage(ft): 19.820
     Group: BASE                                               Warn Stage(ft): 25.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         18.630          0.0000
         19.630          0.0914
         20.630          0.2376
         21.630          0.4010
         22.630          0.6186
         23.630          0.8277
         24.630          0.9948
         25.630          1.1502
         26.630          1.2915
         27.630          1.4197
         28.630          1.5445
         29.630          1.6686
         30.630          1.7981
         31.630          1.9240
         32.630          2.0286
         33.630          2.3002
         34.630          2.4753
         35.630          2.5440
         36.630          2.6354
         37.630          2.8971
         38.630          2.9365
         38.900          2.9369

-------------------------------------------------------------------------------------------
      Name: 021                 Base Flow(cfs): 0.000          Init Stage(ft): 35.300
     Group: BASE                                               Warn Stage(ft): 38.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 022                 Base Flow(cfs): 0.000          Init Stage(ft): 30.600
     Group: BASE                                               Warn Stage(ft): 34.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 023                 Base Flow(cfs): 0.000          Init Stage(ft): 29.480
     Group: BASE                                               Warn Stage(ft): 32.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 024                 Base Flow(cfs): 0.000          Init Stage(ft): 25.100
     Group: BASE                                               Warn Stage(ft): 29.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 025                 Base Flow(cfs): 0.000          Init Stage(ft): 24.600
     Group: BASE                                               Warn Stage(ft): 29.400
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 026                 Base Flow(cfs): 0.000          Init Stage(ft): 24.000
     Group: BASE                                               Warn Stage(ft): 29.200
      Type: Stage/Area
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 027                 Base Flow(cfs): 0.000          Init Stage(ft): 23.500
     Group: BASE                                               Warn Stage(ft): 29.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 028                 Base Flow(cfs): 0.000          Init Stage(ft): 20.500
     Group: BASE                                               Warn Stage(ft): 28.500
      Type: Stage/Area

Storage below LIDAR El. 25.3 estimated from the Design

      Stage(ft)        Area(ac)
--------------- ---------------
         20.500          0.1000
         25.000          2.6500
         25.300          9.7042
         26.300         11.4477
         27.300         12.0331
         28.300         12.6026
         29.300         13.3008
         30.300         13.5739
         31.300         13.8299
         32.300         14.1049
         33.300         14.3780
         34.300         14.6358
         35.300         14.8904
         36.300         15.1472
         37.300         15.4050
         38.300         15.6724
         39.300         15.9405
         40.300         16.2058
         41.300         16.4608
         42.300         16.7007
         43.300         16.9338
         44.300         17.1620
         45.300         17.4048
         46.300         17.6509
         47.300         17.8896
         48.300         18.1348
         49.300         18.3722
         50.300         18.6043
         51.300         18.8395
         52.300         19.0622
         53.300         19.2821
         54.300         19.5003
         55.300         19.7247
         56.300         19.9467
         57.300         20.1671
         58.300         20.3885
         59.300         20.6070
         60.300         20.8241
         61.300         21.0444
         62.300         21.2632
         63.300         21.5239
         64.300         22.0542
         65.300         22.2391
         66.300         22.4196
         67.300         22.5921
         68.300         22.7528
         69.300         22.9029
         70.300         23.0388
         71.300         23.1711
         72.300         23.3306
         73.300         23.7533
         74.300         24.2280
         75.300         24.3146
         76.170         24.3501

-------------------------------------------------------------------------------------------
      Name: 029                 Base Flow(cfs): 0.000          Init Stage(ft): 15.250
     Group: BASE                                               Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 03                  Base Flow(cfs): 0.000          Init Stage(ft): 6.980
```

```
     Group: BASE                                            Warn Stage(ft): 15.130
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 030                Base Flow(cfs): 0.000         Init Stage(ft): 14.700
     Group: BASE                                            Warn Stage(ft): 17.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 031                Base Flow(cfs): 0.000         Init Stage(ft): 13.700
     Group: BASE                                            Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 032                Base Flow(cfs): 0.000         Init Stage(ft): 13.670
     Group: BASE                                            Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 033                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                            Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 034                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                            Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 034B               Base Flow(cfs): 0.000         Init Stage(ft): 14.000
     Group: BASE                                            Warn Stage(ft): 16.300
      Type: Stage/Area

Bottom contour areas for the closure.

      Stage(ft)        Area(ac)
--------------- ---------------
         14.000          1.6600
         15.000          4.1900
         16.000          4.6000
         18.000          4.7000

-------------------------------------------------------------------------------------
      Name: 035                Base Flow(cfs): 0.000         Init Stage(ft): 13.000
     Group: BASE                                            Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 036                Base Flow(cfs): 0.000         Init Stage(ft): 12.500
     Group: BASE                                            Warn Stage(ft): 16.500
      Type: Stage/Area
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037                Base Flow(cfs): 0.000          Init Stage(ft): 9.000
     Group: BASE                                              Warn Stage(ft): 19.000
      Type: Stage/Area

48-inch Dia Manhole

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037A               Base Flow(cfs): 0.000          Init Stage(ft): 8.300
     Group: BASE                                              Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037B               Base Flow(cfs): 0.000          Init Stage(ft): 7.820
     Group: BASE                                              Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 038                Base Flow(cfs): 0.000          Init Stage(ft): 12.500
     Group: BASE                                              Warn Stage(ft): 16.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 039                Base Flow(cfs): 0.000          Init Stage(ft): 13.500
     Group: BASE                                              Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 04                 Base Flow(cfs): 0.000          Init Stage(ft): 7.080
     Group: BASE                                              Warn Stage(ft): 12.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 040                Base Flow(cfs): 0.000          Init Stage(ft): 13.140
     Group: BASE                                              Warn Stage(ft): 16.300
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         12.650          0.0001
         13.650          1.3042
         14.650          2.8713
         15.650          4.0654
         16.650          4.5393
         17.650          4.7536
         18.650          4.7902
         19.650          4.8116
         20.650          4.8274
         21.650          4.8380
         22.650          4.8487
         23.650          4.8615
         24.640          4.8687

-------------------------------------------------------------------------------------------
      Name: 041                Base Flow(cfs): 0.000          Init Stage(ft): 13.160
     Group: BASE                                              Warn Stage(ft): 16.500
```

Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 12.770 | 0.0001 |
| 13.770 | 1.9350 |
| 14.770 | 3.1670 |
| 15.770 | 4.2380 |
| 16.770 | 4.8959 |
| 17.770 | 5.0785 |
| 18.770 | 5.1064 |
| 19.770 | 5.1317 |
| 20.750 | 5.1358 |

---

Name: 042 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 14.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 11.160 | 0.0001 |
| 12.160 | 0.8978 |
| 13.160 | 3.0166 |
| 14.160 | 4.3885 |
| 15.160 | 5.4963 |
| 16.160 | 6.3647 |
| 17.160 | 6.8052 |
| 18.160 | 7.0177 |
| 19.160 | 7.1529 |
| 20.160 | 7.2571 |
| 21.160 | 7.3411 |
| 22.160 | 7.4371 |
| 23.160 | 7.5892 |
| 24.160 | 8.1239 |
| 25.160 | 8.3570 |
| 26.160 | 8.4305 |
| 26.180 | 8.4305 |

---

Name: 043 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 13.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 10.430 | 0.0001 |
| 11.430 | 1.3729 |
| 12.430 | 3.1506 |
| 13.430 | 4.8630 |
| 14.430 | 6.9806 |
| 15.430 | 8.3948 |
| 16.430 | 9.3829 |
| 17.430 | 9.6960 |
| 17.670 | 9.7055 |

---

Name: 044 Base Flow(cfs): 0.000 Init Stage(ft): 12.700
Group: BASE Warn Stage(ft): 12.700
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 12.480 | 0.0001 |
| 13.480 | 0.2257 |
| 14.480 | 0.7996 |
| 15.480 | 1.4866 |
| 16.480 | 2.2975 |
| 17.480 | 3.0542 |
| 18.480 | 3.1375 |
| 19.480 | 3.1413 |
| 20.480 | 3.1461 |
| 20.960 | 3.1474 |

---

Name: 045 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 16.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 12.820 | 0.0000 |
| 13.820 | 0.6587 |
| 14.820 | 2.5233 |
| 15.820 | 3.2643 |
| 16.820 | 3.5009 |
| 17.820 | 3.6994 |
| 18.820 | 4.2301 |
| 19.820 | 4.5500 |
| 20.820 | 4.7070 |
| 21.820 | 4.8326 |
| 22.820 | 4.9455 |
| 23.820 | 5.0906 |
| 24.820 | 5.2863 |
| 25.820 | 5.3421 |
| 26.820 | 5.3866 |
| 27.820 | 5.4362 |
| 28.820 | 5.6058 |
| 29.350 | 5.6633 |

---

Name: 046 Base Flow(cfs): 0.000 Init Stage(ft): 11.480
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 11.000 | 0.0015 |
| 12.000 | 0.0800 |
| 13.000 | 0.1500 |
| 14.000 | 0.2300 |

---

Name: 05 Base Flow(cfs): 0.000 Init Stage(ft): 6.980
Group: BASE Warn Stage(ft): 11.980
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

---

Name: 1 Base Flow(cfs): 0.000 Init Stage(ft): 8.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 7.720 | 0.0000 |
| 8.720 | 0.1141 |
| 9.720 | 0.3956 |
| 10.720 | 0.6195 |
| 11.720 | 0.7843 |
| 12.720 | 0.9468 |
| 13.720 | 1.2929 |
| 14.400 | 1.3449 |

---

Name: 2 Base Flow(cfs): 0.000 Init Stage(ft): 10.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

DEM areas adjusted assuming regrading this area for the closure scenario

| Stage(ft) | Area(ac) |
|---|---|
| 10.000 | 1.1700 |
| 11.000 | 1.4600 |
| 12.000 | 1.7200 |
| 13.000 | 1.9100 |

---

Name: 3 Base Flow(cfs): 0.000 Init Stage(ft): 11.300
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 11.300 | 0.0001 |
| 11.680 | 0.0001 |
| 12.680 | 0.0069 |

| | |
|---|---|
| 13.680 | 0.3857 |
| 14.680 | 1.7427 |
| 15.680 | 2.8830 |
| 16.680 | 3.2278 |
| 17.680 | 3.5154 |
| 18.680 | 3.5625 |
| 19.680 | 3.5872 |
| 20.680 | 3.5958 |
| 21.680 | 3.5991 |
| 22.110 | 3.5995 |

---

Name: 4 Base Flow(cfs): 0.000 Init Stage(ft): 9.330
Group: BASE Warn Stage(ft): 11.300
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 8.350 | 0.0000 |
| 9.350 | 0.0171 |
| 10.350 | 0.0567 |
| 11.350 | 0.1072 |
| 12.350 | 0.1796 |
| 13.350 | 0.3602 |
| 14.350 | 0.5108 |
| 15.350 | 0.5341 |
| 16.350 | 0.5415 |
| 17.350 | 0.5459 |
| 18.350 | 0.5494 |
| 19.350 | 0.5517 |
| 20.350 | 0.5525 |
| 21.350 | 0.5530 |
| 21.530 | 0.5531 |

---

Name: BASIN_2 Base Flow(cfs): 0.000 Init Stage(ft): 6.280
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Pond Initial stage was set to the orifice invert level

| Stage(ft) | Area(ac) |
|---|---|
| 5.750 | 13.0000 |
| 7.210 | 14.5540 |
| 8.210 | 16.9331 |
| 9.210 | 19.0328 |
| 10.210 | 20.0919 |
| 11.210 | 20.9577 |
| 12.210 | 21.7667 |
| 13.210 | 23.9547 |
| 14.210 | 25.3767 |
| 15.210 | 25.5168 |
| 16.210 | 25.6311 |
| 17.210 | 25.7334 |
| 18.210 | 25.8340 |
| 19.210 | 25.9225 |
| 20.210 | 26.0140 |
| 21.210 | 26.1166 |
| 22.210 | 26.2508 |
| 23.210 | 26.5192 |
| 24.210 | 26.7546 |
| 25.210 | 26.7962 |
| 26.210 | 26.8112 |
| 27.210 | 26.8122 |
| 27.590 | 26.8124 |

---

Name: BOX_001 Base Flow(cfs): 0.000 Init Stage(ft): 3.000
Group: BASE Warn Stage(ft): 8.100
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 0.260 | 0.0014 |
| 8.100 | 0.0014 |

---

Name: BOX_003 Base Flow(cfs): 0.000 Init Stage(ft): 7.500
Group: BASE Warn Stage(ft): 12.900
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|

| | |
|---|---|
| 6.530 | 0.0020 |
| 12.900 | 0.0020 |

---

Name: LPWS  Base Flow(cfs): 0.000  Init Stage(ft): 20.200
Group: BASE  Warn Stage(ft): 23.500
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 20.160 | 10.5829 |
| 21.160 | 10.7484 |
| 22.160 | 10.9322 |
| 23.160 | 11.1223 |
| 24.160 | 11.3931 |
| 25.160 | 11.5225 |
| 26.160 | 11.6577 |
| 26.850 | 11.6602 |

---

Name: NCOLLING_P  Base Flow(cfs): 0.000  Init Stage(ft): 27.200
Group: BASE  Warn Stage(ft): 33.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 27.200 | 0.0001 |
| 27.770 | 0.0001 |
| 28.770 | 4.2938 |
| 29.770 | 7.5798 |
| 30.770 | 11.1430 |
| 31.770 | 15.2281 |
| 32.770 | 18.8204 |
| 33.770 | 21.9343 |
| 34.770 | 23.5564 |
| 35.770 | 25.2042 |
| 36.770 | 26.4725 |
| 37.770 | 27.1428 |
| 38.770 | 27.5476 |
| 39.770 | 27.7520 |
| 39.820 | 27.7522 |

---

Name: NGS-N  Base Flow(cfs): 0.000  Init Stage(ft): 37.700
Group: BASE  Warn Stage(ft): 73.000
Type: Stage/Area

Initial = 37.7 feet - Dry

| Stage(ft) | Area(ac) |
|---|---|
| 37.700 | 0.0000 |
| 38.000 | 0.2621 |
| 39.000 | 0.8717 |
| 40.000 | 1.7827 |
| 41.000 | 3.5774 |
| 42.000 | 5.8255 |
| 43.000 | 8.5274 |
| 44.000 | 11.6836 |
| 45.000 | 14.9643 |
| 46.000 | 18.6272 |
| 47.000 | 20.8411 |
| 48.000 | 23.1649 |
| 49.000 | 24.0175 |
| 50.000 | 24.5331 |
| 51.000 | 24.8411 |
| 52.000 | 25.1503 |
| 53.000 | 25.4609 |
| 54.000 | 25.7726 |
| 55.000 | 26.0857 |
| 56.000 | 26.4000 |
| 57.000 | 26.7156 |
| 58.000 | 27.0324 |
| 59.000 | 27.3505 |
| 60.000 | 27.6698 |
| 61.000 | 27.9904 |
| 62.000 | 28.3122 |
| 63.000 | 28.6353 |
| 64.000 | 28.9597 |
| 65.000 | 29.2853 |
| 66.000 | 29.6122 |
| 67.000 | 29.9404 |
| 68.000 | 30.2698 |
| 69.000 | 30.6004 |

| | |
|---|---|
| 70.000 | 30.9323 |
| 71.000 | 31.2655 |
| 72.000 | 31.5999 |
| 73.000 | 31.9356 |
| 74.000 | 32.2726 |
| 75.000 | 32.6108 |
| 76.000 | 32.9503 |
| 77.000 | 33.2910 |

---

Name: NGS-S  Base Flow(cfs): 0.000  Init Stage(ft): 54.000
Group: BASE  Warn Stage(ft): 74.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 54.000 | 0.4200 |
| 55.000 | 1.3400 |
| 56.000 | 2.7800 |
| 57.000 | 4.7000 |
| 58.000 | 7.1000 |
| 59.000 | 9.9500 |
| 60.000 | 13.1100 |
| 61.000 | 16.4000 |
| 62.000 | 19.8800 |

---

Name: NGS-S2  Base Flow(cfs): 0.000  Init Stage(ft): 54.000
Group: BASE  Warn Stage(ft): 74.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 54.000 | 0.0900 |
| 55.000 | 0.7100 |
| 56.000 | 1.8800 |
| 57.000 | 3.5600 |
| 58.000 | 5.3600 |
| 59.000 | 7.1000 |
| 60.000 | 8.9000 |

---

Name: NGS-S_CAP  Base Flow(cfs): 0.000  Init Stage(ft): 56.500
Group: BASE  Warn Stage(ft): 63.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 54.160 | 0.0000 |
| 55.160 | 0.8622 |
| 56.160 | 2.7473 |
| 57.160 | 4.2805 |
| 58.160 | 5.3020 |
| 59.160 | 6.0027 |
| 60.160 | 6.6035 |
| 61.160 | 7.0431 |
| 62.160 | 7.2603 |
| 63.160 | 7.4732 |
| 64.160 | 7.9721 |
| 65.160 | 8.0772 |
| 66.160 | 8.1747 |
| 67.160 | 8.2691 |
| 68.160 | 8.3574 |
| 69.160 | 8.4400 |
| 70.160 | 8.5202 |
| 71.160 | 8.5951 |
| 72.160 | 8.6691 |
| 73.160 | 8.7451 |
| 74.160 | 8.8226 |
| 75.160 | 8.8951 |
| 76.160 | 9.0056 |
| 77.160 | 9.6275 |
| 78.160 | 9.7510 |
| 79.160 | 9.7638 |
| 79.730 | 9.7655 |

---

Name: OGS-N  Base Flow(cfs): 0.000  Init Stage(ft): 53.530
Group: BASE  Warn Stage(ft): 86.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 53.530 | 0.0000 |
| 54.030 | 0.2070 |
| 55.030 | 0.3701 |
| 56.030 | 0.5725 |
| 57.030 | 1.1502 |
| 58.030 | 1.7692 |
| 59.030 | 2.8210 |
| 60.030 | 3.9958 |
| 61.030 | 5.3236 |
| 62.030 | 6.7749 |
| 63.030 | 8.2367 |
| 64.030 | 9.2867 |
| 65.030 | 10.4172 |
| 66.030 | 12.4614 |
| 67.030 | 14.3071 |
| 68.030 | 15.4194 |
| 69.030 | 15.8895 |
| 70.030 | 16.3657 |
| 71.030 | 16.8482 |
| 72.030 | 17.3373 |
| 73.030 | 17.8058 |
| 74.030 | 18.2777 |
| 75.030 | 18.7530 |
| 76.030 | 19.2318 |
| 77.030 | 19.7139 |
| 78.030 | 20.2460 |
| 79.030 | 20.9095 |
| 80.030 | 21.5469 |
| 81.030 | 22.3515 |
| 82.030 | 23.0231 |
| 83.030 | 23.5238 |
| 84.030 | 24.0801 |
| 85.030 | 24.6598 |
| 86.030 | 26.4585 |
| 87.030 | 32.0278 |

---

Name: OGS-S  Base Flow(cfs): 0.000  Init Stage(ft): 72.000
Group: BASE  Warn Stage(ft): 85.000
Type: Stage/Area

| Stage(ft) | Area(ac) |
|---|---|
| 72.000 | 0.0000 |
| 73.000 | 0.0100 |
| 74.000 | 0.0200 |
| 75.000 | 0.0300 |
| 76.000 | 6.6900 |
| 77.000 | 8.6500 |
| 78.000 | 10.1000 |
| 79.000 | 11.3600 |
| 80.000 | 12.6200 |
| 81.000 | 13.4900 |
| 82.000 | 14.0500 |
| 83.000 | 14.5800 |
| 84.000 | 14.9700 |
| 85.000 | 15.4100 |
| 86.000 | 16.1900 |

---

Name: TW_001  Base Flow(cfs): 0.000  Init Stage(ft): 1.300
Group: BASE  Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level (NGVD29)

| Time(hrs) | Stage(ft) |
|---|---|
| 0.00 | 1.300 |
| 999.00 | 1.300 |

---

Name: TW_003  Base Flow(cfs): 0.000  Init Stage(ft): 1.300
Group: BASE  Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level

| Time(hrs) | Stage(ft) |
|---|---|
| 0.00 | 1.300 |
| 999.00 | 1.300 |

==========
==== Cross Sections ==========

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Name: X003 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 36.114 | 0.060000 |
| 0.998 | 35.788 | 0.060000 |
| 1.997 | 35.389 | 0.060000 |
| 2.995 | 34.990 | 0.060000 |
| 3.994 | 34.648 | 0.060000 |
| 4.992 | 34.353 | 0.060000 |
| 5.991 | 34.066 | 0.060000 |
| 6.989 | 33.726 | 0.060000 |
| 7.988 | 33.251 | 0.060000 |
| 8.986 | 32.788 | 0.060000 |
| 9.985 | 32.434 | 0.060000 |
| 10.983 | 32.164 | 0.060000 |
| 11.981 | 31.844 | 0.060000 |
| 12.980 | 31.441 | 0.060000 |
| 13.978 | 31.062 | 0.060000 |
| 14.977 | 30.775 | 0.060000 |
| 15.975 | 30.556 | 0.060000 |
| 16.974 | 30.334 | 0.060000 |
| 17.972 | 30.046 | 0.060000 |
| 18.971 | 29.669 | 0.060000 |
| 19.969 | 29.291 | 0.060000 |
| 20.968 | 29.025 | 0.060000 |
| 21.966 | 28.798 | 0.060000 |
| 22.964 | 28.582 | 0.060000 |
| 23.963 | 28.374 | 0.060000 |
| 24.961 | 28.144 | 0.060000 |
| 25.960 | 27.847 | 0.060000 |
| 26.958 | 27.603 | 0.060000 |
| 27.957 | 27.381 | 0.060000 |
| 28.955 | 27.060 | 0.060000 |
| 29.954 | 26.739 | 0.060000 |
| 30.952 | 26.348 | 0.060000 |
| 31.951 | 26.075 | 0.060000 |
| 32.949 | 25.859 | 0.060000 |
| 33.947 | 25.663 | 0.060000 |
| 34.946 | 25.625 | 0.060000 |
| 35.944 | 25.610 | 0.060000 |
| 36.943 | 25.418 | 0.060000 |
| 37.941 | 25.086 | 0.060000 |
| 38.940 | 24.818 | 0.060000 |
| 39.938 | 24.675 | 0.060000 |
| 40.937 | 24.606 | 0.060000 |
| 41.935 | 24.567 | 0.060000 |
| 42.934 | 24.542 | 0.060000 |
| 43.932 | 24.507 | 0.060000 |
| 44.931 | 24.468 | 0.060000 |
| 45.929 | 24.336 | 0.060000 |
| 46.927 | 24.265 | 0.060000 |
| 47.926 | 24.230 | 0.060000 |
| 48.924 | 24.467 | 0.060000 |
| 49.923 | 24.819 | 0.060000 |
| 50.921 | 25.304 | 0.060000 |
| 51.920 | 25.788 | 0.060000 |
| 52.918 | 26.076 | 0.060000 |
| 53.917 | 25.924 | 0.060000 |
| 54.915 | 25.521 | 0.060000 |
| 55.914 | 25.463 | 0.060000 |
| 56.912 | 25.619 | 0.060000 |
| 57.910 | 25.715 | 0.060000 |
| 58.909 | 26.230 | 0.060000 |
| 59.907 | 26.792 | 0.060000 |
| 60.906 | 27.400 | 0.060000 |
| 61.904 | 27.963 | 0.060000 |
| 62.903 | 28.187 | 0.060000 |
| 63.901 | 28.135 | 0.060000 |
| 64.900 | 28.099 | 0.060000 |
| 65.898 | 28.203 | 0.060000 |
| 66.897 | 28.334 | 0.060000 |
| 67.895 | 28.512 | 0.060000 |
| 68.893 | 28.718 | 0.060000 |
| 69.892 | 28.877 | 0.060000 |
| 70.890 | 28.978 | 0.060000 |
| 71.889 | 28.996 | 0.060000 |
| 72.887 | 28.963 | 0.060000 |
| 73.886 | 28.959 | 0.060000 |
| 74.884 | 28.971 | 0.060000 |
| 75.883 | 28.965 | 0.060000 |
| 76.881 | 28.921 | 0.060000 |
| 77.880 | 28.860 | 0.060000 |
| 78.878 | 28.808 | 0.060000 |

| | | |
|---|---|---|
| 79.876 | 28.792 | 0.060000 |
| 80.875 | 28.791 | 0.060000 |
| 81.873 | 28.803 | 0.060000 |
| 82.872 | 28.826 | 0.060000 |
| 83.870 | 28.843 | 0.060000 |
| 84.869 | 28.825 | 0.060000 |
| 85.867 | 28.780 | 0.060000 |

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Name: X005 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 37.840 | 0.060000 |
| 0.988 | 37.495 | 0.060000 |
| 1.976 | 37.204 | 0.060000 |
| 2.964 | 36.954 | 0.060000 |
| 3.952 | 36.669 | 0.060000 |
| 4.940 | 36.244 | 0.060000 |
| 5.928 | 35.768 | 0.060000 |
| 6.916 | 35.375 | 0.060000 |
| 7.904 | 35.018 | 0.060000 |
| 8.892 | 34.676 | 0.060000 |
| 9.879 | 34.380 | 0.060000 |
| 10.867 | 34.045 | 0.060000 |
| 11.855 | 33.707 | 0.060000 |
| 12.843 | 33.485 | 0.060000 |
| 13.831 | 33.271 | 0.060000 |
| 14.819 | 33.004 | 0.060000 |
| 15.807 | 32.749 | 0.060000 |
| 16.795 | 32.529 | 0.060000 |
| 17.783 | 32.282 | 0.060000 |
| 18.771 | 31.970 | 0.060000 |
| 19.759 | 31.758 | 0.060000 |
| 20.747 | 31.629 | 0.060000 |
| 21.735 | 31.297 | 0.060000 |
| 22.723 | 30.822 | 0.060000 |
| 23.711 | 30.452 | 0.060000 |
| 24.699 | 30.255 | 0.060000 |
| 25.687 | 30.058 | 0.060000 |
| 26.675 | 29.858 | 0.060000 |
| 27.663 | 29.699 | 0.060000 |
| 28.650 | 29.653 | 0.060000 |
| 29.638 | 29.630 | 0.060000 |
| 30.626 | 29.528 | 0.060000 |
| 31.614 | 29.424 | 0.060000 |
| 32.602 | 29.344 | 0.060000 |
| 33.590 | 29.328 | 0.060000 |
| 34.578 | 29.340 | 0.060000 |
| 35.566 | 29.335 | 0.060000 |
| 36.554 | 29.324 | 0.060000 |
| 37.542 | 29.335 | 0.060000 |
| 38.530 | 29.353 | 0.060000 |
| 39.518 | 29.356 | 0.060000 |
| 40.506 | 29.371 | 0.060000 |
| 41.494 | 29.361 | 0.060000 |
| 42.482 | 29.345 | 0.060000 |
| 43.470 | 29.333 | 0.060000 |
| 44.458 | 29.327 | 0.060000 |
| 45.446 | 29.322 | 0.060000 |
| 46.434 | 29.394 | 0.060000 |
| 47.421 | 29.582 | 0.060000 |
| 48.409 | 30.408 | 0.060000 |
| 49.397 | 31.012 | 0.060000 |
| 50.385 | 31.496 | 0.060000 |
| 51.373 | 31.913 | 0.060000 |
| 52.361 | 32.243 | 0.060000 |
| 53.349 | 32.375 | 0.060000 |
| 54.337 | 32.647 | 0.060000 |
| 55.325 | 32.904 | 0.060000 |
| 56.313 | 33.035 | 0.060000 |
| 57.301 | 33.170 | 0.060000 |
| 58.289 | 33.425 | 0.060000 |
| 59.277 | 33.666 | 0.060000 |
| 60.265 | 33.871 | 0.060000 |
| 61.253 | 34.044 | 0.060000 |
| 62.241 | 34.148 | 0.060000 |
| 63.229 | 34.196 | 0.060000 |
| 64.217 | 34.190 | 0.060000 |
| 65.205 | 34.150 | 0.060000 |
| 66.192 | 34.083 | 0.060000 |
| 67.180 | 34.015 | 0.060000 |
| 68.168 | 33.985 | 0.060000 |
| 69.156 | 34.002 | 0.060000 |
| 70.144 | 34.010 | 0.060000 |

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Name: X006 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 39.776 | 0.060000 |
| 0.995 | 39.417 | 0.060000 |
| 1.989 | 38.973 | 0.060000 |
| 2.984 | 38.513 | 0.060000 |
| 3.978 | 38.151 | 0.060000 |
| 4.973 | 37.864 | 0.060000 |
| 5.967 | 37.600 | 0.060000 |
| 6.962 | 37.315 | 0.060000 |
| 7.957 | 36.949 | 0.060000 |
| 8.951 | 36.596 | 0.060000 |
| 9.946 | 36.339 | 0.060000 |
| 10.940 | 36.078 | 0.060000 |
| 11.935 | 35.693 | 0.060000 |
| 12.930 | 35.367 | 0.060000 |
| 13.924 | 35.134 | 0.060000 |
| 14.919 | 34.887 | 0.060000 |
| 15.913 | 34.544 | 0.060000 |
| 16.908 | 34.124 | 0.060000 |
| 17.902 | 33.777 | 0.060000 |
| 18.897 | 33.389 | 0.060000 |
| 19.892 | 33.030 | 0.060000 |
| 20.886 | 32.743 | 0.060000 |
| 21.881 | 32.535 | 0.060000 |
| 22.875 | 32.302 | 0.060000 |
| 23.870 | 32.001 | 0.060000 |
| 24.865 | 31.663 | 0.060000 |
| 25.859 | 31.415 | 0.060000 |
| 26.854 | 31.225 | 0.060000 |
| 27.848 | 31.050 | 0.060000 |
| 28.843 | 31.120 | 0.060000 |
| 29.837 | 31.332 | 0.060000 |
| 30.832 | 31.507 | 0.060000 |
| 31.827 | 31.295 | 0.060000 |
| 32.821 | 30.726 | 0.060000 |
| 33.816 | 30.069 | 0.060000 |
| 34.810 | 29.618 | 0.060000 |
| 35.805 | 29.423 | 0.060000 |
| 36.799 | 29.356 | 0.060000 |
| 37.794 | 29.347 | 0.060000 |
| 38.789 | 29.332 | 0.060000 |
| 39.783 | 29.302 | 0.060000 |
| 40.778 | 29.285 | 0.060000 |
| 41.772 | 29.288 | 0.060000 |
| 42.767 | 29.297 | 0.060000 |
| 43.762 | 29.306 | 0.060000 |
| 44.756 | 29.343 | 0.060000 |
| 45.751 | 29.441 | 0.060000 |
| 46.745 | 29.749 | 0.060000 |
| 47.740 | 30.226 | 0.060000 |
| 48.734 | 30.661 | 0.060000 |
| 49.729 | 31.104 | 0.060000 |
| 50.724 | 31.441 | 0.060000 |
| 51.718 | 31.628 | 0.060000 |
| 52.713 | 31.980 | 0.060000 |
| 53.707 | 32.545 | 0.060000 |
| 54.702 | 33.021 | 0.060000 |
| 55.696 | 33.268 | 0.060000 |
| 56.691 | 33.462 | 0.060000 |
| 57.686 | 33.716 | 0.060000 |
| 58.680 | 34.039 | 0.060000 |
| 59.675 | 34.333 | 0.060000 |
| 60.669 | 34.447 | 0.060000 |
| 61.664 | 34.413 | 0.060000 |
| 62.659 | 34.274 | 0.060000 |
| 63.653 | 34.129 | 0.060000 |
| 64.648 | 34.057 | 0.060000 |
| 65.642 | 33.999 | 0.060000 |
| 66.637 | 33.930 | 0.060000 |
| 67.631 | 33.873 | 0.060000 |
| 68.626 | 33.841 | 0.060000 |
| 69.621 | 33.830 | 0.060000 |
| 70.615 | 33.818 | 0.060000 |
| 71.610 | 33.788 | 0.060000 |
| 72.604 | 33.751 | 0.060000 |
| 73.599 | 33.709 | 0.060000 |
| 74.593 | 33.697 | 0.060000 |
| 75.588 | 33.717 | 0.060000 |
| 76.583 | 33.741 | 0.060000 |
| 77.577 | 33.746 | 0.060000 |
| 78.572 | 33.695 | 0.060000 |
| 79.566 | 33.636 | 0.060000 |

| | | |
|---|---|---|
| 80.561 | 33.610 | 0.060000 |

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Name: X007 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 51.214 | 0.060000 |
| 0.995 | 51.096 | 0.060000 |
| 1.990 | 50.780 | 0.060000 |
| 2.984 | 50.434 | 0.060000 |
| 3.979 | 50.132 | 0.060000 |
| 4.974 | 49.792 | 0.060000 |
| 5.969 | 49.392 | 0.060000 |
| 6.963 | 48.985 | 0.060000 |
| 7.958 | 48.573 | 0.060000 |
| 8.953 | 48.197 | 0.060000 |
| 9.948 | 47.909 | 0.060000 |
| 10.942 | 47.623 | 0.060000 |
| 11.937 | 47.268 | 0.060000 |
| 12.932 | 46.930 | 0.060000 |
| 13.927 | 46.748 | 0.060000 |
| 14.921 | 46.433 | 0.060000 |
| 15.916 | 45.900 | 0.060000 |
| 16.911 | 45.187 | 0.060000 |
| 17.906 | 44.740 | 0.060000 |
| 18.900 | 44.655 | 0.060000 |
| 19.895 | 44.376 | 0.060000 |
| 20.890 | 43.930 | 0.060000 |
| 21.885 | 43.310 | 0.060000 |
| 22.879 | 42.687 | 0.060000 |
| 23.874 | 42.238 | 0.060000 |
| 24.869 | 41.921 | 0.060000 |
| 25.864 | 41.539 | 0.060000 |
| 26.858 | 41.180 | 0.060000 |
| 27.853 | 40.806 | 0.060000 |
| 28.848 | 40.343 | 0.060000 |
| 29.843 | 39.896 | 0.060000 |
| 30.837 | 39.544 | 0.060000 |
| 31.832 | 39.140 | 0.060000 |
| 32.827 | 38.655 | 0.060000 |
| 33.822 | 38.216 | 0.060000 |
| 34.816 | 37.879 | 0.060000 |
| 35.811 | 37.607 | 0.060000 |
| 36.806 | 37.228 | 0.060000 |
| 37.801 | 36.870 | 0.060000 |
| 38.795 | 36.657 | 0.060000 |
| 39.790 | 36.411 | 0.060000 |
| 40.785 | 35.947 | 0.060000 |
| 41.780 | 35.454 | 0.060000 |
| 42.775 | 35.125 | 0.060000 |
| 43.769 | 34.851 | 0.060000 |
| 44.764 | 34.595 | 0.060000 |
| 45.759 | 34.323 | 0.060000 |
| 46.754 | 34.059 | 0.060000 |
| 47.748 | 33.779 | 0.060000 |
| 48.743 | 33.482 | 0.060000 |
| 49.738 | 33.178 | 0.060000 |
| 50.733 | 33.080 | 0.060000 |
| 51.727 | 32.793 | 0.060000 |
| 52.722 | 32.558 | 0.060000 |
| 53.717 | 32.354 | 0.060000 |
| 54.712 | 32.030 | 0.060000 |
| 55.706 | 31.692 | 0.060000 |
| 56.701 | 31.351 | 0.060000 |
| 57.696 | 31.211 | 0.060000 |
| 58.691 | 31.251 | 0.060000 |
| 59.685 | 31.252 | 0.060000 |
| 60.680 | 31.253 | 0.060000 |
| 61.675 | 31.274 | 0.060000 |
| 62.670 | 31.417 | 0.060000 |
| 63.664 | 31.501 | 0.060000 |
| 64.659 | 31.563 | 0.060000 |
| 65.654 | 31.640 | 0.060000 |
| 66.649 | 31.719 | 0.060000 |
| 67.643 | 31.737 | 0.060000 |
| 68.638 | 31.642 | 0.060000 |
| 69.633 | 31.662 | 0.060000 |
| 70.628 | 31.707 | 0.060000 |
| 71.622 | 31.827 | 0.060000 |
| 72.617 | 31.827 | 0.060000 |
| 73.612 | 31.645 | 0.060000 |
| 74.607 | 31.534 | 0.060000 |
| 75.601 | 31.435 | 0.060000 |
| 76.596 | 31.324 | 0.060000 |
| 77.591 | 31.184 | 0.060000 |

| | | |
|---|---|---|
| 78.586 | 30.973 | 0.060000 |
| 79.580 | 30.752 | 0.060000 |
| 80.575 | 30.764 | 0.060000 |
| 81.570 | 30.653 | 0.060000 |
| 82.565 | 30.785 | 0.060000 |
| 83.559 | 30.920 | 0.060000 |
| 84.554 | 31.177 | 0.060000 |
| 85.549 | 31.507 | 0.060000 |
| 86.544 | 32.362 | 0.060000 |
| 87.539 | 32.974 | 0.060000 |
| 88.533 | 33.108 | 0.060000 |
| 89.528 | 33.447 | 0.060000 |
| 90.523 | 34.351 | 0.060000 |
| 91.518 | 35.192 | 0.060000 |
| 92.512 | 35.456 | 0.060000 |
| 93.507 | 35.724 | 0.060000 |
| 94.502 | 35.965 | 0.060000 |
| 95.497 | 36.122 | 0.060000 |
| 96.491 | 36.232 | 0.060000 |
| 97.486 | 36.303 | 0.060000 |
| 98.481 | 36.365 | 0.060000 |
| 99.476 | 36.394 | 0.060000 |
| 100.470 | 36.423 | 0.060000 |
| 101.465 | 36.434 | 0.060000 |
| 102.460 | 36.360 | 0.060000 |
| 103.455 | 36.228 | 0.060000 |
| 104.449 | 36.165 | 0.060000 |
| 105.444 | 36.148 | 0.060000 |
| 106.439 | 36.174 | 0.060000 |
| 107.434 | 36.263 | 0.060000 |
| 108.428 | 36.375 | 0.060000 |
| 109.423 | 36.425 | 0.060000 |
| 110.418 | 36.444 | 0.060000 |

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Name: X011 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 61.013 | 0.060000 |
| 0.994 | 60.768 | 0.060000 |
| 1.989 | 60.359 | 0.060000 |
| 2.983 | 60.016 | 0.060000 |
| 3.978 | 59.663 | 0.060000 |
| 4.972 | 59.264 | 0.060000 |
| 5.967 | 58.861 | 0.060000 |
| 6.961 | 58.564 | 0.060000 |
| 7.956 | 58.233 | 0.060000 |
| 8.950 | 57.948 | 0.060000 |
| 9.944 | 57.630 | 0.060000 |
| 10.939 | 57.359 | 0.060000 |
| 11.933 | 57.079 | 0.060000 |
| 12.928 | 56.855 | 0.060000 |
| 13.922 | 56.688 | 0.060000 |
| 14.917 | 56.425 | 0.060000 |
| 15.911 | 56.170 | 0.060000 |
| 16.906 | 56.001 | 0.060000 |
| 17.900 | 55.900 | 0.060000 |
| 18.894 | 55.631 | 0.060000 |
| 19.889 | 55.144 | 0.060000 |
| 20.883 | 54.753 | 0.060000 |
| 21.878 | 54.567 | 0.060000 |
| 22.872 | 54.367 | 0.060000 |
| 23.867 | 54.079 | 0.060000 |
| 24.861 | 53.675 | 0.060000 |
| 25.856 | 53.330 | 0.060000 |
| 26.850 | 53.040 | 0.060000 |
| 27.844 | 52.809 | 0.060000 |
| 28.839 | 52.549 | 0.060000 |
| 29.833 | 52.238 | 0.060000 |
| 30.828 | 51.912 | 0.060000 |
| 31.822 | 51.646 | 0.060000 |
| 32.817 | 51.345 | 0.060000 |
| 33.811 | 50.958 | 0.060000 |
| 34.806 | 50.708 | 0.060000 |
| 35.800 | 50.641 | 0.060000 |
| 36.794 | 50.505 | 0.060000 |
| 37.789 | 50.271 | 0.060000 |
| 38.783 | 50.102 | 0.060000 |
| 39.778 | 49.902 | 0.060000 |
| 40.772 | 49.638 | 0.060000 |
| 41.767 | 49.361 | 0.060000 |
| 42.761 | 49.038 | 0.060000 |
| 43.756 | 48.608 | 0.060000 |
| 44.750 | 48.273 | 0.060000 |
| 45.744 | 48.049 | 0.060000 |

| | | |
|---|---|---|
| 46.739 | 47.743 | 0.060000 |
| 47.733 | 47.349 | 0.060000 |
| 48.728 | 47.109 | 0.060000 |
| 49.722 | 47.052 | 0.060000 |
| 50.717 | 46.999 | 0.060000 |
| 51.711 | 46.892 | 0.060000 |
| 52.706 | 46.846 | 0.060000 |
| 53.700 | 46.808 | 0.060000 |
| 54.694 | 46.632 | 0.060000 |
| 55.689 | 46.430 | 0.060000 |
| 56.683 | 46.399 | 0.060000 |
| 57.678 | 46.381 | 0.060000 |
| 58.672 | 46.335 | 0.060000 |
| 59.667 | 46.364 | 0.060000 |
| 60.661 | 46.426 | 0.060000 |
| 61.656 | 46.381 | 0.060000 |
| 62.650 | 46.250 | 0.060000 |
| 63.644 | 46.246 | 0.060000 |
| 64.639 | 46.259 | 0.060000 |
| 65.633 | 46.256 | 0.060000 |
| 66.628 | 46.218 | 0.060000 |
| 67.622 | 46.244 | 0.060000 |
| 68.617 | 46.258 | 0.060000 |
| 69.611 | 46.190 | 0.060000 |
| 70.606 | 46.196 | 0.060000 |
| 71.600 | 46.267 | 0.060000 |
| 72.594 | 46.330 | 0.060000 |
| 73.589 | 46.429 | 0.060000 |
| 74.583 | 46.495 | 0.060000 |
| 75.578 | 46.466 | 0.060000 |
| 76.572 | 46.399 | 0.060000 |
| 77.567 | 46.290 | 0.060000 |
| 78.561 | 46.069 | 0.060000 |
| 79.556 | 45.866 | 0.060000 |
| 80.550 | 45.985 | 0.060000 |
| 81.544 | 46.345 | 0.060000 |
| 82.539 | 46.666 | 0.060000 |
| 83.533 | 46.902 | 0.060000 |
| 84.528 | 47.131 | 0.060000 |
| 85.522 | 47.367 | 0.060000 |
| 86.517 | 47.570 | 0.060000 |
| 87.511 | 47.957 | 0.060000 |
| 88.506 | 48.548 | 0.060000 |
| 89.500 | 48.998 | 0.060000 |
| 90.494 | 49.275 | 0.060000 |
| 91.489 | 49.504 | 0.060000 |
| 92.483 | 49.682 | 0.060000 |
| 93.478 | 49.846 | 0.060000 |
| 94.472 | 50.134 | 0.060000 |
| 95.467 | 50.639 | 0.060000 |
| 96.461 | 51.098 | 0.060000 |
| 97.456 | 51.241 | 0.060000 |
| 98.450 | 51.322 | 0.060000 |
| 99.444 | 51.671 | 0.060000 |
| 100.439 | 52.252 | 0.060000 |
| 101.433 | 52.723 | 0.060000 |
| 102.428 | 53.032 | 0.060000 |
| 103.422 | 53.298 | 0.060000 |
| 104.417 | 53.578 | 0.060000 |
| 105.411 | 53.748 | 0.060000 |
| 106.406 | 53.903 | 0.060000 |
| 107.400 | 54.156 | 0.060000 |
| 108.394 | 54.520 | 0.060000 |
| 109.389 | 54.886 | 0.060000 |
| 110.383 | 55.192 | 0.060000 |
| 111.378 | 55.514 | 0.060000 |

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Name: X012 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 59.976 | 0.060000 |
| 0.995 | 59.748 | 0.060000 |
| 1.989 | 59.629 | 0.060000 |
| 2.984 | 59.376 | 0.060000 |
| 3.979 | 59.087 | 0.060000 |
| 4.973 | 58.903 | 0.060000 |
| 5.968 | 58.651 | 0.060000 |
| 6.963 | 58.339 | 0.060000 |
| 7.957 | 58.001 | 0.060000 |
| 8.952 | 57.572 | 0.060000 |
| 9.946 | 57.218 | 0.060000 |
| 10.941 | 56.888 | 0.060000 |
| 11.936 | 56.664 | 0.060000 |
| 12.930 | 56.457 | 0.060000 |

| | | |
|---|---|---|
| 13.925 | 56.217 | 0.060000 |
| 14.920 | 55.930 | 0.060000 |
| 15.914 | 55.608 | 0.060000 |
| 16.909 | 55.306 | 0.060000 |
| 17.904 | 55.006 | 0.060000 |
| 18.898 | 54.791 | 0.060000 |
| 19.893 | 54.519 | 0.060000 |
| 20.888 | 54.222 | 0.060000 |
| 21.882 | 53.974 | 0.060000 |
| 22.877 | 53.764 | 0.060000 |
| 23.872 | 53.499 | 0.060000 |
| 24.866 | 53.270 | 0.060000 |
| 25.861 | 53.005 | 0.060000 |
| 26.856 | 52.696 | 0.060000 |
| 27.850 | 52.399 | 0.060000 |
| 28.845 | 52.131 | 0.060000 |
| 29.839 | 51.900 | 0.060000 |
| 30.834 | 51.630 | 0.060000 |
| 31.829 | 51.390 | 0.060000 |
| 32.823 | 51.183 | 0.060000 |
| 33.818 | 51.063 | 0.060000 |
| 34.813 | 50.893 | 0.060000 |
| 35.807 | 50.628 | 0.060000 |
| 36.802 | 50.324 | 0.060000 |
| 37.797 | 50.050 | 0.060000 |
| 38.791 | 49.955 | 0.060000 |
| 39.786 | 49.934 | 0.060000 |
| 40.781 | 50.105 | 0.060000 |
| 41.775 | 50.145 | 0.060000 |
| 42.770 | 50.105 | 0.060000 |
| 43.765 | 50.076 | 0.060000 |
| 44.759 | 49.905 | 0.060000 |
| 45.754 | 49.636 | 0.060000 |
| 46.748 | 49.428 | 0.060000 |
| 47.743 | 49.465 | 0.060000 |
| 48.738 | 49.749 | 0.060000 |
| 49.732 | 49.921 | 0.060000 |
| 50.727 | 50.068 | 0.060000 |
| 51.722 | 50.109 | 0.060000 |
| 52.716 | 50.059 | 0.060000 |
| 53.711 | 49.938 | 0.060000 |
| 54.706 | 49.808 | 0.060000 |
| 55.700 | 49.723 | 0.060000 |
| 56.695 | 49.602 | 0.060000 |
| 57.690 | 49.637 | 0.060000 |
| 58.684 | 49.894 | 0.060000 |
| 59.679 | 49.985 | 0.060000 |
| 60.674 | 50.016 | 0.060000 |
| 61.668 | 50.016 | 0.060000 |
| 62.663 | 49.921 | 0.060000 |
| 63.658 | 49.807 | 0.060000 |
| 64.652 | 49.817 | 0.060000 |
| 65.647 | 49.843 | 0.060000 |
| 66.641 | 49.865 | 0.060000 |
| 67.636 | 49.839 | 0.060000 |
| 68.631 | 49.735 | 0.060000 |
| 69.625 | 49.740 | 0.060000 |
| 70.620 | 49.826 | 0.060000 |
| 71.615 | 49.824 | 0.060000 |
| 72.609 | 49.698 | 0.060000 |
| 73.604 | 49.595 | 0.060000 |
| 74.599 | 49.505 | 0.060000 |
| 75.593 | 49.406 | 0.060000 |
| 76.588 | 49.336 | 0.060000 |
| 77.583 | 49.405 | 0.060000 |
| 78.577 | 49.464 | 0.060000 |
| 79.572 | 49.655 | 0.060000 |
| 80.567 | 49.853 | 0.060000 |
| 81.561 | 49.886 | 0.060000 |
| 82.556 | 49.728 | 0.060000 |
| 83.550 | 49.574 | 0.060000 |
| 84.545 | 49.400 | 0.060000 |
| 85.540 | 49.328 | 0.060000 |
| 86.534 | 49.322 | 0.060000 |
| 87.529 | 49.445 | 0.060000 |
| 88.524 | 49.638 | 0.060000 |
| 89.518 | 49.839 | 0.060000 |
| 90.513 | 50.083 | 0.060000 |
| 91.508 | 50.350 | 0.060000 |
| 92.502 | 50.688 | 0.060000 |
| 93.497 | 50.955 | 0.060000 |
| 94.492 | 51.159 | 0.060000 |
| 95.486 | 51.365 | 0.060000 |
| 96.481 | 51.589 | 0.060000 |
| 97.476 | 51.984 | 0.060000 |
| 98.470 | 52.371 | 0.060000 |
| 99.465 | 52.545 | 0.060000 |
| 100.460 | 52.435 | 0.060000 |
| 101.454 | 52.621 | 0.060000 |

| | | |
|---|---|---|
| 102.449 | 52.933 | 0.060000 |
| 103.443 | 53.338 | 0.060000 |
| 104.438 | 53.705 | 0.060000 |
| 105.433 | 54.014 | 0.060000 |
| 106.427 | 54.306 | 0.060000 |
| 107.422 | 54.601 | 0.060000 |
| 108.417 | 54.942 | 0.060000 |
| 109.411 | 55.284 | 0.060000 |
| 110.406 | 55.524 | 0.060000 |
| 111.401 | 55.784 | 0.060000 |
| 112.395 | 56.093 | 0.060000 |
| 113.390 | 56.438 | 0.060000 |
| 114.385 | 56.798 | 0.060000 |
| 115.379 | 57.166 | 0.060000 |
| 116.374 | 57.513 | 0.060000 |
| 117.369 | 57.934 | 0.060000 |
| 118.363 | 58.330 | 0.060000 |
| 119.358 | 58.710 | 0.060000 |
| 120.352 | 59.123 | 0.060000 |
| 121.347 | 59.468 | 0.060000 |
| 122.342 | 59.712 | 0.060000 |
| 123.336 | 59.960 | 0.060000 |
| 124.331 | 60.289 | 0.060000 |
| 125.326 | 60.803 | 0.060000 |
| 126.320 | 61.357 | 0.060000 |

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Name: X013W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 40.320 | 0.000000 |
| 0.990 | 39.790 | 0.000000 |
| 1.990 | 39.570 | 0.000000 |
| 2.980 | 39.400 | 0.000000 |
| 3.970 | 39.330 | 0.000000 |
| 4.960 | 39.120 | 0.000000 |
| 5.960 | 38.760 | 0.000000 |
| 6.950 | 38.260 | 0.000000 |
| 7.940 | 38.330 | 0.000000 |
| 8.930 | 38.450 | 0.000000 |
| 9.930 | 38.440 | 0.000000 |
| 10.920 | 38.430 | 0.000000 |
| 11.890 | 38.420 | 0.000000 |
| 12.860 | 38.450 | 0.000000 |
| 13.830 | 38.360 | 0.000000 |
| 14.800 | 38.210 | 0.000000 |
| 15.770 | 38.110 | 0.000000 |
| 16.750 | 38.160 | 0.000000 |
| 17.720 | 38.260 | 0.000000 |
| 18.690 | 38.410 | 0.000000 |
| 19.660 | 38.560 | 0.000000 |
| 20.630 | 38.540 | 0.000000 |
| 21.600 | 38.410 | 0.000000 |
| 22.570 | 38.300 | 0.000000 |
| 23.540 | 38.300 | 0.000000 |
| 24.510 | 38.310 | 0.000000 |
| 25.480 | 38.350 | 0.000000 |
| 26.460 | 38.340 | 0.000000 |
| 27.430 | 38.240 | 0.000000 |

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Name: X015 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 46.010 | 0.060000 |
| 0.988 | 45.571 | 0.060000 |
| 1.975 | 44.994 | 0.060000 |
| 2.963 | 44.367 | 0.060000 |
| 3.950 | 43.887 | 0.060000 |
| 4.938 | 43.527 | 0.060000 |
| 5.925 | 43.178 | 0.060000 |
| 6.913 | 42.837 | 0.060000 |
| 7.900 | 42.468 | 0.060000 |
| 8.888 | 42.033 | 0.060000 |
| 9.875 | 41.666 | 0.060000 |
| 10.863 | 41.356 | 0.060000 |
| 11.850 | 41.008 | 0.060000 |
| 12.838 | 40.606 | 0.060000 |
| 13.825 | 40.233 | 0.060000 |
| 14.813 | 39.924 | 0.060000 |
| 15.800 | 39.615 | 0.060000 |

| | | |
|---|---|---|
| 16.788 | 39.248 | 0.060000 |
| 17.775 | 38.844 | 0.060000 |
| 18.763 | 38.466 | 0.060000 |
| 19.750 | 38.108 | 0.060000 |
| 20.738 | 37.784 | 0.060000 |
| 21.725 | 37.520 | 0.060000 |
| 22.713 | 37.276 | 0.060000 |
| 23.700 | 37.046 | 0.060000 |
| 24.688 | 36.845 | 0.060000 |
| 25.675 | 36.689 | 0.060000 |
| 26.663 | 36.554 | 0.060000 |
| 27.650 | 36.329 | 0.060000 |
| 28.638 | 35.997 | 0.060000 |
| 29.625 | 35.656 | 0.060000 |
| 30.613 | 35.283 | 0.060000 |
| 31.600 | 34.864 | 0.060000 |
| 32.588 | 34.557 | 0.060000 |
| 33.575 | 34.473 | 0.060000 |
| 34.563 | 34.388 | 0.060000 |
| 35.550 | 34.034 | 0.060000 |
| 36.538 | 33.872 | 0.060000 |
| 37.525 | 34.133 | 0.060000 |
| 38.513 | 34.470 | 0.060000 |
| 39.500 | 34.820 | 0.060000 |
| 40.488 | 35.058 | 0.060000 |
| 41.475 | 35.342 | 0.060000 |
| 42.463 | 35.607 | 0.060000 |
| 43.450 | 35.826 | 0.060000 |
| 44.438 | 36.058 | 0.060000 |
| 45.425 | 36.285 | 0.060000 |
| 46.413 | 36.315 | 0.060000 |
| 47.400 | 36.290 | 0.060000 |
| 48.388 | 36.369 | 0.060000 |
| 49.375 | 36.942 | 0.060000 |
| 50.363 | 37.471 | 0.060000 |
| 51.350 | 37.869 | 0.060000 |
| 52.338 | 38.264 | 0.060000 |
| 53.325 | 38.720 | 0.060000 |
| 54.313 | 39.169 | 0.060000 |
| 55.300 | 39.420 | 0.060000 |
| 56.288 | 39.479 | 0.060000 |
| 57.275 | 39.524 | 0.060000 |
| 58.263 | 39.572 | 0.060000 |
| 59.250 | 39.609 | 0.060000 |
| 60.238 | 39.557 | 0.060000 |
| 61.225 | 39.491 | 0.060000 |
| 62.213 | 39.480 | 0.060000 |
| 63.200 | 39.431 | 0.060000 |
| 64.188 | 39.298 | 0.060000 |
| 65.175 | 39.114 | 0.060000 |
| 66.163 | 38.986 | 0.060000 |
| 67.150 | 39.017 | 0.060000 |
| 68.138 | 39.090 | 0.060000 |
| 69.125 | 39.110 | 0.060000 |
| 70.113 | 39.056 | 0.060000 |
| 71.100 | 38.973 | 0.060000 |
| 72.088 | 38.966 | 0.060000 |
| 73.075 | 39.044 | 0.060000 |
| 74.063 | 39.118 | 0.060000 |
| 75.050 | 39.120 | 0.060000 |
| 76.038 | 39.069 | 0.060000 |

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Name: X017 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 30.478 | 0.060000 |
| 0.993 | 30.030 | 0.060000 |
| 1.986 | 29.596 | 0.060000 |
| 2.979 | 29.218 | 0.060000 |
| 3.972 | 28.776 | 0.060000 |
| 4.965 | 28.298 | 0.060000 |
| 5.958 | 27.983 | 0.060000 |
| 6.951 | 27.717 | 0.060000 |
| 7.944 | 27.407 | 0.060000 |
| 8.937 | 27.069 | 0.060000 |
| 9.930 | 26.722 | 0.060000 |
| 10.923 | 26.280 | 0.060000 |
| 11.916 | 25.846 | 0.060000 |
| 12.909 | 25.515 | 0.060000 |
| 13.902 | 25.270 | 0.060000 |
| 14.895 | 25.018 | 0.060000 |
| 15.888 | 24.737 | 0.060000 |
| 16.881 | 24.422 | 0.060000 |
| 17.874 | 24.126 | 0.060000 |

| | | |
|---|---|---|
| 18.867 | 23.639 | 0.060000 |
| 19.860 | 23.210 | 0.060000 |
| 20.853 | 22.900 | 0.060000 |
| 21.846 | 22.740 | 0.060000 |
| 22.839 | 22.568 | 0.060000 |
| 23.833 | 22.325 | 0.060000 |
| 24.826 | 22.126 | 0.060000 |
| 25.819 | 21.832 | 0.060000 |
| 26.812 | 21.490 | 0.060000 |
| 27.805 | 21.063 | 0.060000 |
| 28.798 | 20.883 | 0.060000 |
| 29.791 | 20.824 | 0.060000 |
| 30.784 | 20.841 | 0.060000 |
| 31.777 | 20.805 | 0.060000 |
| 32.770 | 20.347 | 0.060000 |
| 33.763 | 19.553 | 0.060000 |
| 34.756 | 19.125 | 0.060000 |
| 35.749 | 18.867 | 0.060000 |
| 36.742 | 18.778 | 0.060000 |
| 37.735 | 18.666 | 0.060000 |
| 38.728 | 18.668 | 0.060000 |
| 39.721 | 18.903 | 0.060000 |
| 40.714 | 18.905 | 0.060000 |
| 41.707 | 19.045 | 0.060000 |
| 42.700 | 19.119 | 0.060000 |
| 43.693 | 19.156 | 0.060000 |
| 44.686 | 19.141 | 0.060000 |
| 45.679 | 19.381 | 0.060000 |
| 46.672 | 20.038 | 0.060000 |
| 47.665 | 20.884 | 0.060000 |
| 48.658 | 21.631 | 0.060000 |
| 49.651 | 22.113 | 0.060000 |
| 50.644 | 22.254 | 0.060000 |
| 51.637 | 22.371 | 0.060000 |
| 52.630 | 22.573 | 0.060000 |
| 53.623 | 22.675 | 0.060000 |
| 54.616 | 22.688 | 0.060000 |
| 55.609 | 22.738 | 0.060000 |
| 56.602 | 22.760 | 0.060000 |
| 57.595 | 22.774 | 0.060000 |
| 58.588 | 22.732 | 0.060000 |
| 59.581 | 22.709 | 0.060000 |
| 60.574 | 22.844 | 0.060000 |
| 61.567 | 23.079 | 0.060000 |
| 62.560 | 23.314 | 0.060000 |
| 63.553 | 23.497 | 0.060000 |
| 64.546 | 23.676 | 0.060000 |
| 65.539 | 23.860 | 0.060000 |
| 66.532 | 24.073 | 0.060000 |
| 67.525 | 24.352 | 0.060000 |
| 68.518 | 24.538 | 0.060000 |
| 69.511 | 24.617 | 0.060000 |
| 70.504 | 24.631 | 0.060000 |
| 71.497 | 24.592 | 0.060000 |
| 72.491 | 24.666 | 0.060000 |
| 73.484 | 24.752 | 0.060000 |
| 74.477 | 24.776 | 0.060000 |
| 75.470 | 24.764 | 0.060000 |
| 76.463 | 24.721 | 0.060000 |
| 77.456 | 24.734 | 0.060000 |
| 78.449 | 24.840 | 0.060000 |
| 79.442 | 24.945 | 0.060000 |
| 80.435 | 24.923 | 0.060000 |
| 81.428 | 24.839 | 0.060000 |
| 82.421 | 24.778 | 0.060000 |

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Name: X018 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 33.783 | 0.060000 |
| 0.991 | 33.814 | 0.060000 |
| 1.982 | 33.870 | 0.060000 |
| 2.973 | 33.882 | 0.060000 |
| 3.964 | 33.893 | 0.060000 |
| 4.955 | 33.911 | 0.060000 |
| 5.946 | 33.873 | 0.060000 |
| 6.937 | 33.758 | 0.060000 |
| 7.928 | 33.618 | 0.060000 |
| 8.920 | 33.462 | 0.060000 |
| 9.911 | 33.237 | 0.060000 |
| 10.902 | 32.975 | 0.060000 |
| 11.893 | 32.719 | 0.060000 |
| 12.884 | 32.511 | 0.060000 |
| 13.875 | 32.308 | 0.060000 |

| | | |
|---|---|---|
| 14.866 | 32.069 | 0.060000 |
| 15.857 | 31.764 | 0.060000 |
| 16.848 | 31.372 | 0.060000 |
| 17.839 | 30.916 | 0.060000 |
| 18.830 | 30.617 | 0.060000 |
| 19.821 | 30.341 | 0.060000 |
| 20.812 | 30.107 | 0.060000 |
| 21.803 | 29.879 | 0.060000 |
| 22.794 | 29.597 | 0.060000 |
| 23.785 | 29.124 | 0.060000 |
| 24.776 | 28.737 | 0.060000 |
| 25.767 | 28.278 | 0.060000 |
| 26.759 | 27.884 | 0.060000 |
| 27.750 | 27.509 | 0.060000 |
| 28.741 | 27.153 | 0.060000 |
| 29.732 | 26.861 | 0.060000 |
| 30.723 | 26.555 | 0.060000 |
| 31.714 | 26.269 | 0.060000 |
| 32.705 | 26.001 | 0.060000 |
| 33.696 | 25.704 | 0.060000 |
| 34.687 | 25.378 | 0.060000 |
| 35.678 | 24.886 | 0.060000 |
| 36.669 | 24.510 | 0.060000 |
| 37.660 | 24.307 | 0.060000 |
| 38.651 | 24.164 | 0.060000 |
| 39.642 | 23.944 | 0.060000 |
| 40.633 | 23.407 | 0.060000 |
| 41.624 | 22.974 | 0.060000 |
| 42.615 | 22.746 | 0.060000 |
| 43.606 | 22.616 | 0.060000 |
| 44.598 | 22.461 | 0.060000 |
| 45.589 | 22.303 | 0.060000 |
| 46.580 | 22.080 | 0.060000 |
| 47.571 | 21.757 | 0.060000 |
| 48.562 | 21.389 | 0.060000 |
| 49.553 | 21.211 | 0.060000 |
| 50.544 | 21.381 | 0.060000 |
| 51.535 | 21.091 | 0.060000 |
| 52.526 | 20.906 | 0.060000 |
| 53.517 | 20.732 | 0.060000 |
| 54.508 | 20.404 | 0.060000 |
| 55.499 | 20.166 | 0.060000 |
| 56.490 | 19.916 | 0.060000 |
| 57.481 | 19.626 | 0.060000 |
| 58.472 | 19.474 | 0.060000 |
| 59.463 | 19.388 | 0.060000 |
| 60.454 | 19.338 | 0.060000 |
| 61.446 | 19.321 | 0.060000 |
| 62.437 | 19.267 | 0.060000 |
| 63.428 | 19.215 | 0.060000 |
| 64.419 | 19.199 | 0.060000 |
| 65.410 | 19.271 | 0.060000 |
| 66.401 | 19.444 | 0.060000 |
| 67.392 | 19.724 | 0.060000 |
| 68.383 | 19.959 | 0.060000 |
| 69.374 | 20.155 | 0.060000 |
| 70.365 | 20.517 | 0.060000 |
| 71.356 | 21.000 | 0.060000 |
| 72.347 | 21.332 | 0.060000 |
| 73.338 | 21.704 | 0.060000 |
| 74.329 | 22.103 | 0.060000 |
| 75.320 | 22.545 | 0.060000 |
| 76.311 | 22.906 | 0.060000 |
| 77.302 | 23.082 | 0.060000 |
| 78.293 | 23.218 | 0.060000 |
| 79.285 | 23.312 | 0.060000 |
| 80.276 | 23.372 | 0.060000 |
| 81.267 | 23.445 | 0.060000 |
| 82.258 | 23.580 | 0.060000 |
| 83.249 | 23.744 | 0.060000 |
| 84.240 | 23.983 | 0.060000 |
| 85.231 | 24.247 | 0.060000 |
| 86.222 | 24.396 | 0.060000 |
| 87.213 | 24.479 | 0.060000 |
| 88.204 | 24.476 | 0.060000 |
| 89.195 | 24.415 | 0.060000 |
| 90.186 | 24.365 | 0.060000 |
| 91.177 | 24.356 | 0.060000 |
| 92.168 | 24.391 | 0.060000 |
| 93.159 | 24.427 | 0.060000 |
| 94.150 | 24.428 | 0.060000 |
| 95.141 | 24.406 | 0.060000 |

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Name: X019 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 26.287 | 0.060000 |
| 0.992 | 25.881 | 0.060000 |
| 1.984 | 25.638 | 0.060000 |
| 2.976 | 25.519 | 0.060000 |
| 3.969 | 25.244 | 0.060000 |
| 4.961 | 24.921 | 0.060000 |
| 5.953 | 24.473 | 0.060000 |
| 6.945 | 24.015 | 0.060000 |
| 7.937 | 23.541 | 0.060000 |
| 8.929 | 23.322 | 0.060000 |
| 9.921 | 23.126 | 0.060000 |
| 10.913 | 22.870 | 0.060000 |
| 11.906 | 22.706 | 0.060000 |
| 12.898 | 22.425 | 0.060000 |
| 13.890 | 21.954 | 0.060000 |
| 14.882 | 21.485 | 0.060000 |
| 15.874 | 21.140 | 0.060000 |
| 16.866 | 20.946 | 0.060000 |
| 17.858 | 20.948 | 0.060000 |
| 18.851 | 20.836 | 0.060000 |
| 19.843 | 20.300 | 0.060000 |
| 20.835 | 19.696 | 0.060000 |
| 21.827 | 19.365 | 0.060000 |
| 22.819 | 19.242 | 0.060000 |
| 23.811 | 19.241 | 0.060000 |
| 24.803 | 19.293 | 0.060000 |
| 25.795 | 19.459 | 0.060000 |
| 26.788 | 19.498 | 0.060000 |
| 27.780 | 19.500 | 0.060000 |
| 28.772 | 19.500 | 0.060000 |
| 29.764 | 19.533 | 0.060000 |
| 30.756 | 19.571 | 0.060000 |
| 31.748 | 19.637 | 0.060000 |
| 32.740 | 19.788 | 0.060000 |
| 33.732 | 19.789 | 0.060000 |
| 34.725 | 20.091 | 0.060000 |
| 35.717 | 20.425 | 0.060000 |
| 36.709 | 20.575 | 0.060000 |
| 37.701 | 20.702 | 0.060000 |
| 38.693 | 20.991 | 0.060000 |
| 39.685 | 21.342 | 0.060000 |
| 40.677 | 21.584 | 0.060000 |
| 41.670 | 21.786 | 0.060000 |
| 42.662 | 21.825 | 0.060000 |
| 43.654 | 21.927 | 0.060000 |
| 44.646 | 22.041 | 0.060000 |
| 45.638 | 22.202 | 0.060000 |
| 46.630 | 22.440 | 0.060000 |
| 47.622 | 22.763 | 0.060000 |
| 48.614 | 23.113 | 0.060000 |
| 49.607 | 23.378 | 0.060000 |
| 50.599 | 23.568 | 0.060000 |
| 51.591 | 23.762 | 0.060000 |
| 52.583 | 23.996 | 0.060000 |
| 53.575 | 24.224 | 0.060000 |
| 54.567 | 24.381 | 0.060000 |
| 55.559 | 24.435 | 0.060000 |
| 56.551 | 24.421 | 0.060000 |
| 57.544 | 24.446 | 0.060000 |
| 58.536 | 24.505 | 0.060000 |
| 59.528 | 24.575 | 0.060000 |

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Name: X020 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 37.372 | 0.060000 |
| 0.997 | 37.385 | 0.060000 |
| 1.995 | 37.372 | 0.060000 |
| 2.992 | 37.316 | 0.060000 |
| 3.989 | 37.233 | 0.060000 |
| 4.987 | 37.164 | 0.060000 |
| 5.984 | 37.128 | 0.060000 |
| 6.982 | 37.158 | 0.060000 |
| 7.979 | 37.004 | 0.060000 |
| 8.976 | 36.693 | 0.060000 |
| 9.974 | 36.301 | 0.060000 |
| 10.971 | 35.919 | 0.060000 |
| 11.968 | 35.532 | 0.060000 |
| 12.966 | 35.132 | 0.060000 |
| 13.963 | 34.718 | 0.060000 |
| 14.961 | 34.378 | 0.060000 |
| 15.958 | 34.077 | 0.060000 |

| | | |
|---|---|---|
| 16.955 | 33.770 | 0.060000 |
| 17.953 | 33.411 | 0.060000 |
| 18.950 | 33.005 | 0.060000 |
| 19.947 | 32.619 | 0.060000 |
| 20.945 | 32.162 | 0.060000 |
| 21.942 | 31.785 | 0.060000 |
| 22.939 | 31.489 | 0.060000 |
| 23.937 | 31.158 | 0.060000 |
| 24.934 | 30.817 | 0.060000 |
| 25.932 | 30.454 | 0.060000 |
| 26.929 | 30.162 | 0.060000 |
| 27.926 | 29.678 | 0.060000 |
| 28.924 | 29.136 | 0.060000 |
| 29.921 | 28.642 | 0.060000 |
| 30.918 | 28.219 | 0.060000 |
| 31.916 | 27.934 | 0.060000 |
| 32.913 | 27.743 | 0.060000 |
| 33.910 | 27.498 | 0.060000 |
| 34.908 | 27.156 | 0.060000 |
| 35.905 | 26.767 | 0.060000 |
| 36.903 | 26.341 | 0.060000 |
| 37.900 | 25.912 | 0.060000 |
| 38.897 | 25.525 | 0.060000 |
| 39.895 | 25.334 | 0.060000 |
| 40.892 | 25.074 | 0.060000 |
| 41.889 | 24.698 | 0.060000 |
| 42.887 | 24.323 | 0.060000 |
| 43.884 | 23.980 | 0.060000 |
| 44.882 | 23.676 | 0.060000 |
| 45.879 | 23.397 | 0.060000 |
| 46.876 | 23.387 | 0.060000 |
| 47.874 | 23.340 | 0.060000 |
| 48.871 | 22.943 | 0.060000 |
| 49.868 | 22.683 | 0.060000 |
| 50.866 | 22.506 | 0.060000 |
| 51.863 | 22.408 | 0.060000 |
| 52.860 | 22.248 | 0.060000 |
| 53.858 | 22.032 | 0.060000 |
| 54.855 | 21.745 | 0.060000 |
| 55.853 | 21.426 | 0.060000 |
| 56.850 | 21.057 | 0.060000 |
| 57.847 | 20.750 | 0.060000 |
| 58.845 | 20.411 | 0.060000 |
| 59.842 | 20.229 | 0.060000 |
| 60.839 | 20.208 | 0.060000 |
| 61.837 | 20.305 | 0.060000 |
| 62.834 | 20.330 | 0.060000 |
| 63.832 | 20.291 | 0.060000 |
| 64.829 | 20.254 | 0.060000 |
| 65.826 | 20.219 | 0.060000 |
| 66.824 | 20.178 | 0.060000 |
| 67.821 | 20.136 | 0.060000 |
| 68.818 | 20.088 | 0.060000 |
| 69.816 | 20.032 | 0.060000 |
| 70.813 | 19.960 | 0.060000 |
| 71.810 | 19.975 | 0.060000 |
| 72.808 | 20.299 | 0.060000 |
| 73.805 | 20.657 | 0.060000 |
| 74.803 | 20.953 | 0.060000 |
| 75.800 | 21.146 | 0.060000 |
| 76.797 | 21.501 | 0.060000 |
| 77.795 | 21.812 | 0.060000 |
| 78.792 | 22.180 | 0.060000 |
| 79.789 | 22.477 | 0.060000 |
| 80.787 | 22.607 | 0.060000 |
| 81.784 | 22.902 | 0.060000 |
| 82.781 | 23.357 | 0.060000 |
| 83.779 | 23.734 | 0.060000 |
| 84.776 | 24.029 | 0.060000 |
| 85.774 | 24.348 | 0.060000 |
| 86.771 | 24.776 | 0.060000 |
| 87.768 | 25.253 | 0.060000 |
| 88.766 | 25.642 | 0.060000 |
| 89.763 | 25.964 | 0.060000 |
| 90.760 | 26.257 | 0.060000 |
| 91.758 | 26.615 | 0.060000 |
| 92.755 | 27.026 | 0.060000 |
| 93.753 | 27.392 | 0.060000 |
| 94.750 | 27.748 | 0.060000 |
| 95.747 | 28.153 | 0.060000 |
| 96.745 | 28.633 | 0.060000 |
| 97.742 | 29.129 | 0.060000 |
| 98.739 | 29.558 | 0.060000 |
| 99.737 | 29.892 | 0.060000 |
| 100.734 | 30.172 | 0.060000 |
| 101.731 | 30.443 | 0.060000 |
| 102.729 | 30.706 | 0.060000 |
| 103.726 | 30.903 | 0.060000 |
| 104.724 | 30.989 | 0.060000 |

| | | |
|---|---|---|
| 105.721 | 31.268 | 0.060000 |
| 106.718 | 31.814 | 0.060000 |
| 107.716 | 32.301 | 0.060000 |
| 108.713 | 32.869 | 0.060000 |
| 109.710 | 33.542 | 0.060000 |
| 110.708 | 33.972 | 0.060000 |
| 111.705 | 33.911 | 0.060000 |
| 112.703 | 33.611 | 0.060000 |
| 113.700 | 33.482 | 0.060000 |
| 114.697 | 33.399 | 0.060000 |
| 115.695 | 33.264 | 0.060000 |
| 116.692 | 33.166 | 0.060000 |

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Name: X021 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 43.508 | 0.060000 |
| 0.993 | 43.273 | 0.060000 |
| 1.987 | 42.996 | 0.060000 |
| 2.980 | 42.667 | 0.060000 |
| 3.974 | 42.301 | 0.060000 |
| 4.967 | 41.957 | 0.060000 |
| 5.961 | 41.671 | 0.060000 |
| 6.954 | 41.400 | 0.060000 |
| 7.948 | 41.080 | 0.060000 |
| 8.941 | 40.685 | 0.060000 |
| 9.935 | 40.281 | 0.060000 |
| 10.928 | 39.912 | 0.060000 |
| 11.922 | 39.498 | 0.060000 |
| 12.915 | 39.178 | 0.060000 |
| 13.909 | 38.965 | 0.060000 |
| 14.902 | 38.673 | 0.060000 |
| 15.896 | 38.279 | 0.060000 |
| 16.889 | 37.830 | 0.060000 |
| 17.883 | 37.370 | 0.060000 |
| 18.876 | 36.835 | 0.060000 |
| 19.870 | 36.414 | 0.060000 |
| 20.863 | 36.220 | 0.060000 |
| 21.857 | 35.949 | 0.060000 |
| 22.850 | 35.559 | 0.060000 |
| 23.844 | 35.172 | 0.060000 |
| 24.837 | 34.782 | 0.060000 |
| 25.831 | 34.504 | 0.060000 |
| 26.824 | 34.294 | 0.060000 |
| 27.818 | 34.088 | 0.060000 |
| 28.811 | 33.800 | 0.060000 |
| 29.805 | 33.372 | 0.060000 |
| 30.798 | 32.957 | 0.060000 |
| 31.792 | 32.651 | 0.060000 |
| 32.785 | 32.545 | 0.060000 |
| 33.779 | 32.389 | 0.060000 |
| 34.772 | 32.094 | 0.060000 |
| 35.766 | 31.992 | 0.060000 |
| 36.759 | 31.842 | 0.060000 |
| 37.753 | 31.821 | 0.060000 |
| 38.746 | 31.955 | 0.060000 |
| 39.740 | 32.069 | 0.060000 |
| 40.733 | 31.951 | 0.060000 |
| 41.727 | 32.162 | 0.060000 |
| 42.720 | 32.336 | 0.060000 |
| 43.714 | 32.469 | 0.060000 |
| 44.707 | 32.754 | 0.060000 |
| 45.701 | 33.100 | 0.060000 |
| 46.694 | 33.496 | 0.060000 |
| 47.688 | 33.842 | 0.060000 |
| 48.681 | 34.145 | 0.060000 |
| 49.675 | 34.448 | 0.060000 |
| 50.668 | 34.749 | 0.060000 |
| 51.662 | 35.024 | 0.060000 |
| 52.655 | 35.207 | 0.060000 |
| 53.649 | 35.311 | 0.060000 |
| 54.642 | 35.381 | 0.060000 |
| 55.636 | 35.426 | 0.060000 |
| 56.629 | 35.429 | 0.060000 |
| 57.623 | 35.369 | 0.060000 |
| 58.616 | 35.250 | 0.060000 |
| 59.610 | 35.147 | 0.060000 |
| 60.603 | 35.101 | 0.060000 |
| 61.597 | 35.113 | 0.060000 |
| 62.590 | 35.113 | 0.060000 |
| 63.584 | 35.077 | 0.060000 |
| 64.577 | 35.013 | 0.060000 |
| 65.570 | 34.922 | 0.060000 |
| 66.564 | 34.863 | 0.060000 |

| | | |
|---|---|---|
| 67.557 | 34.853 | 0.060000 |
| 68.551 | 34.811 | 0.060000 |
| 69.544 | 34.702 | 0.060000 |
| 70.538 | 34.557 | 0.060000 |

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Name: X022 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 36.881 | 0.060000 |
| 0.984 | 36.509 | 0.060000 |
| 1.969 | 36.162 | 0.060000 |
| 2.953 | 35.871 | 0.060000 |
| 3.938 | 35.665 | 0.060000 |
| 4.922 | 35.459 | 0.060000 |
| 5.907 | 35.196 | 0.060000 |
| 6.891 | 34.857 | 0.060000 |
| 7.876 | 34.413 | 0.060000 |
| 8.860 | 33.999 | 0.060000 |
| 9.845 | 33.678 | 0.060000 |
| 10.829 | 33.483 | 0.060000 |
| 11.814 | 33.258 | 0.060000 |
| 12.798 | 32.857 | 0.060000 |
| 13.783 | 32.454 | 0.060000 |
| 14.767 | 32.074 | 0.060000 |
| 15.752 | 31.720 | 0.060000 |
| 16.736 | 31.375 | 0.060000 |
| 17.721 | 31.084 | 0.060000 |
| 18.705 | 30.772 | 0.060000 |
| 19.689 | 30.494 | 0.060000 |
| 20.674 | 30.242 | 0.060000 |
| 21.658 | 29.953 | 0.060000 |
| 22.643 | 29.618 | 0.060000 |
| 23.627 | 29.355 | 0.060000 |
| 24.612 | 29.336 | 0.060000 |
| 25.596 | 29.449 | 0.060000 |
| 26.581 | 29.488 | 0.060000 |
| 27.565 | 29.425 | 0.060000 |
| 28.550 | 29.378 | 0.060000 |
| 29.534 | 29.329 | 0.060000 |
| 30.519 | 29.442 | 0.060000 |
| 31.503 | 29.667 | 0.060000 |
| 32.488 | 29.849 | 0.060000 |
| 33.472 | 30.057 | 0.060000 |
| 34.457 | 30.312 | 0.060000 |
| 35.441 | 30.582 | 0.060000 |
| 36.426 | 30.859 | 0.060000 |
| 37.410 | 31.181 | 0.060000 |
| 38.395 | 31.488 | 0.060000 |
| 39.379 | 31.826 | 0.060000 |
| 40.363 | 32.138 | 0.060000 |
| 41.348 | 32.394 | 0.060000 |
| 42.332 | 32.686 | 0.060000 |
| 43.317 | 33.007 | 0.060000 |
| 44.301 | 33.286 | 0.060000 |
| 45.286 | 33.472 | 0.060000 |
| 46.270 | 33.548 | 0.060000 |
| 47.255 | 33.551 | 0.060000 |
| 48.239 | 33.538 | 0.060000 |
| 49.224 | 33.513 | 0.060000 |
| 50.208 | 33.459 | 0.060000 |
| 51.193 | 33.389 | 0.060000 |
| 52.177 | 33.332 | 0.060000 |
| 53.162 | 33.289 | 0.060000 |
| 54.146 | 33.262 | 0.060000 |
| 55.131 | 33.236 | 0.060000 |
| 56.115 | 33.196 | 0.060000 |
| 57.100 | 33.169 | 0.060000 |
| 58.084 | 33.179 | 0.060000 |
| 59.068 | 33.198 | 0.060000 |
| 60.053 | 33.213 | 0.060000 |
| 61.037 | 33.211 | 0.060000 |
| 62.022 | 33.203 | 0.060000 |

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Name: X024 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 61.000

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 36.763 | 0.060000 |
| 1.000 | 36.414 | 0.060000 |

| | | |
|---|---|---|
| 1.999 | 36.107 | 0.060000 |
| 2.999 | 35.829 | 0.060000 |
| 3.998 | 35.498 | 0.060000 |
| 4.998 | 35.034 | 0.060000 |
| 5.997 | 34.553 | 0.060000 |
| 6.997 | 34.113 | 0.060000 |
| 7.996 | 33.652 | 0.060000 |
| 8.996 | 33.200 | 0.060000 |
| 9.995 | 32.727 | 0.060000 |
| 10.995 | 32.278 | 0.060000 |
| 11.994 | 31.917 | 0.060000 |
| 12.994 | 31.571 | 0.060000 |
| 13.993 | 31.261 | 0.060000 |
| 14.993 | 30.978 | 0.060000 |
| 15.992 | 30.677 | 0.060000 |
| 16.992 | 30.379 | 0.060000 |
| 17.991 | 30.097 | 0.060000 |
| 18.991 | 29.825 | 0.060000 |
| 19.990 | 29.532 | 0.060000 |
| 20.990 | 29.226 | 0.060000 |
| 21.989 | 28.931 | 0.060000 |
| 22.989 | 28.563 | 0.060000 |
| 23.988 | 28.168 | 0.060000 |
| 24.988 | 27.857 | 0.060000 |
| 25.987 | 27.569 | 0.060000 |
| 26.987 | 27.231 | 0.060000 |
| 27.986 | 26.882 | 0.060000 |
| 28.986 | 26.572 | 0.060000 |
| 29.985 | 26.320 | 0.060000 |
| 30.985 | 26.159 | 0.060000 |
| 31.984 | 26.065 | 0.060000 |
| 32.984 | 26.026 | 0.060000 |
| 33.983 | 26.032 | 0.060000 |
| 34.983 | 26.050 | 0.060000 |
| 35.982 | 26.083 | 0.060000 |
| 36.982 | 26.116 | 0.060000 |
| 37.981 | 26.149 | 0.060000 |
| 38.981 | 26.145 | 0.060000 |
| 39.980 | 26.086 | 0.060000 |
| 40.980 | 26.018 | 0.060000 |
| 41.979 | 25.985 | 0.060000 |
| 42.979 | 25.989 | 0.060000 |
| 43.978 | 26.042 | 0.060000 |
| 44.978 | 26.210 | 0.060000 |
| 45.977 | 26.299 | 0.060000 |
| 46.977 | 26.308 | 0.060000 |
| 47.976 | 26.412 | 0.060000 |
| 48.976 | 26.569 | 0.060000 |
| 49.975 | 26.745 | 0.060000 |
| 50.975 | 26.953 | 0.060000 |
| 51.974 | 27.217 | 0.060000 |
| 52.974 | 27.518 | 0.060000 |
| 53.973 | 27.811 | 0.060000 |
| 54.973 | 28.063 | 0.060000 |
| 55.972 | 28.254 | 0.060000 |
| 56.972 | 28.462 | 0.060000 |
| 57.971 | 28.724 | 0.060000 |
| 58.971 | 28.963 | 0.060000 |
| 59.970 | 29.128 | 0.060000 |
| 60.970 | 29.199 | 0.060000 |
| 61.969 | 29.182 | 0.060000 |
| 62.969 | 29.125 | 0.060000 |
| 63.968 | 29.069 | 0.060000 |
| 64.968 | 29.003 | 0.060000 |
| 65.967 | 28.923 | 0.060000 |
| 66.967 | 28.852 | 0.060000 |
| 67.966 | 28.807 | 0.060000 |
| 68.966 | 28.775 | 0.060000 |
| 69.965 | 28.758 | 0.060000 |
| 70.965 | 28.757 | 0.060000 |
| 71.964 | 28.733 | 0.060000 |
| 72.964 | 28.684 | 0.060000 |
| 73.964 | 28.649 | 0.060000 |
| 74.963 | 28.634 | 0.060000 |
| 75.963 | 28.624 | 0.060000 |

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Name: X025 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 33.522 | 0.060000 |
| 1.000 | 33.249 | 0.060000 |
| 1.999 | 32.965 | 0.060000 |
| 2.999 | 32.586 | 0.060000 |
| 3.998 | 32.204 | 0.060000 |

| | | |
|---|---|---|
| 4.998 | 31.936 | 0.060000 |
| 5.997 | 31.685 | 0.060000 |
| 6.997 | 31.401 | 0.060000 |
| 7.996 | 31.090 | 0.060000 |
| 8.996 | 30.737 | 0.060000 |
| 9.995 | 30.390 | 0.060000 |
| 10.995 | 30.079 | 0.060000 |
| 11.994 | 29.795 | 0.060000 |
| 12.994 | 29.514 | 0.060000 |
| 13.993 | 29.236 | 0.060000 |
| 14.993 | 28.960 | 0.060000 |
| 15.992 | 28.675 | 0.060000 |
| 16.992 | 28.310 | 0.060000 |
| 17.991 | 27.935 | 0.060000 |
| 18.991 | 27.609 | 0.060000 |
| 19.990 | 27.319 | 0.060000 |
| 20.990 | 27.054 | 0.060000 |
| 21.989 | 26.763 | 0.060000 |
| 22.989 | 26.486 | 0.060000 |
| 23.988 | 26.272 | 0.060000 |
| 24.988 | 26.105 | 0.060000 |
| 25.987 | 26.001 | 0.060000 |
| 26.987 | 25.987 | 0.060000 |
| 27.986 | 25.963 | 0.060000 |
| 28.986 | 25.911 | 0.060000 |
| 29.985 | 25.905 | 0.060000 |
| 30.985 | 25.963 | 0.060000 |
| 31.984 | 26.082 | 0.060000 |
| 32.984 | 26.302 | 0.060000 |
| 33.983 | 26.646 | 0.060000 |
| 34.983 | 26.893 | 0.060000 |
| 35.982 | 26.927 | 0.060000 |
| 36.982 | 26.825 | 0.060000 |
| 37.981 | 26.660 | 0.060000 |
| 38.981 | 26.518 | 0.060000 |
| 39.980 | 26.341 | 0.060000 |
| 40.980 | 26.201 | 0.060000 |
| 41.979 | 26.162 | 0.060000 |
| 42.979 | 26.209 | 0.060000 |
| 43.978 | 26.161 | 0.060000 |
| 44.978 | 26.174 | 0.060000 |
| 45.977 | 26.306 | 0.060000 |
| 46.977 | 26.388 | 0.060000 |
| 47.976 | 26.585 | 0.060000 |
| 48.976 | 26.917 | 0.060000 |
| 49.975 | 27.168 | 0.060000 |
| 50.975 | 27.410 | 0.060000 |
| 51.974 | 27.746 | 0.060000 |
| 52.974 | 28.021 | 0.060000 |
| 53.973 | 28.285 | 0.060000 |
| 54.973 | 28.569 | 0.060000 |
| 55.972 | 28.841 | 0.060000 |
| 56.972 | 29.063 | 0.060000 |
| 57.971 | 29.199 | 0.060000 |
| 58.971 | 29.252 | 0.060000 |
| 59.970 | 29.247 | 0.060000 |
| 60.970 | 29.190 | 0.060000 |
| 61.969 | 29.097 | 0.060000 |
| 62.969 | 29.003 | 0.060000 |
| 63.968 | 28.940 | 0.060000 |
| 64.968 | 28.911 | 0.060000 |
| 65.967 | 28.900 | 0.060000 |
| 66.967 | 28.904 | 0.060000 |
| 67.966 | 28.903 | 0.060000 |
| 68.966 | 28.883 | 0.060000 |
| 69.965 | 28.855 | 0.060000 |
| 70.965 | 28.842 | 0.060000 |
| 71.964 | 28.849 | 0.060000 |
| 72.964 | 28.879 | 0.060000 |
| 73.964 | 28.912 | 0.060000 |
| 74.963 | 28.943 | 0.060000 |
| 75.963 | 28.934 | 0.060000 |

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Name: X026 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 31.579 | 0.060000 |
| 0.994 | 31.188 | 0.060000 |
| 1.988 | 30.776 | 0.060000 |
| 2.983 | 30.457 | 0.060000 |
| 3.977 | 30.196 | 0.060000 |
| 4.971 | 29.964 | 0.060000 |
| 5.965 | 29.728 | 0.060000 |
| 6.959 | 29.478 | 0.060000 |

| | | |
|---|---|---|
| 7.953 | 29.216 | 0.060000 |
| 8.948 | 28.933 | 0.060000 |
| 9.942 | 28.677 | 0.060000 |
| 10.936 | 28.475 | 0.060000 |
| 11.930 | 28.230 | 0.060000 |
| 12.924 | 27.896 | 0.060000 |
| 13.919 | 27.581 | 0.060000 |
| 14.913 | 27.293 | 0.060000 |
| 15.907 | 27.036 | 0.060000 |
| 16.901 | 26.805 | 0.060000 |
| 17.895 | 26.506 | 0.060000 |
| 18.889 | 26.229 | 0.060000 |
| 19.884 | 26.008 | 0.060000 |
| 20.878 | 25.784 | 0.060000 |
| 21.872 | 25.587 | 0.060000 |
| 22.866 | 25.388 | 0.060000 |
| 23.860 | 25.201 | 0.060000 |
| 24.854 | 25.093 | 0.060000 |
| 25.849 | 25.077 | 0.060000 |
| 26.843 | 25.131 | 0.060000 |
| 27.837 | 25.205 | 0.060000 |
| 28.831 | 25.277 | 0.060000 |
| 29.825 | 25.331 | 0.060000 |
| 30.820 | 25.350 | 0.060000 |
| 31.814 | 25.328 | 0.060000 |
| 32.808 | 25.286 | 0.060000 |
| 33.802 | 25.305 | 0.060000 |
| 34.796 | 25.401 | 0.060000 |
| 35.790 | 25.467 | 0.060000 |
| 36.785 | 25.494 | 0.060000 |
| 37.779 | 25.474 | 0.060000 |
| 38.773 | 25.448 | 0.060000 |
| 39.767 | 25.369 | 0.060000 |
| 40.761 | 25.278 | 0.060000 |
| 41.756 | 25.304 | 0.060000 |
| 42.750 | 25.333 | 0.060000 |
| 43.744 | 25.398 | 0.060000 |
| 44.738 | 25.561 | 0.060000 |
| 45.732 | 25.777 | 0.060000 |
| 46.726 | 25.935 | 0.060000 |
| 47.721 | 26.112 | 0.060000 |
| 48.715 | 26.315 | 0.060000 |
| 49.709 | 26.550 | 0.060000 |
| 50.703 | 26.808 | 0.060000 |
| 51.697 | 26.997 | 0.060000 |
| 52.692 | 27.129 | 0.060000 |
| 53.686 | 27.268 | 0.060000 |
| 54.680 | 27.520 | 0.060000 |
| 55.674 | 27.933 | 0.060000 |
| 56.668 | 28.404 | 0.060000 |
| 57.662 | 28.728 | 0.060000 |
| 58.657 | 28.896 | 0.060000 |
| 59.651 | 28.961 | 0.060000 |
| 60.645 | 28.957 | 0.060000 |
| 61.639 | 28.892 | 0.060000 |
| 62.633 | 28.824 | 0.060000 |
| 63.627 | 28.775 | 0.060000 |
| 64.622 | 28.774 | 0.060000 |
| 65.616 | 28.779 | 0.060000 |
| 66.610 | 28.768 | 0.060000 |
| 67.604 | 28.736 | 0.060000 |
| 68.598 | 28.709 | 0.060000 |

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Name: X027W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 31.100 | 0.000000 |
| 1.000 | 30.860 | 0.000000 |
| 2.000 | 30.570 | 0.000000 |
| 2.990 | 30.170 | 0.000000 |
| 3.990 | 29.780 | 0.000000 |
| 4.990 | 29.550 | 0.000000 |
| 5.990 | 29.360 | 0.000000 |
| 6.990 | 29.110 | 0.000000 |
| 7.980 | 28.810 | 0.000000 |
| 8.980 | 28.520 | 0.000000 |
| 9.980 | 28.230 | 0.000000 |
| 10.980 | 27.950 | 0.000000 |
| 11.980 | 27.690 | 0.000000 |
| 12.970 | 27.440 | 0.000000 |
| 13.970 | 27.160 | 0.000000 |
| 14.970 | 26.880 | 0.000000 |
| 15.970 | 26.590 | 0.000000 |
| 16.970 | 26.340 | 0.000000 |

| | | |
|---|---|---|
| 17.970 | 26.150 | 0.000000 |
| 18.960 | 25.970 | 0.000000 |
| 19.960 | 25.810 | 0.000000 |
| 20.960 | 25.630 | 0.000000 |
| 21.960 | 25.450 | 0.000000 |
| 22.960 | 25.310 | 0.000000 |
| 23.950 | 25.180 | 0.000000 |
| 24.950 | 25.100 | 0.000000 |
| 25.950 | 25.070 | 0.000000 |
| 26.950 | 25.160 | 0.000000 |
| 27.950 | 25.210 | 0.000000 |
| 28.940 | 25.200 | 0.000000 |
| 29.940 | 25.170 | 0.000000 |
| 30.940 | 25.140 | 0.000000 |
| 31.940 | 25.150 | 0.000000 |
| 32.940 | 25.160 | 0.000000 |
| 33.930 | 25.110 | 0.000000 |
| 34.930 | 25.050 | 0.000000 |
| 35.930 | 25.050 | 0.000000 |
| 36.930 | 25.060 | 0.000000 |
| 37.930 | 25.060 | 0.000000 |
| 38.920 | 25.070 | 0.000000 |
| 39.920 | 25.060 | 0.000000 |
| 40.920 | 25.050 | 0.000000 |
| 41.920 | 25.030 | 0.000000 |
| 42.920 | 25.000 | 0.000000 |
| 43.910 | 24.980 | 0.000000 |
| 44.910 | 24.960 | 0.000000 |
| 45.910 | 24.960 | 0.000000 |
| 46.910 | 25.080 | 0.000000 |
| 47.910 | 25.270 | 0.000000 |
| 48.900 | 25.500 | 0.000000 |
| 49.900 | 25.780 | 0.000000 |
| 50.900 | 26.120 | 0.000000 |
| 51.900 | 26.490 | 0.000000 |
| 52.900 | 26.840 | 0.000000 |
| 53.900 | 27.140 | 0.000000 |
| 54.890 | 27.390 | 0.000000 |
| 55.890 | 27.670 | 0.000000 |
| 56.890 | 28.030 | 0.000000 |
| 57.890 | 28.380 | 0.000000 |
| 58.890 | 28.680 | 0.000000 |
| 59.880 | 28.890 | 0.000000 |
| 60.880 | 29.030 | 0.000000 |
| 61.880 | 29.150 | 0.000000 |

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Name: X029 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 66.000

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 20.931 | 0.060000 |
| 0.997 | 20.682 | 0.060000 |
| 1.994 | 20.441 | 0.060000 |
| 2.990 | 20.143 | 0.060000 |
| 3.987 | 19.838 | 0.060000 |
| 4.984 | 19.532 | 0.060000 |
| 5.981 | 19.286 | 0.060000 |
| 6.978 | 19.094 | 0.060000 |
| 7.974 | 18.902 | 0.060000 |
| 8.971 | 18.695 | 0.060000 |
| 9.968 | 18.417 | 0.060000 |
| 10.965 | 18.189 | 0.060000 |
| 11.961 | 18.053 | 0.060000 |
| 12.958 | 17.970 | 0.060000 |
| 13.955 | 17.958 | 0.060000 |
| 14.952 | 17.811 | 0.060000 |
| 15.949 | 17.485 | 0.060000 |
| 16.945 | 17.290 | 0.060000 |
| 17.942 | 17.133 | 0.060000 |
| 18.939 | 17.044 | 0.060000 |
| 19.936 | 16.986 | 0.060000 |
| 20.933 | 17.236 | 0.060000 |
| 21.929 | 17.362 | 0.060000 |
| 22.926 | 17.463 | 0.060000 |
| 23.923 | 17.501 | 0.060000 |
| 24.920 | 17.432 | 0.060000 |
| 25.917 | 17.280 | 0.060000 |
| 26.913 | 17.178 | 0.060000 |
| 27.910 | 17.094 | 0.060000 |
| 28.907 | 17.105 | 0.060000 |
| 29.904 | 17.087 | 0.060000 |
| 30.900 | 17.058 | 0.060000 |
| 31.897 | 17.079 | 0.060000 |
| 32.894 | 17.071 | 0.060000 |

| | | |
|---|---|---|
| 33.891 | 17.047 | 0.060000 |
| 34.888 | 16.996 | 0.060000 |
| 35.884 | 17.043 | 0.060000 |
| 36.881 | 17.218 | 0.060000 |
| 37.878 | 17.227 | 0.060000 |
| 38.875 | 17.212 | 0.060000 |
| 39.872 | 17.196 | 0.060000 |
| 40.868 | 17.087 | 0.060000 |
| 41.865 | 16.830 | 0.060000 |
| 42.862 | 16.801 | 0.060000 |
| 43.859 | 16.870 | 0.060000 |
| 44.856 | 17.007 | 0.060000 |
| 45.852 | 17.187 | 0.060000 |
| 46.849 | 17.369 | 0.060000 |
| 47.846 | 17.491 | 0.060000 |
| 48.843 | 17.568 | 0.060000 |
| 49.839 | 17.615 | 0.060000 |
| 50.836 | 17.636 | 0.060000 |
| 51.833 | 17.621 | 0.060000 |
| 52.830 | 17.612 | 0.060000 |
| 53.827 | 17.629 | 0.060000 |
| 54.823 | 17.673 | 0.060000 |
| 55.820 | 17.720 | 0.060000 |
| 56.817 | 17.761 | 0.060000 |
| 57.814 | 17.771 | 0.060000 |
| 58.811 | 17.774 | 0.060000 |
| 59.807 | 17.786 | 0.060000 |
| 60.804 | 17.784 | 0.060000 |
| 61.801 | 17.790 | 0.060000 |
| 62.798 | 17.821 | 0.060000 |
| 63.795 | 17.838 | 0.060000 |
| 64.791 | 17.826 | 0.060000 |
| 65.788 | 17.808 | 0.060000 |
| 66.785 | 17.780 | 0.060000 |
| 67.782 | 17.718 | 0.060000 |
| 68.778 | 17.616 | 0.060000 |
| 69.775 | 17.459 | 0.060000 |
| 70.772 | 17.271 | 0.060000 |
| 71.769 | 17.037 | 0.060000 |
| 72.766 | 16.768 | 0.060000 |
| 73.762 | 16.499 | 0.060000 |
| 74.759 | 16.232 | 0.060000 |
| 75.756 | 15.988 | 0.060000 |
| 76.753 | 15.763 | 0.060000 |
| 77.750 | 15.538 | 0.060000 |

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Name: X030 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 21.847 | 0.060000 |
| 0.997 | 21.640 | 0.060000 |
| 1.994 | 21.457 | 0.060000 |
| 2.991 | 21.291 | 0.060000 |
| 3.988 | 21.095 | 0.060000 |
| 4.985 | 20.870 | 0.060000 |
| 5.981 | 20.672 | 0.060000 |
| 6.978 | 20.577 | 0.060000 |
| 7.975 | 20.573 | 0.060000 |
| 8.972 | 20.453 | 0.060000 |
| 9.969 | 20.293 | 0.060000 |
| 10.966 | 20.127 | 0.060000 |
| 11.963 | 19.857 | 0.060000 |
| 12.960 | 19.586 | 0.060000 |
| 13.957 | 19.290 | 0.060000 |
| 14.954 | 19.111 | 0.060000 |
| 15.951 | 18.936 | 0.060000 |
| 16.948 | 18.674 | 0.060000 |
| 17.944 | 18.577 | 0.060000 |
| 18.941 | 18.511 | 0.060000 |
| 19.938 | 18.244 | 0.060000 |
| 20.935 | 18.008 | 0.060000 |
| 21.932 | 17.823 | 0.060000 |
| 22.929 | 17.685 | 0.060000 |
| 23.926 | 17.473 | 0.060000 |
| 24.923 | 17.217 | 0.060000 |
| 25.920 | 17.000 | 0.060000 |
| 26.917 | 17.001 | 0.060000 |
| 27.914 | 17.102 | 0.060000 |
| 28.910 | 17.103 | 0.060000 |
| 29.907 | 16.944 | 0.060000 |
| 30.904 | 16.745 | 0.060000 |
| 31.901 | 16.569 | 0.060000 |
| 32.898 | 16.437 | 0.060000 |
| 33.895 | 16.297 | 0.060000 |

| | | |
|---|---|---|
| 34.892 | 16.273 | 0.060000 |
| 35.889 | 16.295 | 0.060000 |
| 36.886 | 16.335 | 0.060000 |
| 37.883 | 16.399 | 0.060000 |
| 38.880 | 16.467 | 0.060000 |
| 39.877 | 16.496 | 0.060000 |
| 40.873 | 16.501 | 0.060000 |
| 41.870 | 16.474 | 0.060000 |
| 42.867 | 16.428 | 0.060000 |
| 43.864 | 16.380 | 0.060000 |
| 44.861 | 16.334 | 0.060000 |
| 45.858 | 16.290 | 0.060000 |
| 46.855 | 16.261 | 0.060000 |
| 47.852 | 16.260 | 0.060000 |
| 48.849 | 16.242 | 0.060000 |
| 49.846 | 16.302 | 0.060000 |
| 50.843 | 16.385 | 0.060000 |
| 51.839 | 16.435 | 0.060000 |
| 52.836 | 16.448 | 0.060000 |
| 53.833 | 16.463 | 0.060000 |
| 54.830 | 16.504 | 0.060000 |
| 55.827 | 16.519 | 0.060000 |
| 56.824 | 16.513 | 0.060000 |
| 57.821 | 16.536 | 0.060000 |
| 58.818 | 16.648 | 0.060000 |
| 59.815 | 16.818 | 0.060000 |
| 60.812 | 17.021 | 0.060000 |
| 61.809 | 17.193 | 0.060000 |
| 62.806 | 17.305 | 0.060000 |
| 63.802 | 17.308 | 0.060000 |
| 64.799 | 17.275 | 0.060000 |
| 65.796 | 17.259 | 0.060000 |
| 66.793 | 17.319 | 0.060000 |
| 67.790 | 17.386 | 0.060000 |
| 68.787 | 17.407 | 0.060000 |
| 69.784 | 17.394 | 0.060000 |
| 70.781 | 17.372 | 0.060000 |
| 71.778 | 17.365 | 0.060000 |
| 72.775 | 17.372 | 0.060000 |
| 73.772 | 17.415 | 0.060000 |
| 74.768 | 17.431 | 0.060000 |
| 75.765 | 17.430 | 0.060000 |
| 76.762 | 17.446 | 0.060000 |
| 77.759 | 17.431 | 0.060000 |
| 78.756 | 17.367 | 0.060000 |

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Name: X031 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 68.000

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 23.424 | 0.060000 |
| 0.991 | 23.127 | 0.060000 |
| 1.982 | 22.829 | 0.060000 |
| 2.973 | 22.540 | 0.060000 |
| 3.963 | 22.352 | 0.060000 |
| 4.954 | 22.221 | 0.060000 |
| 5.945 | 21.937 | 0.060000 |
| 6.936 | 21.680 | 0.060000 |
| 7.927 | 21.475 | 0.060000 |
| 8.918 | 21.274 | 0.060000 |
| 9.909 | 21.057 | 0.060000 |
| 10.899 | 20.872 | 0.060000 |
| 11.890 | 20.722 | 0.060000 |
| 12.881 | 20.517 | 0.060000 |
| 13.872 | 20.252 | 0.060000 |
| 14.863 | 19.978 | 0.060000 |
| 15.854 | 19.746 | 0.060000 |
| 16.845 | 19.545 | 0.060000 |
| 17.835 | 19.284 | 0.060000 |
| 18.826 | 19.018 | 0.060000 |
| 19.817 | 18.730 | 0.060000 |
| 20.808 | 18.385 | 0.060000 |
| 21.799 | 18.102 | 0.060000 |
| 22.790 | 17.912 | 0.060000 |
| 23.780 | 17.708 | 0.060000 |
| 24.771 | 17.421 | 0.060000 |
| 25.762 | 17.089 | 0.060000 |
| 26.753 | 16.888 | 0.060000 |
| 27.744 | 16.892 | 0.060000 |
| 28.735 | 16.967 | 0.060000 |
| 29.726 | 17.096 | 0.060000 |
| 30.716 | 17.210 | 0.060000 |
| 31.707 | 17.296 | 0.060000 |
| 32.698 | 17.364 | 0.060000 |

| | | |
|---|---|---|
| 33.689 | 17.271 | 0.060000 |
| 34.680 | 16.942 | 0.060000 |
| 35.671 | 16.637 | 0.060000 |
| 36.662 | 16.456 | 0.060000 |
| 37.652 | 16.370 | 0.060000 |
| 38.643 | 16.326 | 0.060000 |
| 39.634 | 16.289 | 0.060000 |
| 40.625 | 16.277 | 0.060000 |
| 41.616 | 16.263 | 0.060000 |
| 42.607 | 16.256 | 0.060000 |
| 43.598 | 16.281 | 0.060000 |
| 44.588 | 16.307 | 0.060000 |
| 45.579 | 16.328 | 0.060000 |
| 46.570 | 16.363 | 0.060000 |
| 47.561 | 16.368 | 0.060000 |
| 48.552 | 16.337 | 0.060000 |
| 49.543 | 16.325 | 0.060000 |
| 50.534 | 16.358 | 0.060000 |
| 51.524 | 16.355 | 0.060000 |
| 52.515 | 16.399 | 0.060000 |
| 53.506 | 16.441 | 0.060000 |
| 54.497 | 16.381 | 0.060000 |
| 55.488 | 16.373 | 0.060000 |
| 56.479 | 16.351 | 0.060000 |
| 57.470 | 16.301 | 0.060000 |
| 58.460 | 16.303 | 0.060000 |
| 59.451 | 16.351 | 0.060000 |
| 60.442 | 16.432 | 0.060000 |
| 61.433 | 16.538 | 0.060000 |
| 62.424 | 16.664 | 0.060000 |
| 63.415 | 16.798 | 0.060000 |
| 64.405 | 16.933 | 0.060000 |
| 65.396 | 17.042 | 0.060000 |
| 66.387 | 17.106 | 0.060000 |
| 67.378 | 17.161 | 0.060000 |
| 68.369 | 17.201 | 0.060000 |
| 69.360 | 17.117 | 0.060000 |
| 70.351 | 16.999 | 0.060000 |
| 71.341 | 16.960 | 0.060000 |
| 72.332 | 16.909 | 0.060000 |
| 73.323 | 16.905 | 0.060000 |
| 74.314 | 16.931 | 0.060000 |
| 75.305 | 16.951 | 0.060000 |
| 76.296 | 16.971 | 0.060000 |
| 77.287 | 16.901 | 0.060000 |
| 78.277 | 16.746 | 0.060000 |
| 79.268 | 16.705 | 0.060000 |
| 80.259 | 16.738 | 0.060000 |
| 81.250 | 16.711 | 0.060000 |

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Name: X033 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 27.474 | 0.060000 |
| 0.993 | 27.106 | 0.060000 |
| 1.987 | 26.659 | 0.060000 |
| 2.980 | 26.257 | 0.060000 |
| 3.973 | 25.904 | 0.060000 |
| 4.967 | 25.567 | 0.060000 |
| 5.960 | 25.271 | 0.060000 |
| 6.953 | 24.973 | 0.060000 |
| 7.947 | 24.718 | 0.060000 |
| 8.940 | 24.486 | 0.060000 |
| 9.933 | 24.229 | 0.060000 |
| 10.927 | 23.904 | 0.060000 |
| 11.920 | 23.515 | 0.060000 |
| 12.913 | 23.185 | 0.060000 |
| 13.907 | 22.829 | 0.060000 |
| 14.900 | 22.459 | 0.060000 |
| 15.894 | 22.116 | 0.060000 |
| 16.887 | 21.750 | 0.060000 |
| 17.880 | 21.384 | 0.060000 |
| 18.874 | 21.042 | 0.060000 |
| 19.867 | 20.649 | 0.060000 |
| 20.860 | 20.193 | 0.060000 |
| 21.854 | 19.722 | 0.060000 |
| 22.847 | 19.295 | 0.060000 |
| 23.840 | 18.928 | 0.060000 |
| 24.834 | 18.546 | 0.060000 |
| 25.827 | 18.222 | 0.060000 |
| 26.820 | 17.943 | 0.060000 |
| 27.814 | 17.503 | 0.060000 |
| 28.807 | 17.260 | 0.060000 |
| 29.800 | 16.918 | 0.060000 |

| | | |
|---|---|---|
| 30.794 | 16.642 | 0.060000 |
| 31.787 | 16.515 | 0.060000 |
| 32.780 | 16.551 | 0.060000 |
| 33.774 | 16.521 | 0.060000 |
| 34.767 | 16.553 | 0.060000 |
| 35.760 | 16.391 | 0.060000 |
| 36.754 | 16.291 | 0.060000 |
| 37.747 | 16.136 | 0.060000 |
| 38.740 | 16.042 | 0.060000 |
| 39.734 | 16.014 | 0.060000 |
| 40.727 | 16.036 | 0.060000 |
| 41.720 | 16.145 | 0.060000 |
| 42.714 | 16.140 | 0.060000 |
| 43.707 | 16.036 | 0.060000 |
| 44.700 | 15.998 | 0.060000 |
| 45.694 | 15.979 | 0.060000 |
| 46.687 | 15.952 | 0.060000 |
| 47.680 | 15.925 | 0.060000 |
| 48.674 | 15.900 | 0.060000 |
| 49.667 | 15.885 | 0.060000 |
| 50.661 | 15.888 | 0.060000 |
| 51.654 | 15.895 | 0.060000 |
| 52.647 | 15.902 | 0.060000 |
| 53.641 | 15.909 | 0.060000 |
| 54.634 | 15.919 | 0.060000 |
| 55.627 | 15.932 | 0.060000 |
| 56.621 | 15.948 | 0.060000 |
| 57.614 | 15.970 | 0.060000 |
| 58.607 | 15.991 | 0.060000 |
| 59.601 | 16.013 | 0.060000 |
| 60.594 | 16.031 | 0.060000 |
| 61.587 | 16.038 | 0.060000 |
| 62.581 | 16.040 | 0.060000 |
| 63.574 | 16.038 | 0.060000 |
| 64.567 | 16.028 | 0.060000 |
| 65.561 | 16.070 | 0.060000 |
| 66.554 | 16.144 | 0.060000 |
| 67.547 | 16.151 | 0.060000 |
| 68.541 | 16.195 | 0.060000 |
| 69.534 | 16.207 | 0.060000 |
| 70.527 | 16.234 | 0.060000 |
| 71.521 | 16.309 | 0.060000 |
| 72.514 | 16.283 | 0.060000 |
| 73.507 | 16.205 | 0.060000 |
| 74.501 | 16.157 | 0.060000 |
| 75.494 | 16.161 | 0.060000 |
| 76.487 | 16.207 | 0.060000 |
| 77.481 | 16.406 | 0.060000 |
| 78.474 | 16.656 | 0.060000 |
| 79.467 | 16.794 | 0.060000 |
| 80.461 | 16.911 | 0.060000 |
| 81.454 | 16.992 | 0.060000 |
| 82.448 | 16.972 | 0.060000 |
| 83.441 | 16.919 | 0.060000 |
| 84.434 | 16.950 | 0.060000 |
| 85.428 | 17.055 | 0.060000 |
| 86.421 | 17.206 | 0.060000 |
| 87.414 | 17.359 | 0.060000 |
| 88.408 | 17.433 | 0.060000 |
| 89.401 | 17.374 | 0.060000 |
| 90.394 | 17.334 | 0.060000 |
| 91.388 | 17.319 | 0.060000 |
| 92.381 | 17.275 | 0.060000 |
| 93.374 | 17.278 | 0.060000 |
| 94.368 | 17.281 | 0.060000 |
| 95.361 | 17.259 | 0.060000 |
| 96.354 | 17.204 | 0.060000 |
| 97.348 | 17.182 | 0.060000 |
| 98.341 | 17.208 | 0.060000 |
| 99.334 | 17.243 | 0.060000 |
| 100.328 | 17.260 | 0.060000 |

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Name: X035 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 24.846 | 0.060000 |
| 0.993 | 24.787 | 0.060000 |
| 1.987 | 24.742 | 0.060000 |
| 2.980 | 24.765 | 0.060000 |
| 3.973 | 24.784 | 0.060000 |
| 4.966 | 24.676 | 0.060000 |
| 5.960 | 24.475 | 0.060000 |
| 6.953 | 24.239 | 0.060000 |
| 7.946 | 24.017 | 0.060000 |

| | | |
|---|---|---|
| 8.940 | 23.724 | 0.060000 |
| 9.933 | 23.336 | 0.060000 |
| 10.926 | 22.955 | 0.060000 |
| 11.920 | 22.637 | 0.060000 |
| 12.913 | 22.277 | 0.060000 |
| 13.906 | 22.008 | 0.060000 |
| 14.899 | 21.690 | 0.060000 |
| 15.893 | 21.229 | 0.060000 |
| 16.886 | 20.876 | 0.060000 |
| 17.879 | 20.705 | 0.060000 |
| 18.873 | 20.485 | 0.060000 |
| 19.866 | 20.027 | 0.060000 |
| 20.859 | 19.520 | 0.060000 |
| 21.852 | 19.043 | 0.060000 |
| 22.846 | 18.752 | 0.060000 |
| 23.839 | 18.540 | 0.060000 |
| 24.832 | 18.322 | 0.060000 |
| 25.826 | 17.965 | 0.060000 |
| 26.819 | 17.534 | 0.060000 |
| 27.812 | 17.078 | 0.060000 |
| 28.805 | 16.662 | 0.060000 |
| 29.799 | 16.390 | 0.060000 |
| 30.792 | 16.183 | 0.060000 |
| 31.785 | 15.950 | 0.060000 |
| 32.779 | 15.800 | 0.060000 |
| 33.772 | 15.612 | 0.060000 |
| 34.765 | 15.277 | 0.060000 |
| 35.759 | 15.013 | 0.060000 |
| 36.752 | 14.926 | 0.060000 |
| 37.745 | 14.859 | 0.060000 |
| 38.738 | 14.686 | 0.060000 |
| 39.732 | 14.576 | 0.060000 |
| 40.725 | 14.446 | 0.060000 |
| 41.718 | 14.457 | 0.060000 |
| 42.712 | 14.505 | 0.060000 |
| 43.705 | 14.550 | 0.060000 |
| 44.698 | 14.578 | 0.060000 |
| 45.691 | 14.684 | 0.060000 |
| 46.685 | 14.734 | 0.060000 |
| 47.678 | 14.788 | 0.060000 |
| 48.671 | 14.847 | 0.060000 |
| 49.665 | 14.904 | 0.060000 |
| 50.658 | 14.934 | 0.060000 |
| 51.651 | 14.950 | 0.060000 |
| 52.644 | 14.957 | 0.060000 |
| 53.638 | 14.951 | 0.060000 |
| 54.631 | 14.771 | 0.060000 |
| 55.624 | 14.800 | 0.060000 |
| 56.618 | 14.946 | 0.060000 |
| 57.611 | 14.888 | 0.060000 |
| 58.604 | 14.817 | 0.060000 |
| 59.598 | 14.955 | 0.060000 |
| 60.591 | 15.226 | 0.060000 |
| 61.584 | 15.602 | 0.060000 |
| 62.577 | 15.915 | 0.060000 |
| 63.571 | 16.066 | 0.060000 |
| 64.564 | 16.128 | 0.060000 |
| 65.557 | 16.172 | 0.060000 |
| 66.551 | 16.235 | 0.060000 |
| 67.544 | 16.360 | 0.060000 |
| 68.537 | 16.525 | 0.060000 |
| 69.530 | 16.676 | 0.060000 |
| 70.524 | 16.775 | 0.060000 |
| 71.517 | 16.816 | 0.060000 |
| 72.510 | 16.815 | 0.060000 |
| 73.504 | 16.777 | 0.060000 |
| 74.497 | 16.735 | 0.060000 |
| 75.490 | 16.730 | 0.060000 |
| 76.484 | 16.756 | 0.060000 |
| 77.477 | 16.786 | 0.060000 |
| 78.470 | 16.806 | 0.060000 |

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Name: X039 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 24.575 | 0.060000 |
| 0.992 | 24.606 | 0.060000 |
| 1.984 | 24.619 | 0.060000 |
| 2.975 | 24.609 | 0.060000 |
| 3.967 | 24.620 | 0.060000 |
| 4.959 | 24.659 | 0.060000 |
| 5.951 | 24.649 | 0.060000 |
| 6.943 | 24.605 | 0.060000 |
| 7.934 | 24.571 | 0.060000 |

| | | |
|---|---|---|
| 8.926 | 24.451 | 0.060000 |
| 9.918 | 24.280 | 0.060000 |
| 10.910 | 24.136 | 0.060000 |
| 11.902 | 24.036 | 0.060000 |
| 12.893 | 23.922 | 0.060000 |
| 13.885 | 23.679 | 0.060000 |
| 14.877 | 23.283 | 0.060000 |
| 15.869 | 22.886 | 0.060000 |
| 16.861 | 22.517 | 0.060000 |
| 17.852 | 22.185 | 0.060000 |
| 18.844 | 21.839 | 0.060000 |
| 19.836 | 21.467 | 0.060000 |
| 20.828 | 21.087 | 0.060000 |
| 21.820 | 20.650 | 0.060000 |
| 22.811 | 20.317 | 0.060000 |
| 23.803 | 20.055 | 0.060000 |
| 24.795 | 19.806 | 0.060000 |
| 25.787 | 19.522 | 0.060000 |
| 26.779 | 19.217 | 0.060000 |
| 27.770 | 18.837 | 0.060000 |
| 28.762 | 18.507 | 0.060000 |
| 29.754 | 18.228 | 0.060000 |
| 30.746 | 17.890 | 0.060000 |
| 31.738 | 17.500 | 0.060000 |
| 32.729 | 17.232 | 0.060000 |
| 33.721 | 16.847 | 0.060000 |
| 34.713 | 16.466 | 0.060000 |
| 35.705 | 16.196 | 0.060000 |
| 36.697 | 15.985 | 0.060000 |
| 37.688 | 15.760 | 0.060000 |
| 38.680 | 15.453 | 0.060000 |
| 39.672 | 15.158 | 0.060000 |
| 40.664 | 14.860 | 0.060000 |
| 41.656 | 14.648 | 0.060000 |
| 42.647 | 14.410 | 0.060000 |
| 43.639 | 14.174 | 0.060000 |
| 44.631 | 14.147 | 0.060000 |
| 45.623 | 14.055 | 0.060000 |
| 46.615 | 13.881 | 0.060000 |
| 47.606 | 13.713 | 0.060000 |
| 48.598 | 13.613 | 0.060000 |
| 49.590 | 13.672 | 0.060000 |
| 50.582 | 13.760 | 0.060000 |
| 51.574 | 13.745 | 0.060000 |
| 52.565 | 13.752 | 0.060000 |
| 53.557 | 13.803 | 0.060000 |
| 54.549 | 13.817 | 0.060000 |
| 55.541 | 13.825 | 0.060000 |
| 56.533 | 13.829 | 0.060000 |
| 57.524 | 13.822 | 0.060000 |
| 58.516 | 13.787 | 0.060000 |
| 59.508 | 13.823 | 0.060000 |
| 60.500 | 13.893 | 0.060000 |
| 61.492 | 13.880 | 0.060000 |
| 62.483 | 13.888 | 0.060000 |
| 63.475 | 13.919 | 0.060000 |
| 64.467 | 13.967 | 0.060000 |
| 65.459 | 14.230 | 0.060000 |
| 66.451 | 14.525 | 0.060000 |
| 67.442 | 14.796 | 0.060000 |
| 68.434 | 15.235 | 0.060000 |
| 69.426 | 15.602 | 0.060000 |
| 70.418 | 15.880 | 0.060000 |
| 71.410 | 16.068 | 0.060000 |
| 72.401 | 16.230 | 0.060000 |
| 73.393 | 16.388 | 0.060000 |
| 74.385 | 16.472 | 0.060000 |
| 75.377 | 16.549 | 0.060000 |
| 76.368 | 16.650 | 0.060000 |
| 77.360 | 16.669 | 0.060000 |
| 78.352 | 16.678 | 0.060000 |
| 79.344 | 16.712 | 0.060000 |
| 80.336 | 16.776 | 0.060000 |
| 81.328 | 16.862 | 0.060000 |
| 82.319 | 16.943 | 0.060000 |
| 83.311 | 16.985 | 0.060000 |
| 84.303 | 16.971 | 0.060000 |
| 85.295 | 16.980 | 0.060000 |
| 86.286 | 17.059 | 0.060000 |
| 87.278 | 17.157 | 0.060000 |
| 88.270 | 17.181 | 0.060000 |
| 89.262 | 17.165 | 0.060000 |
| 90.254 | 17.169 | 0.060000 |
| 91.245 | 17.197 | 0.060000 |
| 92.237 | 17.190 | 0.060000 |

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Name: X040W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.020 | 0.000000 |
| 1.000 | 14.020 | 0.000000 |
| 1.990 | 14.040 | 0.000000 |
| 2.990 | 14.060 | 0.000000 |
| 3.990 | 14.050 | 0.000000 |
| 4.980 | 14.040 | 0.000000 |
| 5.980 | 14.090 | 0.000000 |
| 6.980 | 14.100 | 0.000000 |
| 7.980 | 14.080 | 0.000000 |
| 8.970 | 14.170 | 0.000000 |
| 9.970 | 14.260 | 0.000000 |
| 10.970 | 14.220 | 0.000000 |
| 11.960 | 13.940 | 0.000000 |
| 12.960 | 13.710 | 0.000000 |
| 13.960 | 13.630 | 0.000000 |
| 14.950 | 13.550 | 0.000000 |
| 15.950 | 13.480 | 0.000000 |
| 16.950 | 13.410 | 0.000000 |
| 17.940 | 13.360 | 0.000000 |
| 18.940 | 13.360 | 0.000000 |
| 19.940 | 13.340 | 0.000000 |
| 20.930 | 13.320 | 0.000000 |
| 21.930 | 13.290 | 0.000000 |
| 22.930 | 13.250 | 0.000000 |
| 23.930 | 13.210 | 0.000000 |
| 24.920 | 13.180 | 0.000000 |
| 25.920 | 13.170 | 0.000000 |
| 26.920 | 13.180 | 0.000000 |
| 27.910 | 13.220 | 0.000000 |
| 28.910 | 13.310 | 0.000000 |
| 29.910 | 13.350 | 0.000000 |
| 30.900 | 13.330 | 0.000000 |
| 31.900 | 13.340 | 0.000000 |
| 32.900 | 13.340 | 0.000000 |
| 33.890 | 13.360 | 0.000000 |
| 34.890 | 13.390 | 0.000000 |
| 35.890 | 13.420 | 0.000000 |
| 36.880 | 13.440 | 0.000000 |
| 37.880 | 13.430 | 0.000000 |
| 38.880 | 13.420 | 0.000000 |
| 39.880 | 13.420 | 0.000000 |
| 40.870 | 13.440 | 0.000000 |
| 41.870 | 13.470 | 0.000000 |
| 42.870 | 13.460 | 0.000000 |
| 43.860 | 13.420 | 0.000000 |
| 44.860 | 13.400 | 0.000000 |
| 45.860 | 13.410 | 0.000000 |
| 46.850 | 13.400 | 0.000000 |
| 47.850 | 13.370 | 0.000000 |
| 48.850 | 13.360 | 0.000000 |
| 49.840 | 13.410 | 0.000000 |
| 50.840 | 13.470 | 0.000000 |
| 51.840 | 13.480 | 0.000000 |
| 52.830 | 13.430 | 0.000000 |
| 53.830 | 13.400 | 0.000000 |
| 54.830 | 13.390 | 0.000000 |
| 55.830 | 13.390 | 0.000000 |
| 56.820 | 13.390 | 0.000000 |
| 57.820 | 13.390 | 0.000000 |
| 58.820 | 13.410 | 0.000000 |
| 59.810 | 13.420 | 0.000000 |
| 60.810 | 13.380 | 0.000000 |
| 61.810 | 13.340 | 0.000000 |
| 62.800 | 13.320 | 0.000000 |
| 63.800 | 13.300 | 0.000000 |
| 64.800 | 13.280 | 0.000000 |
| 65.790 | 13.270 | 0.000000 |
| 66.790 | 13.280 | 0.000000 |
| 67.790 | 13.280 | 0.000000 |
| 68.780 | 13.260 | 0.000000 |
| 69.780 | 13.270 | 0.000000 |
| 70.780 | 13.280 | 0.000000 |
| 71.780 | 13.280 | 0.000000 |
| 72.770 | 13.320 | 0.000000 |
| 73.770 | 13.340 | 0.000000 |
| 74.770 | 13.320 | 0.000000 |
| 75.770 | 13.290 | 0.000000 |
| 76.770 | 13.270 | 0.000000 |
| 77.770 | 13.270 | 0.000000 |
| 78.770 | 13.290 | 0.000000 |
| 79.770 | 13.300 | 0.000000 |
| 80.760 | 13.310 | 0.000000 |
| 81.760 | 13.300 | 0.000000 |
| 82.760 | 13.280 | 0.000000 |

| | | |
|---|---|---|
| 83.760 | 13.270 | 0.000000 |
| 84.760 | 13.270 | 0.000000 |
| 85.760 | 13.280 | 0.000000 |
| 86.760 | 13.260 | 0.000000 |
| 87.760 | 13.240 | 0.000000 |
| 88.760 | 13.250 | 0.000000 |
| 89.750 | 13.260 | 0.000000 |
| 90.750 | 13.240 | 0.000000 |
| 91.750 | 13.240 | 0.000000 |
| 92.750 | 13.250 | 0.000000 |
| 93.750 | 13.260 | 0.000000 |
| 94.750 | 13.260 | 0.000000 |
| 95.750 | 13.250 | 0.000000 |
| 96.750 | 13.260 | 0.000000 |
| 97.740 | 13.290 | 0.000000 |
| 98.740 | 13.390 | 0.000000 |
| 99.740 | 13.510 | 0.000000 |
| 100.740 | 13.600 | 0.000000 |
| 101.740 | 13.660 | 0.000000 |
| 102.740 | 13.650 | 0.000000 |
| 103.740 | 13.560 | 0.000000 |
| 104.740 | 13.460 | 0.000000 |
| 105.740 | 13.460 | 0.000000 |
| 106.730 | 13.480 | 0.000000 |
| 107.730 | 13.430 | 0.000000 |
| 108.730 | 13.350 | 0.000000 |
| 109.730 | 13.300 | 0.000000 |
| 110.730 | 13.280 | 0.000000 |
| 111.730 | 13.270 | 0.000000 |
| 112.730 | 13.280 | 0.000000 |
| 113.730 | 13.280 | 0.000000 |
| 114.730 | 13.280 | 0.000000 |
| 115.720 | 13.280 | 0.000000 |
| 116.720 | 13.280 | 0.000000 |
| 117.720 | 13.280 | 0.000000 |
| 118.720 | 13.280 | 0.000000 |
| 119.720 | 13.280 | 0.000000 |
| 120.720 | 13.280 | 0.000000 |
| 121.720 | 13.280 | 0.000000 |
| 122.720 | 13.290 | 0.000000 |
| 123.710 | 13.280 | 0.000000 |
| 124.710 | 13.280 | 0.000000 |
| 125.710 | 13.280 | 0.000000 |
| 126.710 | 13.290 | 0.000000 |
| 127.710 | 13.280 | 0.000000 |
| 128.710 | 13.280 | 0.000000 |
| 129.710 | 13.270 | 0.000000 |
| 130.710 | 13.270 | 0.000000 |
| 131.710 | 13.280 | 0.000000 |
| 132.700 | 13.290 | 0.000000 |
| 133.700 | 13.280 | 0.000000 |
| 134.700 | 13.270 | 0.000000 |
| 135.700 | 13.280 | 0.000000 |
| 136.700 | 13.290 | 0.000000 |
| 137.700 | 13.280 | 0.000000 |
| 138.700 | 13.280 | 0.000000 |
| 139.700 | 13.270 | 0.000000 |
| 140.690 | 13.270 | 0.000000 |
| 141.690 | 13.280 | 0.000000 |
| 142.690 | 13.270 | 0.000000 |
| 143.690 | 13.260 | 0.000000 |
| 144.690 | 13.260 | 0.000000 |
| 145.690 | 13.270 | 0.000000 |
| 146.690 | 13.290 | 0.000000 |
| 147.690 | 13.290 | 0.000000 |
| 148.690 | 13.280 | 0.000000 |
| 149.680 | 13.290 | 0.000000 |
| 150.680 | 13.280 | 0.000000 |
| 151.680 | 13.270 | 0.000000 |
| 152.680 | 13.260 | 0.000000 |
| 153.680 | 13.270 | 0.000000 |
| 154.680 | 13.280 | 0.000000 |
| 155.680 | 13.280 | 0.000000 |
| 156.680 | 13.280 | 0.000000 |
| 157.670 | 13.290 | 0.000000 |
| 158.670 | 13.300 | 0.000000 |
| 159.670 | 13.320 | 0.000000 |
| 160.670 | 13.360 | 0.000000 |
| 161.670 | 13.370 | 0.000000 |
| 162.670 | 13.360 | 0.000000 |
| 163.670 | 13.380 | 0.000000 |
| 164.670 | 13.400 | 0.000000 |
| 165.670 | 13.420 | 0.000000 |
| 166.660 | 13.440 | 0.000000 |
| 167.660 | 13.460 | 0.000000 |
| 168.660 | 13.470 | 0.000000 |
| 169.660 | 13.520 | 0.000000 |
| 170.660 | 13.680 | 0.000000 |
| 171.660 | 13.800 | 0.000000 |

| | | |
|---|---|---|
| 172.660 | 13.680 | 0.000000 |
| 173.660 | 13.520 | 0.000000 |
| 174.660 | 13.490 | 0.000000 |
| 175.650 | 13.490 | 0.000000 |
| 176.650 | 13.460 | 0.000000 |
| 177.650 | 13.450 | 0.000000 |
| 178.650 | 13.430 | 0.000000 |
| 179.650 | 13.410 | 0.000000 |
| 180.650 | 13.410 | 0.000000 |
| 181.650 | 13.430 | 0.000000 |
| 182.650 | 13.530 | 0.000000 |
| 183.640 | 13.700 | 0.000000 |
| 184.640 | 13.820 | 0.000000 |
| 185.640 | 13.810 | 0.000000 |
| 186.640 | 13.780 | 0.000000 |
| 187.640 | 13.730 | 0.000000 |
| 188.640 | 13.620 | 0.000000 |
| 189.640 | 13.470 | 0.000000 |
| 190.640 | 13.380 | 0.000000 |
| 191.640 | 13.350 | 0.000000 |
| 192.630 | 13.340 | 0.000000 |
| 193.630 | 13.340 | 0.000000 |
| 194.630 | 13.360 | 0.000000 |
| 195.630 | 13.410 | 0.000000 |
| 196.630 | 13.510 | 0.000000 |
| 197.630 | 13.660 | 0.000000 |
| 198.630 | 13.840 | 0.000000 |
| 199.630 | 14.030 | 0.000000 |
| 200.620 | 14.250 | 0.000000 |
| 201.620 | 14.600 | 0.000000 |
| 202.620 | 14.990 | 0.000000 |
| 203.620 | 15.230 | 0.000000 |
| 204.620 | 15.350 | 0.000000 |
| 205.620 | 15.520 | 0.000000 |
| 206.620 | 15.780 | 0.000000 |
| 207.620 | 16.010 | 0.000000 |
| 208.620 | 16.160 | 0.000000 |
| 209.610 | 16.300 | 0.000000 |
| 210.610 | 16.430 | 0.000000 |
| 211.610 | 16.520 | 0.000000 |
| 212.610 | 16.550 | 0.000000 |
| 213.610 | 16.530 | 0.000000 |
| 214.610 | 16.450 | 0.000000 |
| 215.610 | 16.360 | 0.000000 |

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Name: X042W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.130 | 0.000000 |
| 0.990 | 14.140 | 0.000000 |
| 1.980 | 14.120 | 0.000000 |
| 2.980 | 14.140 | 0.000000 |
| 3.970 | 14.160 | 0.000000 |
| 4.960 | 14.130 | 0.000000 |
| 5.950 | 14.110 | 0.000000 |
| 6.940 | 14.100 | 0.000000 |
| 7.940 | 14.090 | 0.000000 |
| 8.930 | 14.060 | 0.000000 |
| 9.920 | 14.030 | 0.000000 |
| 10.910 | 14.000 | 0.000000 |
| 11.900 | 13.970 | 0.000000 |
| 12.900 | 13.980 | 0.000000 |
| 13.890 | 14.010 | 0.000000 |
| 14.880 | 14.020 | 0.000000 |
| 15.870 | 14.010 | 0.000000 |
| 16.860 | 14.000 | 0.000000 |
| 17.860 | 13.970 | 0.000000 |
| 18.850 | 13.950 | 0.000000 |
| 19.840 | 13.940 | 0.000000 |
| 20.830 | 13.920 | 0.000000 |
| 21.820 | 13.900 | 0.000000 |
| 22.820 | 13.890 | 0.000000 |
| 23.810 | 13.880 | 0.000000 |
| 24.800 | 13.870 | 0.000000 |
| 25.790 | 13.860 | 0.000000 |
| 26.780 | 13.890 | 0.000000 |
| 27.780 | 13.920 | 0.000000 |
| 28.770 | 13.910 | 0.000000 |
| 29.760 | 13.880 | 0.000000 |
| 30.750 | 13.890 | 0.000000 |
| 31.740 | 13.910 | 0.000000 |
| 32.740 | 13.930 | 0.000000 |
| 33.730 | 13.950 | 0.000000 |
| 34.720 | 13.950 | 0.000000 |

| | | |
|---|---|---|
| 35.710 | 13.920 | 0.000000 |
| 36.700 | 13.890 | 0.000000 |
| 37.700 | 13.870 | 0.000000 |
| 38.690 | 13.870 | 0.000000 |
| 39.690 | 13.870 | 0.000000 |
| 40.680 | 13.830 | 0.000000 |
| 41.680 | 13.840 | 0.000000 |
| 42.680 | 13.840 | 0.000000 |
| 43.670 | 13.830 | 0.000000 |
| 44.670 | 13.830 | 0.000000 |
| 45.660 | 13.850 | 0.000000 |
| 46.660 | 13.890 | 0.000000 |
| 47.660 | 13.900 | 0.000000 |
| 48.650 | 13.870 | 0.000000 |
| 49.650 | 13.850 | 0.000000 |
| 50.640 | 13.860 | 0.000000 |
| 51.640 | 13.930 | 0.000000 |
| 52.640 | 13.970 | 0.000000 |
| 53.630 | 13.920 | 0.000000 |
| 54.630 | 13.930 | 0.000000 |
| 55.620 | 13.950 | 0.000000 |
| 56.620 | 13.990 | 0.000000 |
| 57.620 | 14.000 | 0.000000 |
| 58.610 | 14.010 | 0.000000 |
| 59.610 | 14.010 | 0.000000 |
| 60.600 | 14.010 | 0.000000 |
| 61.600 | 14.030 | 0.000000 |
| 62.600 | 14.030 | 0.000000 |
| 63.590 | 14.020 | 0.000000 |
| 64.590 | 14.040 | 0.000000 |
| 65.580 | 14.140 | 0.000000 |
| 66.580 | 14.200 | 0.000000 |
| 67.580 | 14.170 | 0.000000 |
| 68.570 | 14.130 | 0.000000 |
| 69.570 | 14.170 | 0.000000 |
| 70.560 | 14.210 | 0.000000 |
| 71.560 | 14.160 | 0.000000 |
| 72.560 | 14.130 | 0.000000 |
| 73.550 | 14.110 | 0.000000 |
| 74.550 | 14.130 | 0.000000 |
| 75.540 | 14.120 | 0.000000 |
| 76.540 | 14.110 | 0.000000 |
| 77.540 | 14.060 | 0.000000 |
| 78.530 | 14.090 | 0.000000 |
| 79.530 | 14.080 | 0.000000 |
| 80.520 | 14.080 | 0.000000 |
| 81.520 | 14.080 | 0.000000 |
| 82.520 | 14.070 | 0.000000 |
| 83.510 | 14.040 | 0.000000 |
| 84.510 | 14.030 | 0.000000 |
| 85.500 | 14.090 | 0.000000 |
| 86.500 | 14.100 | 0.000000 |
| 87.500 | 14.090 | 0.000000 |
| 88.490 | 14.080 | 0.000000 |
| 89.490 | 14.080 | 0.000000 |
| 90.490 | 14.090 | 0.000000 |
| 91.480 | 14.110 | 0.000000 |
| 92.480 | 14.180 | 0.000000 |
| 93.480 | 14.230 | 0.000000 |
| 94.470 | 14.230 | 0.000000 |
| 95.470 | 14.250 | 0.000000 |
| 96.460 | 14.240 | 0.000000 |
| 97.460 | 14.240 | 0.000000 |
| 98.460 | 14.220 | 0.000000 |
| 99.450 | 14.250 | 0.000000 |
| 100.450 | 14.270 | 0.000000 |
| 101.450 | 14.290 | 0.000000 |
| 102.440 | 14.310 | 0.000000 |
| 103.440 | 14.330 | 0.000000 |
| 104.440 | 14.380 | 0.000000 |
| 105.430 | 14.440 | 0.000000 |
| 106.430 | 14.440 | 0.000000 |
| 107.430 | 14.420 | 0.000000 |
| 108.420 | 14.390 | 0.000000 |
| 109.420 | 14.430 | 0.000000 |
| 110.410 | 14.470 | 0.000000 |
| 111.410 | 14.440 | 0.000000 |
| 112.410 | 14.430 | 0.000000 |
| 113.400 | 14.470 | 0.000000 |
| 114.400 | 14.480 | 0.000000 |
| 115.400 | 14.470 | 0.000000 |
| 116.390 | 14.480 | 0.000000 |
| 117.390 | 14.520 | 0.000000 |
| 118.390 | 14.530 | 0.000000 |
| 119.380 | 14.530 | 0.000000 |
| 120.380 | 14.530 | 0.000000 |
| 121.380 | 14.490 | 0.000000 |
| 122.370 | 14.480 | 0.000000 |
| 123.370 | 14.510 | 0.000000 |

| | | |
|---|---|---|
| 124.360 | 14.530 | 0.000000 |
| 125.360 | 14.470 | 0.000000 |
| 126.360 | 14.430 | 0.000000 |
| 127.350 | 14.410 | 0.000000 |
| 128.330 | 14.410 | 0.000000 |
| 129.310 | 14.420 | 0.000000 |
| 130.290 | 14.420 | 0.000000 |
| 131.270 | 14.400 | 0.000000 |
| 132.250 | 14.380 | 0.000000 |
| 133.230 | 14.390 | 0.000000 |
| 134.210 | 14.400 | 0.000000 |
| 135.190 | 14.400 | 0.000000 |
| 136.170 | 14.400 | 0.000000 |
| 137.150 | 14.420 | 0.000000 |
| 138.130 | 14.470 | 0.000000 |
| 139.110 | 14.540 | 0.000000 |
| 140.090 | 14.580 | 0.000000 |
| 141.070 | 14.550 | 0.000000 |
| 142.050 | 14.500 | 0.000000 |
| 143.030 | 14.480 | 0.000000 |
| 144.010 | 14.470 | 0.000000 |
| 144.990 | 14.460 | 0.000000 |
| 145.970 | 14.450 | 0.000000 |
| 146.950 | 14.450 | 0.000000 |
| 147.930 | 14.440 | 0.000000 |
| 148.910 | 14.420 | 0.000000 |
| 149.890 | 14.410 | 0.000000 |
| 150.870 | 14.400 | 0.000000 |
| 151.850 | 14.400 | 0.000000 |
| 152.830 | 14.390 | 0.000000 |
| 153.810 | 14.460 | 0.000000 |
| 154.790 | 14.550 | 0.000000 |
| 155.770 | 14.630 | 0.000000 |
| 156.760 | 14.680 | 0.000000 |
| 157.760 | 14.680 | 0.000000 |
| 158.760 | 14.670 | 0.000000 |
| 159.750 | 14.680 | 0.000000 |
| 160.750 | 14.710 | 0.000000 |
| 161.740 | 14.750 | 0.000000 |
| 162.740 | 14.770 | 0.000000 |
| 163.740 | 14.800 | 0.000000 |
| 164.730 | 14.760 | 0.000000 |
| 165.730 | 14.670 | 0.000000 |
| 166.720 | 14.640 | 0.000000 |
| 167.720 | 14.730 | 0.000000 |
| 168.720 | 14.870 | 0.000000 |
| 169.710 | 14.870 | 0.000000 |
| 170.710 | 14.790 | 0.000000 |
| 171.700 | 14.730 | 0.000000 |
| 172.700 | 14.770 | 0.000000 |
| 173.690 | 14.810 | 0.000000 |
| 174.690 | 14.820 | 0.000000 |
| 175.690 | 14.880 | 0.000000 |
| 176.680 | 14.910 | 0.000000 |
| 177.680 | 14.910 | 0.000000 |
| 178.670 | 14.880 | 0.000000 |
| 179.670 | 14.890 | 0.000000 |
| 180.670 | 14.940 | 0.000000 |
| 181.660 | 14.970 | 0.000000 |
| 182.660 | 14.990 | 0.000000 |
| 183.650 | 15.040 | 0.000000 |
| 184.650 | 15.090 | 0.000000 |
| 185.650 | 15.000 | 0.000000 |
| 186.640 | 14.930 | 0.000000 |
| 187.640 | 14.880 | 0.000000 |
| 188.630 | 14.880 | 0.000000 |
| 189.630 | 14.880 | 0.000000 |
| 190.620 | 14.880 | 0.000000 |
| 191.620 | 14.830 | 0.000000 |
| 192.620 | 14.780 | 0.000000 |
| 193.610 | 14.840 | 0.000000 |
| 194.610 | 14.860 | 0.000000 |
| 195.600 | 14.850 | 0.000000 |
| 196.600 | 14.810 | 0.000000 |
| 197.600 | 14.790 | 0.000000 |
| 198.590 | 14.800 | 0.000000 |
| 199.590 | 14.870 | 0.000000 |
| 200.580 | 14.910 | 0.000000 |
| 201.580 | 14.910 | 0.000000 |
| 202.580 | 14.850 | 0.000000 |
| 203.570 | 14.840 | 0.000000 |
| 204.570 | 14.910 | 0.000000 |
| 205.560 | 15.010 | 0.000000 |
| 206.560 | 15.060 | 0.000000 |
| 207.550 | 15.090 | 0.000000 |
| 208.550 | 15.020 | 0.000000 |
| 209.540 | 14.970 | 0.000000 |
| 210.530 | 14.920 | 0.000000 |
| 211.530 | 14.900 | 0.000000 |

| | | |
|---|---|---|
| 212.520 | 14.920 | 0.000000 |
| 213.510 | 14.920 | 0.000000 |
| 214.500 | 14.930 | 0.000000 |
| 215.500 | 14.880 | 0.000000 |
| 216.490 | 14.900 | 0.000000 |
| 217.480 | 14.960 | 0.000000 |
| 218.470 | 14.970 | 0.000000 |
| 219.470 | 14.940 | 0.000000 |
| 220.460 | 14.910 | 0.000000 |
| 221.450 | 14.930 | 0.000000 |
| 222.440 | 14.900 | 0.000000 |
| 223.430 | 14.920 | 0.000000 |
| 224.430 | 14.960 | 0.000000 |
| 225.420 | 14.980 | 0.000000 |
| 226.410 | 14.970 | 0.000000 |
| 227.400 | 14.940 | 0.000000 |
| 228.400 | 14.930 | 0.000000 |
| 229.390 | 14.920 | 0.000000 |
| 230.380 | 14.910 | 0.000000 |
| 231.370 | 14.920 | 0.000000 |
| 232.360 | 14.950 | 0.000000 |
| 233.360 | 14.970 | 0.000000 |
| 234.350 | 15.050 | 0.000000 |
| 235.340 | 15.070 | 0.000000 |
| 236.330 | 15.020 | 0.000000 |
| 237.330 | 14.950 | 0.000000 |
| 238.320 | 14.890 | 0.000000 |
| 239.310 | 14.840 | 0.000000 |
| 240.300 | 14.820 | 0.000000 |
| 241.300 | 14.820 | 0.000000 |
| 242.290 | 14.840 | 0.000000 |
| 243.280 | 14.880 | 0.000000 |
| 244.270 | 14.910 | 0.000000 |
| 245.260 | 14.910 | 0.000000 |
| 246.260 | 14.910 | 0.000000 |
| 247.250 | 14.910 | 0.000000 |
| 248.240 | 14.930 | 0.000000 |
| 249.230 | 14.960 | 0.000000 |
| 250.230 | 14.960 | 0.000000 |
| 251.220 | 14.960 | 0.000000 |
| 252.210 | 14.960 | 0.000000 |
| 253.200 | 14.950 | 0.000000 |
| 254.190 | 14.930 | 0.000000 |
| 255.190 | 14.910 | 0.000000 |
| 256.180 | 14.880 | 0.000000 |
| 257.170 | 14.850 | 0.000000 |
| 258.160 | 14.810 | 0.000000 |
| 259.160 | 14.740 | 0.000000 |
| 260.150 | 14.690 | 0.000000 |
| 261.140 | 14.670 | 0.000000 |
| 262.130 | 14.670 | 0.000000 |
| 263.120 | 14.690 | 0.000000 |
| 264.120 | 14.720 | 0.000000 |
| 265.110 | 14.720 | 0.000000 |
| 266.100 | 14.710 | 0.000000 |
| 267.090 | 14.720 | 0.000000 |
| 268.090 | 14.700 | 0.000000 |
| 269.080 | 14.690 | 0.000000 |
| 270.070 | 14.720 | 0.000000 |
| 271.060 | 14.730 | 0.000000 |
| 272.060 | 14.710 | 0.000000 |
| 273.050 | 14.700 | 0.000000 |
| 274.040 | 14.740 | 0.000000 |
| 275.030 | 14.810 | 0.000000 |
| 276.020 | 14.830 | 0.000000 |
| 277.020 | 14.790 | 0.000000 |
| 278.010 | 14.710 | 0.000000 |
| 279.000 | 14.620 | 0.000000 |
| 279.990 | 14.570 | 0.000000 |
| 280.990 | 14.610 | 0.000000 |
| 281.980 | 14.650 | 0.000000 |
| 282.970 | 14.670 | 0.000000 |
| 283.960 | 14.670 | 0.000000 |
| 284.950 | 14.660 | 0.000000 |
| 285.950 | 14.660 | 0.000000 |
| 286.940 | 14.660 | 0.000000 |
| 287.930 | 14.660 | 0.000000 |
| 288.920 | 14.670 | 0.000000 |
| 289.920 | 14.680 | 0.000000 |
| 290.910 | 14.700 | 0.000000 |
| 291.900 | 14.700 | 0.000000 |
| 292.890 | 14.720 | 0.000000 |
| 293.880 | 14.770 | 0.000000 |
| 294.880 | 14.790 | 0.000000 |
| 295.870 | 14.770 | 0.000000 |
| 296.860 | 14.780 | 0.000000 |
| 297.850 | 14.760 | 0.000000 |
| 298.850 | 14.760 | 0.000000 |
| 299.840 | 14.790 | 0.000000 |

| | | |
|---|---|---|
| 300.830 | 14.810 | 0.000000 |
| 301.820 | 14.790 | 0.000000 |
| 302.820 | 14.780 | 0.000000 |
| 303.810 | 14.790 | 0.000000 |
| 304.800 | 14.820 | 0.000000 |
| 305.790 | 14.820 | 0.000000 |
| 306.780 | 14.800 | 0.000000 |
| 307.780 | 14.800 | 0.000000 |
| 308.770 | 14.840 | 0.000000 |
| 309.760 | 14.900 | 0.000000 |
| 310.750 | 14.900 | 0.000000 |
| 311.750 | 14.880 | 0.000000 |
| 312.740 | 14.880 | 0.000000 |
| 313.730 | 14.880 | 0.000000 |
| 314.720 | 14.900 | 0.000000 |
| 315.710 | 14.920 | 0.000000 |
| 316.710 | 14.930 | 0.000000 |
| 317.700 | 14.920 | 0.000000 |
| 318.690 | 14.920 | 0.000000 |
| 319.680 | 14.890 | 0.000000 |
| 320.680 | 14.900 | 0.000000 |
| 321.670 | 14.960 | 0.000000 |
| 322.660 | 15.010 | 0.000000 |
| 323.650 | 15.050 | 0.000000 |
| 324.640 | 15.080 | 0.000000 |
| 325.640 | 15.110 | 0.000000 |

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Name: X042W2 Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 13.880 | 0.000000 |
| 0.990 | 13.880 | 0.000000 |
| 1.980 | 13.900 | 0.000000 |
| 2.970 | 13.900 | 0.000000 |
| 3.960 | 13.870 | 0.000000 |
| 4.950 | 13.850 | 0.000000 |
| 5.940 | 13.840 | 0.000000 |
| 6.930 | 13.830 | 0.000000 |
| 7.930 | 13.800 | 0.000000 |
| 8.920 | 13.760 | 0.000000 |
| 9.910 | 13.720 | 0.000000 |
| 10.900 | 13.670 | 0.000000 |
| 11.890 | 13.650 | 0.000000 |
| 12.880 | 13.620 | 0.000000 |
| 13.870 | 13.570 | 0.000000 |
| 14.860 | 13.540 | 0.000000 |
| 15.850 | 13.510 | 0.000000 |
| 16.840 | 13.490 | 0.000000 |
| 17.830 | 13.470 | 0.000000 |
| 18.820 | 13.450 | 0.000000 |
| 19.810 | 13.420 | 0.000000 |
| 20.800 | 13.400 | 0.000000 |
| 21.790 | 13.400 | 0.000000 |
| 22.780 | 13.410 | 0.000000 |
| 23.780 | 13.420 | 0.000000 |
| 24.770 | 13.450 | 0.000000 |
| 25.760 | 13.460 | 0.000000 |
| 26.750 | 13.430 | 0.000000 |
| 27.740 | 13.410 | 0.000000 |
| 28.730 | 13.400 | 0.000000 |
| 29.720 | 13.400 | 0.000000 |
| 30.710 | 13.390 | 0.000000 |
| 31.700 | 13.370 | 0.000000 |
| 32.690 | 13.350 | 0.000000 |
| 33.680 | 13.350 | 0.000000 |
| 34.670 | 13.350 | 0.000000 |
| 35.660 | 13.340 | 0.000000 |
| 36.650 | 13.310 | 0.000000 |
| 37.640 | 13.280 | 0.000000 |
| 38.630 | 13.260 | 0.000000 |
| 39.630 | 13.250 | 0.000000 |
| 40.620 | 13.260 | 0.000000 |
| 41.610 | 13.260 | 0.000000 |
| 42.600 | 13.250 | 0.000000 |
| 43.590 | 13.250 | 0.000000 |
| 44.580 | 13.270 | 0.000000 |
| 45.570 | 13.270 | 0.000000 |
| 46.560 | 13.260 | 0.000000 |
| 47.550 | 13.260 | 0.000000 |
| 48.540 | 13.270 | 0.000000 |
| 49.530 | 13.270 | 0.000000 |
| 50.520 | 13.260 | 0.000000 |
| 51.510 | 13.250 | 0.000000 |
| 52.500 | 13.270 | 0.000000 |

| | | |
|---|---|---|
| 53.490 | 13.300 | 0.000000 |
| 54.480 | 13.320 | 0.000000 |
| 55.480 | 13.350 | 0.000000 |
| 56.470 | 13.350 | 0.000000 |
| 57.460 | 13.360 | 0.000000 |
| 58.450 | 13.360 | 0.000000 |
| 59.440 | 13.350 | 0.000000 |
| 60.430 | 13.310 | 0.000000 |
| 61.420 | 13.280 | 0.000000 |
| 62.410 | 13.270 | 0.000000 |
| 63.400 | 13.270 | 0.000000 |
| 64.390 | 13.300 | 0.000000 |
| 65.380 | 13.300 | 0.000000 |
| 66.370 | 13.300 | 0.000000 |
| 67.360 | 13.300 | 0.000000 |
| 68.350 | 13.290 | 0.000000 |
| 69.340 | 13.280 | 0.000000 |
| 70.330 | 13.270 | 0.000000 |
| 71.330 | 13.270 | 0.000000 |
| 72.320 | 13.260 | 0.000000 |
| 73.310 | 13.270 | 0.000000 |
| 74.300 | 13.260 | 0.000000 |
| 75.290 | 13.270 | 0.000000 |
| 76.280 | 13.270 | 0.000000 |
| 77.270 | 13.270 | 0.000000 |
| 78.260 | 13.270 | 0.000000 |
| 79.250 | 13.270 | 0.000000 |
| 80.250 | 13.260 | 0.000000 |
| 81.250 | 13.240 | 0.000000 |
| 82.250 | 13.230 | 0.000000 |
| 83.250 | 13.230 | 0.000000 |
| 84.250 | 13.230 | 0.000000 |
| 85.240 | 13.230 | 0.000000 |
| 86.240 | 13.250 | 0.000000 |
| 87.240 | 13.270 | 0.000000 |
| 88.240 | 13.280 | 0.000000 |
| 89.240 | 13.290 | 0.000000 |
| 90.240 | 13.290 | 0.000000 |
| 91.240 | 13.280 | 0.000000 |
| 92.240 | 13.280 | 0.000000 |
| 93.240 | 13.280 | 0.000000 |
| 94.240 | 13.300 | 0.000000 |
| 95.240 | 13.320 | 0.000000 |
| 96.230 | 13.300 | 0.000000 |
| 97.230 | 13.280 | 0.000000 |
| 98.230 | 13.270 | 0.000000 |
| 99.230 | 13.270 | 0.000000 |
| 100.230 | 13.290 | 0.000000 |
| 101.230 | 13.290 | 0.000000 |
| 102.230 | 13.310 | 0.000000 |
| 103.230 | 13.360 | 0.000000 |
| 104.230 | 13.360 | 0.000000 |
| 105.230 | 13.340 | 0.000000 |
| 106.220 | 13.300 | 0.000000 |
| 107.220 | 13.280 | 0.000000 |
| 108.220 | 13.270 | 0.000000 |
| 109.220 | 13.260 | 0.000000 |
| 110.220 | 13.270 | 0.000000 |
| 111.220 | 13.270 | 0.000000 |
| 112.220 | 13.270 | 0.000000 |
| 113.220 | 13.270 | 0.000000 |
| 114.220 | 13.270 | 0.000000 |
| 115.220 | 13.270 | 0.000000 |
| 116.220 | 13.260 | 0.000000 |
| 117.210 | 13.250 | 0.000000 |
| 118.210 | 13.250 | 0.000000 |
| 119.210 | 13.250 | 0.000000 |
| 120.210 | 13.250 | 0.000000 |
| 121.210 | 13.270 | 0.000000 |
| 122.210 | 13.270 | 0.000000 |
| 123.210 | 13.270 | 0.000000 |
| 124.210 | 13.270 | 0.000000 |
| 125.210 | 13.280 | 0.000000 |
| 126.210 | 13.270 | 0.000000 |
| 127.200 | 13.270 | 0.000000 |
| 128.200 | 13.280 | 0.000000 |
| 129.200 | 13.290 | 0.000000 |
| 130.200 | 13.310 | 0.000000 |
| 131.200 | 13.330 | 0.000000 |
| 132.200 | 13.350 | 0.000000 |
| 133.200 | 13.340 | 0.000000 |
| 134.200 | 13.340 | 0.000000 |
| 135.200 | 13.320 | 0.000000 |
| 136.200 | 13.310 | 0.000000 |
| 137.200 | 13.300 | 0.000000 |
| 138.190 | 13.280 | 0.000000 |
| 139.190 | 13.280 | 0.000000 |
| 140.190 | 13.280 | 0.000000 |
| 141.190 | 13.280 | 0.000000 |

| | | |
|---|---|---|
| 142.190 | 13.280 | 0.000000 |
| 143.190 | 13.270 | 0.000000 |
| 144.190 | 13.260 | 0.000000 |
| 145.190 | 13.240 | 0.000000 |
| 146.190 | 13.230 | 0.000000 |
| 147.190 | 13.230 | 0.000000 |
| 148.180 | 13.240 | 0.000000 |
| 149.180 | 13.240 | 0.000000 |
| 150.180 | 13.220 | 0.000000 |
| 151.180 | 13.220 | 0.000000 |
| 152.180 | 13.220 | 0.000000 |
| 153.180 | 13.220 | 0.000000 |
| 154.180 | 13.230 | 0.000000 |
| 155.180 | 13.240 | 0.000000 |
| 156.180 | 13.250 | 0.000000 |
| 157.180 | 13.240 | 0.000000 |
| 158.180 | 13.230 | 0.000000 |
| 159.170 | 13.250 | 0.000000 |
| 160.170 | 13.270 | 0.000000 |
| 161.170 | 13.280 | 0.000000 |
| 162.170 | 13.260 | 0.000000 |
| 163.170 | 13.270 | 0.000000 |
| 164.170 | 13.280 | 0.000000 |
| 165.170 | 13.300 | 0.000000 |
| 166.170 | 13.310 | 0.000000 |
| 167.170 | 13.310 | 0.000000 |
| 168.170 | 13.300 | 0.000000 |
| 169.170 | 13.290 | 0.000000 |
| 170.170 | 13.300 | 0.000000 |
| 171.170 | 13.310 | 0.000000 |
| 172.170 | 13.300 | 0.000000 |
| 173.170 | 13.310 | 0.000000 |
| 174.170 | 13.300 | 0.000000 |
| 175.170 | 13.300 | 0.000000 |
| 176.170 | 13.300 | 0.000000 |
| 177.170 | 13.300 | 0.000000 |
| 178.170 | 13.320 | 0.000000 |
| 179.170 | 13.290 | 0.000000 |
| 180.170 | 13.280 | 0.000000 |
| 181.170 | 13.300 | 0.000000 |
| 182.170 | 13.300 | 0.000000 |
| 183.170 | 13.300 | 0.000000 |
| 184.170 | 13.300 | 0.000000 |
| 185.170 | 13.310 | 0.000000 |
| 186.170 | 13.290 | 0.000000 |
| 187.170 | 13.280 | 0.000000 |
| 188.170 | 13.250 | 0.000000 |
| 189.170 | 13.250 | 0.000000 |
| 190.170 | 13.280 | 0.000000 |
| 191.170 | 13.310 | 0.000000 |
| 192.170 | 13.320 | 0.000000 |
| 193.170 | 13.290 | 0.000000 |
| 194.170 | 13.290 | 0.000000 |
| 195.170 | 13.280 | 0.000000 |
| 196.170 | 13.270 | 0.000000 |
| 197.170 | 13.260 | 0.000000 |
| 198.170 | 13.250 | 0.000000 |
| 199.170 | 13.250 | 0.000000 |
| 200.170 | 13.240 | 0.000000 |
| 201.170 | 13.270 | 0.000000 |
| 202.160 | 13.290 | 0.000000 |
| 203.160 | 13.300 | 0.000000 |
| 204.160 | 13.290 | 0.000000 |
| 205.160 | 13.290 | 0.000000 |
| 206.160 | 13.290 | 0.000000 |
| 207.160 | 13.280 | 0.000000 |
| 208.160 | 13.270 | 0.000000 |
| 209.160 | 13.260 | 0.000000 |
| 210.160 | 13.260 | 0.000000 |
| 211.160 | 13.260 | 0.000000 |
| 212.160 | 13.240 | 0.000000 |
| 213.160 | 13.230 | 0.000000 |
| 214.160 | 13.230 | 0.000000 |
| 215.160 | 13.230 | 0.000000 |
| 216.160 | 13.240 | 0.000000 |
| 217.160 | 13.230 | 0.000000 |
| 218.160 | 13.230 | 0.000000 |
| 219.160 | 13.240 | 0.000000 |
| 220.160 | 13.250 | 0.000000 |
| 221.160 | 13.270 | 0.000000 |
| 222.160 | 13.340 | 0.000000 |
| 223.160 | 13.420 | 0.000000 |
| 224.160 | 13.390 | 0.000000 |
| 225.160 | 13.350 | 0.000000 |
| 226.160 | 13.370 | 0.000000 |
| 227.160 | 13.350 | 0.000000 |
| 228.160 | 13.370 | 0.000000 |
| 229.160 | 13.340 | 0.000000 |
| 230.160 | 13.320 | 0.000000 |

| | | |
|---|---|---|
| 231.160 | 13.290 | 0.000000 |
| 232.160 | 13.290 | 0.000000 |
| 233.160 | 13.270 | 0.000000 |
| 234.160 | 13.240 | 0.000000 |
| 235.160 | 13.230 | 0.000000 |
| 236.160 | 13.240 | 0.000000 |
| 237.160 | 13.250 | 0.000000 |
| 238.160 | 13.250 | 0.000000 |
| 239.160 | 13.260 | 0.000000 |
| 240.160 | 13.260 | 0.000000 |
| 241.160 | 13.270 | 0.000000 |
| 242.160 | 13.290 | 0.000000 |
| 243.160 | 13.300 | 0.000000 |
| 244.160 | 13.280 | 0.000000 |
| 245.160 | 13.260 | 0.000000 |
| 246.160 | 13.250 | 0.000000 |
| 247.160 | 13.250 | 0.000000 |
| 248.160 | 13.310 | 0.000000 |
| 249.160 | 13.290 | 0.000000 |
| 250.160 | 13.270 | 0.000000 |
| 251.160 | 13.320 | 0.000000 |
| 252.160 | 13.380 | 0.000000 |
| 253.160 | 13.380 | 0.000000 |
| 254.160 | 13.400 | 0.000000 |
| 255.160 | 13.440 | 0.000000 |
| 256.160 | 13.440 | 0.000000 |
| 257.160 | 13.360 | 0.000000 |
| 258.150 | 13.310 | 0.000000 |
| 259.150 | 13.300 | 0.000000 |
| 260.150 | 13.280 | 0.000000 |
| 261.150 | 13.280 | 0.000000 |
| 262.150 | 13.270 | 0.000000 |
| 263.150 | 13.290 | 0.000000 |
| 264.150 | 13.300 | 0.000000 |
| 265.150 | 13.300 | 0.000000 |
| 266.150 | 13.300 | 0.000000 |
| 267.150 | 13.300 | 0.000000 |
| 268.150 | 13.300 | 0.000000 |
| 269.150 | 13.300 | 0.000000 |
| 270.150 | 13.310 | 0.000000 |
| 271.150 | 13.310 | 0.000000 |
| 272.150 | 13.320 | 0.000000 |
| 273.150 | 13.340 | 0.000000 |
| 274.150 | 13.340 | 0.000000 |
| 275.150 | 13.340 | 0.000000 |
| 276.150 | 13.340 | 0.000000 |
| 277.150 | 13.310 | 0.000000 |
| 278.150 | 13.280 | 0.000000 |
| 279.150 | 13.300 | 0.000000 |
| 280.150 | 13.360 | 0.000000 |
| 281.150 | 13.490 | 0.000000 |
| 282.150 | 13.620 | 0.000000 |
| 283.150 | 13.780 | 0.000000 |
| 284.150 | 13.910 | 0.000000 |
| 285.150 | 14.010 | 0.000000 |
| 286.150 | 13.930 | 0.000000 |
| 287.150 | 13.700 | 0.000000 |
| 288.150 | 13.860 | 0.000000 |
| 289.150 | 13.850 | 0.000000 |
| 290.150 | 13.810 | 0.000000 |
| 291.150 | 13.790 | 0.000000 |
| 292.150 | 13.810 | 0.000000 |
| 293.150 | 13.790 | 0.000000 |
| 294.150 | 13.830 | 0.000000 |
| 295.150 | 13.880 | 0.000000 |
| 296.150 | 13.860 | 0.000000 |
| 297.150 | 13.770 | 0.000000 |
| 298.150 | 13.720 | 0.000000 |
| 299.150 | 13.680 | 0.000000 |
| 300.150 | 13.670 | 0.000000 |
| 301.150 | 13.730 | 0.000000 |
| 302.150 | 13.770 | 0.000000 |
| 303.150 | 13.700 | 0.000000 |
| 304.130 | 13.780 | 0.000000 |
| 305.120 | 13.880 | 0.000000 |
| 306.110 | 13.890 | 0.000000 |
| 307.100 | 13.810 | 0.000000 |
| 308.090 | 13.710 | 0.000000 |
| 309.070 | 13.680 | 0.000000 |
| 310.060 | 13.640 | 0.000000 |
| 311.050 | 13.530 | 0.000000 |
| 312.040 | 13.540 | 0.000000 |
| 313.020 | 13.600 | 0.000000 |
| 314.010 | 13.600 | 0.000000 |
| 315.000 | 13.590 | 0.000000 |
| 315.990 | 13.620 | 0.000000 |
| 316.970 | 13.670 | 0.000000 |
| 317.960 | 13.710 | 0.000000 |
| 318.950 | 13.660 | 0.000000 |

| | | |
|---|---|---|
| 319.940 | 13.670 | 0.000000 |
| 320.920 | 13.640 | 0.000000 |
| 321.910 | 13.630 | 0.000000 |
| 322.900 | 13.640 | 0.000000 |
| 323.890 | 13.540 | 0.000000 |
| 324.880 | 13.510 | 0.000000 |
| 325.860 | 13.500 | 0.000000 |
| 326.850 | 13.490 | 0.000000 |
| 327.840 | 13.480 | 0.000000 |
| 328.830 | 13.410 | 0.000000 |
| 329.810 | 13.410 | 0.000000 |
| 330.800 | 13.410 | 0.000000 |
| 331.790 | 13.390 | 0.000000 |
| 332.780 | 13.380 | 0.000000 |
| 333.760 | 13.400 | 0.000000 |
| 334.750 | 13.410 | 0.000000 |
| 335.740 | 13.420 | 0.000000 |
| 336.730 | 13.450 | 0.000000 |
| 337.710 | 13.490 | 0.000000 |
| 338.700 | 13.570 | 0.000000 |
| 339.690 | 13.620 | 0.000000 |
| 340.680 | 13.530 | 0.000000 |
| 341.670 | 13.440 | 0.000000 |
| 342.650 | 13.420 | 0.000000 |
| 343.640 | 13.430 | 0.000000 |
| 344.630 | 13.470 | 0.000000 |
| 345.620 | 13.490 | 0.000000 |
| 346.600 | 13.500 | 0.000000 |
| 347.590 | 13.510 | 0.000000 |
| 348.580 | 13.520 | 0.000000 |
| 349.570 | 13.510 | 0.000000 |
| 350.550 | 13.510 | 0.000000 |
| 351.540 | 13.520 | 0.000000 |
| 352.530 | 13.510 | 0.000000 |
| 353.520 | 13.520 | 0.000000 |
| 354.500 | 13.570 | 0.000000 |
| 355.490 | 13.630 | 0.000000 |
| 356.480 | 13.580 | 0.000000 |
| 357.470 | 13.530 | 0.000000 |
| 358.460 | 13.520 | 0.000000 |
| 359.440 | 13.510 | 0.000000 |
| 360.430 | 13.500 | 0.000000 |
| 361.420 | 13.540 | 0.000000 |
| 362.410 | 13.560 | 0.000000 |
| 363.390 | 13.550 | 0.000000 |
| 364.380 | 13.540 | 0.000000 |
| 365.370 | 13.540 | 0.000000 |
| 366.360 | 13.540 | 0.000000 |
| 367.340 | 13.560 | 0.000000 |
| 368.330 | 13.570 | 0.000000 |
| 369.320 | 13.570 | 0.000000 |
| 370.310 | 13.570 | 0.000000 |
| 371.290 | 13.590 | 0.000000 |
| 372.280 | 13.630 | 0.000000 |
| 373.270 | 13.640 | 0.000000 |
| 374.260 | 13.630 | 0.000000 |
| 375.250 | 13.610 | 0.000000 |
| 376.230 | 13.620 | 0.000000 |
| 377.220 | 13.660 | 0.000000 |
| 378.210 | 13.670 | 0.000000 |
| 379.200 | 13.630 | 0.000000 |
| 380.190 | 13.580 | 0.000000 |
| 381.180 | 13.570 | 0.000000 |
| 382.180 | 13.570 | 0.000000 |
| 383.170 | 13.560 | 0.000000 |
| 384.160 | 13.580 | 0.000000 |
| 385.150 | 13.580 | 0.000000 |
| 386.150 | 13.550 | 0.000000 |
| 387.140 | 13.490 | 0.000000 |
| 388.130 | 13.430 | 0.000000 |
| 389.130 | 13.420 | 0.000000 |
| 390.120 | 13.400 | 0.000000 |
| 391.110 | 13.380 | 0.000000 |
| 392.110 | 13.380 | 0.000000 |
| 393.100 | 13.350 | 0.000000 |
| 394.090 | 13.380 | 0.000000 |
| 395.090 | 13.390 | 0.000000 |
| 396.080 | 13.370 | 0.000000 |
| 397.070 | 13.370 | 0.000000 |
| 398.070 | 13.400 | 0.000000 |
| 399.060 | 13.440 | 0.000000 |
| 400.050 | 13.500 | 0.000000 |
| 401.040 | 13.540 | 0.000000 |
| 402.040 | 13.510 | 0.000000 |
| 403.030 | 13.430 | 0.000000 |
| 404.020 | 13.370 | 0.000000 |
| 405.020 | 13.330 | 0.000000 |
| 406.010 | 13.310 | 0.000000 |
| 407.000 | 13.300 | 0.000000 |

| | | |
|---|---|---|
| 408.000 | 13.320 | 0.000000 |
| 408.990 | 13.350 | 0.000000 |
| 409.980 | 13.390 | 0.000000 |
| 410.980 | 13.410 | 0.000000 |
| 411.970 | 13.420 | 0.000000 |
| 412.960 | 13.430 | 0.000000 |
| 413.960 | 13.450 | 0.000000 |
| 414.950 | 13.510 | 0.000000 |
| 415.940 | 13.540 | 0.000000 |
| 416.930 | 13.560 | 0.000000 |
| 417.930 | 13.560 | 0.000000 |
| 418.920 | 13.570 | 0.000000 |
| 419.910 | 13.600 | 0.000000 |
| 420.910 | 13.610 | 0.000000 |
| 421.900 | 13.570 | 0.000000 |
| 422.890 | 13.570 | 0.000000 |
| 423.890 | 13.550 | 0.000000 |
| 424.880 | 13.560 | 0.000000 |
| 425.870 | 13.580 | 0.000000 |
| 426.870 | 13.580 | 0.000000 |
| 427.860 | 13.580 | 0.000000 |
| 428.850 | 13.580 | 0.000000 |
| 429.850 | 13.550 | 0.000000 |
| 430.840 | 13.540 | 0.000000 |
| 431.830 | 13.580 | 0.000000 |
| 432.820 | 13.620 | 0.000000 |
| 433.820 | 13.640 | 0.000000 |
| 434.810 | 13.660 | 0.000000 |
| 435.800 | 13.680 | 0.000000 |

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Name: X043W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.190 | 0.000000 |
| 0.980 | 14.180 | 0.000000 |
| 1.970 | 14.190 | 0.000000 |
| 2.950 | 14.160 | 0.000000 |
| 3.940 | 14.130 | 0.000000 |
| 4.920 | 14.110 | 0.000000 |
| 5.900 | 14.100 | 0.000000 |
| 6.890 | 14.100 | 0.000000 |
| 7.870 | 14.090 | 0.000000 |
| 8.860 | 14.060 | 0.000000 |
| 9.840 | 14.040 | 0.000000 |
| 10.830 | 14.020 | 0.000000 |
| 11.810 | 14.000 | 0.000000 |
| 12.790 | 14.000 | 0.000000 |
| 13.780 | 14.000 | 0.000000 |
| 14.760 | 14.000 | 0.000000 |
| 15.750 | 13.990 | 0.000000 |
| 16.730 | 13.980 | 0.000000 |
| 17.710 | 13.990 | 0.000000 |
| 18.700 | 13.970 | 0.000000 |
| 19.680 | 13.950 | 0.000000 |
| 20.670 | 13.960 | 0.000000 |
| 21.650 | 13.970 | 0.000000 |
| 22.630 | 13.970 | 0.000000 |
| 23.620 | 13.960 | 0.000000 |
| 24.600 | 13.940 | 0.000000 |
| 25.590 | 13.920 | 0.000000 |
| 26.570 | 13.940 | 0.000000 |
| 27.550 | 13.940 | 0.000000 |
| 28.540 | 13.940 | 0.000000 |
| 29.520 | 13.960 | 0.000000 |
| 30.510 | 13.960 | 0.000000 |
| 31.490 | 13.960 | 0.000000 |
| 32.480 | 13.940 | 0.000000 |
| 33.460 | 13.910 | 0.000000 |
| 34.440 | 13.910 | 0.000000 |
| 35.430 | 13.910 | 0.000000 |
| 36.410 | 13.890 | 0.000000 |
| 37.400 | 13.880 | 0.000000 |
| 38.380 | 13.870 | 0.000000 |
| 39.360 | 13.850 | 0.000000 |
| 40.350 | 13.860 | 0.000000 |
| 41.330 | 13.880 | 0.000000 |
| 42.320 | 13.870 | 0.000000 |
| 43.300 | 13.860 | 0.000000 |
| 44.280 | 13.850 | 0.000000 |
| 45.270 | 13.830 | 0.000000 |
| 46.250 | 13.820 | 0.000000 |
| 47.240 | 13.830 | 0.000000 |
| 48.220 | 13.830 | 0.000000 |
| 49.210 | 13.840 | 0.000000 |

| | | |
|---|---|---|
| 50.190 | 13.870 | 0.000000 |
| 51.170 | 13.880 | 0.000000 |
| 52.160 | 13.900 | 0.000000 |
| 53.150 | 13.910 | 0.000000 |
| 54.140 | 13.910 | 0.000000 |
| 55.140 | 13.950 | 0.000000 |
| 56.130 | 14.000 | 0.000000 |
| 57.120 | 13.970 | 0.000000 |
| 58.110 | 13.920 | 0.000000 |
| 59.110 | 13.880 | 0.000000 |
| 60.100 | 13.860 | 0.000000 |
| 61.090 | 13.820 | 0.000000 |
| 62.090 | 13.800 | 0.000000 |
| 63.080 | 13.800 | 0.000000 |
| 64.070 | 13.790 | 0.000000 |
| 65.060 | 13.800 | 0.000000 |
| 66.060 | 13.800 | 0.000000 |
| 67.050 | 13.790 | 0.000000 |
| 68.040 | 13.780 | 0.000000 |
| 69.040 | 13.790 | 0.000000 |
| 70.030 | 13.790 | 0.000000 |
| 71.020 | 13.780 | 0.000000 |
| 72.010 | 13.760 | 0.000000 |
| 73.010 | 13.750 | 0.000000 |
| 74.000 | 13.750 | 0.000000 |
| 74.990 | 13.770 | 0.000000 |
| 75.990 | 13.780 | 0.000000 |
| 76.980 | 13.800 | 0.000000 |
| 77.970 | 13.770 | 0.000000 |
| 78.970 | 13.750 | 0.000000 |
| 79.960 | 13.750 | 0.000000 |
| 80.950 | 13.750 | 0.000000 |
| 81.940 | 13.740 | 0.000000 |
| 82.940 | 13.730 | 0.000000 |
| 83.930 | 13.710 | 0.000000 |
| 84.920 | 13.690 | 0.000000 |
| 85.920 | 13.690 | 0.000000 |
| 86.910 | 13.700 | 0.000000 |
| 87.900 | 13.700 | 0.000000 |
| 88.890 | 13.700 | 0.000000 |
| 89.890 | 13.720 | 0.000000 |
| 90.880 | 13.750 | 0.000000 |
| 91.870 | 13.760 | 0.000000 |
| 92.870 | 13.770 | 0.000000 |
| 93.860 | 13.800 | 0.000000 |
| 94.850 | 13.830 | 0.000000 |
| 95.840 | 13.830 | 0.000000 |
| 96.840 | 13.810 | 0.000000 |
| 97.830 | 13.800 | 0.000000 |
| 98.820 | 13.760 | 0.000000 |
| 99.820 | 13.760 | 0.000000 |
| 100.810 | 13.750 | 0.000000 |
| 101.800 | 13.740 | 0.000000 |
| 102.790 | 13.750 | 0.000000 |
| 103.790 | 13.770 | 0.000000 |
| 104.780 | 13.820 | 0.000000 |
| 105.770 | 13.850 | 0.000000 |
| 106.760 | 13.810 | 0.000000 |
| 107.750 | 13.750 | 0.000000 |
| 108.730 | 13.720 | 0.000000 |
| 109.720 | 13.750 | 0.000000 |
| 110.710 | 13.810 | 0.000000 |
| 111.700 | 13.820 | 0.000000 |
| 112.680 | 13.770 | 0.000000 |
| 113.670 | 13.710 | 0.000000 |
| 114.660 | 13.680 | 0.000000 |
| 115.650 | 13.660 | 0.000000 |
| 116.630 | 13.660 | 0.000000 |
| 117.620 | 13.670 | 0.000000 |
| 118.610 | 13.650 | 0.000000 |
| 119.590 | 13.640 | 0.000000 |
| 120.580 | 13.650 | 0.000000 |
| 121.570 | 13.720 | 0.000000 |
| 122.560 | 13.800 | 0.000000 |
| 123.540 | 13.790 | 0.000000 |
| 124.530 | 13.770 | 0.000000 |
| 125.520 | 13.770 | 0.000000 |
| 126.510 | 13.750 | 0.000000 |
| 127.490 | 13.730 | 0.000000 |
| 128.480 | 13.750 | 0.000000 |
| 129.470 | 13.770 | 0.000000 |
| 130.450 | 13.750 | 0.000000 |
| 131.440 | 13.730 | 0.000000 |
| 132.430 | 13.700 | 0.000000 |
| 133.420 | 13.710 | 0.000000 |
| 134.400 | 13.720 | 0.000000 |
| 135.390 | 13.720 | 0.000000 |
| 136.380 | 13.740 | 0.000000 |
| 137.370 | 13.780 | 0.000000 |

| | | |
|---|---|---|
| 138.350 | 13.830 | 0.000000 |
| 139.340 | 13.870 | 0.000000 |
| 140.330 | 13.850 | 0.000000 |
| 141.310 | 13.790 | 0.000000 |
| 142.300 | 13.760 | 0.000000 |
| 143.290 | 13.730 | 0.000000 |
| 144.280 | 13.680 | 0.000000 |
| 145.260 | 13.650 | 0.000000 |
| 146.250 | 13.630 | 0.000000 |
| 147.240 | 13.620 | 0.000000 |
| 148.230 | 13.630 | 0.000000 |
| 149.210 | 13.620 | 0.000000 |
| 150.200 | 13.610 | 0.000000 |
| 151.190 | 13.630 | 0.000000 |
| 152.170 | 13.630 | 0.000000 |
| 153.160 | 13.630 | 0.000000 |
| 154.150 | 13.650 | 0.000000 |
| 155.140 | 13.670 | 0.000000 |
| 156.120 | 13.680 | 0.000000 |
| 157.110 | 13.690 | 0.000000 |
| 158.100 | 13.690 | 0.000000 |
| 159.090 | 13.710 | 0.000000 |
| 160.070 | 13.730 | 0.000000 |
| 161.060 | 13.740 | 0.000000 |
| 162.050 | 13.760 | 0.000000 |
| 163.030 | 13.780 | 0.000000 |
| 164.020 | 13.830 | 0.000000 |
| 165.010 | 13.850 | 0.000000 |
| 166.000 | 13.840 | 0.000000 |
| 166.980 | 13.800 | 0.000000 |
| 167.970 | 13.780 | 0.000000 |
| 168.960 | 13.770 | 0.000000 |
| 169.950 | 13.760 | 0.000000 |
| 170.930 | 13.770 | 0.000000 |
| 171.920 | 13.790 | 0.000000 |
| 172.910 | 13.820 | 0.000000 |
| 173.890 | 13.840 | 0.000000 |
| 174.880 | 13.850 | 0.000000 |
| 175.880 | 13.830 | 0.000000 |
| 176.870 | 13.790 | 0.000000 |
| 177.860 | 13.740 | 0.000000 |
| 178.850 | 13.720 | 0.000000 |
| 179.840 | 13.710 | 0.000000 |
| 180.830 | 13.690 | 0.000000 |
| 181.820 | 13.670 | 0.000000 |
| 182.810 | 13.660 | 0.000000 |
| 183.800 | 13.670 | 0.000000 |
| 184.790 | 13.670 | 0.000000 |
| 185.780 | 13.670 | 0.000000 |
| 186.770 | 13.670 | 0.000000 |
| 187.760 | 13.670 | 0.000000 |
| 188.750 | 13.680 | 0.000000 |
| 189.750 | 13.680 | 0.000000 |
| 190.740 | 13.670 | 0.000000 |
| 191.730 | 13.670 | 0.000000 |
| 192.720 | 13.670 | 0.000000 |
| 193.710 | 13.660 | 0.000000 |
| 194.700 | 13.670 | 0.000000 |
| 195.690 | 13.670 | 0.000000 |
| 196.680 | 13.660 | 0.000000 |
| 197.670 | 13.650 | 0.000000 |
| 198.660 | 13.650 | 0.000000 |
| 199.650 | 13.660 | 0.000000 |
| 200.640 | 13.660 | 0.000000 |
| 201.630 | 13.670 | 0.000000 |
| 202.620 | 13.680 | 0.000000 |
| 203.610 | 13.670 | 0.000000 |
| 204.610 | 13.670 | 0.000000 |
| 205.600 | 13.660 | 0.000000 |
| 206.590 | 13.680 | 0.000000 |
| 207.580 | 13.700 | 0.000000 |
| 208.570 | 13.720 | 0.000000 |
| 209.560 | 13.730 | 0.000000 |
| 210.550 | 13.750 | 0.000000 |
| 211.540 | 13.790 | 0.000000 |
| 212.530 | 13.800 | 0.000000 |
| 213.520 | 13.780 | 0.000000 |
| 214.510 | 13.750 | 0.000000 |
| 215.500 | 13.730 | 0.000000 |
| 216.490 | 13.730 | 0.000000 |
| 217.480 | 13.730 | 0.000000 |
| 218.480 | 13.720 | 0.000000 |
| 219.470 | 13.690 | 0.000000 |
| 220.460 | 13.680 | 0.000000 |
| 221.450 | 13.660 | 0.000000 |
| 222.440 | 13.650 | 0.000000 |
| 223.430 | 13.630 | 0.000000 |
| 224.420 | 13.620 | 0.000000 |
| 225.410 | 13.640 | 0.000000 |

| | | |
|---|---|---|
| 226.400 | 13.680 | 0.000000 |
| 227.390 | 13.680 | 0.000000 |
| 228.380 | 13.660 | 0.000000 |
| 229.370 | 13.670 | 0.000000 |
| 230.360 | 13.680 | 0.000000 |
| 231.350 | 13.690 | 0.000000 |
| 232.340 | 13.710 | 0.000000 |
| 233.340 | 13.710 | 0.000000 |
| 234.330 | 13.720 | 0.000000 |
| 235.320 | 13.710 | 0.000000 |
| 236.310 | 13.700 | 0.000000 |
| 237.300 | 13.690 | 0.000000 |
| 238.290 | 13.720 | 0.000000 |
| 239.280 | 13.740 | 0.000000 |
| 240.270 | 13.730 | 0.000000 |
| 241.260 | 13.710 | 0.000000 |
| 242.250 | 13.700 | 0.000000 |
| 243.240 | 13.690 | 0.000000 |
| 244.230 | 13.720 | 0.000000 |
| 245.220 | 13.740 | 0.000000 |
| 246.210 | 13.740 | 0.000000 |
| 247.210 | 13.720 | 0.000000 |
| 248.200 | 13.710 | 0.000000 |
| 249.180 | 13.740 | 0.000000 |
| 250.160 | 13.750 | 0.000000 |
| 251.140 | 13.750 | 0.000000 |
| 252.120 | 13.750 | 0.000000 |
| 253.100 | 13.760 | 0.000000 |
| 254.090 | 13.760 | 0.000000 |
| 255.070 | 13.760 | 0.000000 |
| 256.050 | 13.770 | 0.000000 |
| 257.030 | 13.810 | 0.000000 |
| 258.010 | 13.830 | 0.000000 |
| 259.000 | 13.840 | 0.000000 |
| 259.980 | 13.860 | 0.000000 |
| 260.960 | 13.860 | 0.000000 |
| 261.940 | 13.840 | 0.000000 |
| 262.920 | 13.810 | 0.000000 |
| 263.900 | 13.810 | 0.000000 |
| 264.890 | 13.820 | 0.000000 |
| 265.870 | 13.840 | 0.000000 |
| 266.850 | 13.860 | 0.000000 |
| 267.830 | 13.900 | 0.000000 |
| 268.810 | 13.910 | 0.000000 |
| 269.790 | 13.910 | 0.000000 |
| 270.780 | 13.910 | 0.000000 |
| 271.760 | 13.890 | 0.000000 |
| 272.740 | 13.880 | 0.000000 |
| 273.720 | 13.890 | 0.000000 |
| 274.700 | 13.900 | 0.000000 |
| 275.680 | 13.910 | 0.000000 |
| 276.670 | 13.920 | 0.000000 |
| 277.650 | 13.920 | 0.000000 |
| 278.630 | 13.940 | 0.000000 |
| 279.610 | 13.950 | 0.000000 |
| 280.590 | 13.960 | 0.000000 |
| 281.570 | 13.970 | 0.000000 |
| 282.560 | 13.950 | 0.000000 |
| 283.540 | 13.920 | 0.000000 |
| 284.520 | 13.920 | 0.000000 |
| 285.500 | 13.930 | 0.000000 |
| 286.480 | 13.930 | 0.000000 |
| 287.470 | 13.940 | 0.000000 |
| 288.450 | 13.950 | 0.000000 |
| 289.430 | 13.970 | 0.000000 |
| 290.410 | 13.980 | 0.000000 |
| 291.390 | 13.990 | 0.000000 |
| 292.390 | 13.990 | 0.000000 |
| 293.390 | 13.990 | 0.000000 |
| 294.380 | 14.000 | 0.000000 |
| 295.380 | 14.000 | 0.000000 |
| 296.380 | 14.000 | 0.000000 |
| 297.370 | 14.010 | 0.000000 |
| 298.370 | 14.010 | 0.000000 |
| 299.370 | 14.010 | 0.000000 |
| 300.360 | 14.010 | 0.000000 |
| 301.360 | 13.990 | 0.000000 |
| 302.360 | 13.970 | 0.000000 |
| 303.350 | 13.970 | 0.000000 |
| 304.350 | 13.990 | 0.000000 |
| 305.350 | 14.000 | 0.000000 |
| 306.340 | 13.980 | 0.000000 |
| 307.340 | 13.980 | 0.000000 |
| 308.340 | 13.990 | 0.000000 |
| 309.330 | 14.000 | 0.000000 |
| 310.330 | 13.980 | 0.000000 |
| 311.330 | 13.980 | 0.000000 |
| 312.320 | 13.990 | 0.000000 |
| 313.320 | 14.020 | 0.000000 |

| | | |
|---|---|---|
| 314.320 | 14.030 | 0.000000 |
| 315.320 | 14.010 | 0.000000 |
| 316.310 | 14.010 | 0.000000 |
| 317.310 | 14.010 | 0.000000 |
| 318.310 | 14.010 | 0.000000 |
| 319.300 | 14.000 | 0.000000 |
| 320.300 | 14.010 | 0.000000 |
| 321.300 | 14.060 | 0.000000 |
| 322.290 | 14.080 | 0.000000 |
| 323.290 | 14.080 | 0.000000 |
| 324.280 | 14.080 | 0.000000 |
| 325.270 | 14.070 | 0.000000 |
| 326.270 | 14.060 | 0.000000 |
| 327.260 | 14.050 | 0.000000 |
| 328.260 | 14.040 | 0.000000 |
| 329.250 | 14.050 | 0.000000 |
| 330.240 | 14.050 | 0.000000 |
| 331.240 | 14.040 | 0.000000 |
| 332.230 | 14.060 | 0.000000 |
| 333.220 | 14.090 | 0.000000 |
| 334.220 | 14.100 | 0.000000 |
| 335.210 | 14.080 | 0.000000 |
| 336.210 | 14.080 | 0.000000 |
| 337.200 | 14.090 | 0.000000 |
| 338.190 | 14.120 | 0.000000 |
| 339.190 | 14.170 | 0.000000 |
| 340.180 | 14.260 | 0.000000 |
| 341.180 | 14.310 | 0.000000 |
| 342.170 | 14.220 | 0.000000 |
| 343.160 | 14.090 | 0.000000 |
| 344.160 | 13.980 | 0.000000 |
| 345.150 | 13.930 | 0.000000 |
| 346.140 | 13.970 | 0.000000 |

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Name: X044W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.010 | 0.000000 |
| 0.990 | 14.010 | 0.000000 |
| 1.980 | 13.970 | 0.000000 |
| 2.970 | 13.940 | 0.000000 |
| 3.950 | 13.910 | 0.000000 |
| 4.940 | 13.900 | 0.000000 |
| 5.930 | 13.890 | 0.000000 |
| 6.920 | 13.870 | 0.000000 |
| 7.910 | 13.850 | 0.000000 |
| 8.900 | 13.830 | 0.000000 |
| 9.890 | 13.810 | 0.000000 |
| 10.870 | 13.800 | 0.000000 |
| 11.860 | 13.780 | 0.000000 |
| 12.850 | 13.770 | 0.000000 |
| 13.840 | 13.750 | 0.000000 |
| 14.830 | 13.730 | 0.000000 |
| 15.820 | 13.710 | 0.000000 |
| 16.810 | 13.690 | 0.000000 |
| 17.790 | 13.670 | 0.000000 |
| 18.780 | 13.660 | 0.000000 |
| 19.770 | 13.650 | 0.000000 |
| 20.760 | 13.640 | 0.000000 |
| 21.750 | 13.620 | 0.000000 |
| 22.740 | 13.600 | 0.000000 |
| 23.730 | 13.590 | 0.000000 |
| 24.710 | 13.590 | 0.000000 |
| 25.700 | 13.580 | 0.000000 |
| 26.690 | 13.570 | 0.000000 |
| 27.680 | 13.570 | 0.000000 |
| 28.670 | 13.570 | 0.000000 |
| 29.660 | 13.560 | 0.000000 |
| 30.650 | 13.540 | 0.000000 |
| 31.630 | 13.550 | 0.000000 |
| 32.620 | 13.560 | 0.000000 |
| 33.610 | 13.560 | 0.000000 |
| 34.600 | 13.560 | 0.000000 |
| 35.590 | 13.560 | 0.000000 |
| 36.580 | 13.550 | 0.000000 |
| 37.570 | 13.530 | 0.000000 |
| 38.560 | 13.520 | 0.000000 |
| 39.540 | 13.520 | 0.000000 |
| 40.520 | 13.520 | 0.000000 |
| 41.500 | 13.520 | 0.000000 |
| 42.480 | 13.510 | 0.000000 |
| 43.460 | 13.510 | 0.000000 |
| 44.440 | 13.510 | 0.000000 |
| 45.410 | 13.510 | 0.000000 |

| | | |
|---|---|---|
| 46.390 | 13.510 | 0.000000 |
| 47.370 | 13.520 | 0.000000 |
| 48.350 | 13.530 | 0.000000 |
| 49.330 | 13.540 | 0.000000 |
| 50.300 | 13.540 | 0.000000 |
| 51.280 | 13.560 | 0.000000 |
| 52.260 | 13.570 | 0.000000 |
| 53.240 | 13.560 | 0.000000 |
| 54.220 | 13.560 | 0.000000 |
| 55.200 | 13.570 | 0.000000 |
| 56.170 | 13.590 | 0.000000 |
| 57.150 | 13.600 | 0.000000 |
| 58.130 | 13.600 | 0.000000 |
| 59.110 | 13.600 | 0.000000 |
| 60.090 | 13.590 | 0.000000 |
| 61.070 | 13.590 | 0.000000 |
| 62.040 | 13.590 | 0.000000 |
| 63.020 | 13.590 | 0.000000 |
| 64.000 | 13.590 | 0.000000 |
| 64.980 | 13.590 | 0.000000 |
| 65.960 | 13.590 | 0.000000 |
| 66.940 | 13.580 | 0.000000 |
| 67.910 | 13.570 | 0.000000 |
| 68.890 | 13.570 | 0.000000 |
| 69.870 | 13.550 | 0.000000 |
| 70.850 | 13.530 | 0.000000 |
| 71.830 | 13.510 | 0.000000 |
| 72.810 | 13.500 | 0.000000 |
| 73.780 | 13.510 | 0.000000 |
| 74.760 | 13.500 | 0.000000 |
| 75.740 | 13.500 | 0.000000 |
| 76.720 | 13.500 | 0.000000 |
| 77.700 | 13.500 | 0.000000 |
| 78.680 | 13.500 | 0.000000 |
| 79.670 | 13.480 | 0.000000 |
| 80.660 | 13.460 | 0.000000 |
| 81.640 | 13.440 | 0.000000 |
| 82.630 | 13.430 | 0.000000 |
| 83.620 | 13.420 | 0.000000 |
| 84.600 | 13.410 | 0.000000 |
| 85.590 | 13.390 | 0.000000 |
| 86.580 | 13.370 | 0.000000 |
| 87.560 | 13.370 | 0.000000 |
| 88.550 | 13.360 | 0.000000 |
| 89.540 | 13.350 | 0.000000 |
| 90.520 | 13.340 | 0.000000 |
| 91.510 | 13.330 | 0.000000 |
| 92.500 | 13.330 | 0.000000 |
| 93.480 | 13.330 | 0.000000 |
| 94.470 | 13.330 | 0.000000 |
| 95.450 | 13.320 | 0.000000 |
| 96.440 | 13.310 | 0.000000 |
| 97.430 | 13.310 | 0.000000 |
| 98.410 | 13.310 | 0.000000 |
| 99.390 | 13.320 | 0.000000 |
| 100.370 | 13.330 | 0.000000 |
| 101.350 | 13.350 | 0.000000 |
| 102.330 | 13.350 | 0.000000 |
| 103.310 | 13.350 | 0.000000 |
| 104.290 | 13.350 | 0.000000 |
| 105.270 | 13.350 | 0.000000 |
| 106.250 | 13.350 | 0.000000 |
| 107.230 | 13.350 | 0.000000 |
| 108.210 | 13.330 | 0.000000 |
| 109.200 | 13.300 | 0.000000 |
| 110.180 | 13.270 | 0.000000 |
| 111.160 | 13.280 | 0.000000 |
| 112.140 | 13.290 | 0.000000 |
| 113.120 | 13.300 | 0.000000 |
| 114.100 | 13.330 | 0.000000 |
| 115.080 | 13.360 | 0.000000 |
| 116.060 | 13.390 | 0.000000 |
| 117.040 | 13.420 | 0.000000 |
| 118.020 | 13.440 | 0.000000 |
| 119.000 | 13.450 | 0.000000 |
| 119.980 | 13.440 | 0.000000 |
| 120.960 | 13.420 | 0.000000 |
| 121.940 | 13.420 | 0.000000 |
| 122.920 | 13.420 | 0.000000 |
| 123.900 | 13.420 | 0.000000 |
| 124.880 | 13.410 | 0.000000 |
| 125.860 | 13.410 | 0.000000 |
| 126.840 | 13.410 | 0.000000 |
| 127.820 | 13.410 | 0.000000 |
| 128.800 | 13.420 | 0.000000 |
| 129.780 | 13.430 | 0.000000 |
| 130.760 | 13.440 | 0.000000 |
| 131.740 | 13.450 | 0.000000 |
| 132.720 | 13.430 | 0.000000 |

| | | |
|---|---|---|
| 133.700 | 13.420 | 0.000000 |
| 134.680 | 13.440 | 0.000000 |
| 135.660 | 13.440 | 0.000000 |
| 136.640 | 13.430 | 0.000000 |
| 137.620 | 13.430 | 0.000000 |
| 138.600 | 13.420 | 0.000000 |
| 139.580 | 13.390 | 0.000000 |
| 140.560 | 13.370 | 0.000000 |
| 141.540 | 13.350 | 0.000000 |
| 142.520 | 13.330 | 0.000000 |
| 143.490 | 13.320 | 0.000000 |
| 144.450 | 13.320 | 0.000000 |
| 145.420 | 13.340 | 0.000000 |
| 146.390 | 13.340 | 0.000000 |
| 147.360 | 13.360 | 0.000000 |
| 148.330 | 13.350 | 0.000000 |
| 149.300 | 13.350 | 0.000000 |
| 150.270 | 13.360 | 0.000000 |
| 151.240 | 13.360 | 0.000000 |
| 152.200 | 13.340 | 0.000000 |
| 153.170 | 13.340 | 0.000000 |
| 154.140 | 13.350 | 0.000000 |
| 155.110 | 13.360 | 0.000000 |
| 156.080 | 13.380 | 0.000000 |
| 157.050 | 13.420 | 0.000000 |
| 158.020 | 13.440 | 0.000000 |
| 158.980 | 13.410 | 0.000000 |
| 159.950 | 13.390 | 0.000000 |
| 160.920 | 13.390 | 0.000000 |
| 161.890 | 13.410 | 0.000000 |
| 162.860 | 13.420 | 0.000000 |
| 163.830 | 13.440 | 0.000000 |
| 164.800 | 13.460 | 0.000000 |
| 165.770 | 13.480 | 0.000000 |
| 166.730 | 13.500 | 0.000000 |
| 167.700 | 13.540 | 0.000000 |
| 168.670 | 13.570 | 0.000000 |
| 169.640 | 13.590 | 0.000000 |
| 170.610 | 13.620 | 0.000000 |
| 171.580 | 13.660 | 0.000000 |
| 172.540 | 13.690 | 0.000000 |
| 173.510 | 13.730 | 0.000000 |
| 174.480 | 13.770 | 0.000000 |
| 175.450 | 13.820 | 0.000000 |
| 176.420 | 13.880 | 0.000000 |
| 177.390 | 13.930 | 0.000000 |
| 178.350 | 13.990 | 0.000000 |
| 179.320 | 14.060 | 0.000000 |
| 180.290 | 14.130 | 0.000000 |
| 181.260 | 14.220 | 0.000000 |
| 182.230 | 14.300 | 0.000000 |
| 183.190 | 14.390 | 0.000000 |
| 184.160 | 14.460 | 0.000000 |
| 185.130 | 14.540 | 0.000000 |
| 186.100 | 14.620 | 0.000000 |
| 187.070 | 14.710 | 0.000000 |
| 188.040 | 14.790 | 0.000000 |
| 189.000 | 14.890 | 0.000000 |
| 189.970 | 14.990 | 0.000000 |
| 190.940 | 15.100 | 0.000000 |

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Name: X045W Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 17.460 | 0.000000 |
| 0.950 | 17.360 | 0.000000 |
| 1.910 | 17.300 | 0.000000 |
| 2.860 | 17.250 | 0.000000 |
| 3.810 | 17.230 | 0.000000 |
| 4.760 | 17.230 | 0.000000 |
| 5.720 | 17.230 | 0.000000 |
| 6.670 | 17.190 | 0.000000 |
| 7.620 | 17.140 | 0.000000 |
| 8.570 | 17.100 | 0.000000 |
| 9.530 | 17.030 | 0.000000 |
| 10.480 | 16.980 | 0.000000 |
| 11.430 | 17.000 | 0.000000 |
| 12.380 | 17.040 | 0.000000 |
| 13.340 | 17.250 | 0.000000 |
| 14.290 | 17.640 | 0.000000 |
| 15.240 | 17.900 | 0.000000 |
| 16.190 | 17.940 | 0.000000 |
| 17.150 | 17.810 | 0.000000 |
| 18.100 | 17.750 | 0.000000 |

| | | |
|---|---|---|
| 19.050 | 17.890 | 0.000000 |
| 20.030 | 17.990 | 0.000000 |
| 21.010 | 17.990 | 0.000000 |
| 21.990 | 17.670 | 0.000000 |
| 22.970 | 17.010 | 0.000000 |
| 23.950 | 16.400 | 0.000000 |
| 24.930 | 16.110 | 0.000000 |
| 25.910 | 16.020 | 0.000000 |
| 26.890 | 16.030 | 0.000000 |
| 27.870 | 15.960 | 0.000000 |
| 28.840 | 15.900 | 0.000000 |
| 29.820 | 15.890 | 0.000000 |
| 30.800 | 15.860 | 0.000000 |
| 31.780 | 15.760 | 0.000000 |
| 32.760 | 15.770 | 0.000000 |
| 33.740 | 15.830 | 0.000000 |
| 34.670 | 15.900 | 0.000000 |
| 35.600 | 15.950 | 0.000000 |
| 36.530 | 15.900 | 0.000000 |
| 37.460 | 15.870 | 0.000000 |
| 38.390 | 15.820 | 0.000000 |
| 39.320 | 15.690 | 0.000000 |
| 40.250 | 15.690 | 0.000000 |
| 41.180 | 15.660 | 0.000000 |
| 42.110 | 15.660 | 0.000000 |
| 43.050 | 15.720 | 0.000000 |
| 43.980 | 15.780 | 0.000000 |
| 44.910 | 15.860 | 0.000000 |
| 45.840 | 15.890 | 0.000000 |
| 46.770 | 15.960 | 0.000000 |
| 47.710 | 16.080 | 0.000000 |
| 48.640 | 16.230 | 0.000000 |
| 49.570 | 16.410 | 0.000000 |
| 50.510 | 16.530 | 0.000000 |
| 51.440 | 16.570 | 0.000000 |
| 52.380 | 16.600 | 0.000000 |
| 53.310 | 16.570 | 0.000000 |
| 54.250 | 16.540 | 0.000000 |
| 55.180 | 16.450 | 0.000000 |
| 56.120 | 16.260 | 0.000000 |
| 57.050 | 16.080 | 0.000000 |
| 57.980 | 15.810 | 0.000000 |
| 58.920 | 15.620 | 0.000000 |
| 59.850 | 15.550 | 0.000000 |
| 60.850 | 15.570 | 0.000000 |
| 61.840 | 15.520 | 0.000000 |
| 62.830 | 15.430 | 0.000000 |
| 63.830 | 15.420 | 0.000000 |
| 64.820 | 15.440 | 0.000000 |
| 65.810 | 15.490 | 0.000000 |
| 66.810 | 15.550 | 0.000000 |
| 67.800 | 15.520 | 0.000000 |
| 68.790 | 15.450 | 0.000000 |
| 69.790 | 15.450 | 0.000000 |
| 70.780 | 15.430 | 0.000000 |
| 71.770 | 15.410 | 0.000000 |
| 72.770 | 15.370 | 0.000000 |
| 73.760 | 15.320 | 0.000000 |
| 74.750 | 15.270 | 0.000000 |
| 75.740 | 15.220 | 0.000000 |
| 76.740 | 15.230 | 0.000000 |
| 77.730 | 15.270 | 0.000000 |
| 78.720 | 15.260 | 0.000000 |
| 79.720 | 15.210 | 0.000000 |
| 80.710 | 15.170 | 0.000000 |
| 81.700 | 15.190 | 0.000000 |
| 82.700 | 15.190 | 0.000000 |
| 83.690 | 15.180 | 0.000000 |
| 84.680 | 15.150 | 0.000000 |
| 85.680 | 15.140 | 0.000000 |
| 86.670 | 15.140 | 0.000000 |
| 87.660 | 15.130 | 0.000000 |
| 88.660 | 15.110 | 0.000000 |
| 89.650 | 15.130 | 0.000000 |
| 90.640 | 15.210 | 0.000000 |
| 91.640 | 15.250 | 0.000000 |
| 92.630 | 15.300 | 0.000000 |
| 93.620 | 15.430 | 0.000000 |
| 94.590 | 15.480 | 0.000000 |
| 95.560 | 15.430 | 0.000000 |
| 96.540 | 15.340 | 0.000000 |
| 97.510 | 15.240 | 0.000000 |
| 98.480 | 15.210 | 0.000000 |
| 99.450 | 15.250 | 0.000000 |
| 100.420 | 15.280 | 0.000000 |
| 101.390 | 15.250 | 0.000000 |
| 102.360 | 15.220 | 0.000000 |
| 103.340 | 15.170 | 0.000000 |
| 104.310 | 15.100 | 0.000000 |

| | | |
|---|---|---|
| 105.280 | 15.080 | 0.000000 |
| 106.250 | 15.090 | 0.000000 |
| 107.220 | 15.120 | 0.000000 |
| 108.190 | 15.140 | 0.000000 |
| 109.160 | 15.150 | 0.000000 |
| 110.130 | 15.130 | 0.000000 |
| 111.110 | 15.150 | 0.000000 |
| 112.080 | 15.170 | 0.000000 |
| 113.050 | 15.180 | 0.000000 |
| 114.020 | 15.200 | 0.000000 |
| 114.990 | 15.240 | 0.000000 |
| 115.960 | 15.280 | 0.000000 |
| 116.930 | 15.310 | 0.000000 |
| 117.900 | 15.290 | 0.000000 |
| 118.880 | 15.250 | 0.000000 |
| 119.850 | 15.230 | 0.000000 |
| 120.820 | 15.240 | 0.000000 |
| 121.790 | 15.240 | 0.000000 |
| 122.790 | 15.230 | 0.000000 |
| 123.780 | 15.210 | 0.000000 |
| 124.780 | 15.170 | 0.000000 |
| 125.770 | 15.170 | 0.000000 |
| 126.770 | 15.200 | 0.000000 |
| 127.770 | 15.210 | 0.000000 |
| 128.760 | 15.200 | 0.000000 |
| 129.760 | 15.190 | 0.000000 |
| 130.750 | 15.220 | 0.000000 |
| 131.750 | 15.280 | 0.000000 |
| 132.750 | 15.330 | 0.000000 |
| 133.740 | 15.340 | 0.000000 |
| 134.740 | 15.380 | 0.000000 |
| 135.730 | 15.610 | 0.000000 |
| 136.730 | 15.950 | 0.000000 |
| 137.720 | 16.130 | 0.000000 |
| 138.720 | 16.150 | 0.000000 |
| 139.720 | 16.000 | 0.000000 |
| 140.710 | 15.930 | 0.000000 |
| 141.710 | 16.050 | 0.000000 |
| 142.700 | 16.160 | 0.000000 |
| 143.700 | 16.390 | 0.000000 |
| 144.700 | 16.640 | 0.000000 |
| 145.690 | 16.910 | 0.000000 |
| 146.690 | 17.250 | 0.000000 |
| 147.680 | 17.600 | 0.000000 |

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Name: X2_W Group: BASE
Encroachment: No

Source: LIDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 13.060 | 0.000000 |
| 0.990 | 13.050 | 0.000000 |
| 1.980 | 13.030 | 0.000000 |
| 2.970 | 12.980 | 0.000000 |
| 3.960 | 12.950 | 0.000000 |
| 4.950 | 12.960 | 0.000000 |
| 5.950 | 12.990 | 0.000000 |
| 6.940 | 13.010 | 0.000000 |
| 7.930 | 13.010 | 0.000000 |
| 8.920 | 13.010 | 0.000000 |
| 9.910 | 13.030 | 0.000000 |
| 10.900 | 13.030 | 0.000000 |
| 11.890 | 13.030 | 0.000000 |
| 12.880 | 13.020 | 0.000000 |
| 13.870 | 13.020 | 0.000000 |
| 14.860 | 13.000 | 0.000000 |
| 15.850 | 12.980 | 0.000000 |
| 16.850 | 12.980 | 0.000000 |
| 17.840 | 12.990 | 0.000000 |
| 18.830 | 12.980 | 0.000000 |
| 19.820 | 12.970 | 0.000000 |
| 20.810 | 12.980 | 0.000000 |
| 21.800 | 13.000 | 0.000000 |
| 22.790 | 12.990 | 0.000000 |
| 23.780 | 13.000 | 0.000000 |
| 24.770 | 13.000 | 0.000000 |
| 25.760 | 12.990 | 0.000000 |
| 26.750 | 12.980 | 0.000000 |
| 27.740 | 12.950 | 0.000000 |
| 28.740 | 12.930 | 0.000000 |
| 29.730 | 12.920 | 0.000000 |
| 30.720 | 12.890 | 0.000000 |
| 31.710 | 12.880 | 0.000000 |
| 32.700 | 12.870 | 0.000000 |
| 33.690 | 12.860 | 0.000000 |
| 34.680 | 12.870 | 0.000000 |

| | | |
|---|---|---|
| 35.670 | 12.880 | 0.000000 |
| 36.660 | 12.890 | 0.000000 |
| 37.650 | 12.890 | 0.000000 |
| 38.640 | 12.900 | 0.000000 |
| 39.640 | 12.900 | 0.000000 |
| 40.630 | 12.910 | 0.000000 |
| 41.620 | 12.940 | 0.000000 |
| 42.610 | 12.970 | 0.000000 |
| 43.600 | 12.980 | 0.000000 |
| 44.590 | 12.970 | 0.000000 |
| 45.580 | 12.970 | 0.000000 |
| 46.570 | 12.970 | 0.000000 |
| 47.560 | 12.990 | 0.000000 |
| 48.550 | 12.990 | 0.000000 |
| 49.540 | 12.970 | 0.000000 |
| 50.530 | 12.980 | 0.000000 |
| 51.520 | 13.000 | 0.000000 |
| 52.510 | 13.010 | 0.000000 |
| 53.500 | 13.020 | 0.000000 |
| 54.490 | 13.040 | 0.000000 |
| 55.480 | 13.050 | 0.000000 |
| 56.470 | 13.060 | 0.000000 |
| 57.460 | 13.090 | 0.000000 |
| 58.450 | 13.120 | 0.000000 |
| 59.440 | 13.120 | 0.000000 |
| 60.430 | 13.110 | 0.000000 |
| 61.420 | 13.120 | 0.000000 |
| 62.410 | 13.160 | 0.000000 |
| 63.400 | 13.180 | 0.000000 |
| 64.390 | 13.180 | 0.000000 |
| 65.380 | 13.190 | 0.000000 |
| 66.370 | 13.180 | 0.000000 |
| 67.360 | 13.180 | 0.000000 |
| 68.350 | 13.190 | 0.000000 |
| 69.340 | 13.190 | 0.000000 |
| 70.330 | 13.190 | 0.000000 |
| 71.310 | 13.190 | 0.000000 |
| 72.300 | 13.180 | 0.000000 |
| 73.290 | 13.170 | 0.000000 |
| 74.280 | 13.180 | 0.000000 |
| 75.270 | 13.200 | 0.000000 |
| 76.260 | 13.210 | 0.000000 |
| 77.250 | 13.200 | 0.000000 |
| 78.240 | 13.170 | 0.000000 |
| 79.230 | 13.150 | 0.000000 |
| 80.220 | 13.150 | 0.000000 |
| 81.210 | 13.170 | 0.000000 |
| 82.200 | 13.160 | 0.000000 |
| 83.190 | 13.140 | 0.000000 |
| 84.180 | 13.130 | 0.000000 |
| 85.170 | 13.130 | 0.000000 |
| 86.160 | 13.140 | 0.000000 |
| 87.150 | 13.150 | 0.000000 |
| 88.140 | 13.160 | 0.000000 |
| 89.130 | 13.160 | 0.000000 |
| 90.120 | 13.160 | 0.000000 |
| 91.110 | 13.150 | 0.000000 |
| 92.100 | 13.150 | 0.000000 |
| 93.090 | 13.170 | 0.000000 |
| 94.070 | 13.200 | 0.000000 |
| 95.060 | 13.200 | 0.000000 |
| 96.050 | 13.190 | 0.000000 |
| 97.040 | 13.190 | 0.000000 |
| 98.030 | 13.200 | 0.000000 |
| 99.020 | 13.200 | 0.000000 |
| 100.010 | 13.200 | 0.000000 |
| 101.000 | 13.200 | 0.000000 |
| 101.990 | 13.200 | 0.000000 |
| 102.980 | 13.190 | 0.000000 |
| 103.970 | 13.180 | 0.000000 |
| 104.960 | 13.170 | 0.000000 |
| 105.950 | 13.160 | 0.000000 |
| 106.940 | 13.150 | 0.000000 |
| 107.930 | 13.140 | 0.000000 |
| 108.920 | 13.120 | 0.000000 |
| 109.910 | 13.110 | 0.000000 |
| 110.900 | 13.100 | 0.000000 |
| 111.890 | 13.070 | 0.000000 |
| 112.880 | 13.050 | 0.000000 |
| 113.870 | 13.030 | 0.000000 |
| 114.860 | 13.030 | 0.000000 |
| 115.850 | 13.040 | 0.000000 |
| 116.830 | 13.030 | 0.000000 |
| 117.820 | 13.020 | 0.000000 |
| 118.810 | 13.020 | 0.000000 |
| 119.800 | 13.010 | 0.000000 |
| 120.790 | 13.010 | 0.000000 |
| 121.780 | 13.020 | 0.000000 |
| 122.770 | 13.020 | 0.000000 |

| | | |
|---|---|---|
| 123.760 | 13.000 | 0.000000 |
| 124.750 | 13.010 | 0.000000 |
| 125.740 | 13.030 | 0.000000 |
| 126.730 | 13.040 | 0.000000 |
| 127.720 | 13.020 | 0.000000 |
| 128.710 | 12.990 | 0.000000 |
| 129.700 | 12.990 | 0.000000 |
| 130.690 | 13.010 | 0.000000 |
| 131.680 | 13.020 | 0.000000 |
| 132.670 | 13.010 | 0.000000 |
| 133.660 | 12.990 | 0.000000 |
| 134.650 | 13.030 | 0.000000 |
| 135.640 | 13.050 | 0.000000 |
| 136.630 | 13.060 | 0.000000 |
| 137.620 | 13.050 | 0.000000 |
| 138.610 | 13.010 | 0.000000 |
| 139.590 | 13.010 | 0.000000 |
| 140.580 | 13.020 | 0.000000 |
| 141.570 | 13.030 | 0.000000 |
| 142.560 | 13.030 | 0.000000 |
| 143.550 | 13.040 | 0.000000 |
| 144.540 | 13.040 | 0.000000 |
| 145.530 | 13.040 | 0.000000 |
| 146.520 | 13.040 | 0.000000 |
| 147.510 | 13.040 | 0.000000 |
| 148.500 | 13.030 | 0.000000 |
| 149.490 | 13.020 | 0.000000 |
| 150.480 | 13.020 | 0.000000 |
| 151.470 | 13.030 | 0.000000 |
| 152.460 | 13.040 | 0.000000 |
| 153.450 | 13.050 | 0.000000 |
| 154.440 | 13.080 | 0.000000 |
| 155.430 | 13.100 | 0.000000 |
| 156.420 | 13.120 | 0.000000 |
| 157.410 | 13.140 | 0.000000 |
| 158.400 | 13.180 | 0.000000 |
| 159.400 | 13.180 | 0.000000 |
| 160.390 | 13.170 | 0.000000 |
| 161.390 | 13.190 | 0.000000 |
| 162.380 | 13.210 | 0.000000 |
| 163.370 | 13.220 | 0.000000 |
| 164.370 | 13.240 | 0.000000 |
| 165.360 | 13.250 | 0.000000 |
| 166.360 | 13.250 | 0.000000 |
| 167.350 | 13.250 | 0.000000 |
| 168.350 | 13.260 | 0.000000 |
| 169.340 | 13.260 | 0.000000 |
| 170.340 | 13.260 | 0.000000 |
| 171.330 | 13.260 | 0.000000 |
| 172.330 | 13.280 | 0.000000 |
| 173.320 | 13.310 | 0.000000 |
| 174.310 | 13.310 | 0.000000 |
| 175.310 | 13.280 | 0.000000 |
| 176.300 | 13.280 | 0.000000 |
| 177.300 | 13.300 | 0.000000 |
| 178.290 | 13.330 | 0.000000 |
| 179.290 | 13.300 | 0.000000 |
| 180.280 | 13.260 | 0.000000 |
| 181.280 | 13.260 | 0.000000 |
| 182.270 | 13.270 | 0.000000 |
| 183.260 | 13.280 | 0.000000 |
| 184.260 | 13.280 | 0.000000 |
| 185.250 | 13.290 | 0.000000 |
| 186.250 | 13.300 | 0.000000 |
| 187.240 | 13.290 | 0.000000 |
| 188.240 | 13.290 | 0.000000 |
| 189.230 | 13.300 | 0.000000 |
| 190.230 | 13.300 | 0.000000 |
| 191.220 | 13.300 | 0.000000 |
| 192.220 | 13.310 | 0.000000 |
| 193.210 | 13.290 | 0.000000 |
| 194.200 | 13.270 | 0.000000 |
| 195.200 | 13.270 | 0.000000 |
| 196.190 | 13.280 | 0.000000 |
| 197.190 | 13.300 | 0.000000 |
| 198.180 | 13.310 | 0.000000 |
| 199.180 | 13.310 | 0.000000 |
| 200.170 | 13.300 | 0.000000 |
| 201.170 | 13.300 | 0.000000 |
| 202.160 | 13.320 | 0.000000 |
| 203.150 | 13.340 | 0.000000 |
| 204.150 | 13.340 | 0.000000 |
| 205.140 | 13.330 | 0.000000 |
| 206.140 | 13.320 | 0.000000 |
| 207.130 | 13.320 | 0.000000 |
| 208.130 | 13.310 | 0.000000 |
| 209.120 | 13.320 | 0.000000 |
| 210.120 | 13.340 | 0.000000 |
| 211.110 | 13.350 | 0.000000 |

| | | |
|---|---|---|
| 212.110 | 13.350 | 0.000000 |
| 213.100 | 13.360 | 0.000000 |
| 214.090 | 13.350 | 0.000000 |
| 215.090 | 13.340 | 0.000000 |
| 216.080 | 13.330 | 0.000000 |
| 217.080 | 13.330 | 0.000000 |
| 218.070 | 13.330 | 0.000000 |
| 219.070 | 13.340 | 0.000000 |
| 220.060 | 13.340 | 0.000000 |
| 221.060 | 13.330 | 0.000000 |
| 222.050 | 13.310 | 0.000000 |
| 223.040 | 13.310 | 0.000000 |
| 224.040 | 13.330 | 0.000000 |
| 225.030 | 13.360 | 0.000000 |
| 226.030 | 13.380 | 0.000000 |
| 227.020 | 13.390 | 0.000000 |
| 228.020 | 13.390 | 0.000000 |
| 229.010 | 13.370 | 0.000000 |
| 230.010 | 13.350 | 0.000000 |
| 231.000 | 13.350 | 0.000000 |
| 232.000 | 13.340 | 0.000000 |
| 232.990 | 13.340 | 0.000000 |
| 233.980 | 13.360 | 0.000000 |
| 234.980 | 13.360 | 0.000000 |
| 235.970 | 13.340 | 0.000000 |
| 236.970 | 13.320 | 0.000000 |
| 237.960 | 13.330 | 0.000000 |
| 238.960 | 13.330 | 0.000000 |
| 239.950 | 13.320 | 0.000000 |
| 240.950 | 13.310 | 0.000000 |
| 241.940 | 13.280 | 0.000000 |
| 242.930 | 13.270 | 0.000000 |
| 243.930 | 13.250 | 0.000000 |
| 244.920 | 13.250 | 0.000000 |
| 245.920 | 13.240 | 0.000000 |
| 246.910 | 13.230 | 0.000000 |
| 247.910 | 13.240 | 0.000000 |
| 248.900 | 13.230 | 0.000000 |
| 249.900 | 13.220 | 0.000000 |
| 250.890 | 13.220 | 0.000000 |
| 251.880 | 13.230 | 0.000000 |
| 252.870 | 13.240 | 0.000000 |
| 253.870 | 13.250 | 0.000000 |
| 254.860 | 13.250 | 0.000000 |
| 255.850 | 13.240 | 0.000000 |
| 256.840 | 13.220 | 0.000000 |
| 257.830 | 13.220 | 0.000000 |
| 258.830 | 13.230 | 0.000000 |
| 259.820 | 13.230 | 0.000000 |
| 260.810 | 13.230 | 0.000000 |
| 261.800 | 13.230 | 0.000000 |
| 262.800 | 13.230 | 0.000000 |
| 263.790 | 13.250 | 0.000000 |
| 264.780 | 13.250 | 0.000000 |
| 265.770 | 13.230 | 0.000000 |
| 266.770 | 13.230 | 0.000000 |
| 267.760 | 13.220 | 0.000000 |
| 268.750 | 13.200 | 0.000000 |
| 269.740 | 13.180 | 0.000000 |
| 270.730 | 13.180 | 0.000000 |
| 271.730 | 13.190 | 0.000000 |
| 272.720 | 13.230 | 0.000000 |
| 273.710 | 13.240 | 0.000000 |
| 274.700 | 13.220 | 0.000000 |
| 275.700 | 13.190 | 0.000000 |
| 276.690 | 13.180 | 0.000000 |
| 277.680 | 13.200 | 0.000000 |
| 278.670 | 13.210 | 0.000000 |
| 279.670 | 13.230 | 0.000000 |
| 280.660 | 13.240 | 0.000000 |
| 281.650 | 13.230 | 0.000000 |
| 282.640 | 13.220 | 0.000000 |
| 283.630 | 13.210 | 0.000000 |
| 284.630 | 13.220 | 0.000000 |
| 285.620 | 13.220 | 0.000000 |
| 286.610 | 13.220 | 0.000000 |
| 287.600 | 13.230 | 0.000000 |
| 288.600 | 13.250 | 0.000000 |
| 289.590 | 13.250 | 0.000000 |
| 290.580 | 13.250 | 0.000000 |
| 291.570 | 13.230 | 0.000000 |
| 292.570 | 13.220 | 0.000000 |
| 293.560 | 13.230 | 0.000000 |
| 294.550 | 13.240 | 0.000000 |
| 295.540 | 13.220 | 0.000000 |
| 296.540 | 13.190 | 0.000000 |
| 297.530 | 13.190 | 0.000000 |
| 298.520 | 13.200 | 0.000000 |
| 299.510 | 13.190 | 0.000000 |

| | | |
|---|---|---|
| 300.500 | 13.190 | 0.000000 |
| 301.500 | 13.180 | 0.000000 |
| 302.490 | 13.190 | 0.000000 |
| 303.480 | 13.200 | 0.000000 |
| 304.460 | 13.210 | 0.000000 |
| 305.450 | 13.200 | 0.000000 |
| 306.430 | 13.190 | 0.000000 |
| 307.410 | 13.170 | 0.000000 |
| 308.390 | 13.140 | 0.000000 |
| 309.380 | 13.140 | 0.000000 |
| 310.360 | 13.140 | 0.000000 |
| 311.340 | 13.130 | 0.000000 |
| 312.320 | 13.100 | 0.000000 |
| 313.310 | 13.080 | 0.000000 |
| 314.290 | 13.070 | 0.000000 |
| 315.270 | 13.070 | 0.000000 |
| 316.250 | 13.060 | 0.000000 |
| 317.230 | 13.040 | 0.000000 |
| 318.220 | 13.040 | 0.000000 |
| 319.200 | 13.050 | 0.000000 |
| 320.180 | 13.060 | 0.000000 |
| 321.160 | 13.060 | 0.000000 |
| 322.150 | 13.070 | 0.000000 |
| 323.130 | 13.080 | 0.000000 |
| 324.110 | 13.090 | 0.000000 |
| 325.090 | 13.090 | 0.000000 |
| 326.080 | 13.080 | 0.000000 |
| 327.060 | 13.090 | 0.000000 |
| 328.040 | 13.100 | 0.000000 |
| 329.020 | 13.110 | 0.000000 |
| 330.010 | 13.120 | 0.000000 |
| 330.990 | 13.140 | 0.000000 |
| 331.970 | 13.170 | 0.000000 |
| 332.950 | 13.180 | 0.000000 |
| 333.940 | 13.160 | 0.000000 |
| 334.920 | 13.160 | 0.000000 |
| 335.900 | 13.150 | 0.000000 |
| 336.880 | 13.150 | 0.000000 |
| 337.860 | 13.140 | 0.000000 |
| 338.850 | 13.150 | 0.000000 |
| 339.830 | 13.160 | 0.000000 |
| 340.810 | 13.160 | 0.000000 |
| 341.790 | 13.160 | 0.000000 |
| 342.780 | 13.160 | 0.000000 |
| 343.760 | 13.160 | 0.000000 |

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Name: X3_W Group: BASE
Encroachment: No

Source: LIDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 13.300 | 0.000000 |
| 0.970 | 13.300 | 0.000000 |
| 1.940 | 13.310 | 0.000000 |
| 2.920 | 13.320 | 0.000000 |
| 3.890 | 13.330 | 0.000000 |
| 4.860 | 13.350 | 0.000000 |
| 5.830 | 13.360 | 0.000000 |
| 6.800 | 13.370 | 0.000000 |
| 7.770 | 13.350 | 0.000000 |
| 8.750 | 13.330 | 0.000000 |
| 9.720 | 13.320 | 0.000000 |
| 10.690 | 13.320 | 0.000000 |
| 11.660 | 13.330 | 0.000000 |
| 12.630 | 13.350 | 0.000000 |
| 13.600 | 13.370 | 0.000000 |
| 14.580 | 13.380 | 0.000000 |
| 15.550 | 13.390 | 0.000000 |
| 16.520 | 13.410 | 0.000000 |
| 17.490 | 13.430 | 0.000000 |
| 18.460 | 13.440 | 0.000000 |
| 19.440 | 13.440 | 0.000000 |
| 20.430 | 13.440 | 0.000000 |
| 21.420 | 13.460 | 0.000000 |
| 22.420 | 13.490 | 0.000000 |
| 23.410 | 13.490 | 0.000000 |
| 24.400 | 13.470 | 0.000000 |
| 25.400 | 13.460 | 0.000000 |
| 26.390 | 13.450 | 0.000000 |
| 27.380 | 13.420 | 0.000000 |
| 28.380 | 13.400 | 0.000000 |
| 29.370 | 13.390 | 0.000000 |
| 30.360 | 13.380 | 0.000000 |
| 31.360 | 13.380 | 0.000000 |
| 32.350 | 13.390 | 0.000000 |
| 33.340 | 13.390 | 0.000000 |

| | | |
|---|---|---|
| 34.340 | 13.390 | 0.000000 |
| 35.330 | 13.380 | 0.000000 |
| 36.320 | 13.390 | 0.000000 |
| 37.290 | 13.400 | 0.000000 |
| 38.260 | 13.420 | 0.000000 |
| 39.220 | 13.450 | 0.000000 |
| 40.190 | 13.490 | 0.000000 |
| 41.160 | 13.520 | 0.000000 |
| 42.130 | 13.540 | 0.000000 |
| 43.090 | 13.550 | 0.000000 |
| 44.060 | 13.550 | 0.000000 |
| 45.030 | 13.550 | 0.000000 |
| 46.000 | 13.560 | 0.000000 |
| 46.960 | 13.570 | 0.000000 |
| 47.930 | 13.560 | 0.000000 |
| 48.900 | 13.560 | 0.000000 |
| 49.870 | 13.550 | 0.000000 |
| 50.830 | 13.530 | 0.000000 |
| 51.800 | 13.500 | 0.000000 |
| 52.770 | 13.470 | 0.000000 |
| 53.730 | 13.470 | 0.000000 |
| 54.700 | 13.450 | 0.000000 |
| 55.690 | 13.440 | 0.000000 |
| 56.670 | 13.430 | 0.000000 |
| 57.650 | 13.430 | 0.000000 |
| 58.640 | 13.430 | 0.000000 |
| 59.620 | 13.390 | 0.000000 |
| 60.610 | 13.360 | 0.000000 |
| 61.590 | 13.340 | 0.000000 |
| 62.570 | 13.340 | 0.000000 |
| 63.560 | 13.350 | 0.000000 |
| 64.540 | 13.350 | 0.000000 |
| 65.530 | 13.330 | 0.000000 |
| 66.510 | 13.330 | 0.000000 |
| 67.500 | 13.330 | 0.000000 |
| 68.480 | 13.360 | 0.000000 |
| 69.460 | 13.390 | 0.000000 |
| 70.450 | 13.420 | 0.000000 |
| 71.430 | 13.450 | 0.000000 |
| 72.420 | 13.460 | 0.000000 |
| 73.400 | 13.460 | 0.000000 |
| 74.380 | 13.470 | 0.000000 |
| 75.370 | 13.500 | 0.000000 |
| 76.350 | 13.540 | 0.000000 |
| 77.340 | 13.610 | 0.000000 |
| 78.320 | 13.660 | 0.000000 |
| 79.300 | 13.700 | 0.000000 |
| 80.290 | 13.720 | 0.000000 |
| 81.270 | 13.750 | 0.000000 |
| 82.260 | 13.800 | 0.000000 |
| 83.240 | 13.850 | 0.000000 |
| 84.230 | 13.890 | 0.000000 |
| 85.210 | 13.960 | 0.000000 |
| 86.190 | 14.060 | 0.000000 |
| 87.180 | 14.170 | 0.000000 |
| 88.160 | 14.240 | 0.000000 |
| 89.150 | 14.300 | 0.000000 |
| 90.130 | 14.370 | 0.000000 |
| 91.110 | 14.460 | 0.000000 |
| 92.100 | 14.570 | 0.000000 |
| 93.080 | 14.690 | 0.000000 |
| 94.070 | 14.820 | 0.000000 |
| 95.050 | 14.930 | 0.000000 |
| 96.030 | 15.050 | 0.000000 |
| 97.020 | 15.140 | 0.000000 |

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Name: X3B Group: BASE
Encroachment: No

Source: LiDAR DEM

| Station(ft) | Elevation(ft) | Manning's N |
|---|---|---|
| 0.000 | 14.000 | 0.000000 |
| 0.980 | 13.920 | 0.000000 |
| 1.960 | 13.890 | 0.000000 |
| 2.940 | 13.860 | 0.000000 |
| 3.920 | 13.830 | 0.000000 |
| 4.900 | 13.780 | 0.000000 |
| 5.880 | 13.740 | 0.000000 |
| 6.860 | 13.720 | 0.000000 |
| 7.840 | 13.700 | 0.000000 |
| 8.820 | 13.650 | 0.000000 |
| 9.800 | 13.640 | 0.000000 |
| 10.780 | 13.640 | 0.000000 |
| 11.760 | 13.640 | 0.000000 |
| 12.740 | 13.630 | 0.000000 |
| 13.720 | 13.600 | 0.000000 |

| | | |
|---|---|---|
| 14.700 | 13.590 | 0.000000 |
| 15.680 | 13.580 | 0.000000 |
| 16.660 | 13.560 | 0.000000 |
| 17.640 | 13.560 | 0.000000 |
| 18.620 | 13.560 | 0.000000 |
| 19.600 | 13.550 | 0.000000 |
| 20.580 | 13.550 | 0.000000 |
| 21.560 | 13.530 | 0.000000 |
| 22.540 | 13.490 | 0.000000 |
| 23.520 | 13.460 | 0.000000 |
| 24.500 | 13.460 | 0.000000 |
| 25.480 | 13.450 | 0.000000 |
| 26.460 | 13.430 | 0.000000 |
| 27.420 | 13.420 | 0.000000 |
| 28.390 | 13.420 | 0.000000 |
| 29.350 | 13.420 | 0.000000 |
| 30.320 | 13.410 | 0.000000 |
| 31.280 | 13.400 | 0.000000 |
| 32.250 | 13.390 | 0.000000 |
| 33.210 | 13.370 | 0.000000 |
| 34.180 | 13.350 | 0.000000 |
| 35.140 | 13.360 | 0.000000 |
| 36.110 | 13.390 | 0.000000 |
| 37.070 | 13.420 | 0.000000 |
| 38.040 | 13.450 | 0.000000 |
| 39.000 | 13.450 | 0.000000 |
| 39.970 | 13.420 | 0.000000 |
| 40.930 | 13.410 | 0.000000 |
| 41.900 | 13.400 | 0.000000 |
| 42.860 | 13.390 | 0.000000 |
| 43.830 | 13.360 | 0.000000 |
| 44.790 | 13.350 | 0.000000 |
| 45.760 | 13.360 | 0.000000 |
| 46.720 | 13.360 | 0.000000 |
| 47.690 | 13.350 | 0.000000 |
| 48.650 | 13.360 | 0.000000 |
| 49.610 | 13.380 | 0.000000 |
| 50.580 | 13.390 | 0.000000 |
| 51.540 | 13.380 | 0.000000 |
| 52.500 | 13.370 | 0.000000 |
| 53.470 | 13.400 | 0.000000 |
| 54.430 | 13.410 | 0.000000 |
| 55.390 | 13.420 | 0.000000 |
| 56.350 | 13.410 | 0.000000 |
| 57.320 | 13.430 | 0.000000 |
| 58.280 | 13.430 | 0.000000 |
| 59.240 | 13.450 | 0.000000 |
| 60.210 | 13.460 | 0.000000 |
| 61.170 | 13.460 | 0.000000 |
| 62.130 | 13.480 | 0.000000 |
| 63.090 | 13.490 | 0.000000 |
| 64.060 | 13.510 | 0.000000 |
| 65.020 | 13.510 | 0.000000 |
| 65.980 | 13.510 | 0.000000 |
| 66.950 | 13.500 | 0.000000 |
| 67.910 | 13.500 | 0.000000 |
| 68.870 | 13.490 | 0.000000 |
| 69.830 | 13.470 | 0.000000 |
| 70.800 | 13.450 | 0.000000 |
| 71.760 | 13.450 | 0.000000 |
| 72.730 | 13.480 | 0.000000 |
| 73.690 | 13.490 | 0.000000 |
| 74.660 | 13.450 | 0.000000 |
| 75.620 | 13.400 | 0.000000 |
| 76.590 | 13.400 | 0.000000 |
| 77.550 | 13.410 | 0.000000 |
| 78.510 | 13.390 | 0.000000 |
| 79.480 | 13.390 | 0.000000 |
| 80.440 | 13.380 | 0.000000 |
| 81.410 | 13.360 | 0.000000 |
| 82.370 | 13.350 | 0.000000 |
| 83.340 | 13.330 | 0.000000 |
| 84.300 | 13.300 | 0.000000 |
| 85.270 | 13.310 | 0.000000 |
| 86.240 | 13.330 | 0.000000 |
| 87.210 | 13.320 | 0.000000 |
| 88.180 | 13.320 | 0.000000 |
| 89.140 | 13.320 | 0.000000 |
| 90.110 | 13.290 | 0.000000 |
| 91.080 | 13.250 | 0.000000 |
| 92.050 | 13.230 | 0.000000 |
| 93.020 | 13.220 | 0.000000 |
| 93.990 | 13.230 | 0.000000 |
| 94.950 | 13.240 | 0.000000 |
| 95.920 | 13.240 | 0.000000 |
| 96.890 | 13.240 | 0.000000 |
| 97.850 | 13.250 | 0.000000 |
| 98.820 | 13.270 | 0.000000 |
| 99.780 | 13.310 | 0.000000 |

```
        100.750          13.340        0.000000
        101.710          13.340        0.000000
        102.670          13.340        0.000000
        103.640          13.370        0.000000
        104.600          13.340        0.000000
        105.570          13.320        0.000000
        106.530          13.340        0.000000
        107.500          13.370        0.000000
        108.460          13.360        0.000000
        109.420          13.350        0.000000
        110.390          13.350        0.000000
        111.350          13.370        0.000000
        112.320          13.390        0.000000
        113.280          13.430        0.000000
        114.240          13.440        0.000000
        115.210          13.440        0.000000

==========================================================================================
==== Operating Tables ====================================================================
==========================================================================================

      Name:                      Group: BASE
      Type: Bottom Clip
  Function: Time vs. Depth of Clip


      Time(hrs)  Clip Depth(in)
--------------- ---------------

==========================================================================================
==== Pipes ===============================================================================
==========================================================================================

         Name: R001                From Node: 001                Length(ft): 438.00
        Group: BASE                  To Node: BOX_003                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 1.40
     Rise(in): 22.15          22.15                          Exit Loss Coef: 1.00
   Invert(ft): 13.500         10.880                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech and
Construction Plan - Gypsum Stack System Closure, Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 45, 60, and 90 deg Ell


-------------------------------------------------------------------------------------------------
         Name: R007                From Node: 007                Length(ft): 155.00
        Group: BASE                  To Node: 006                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 16.00          16.00                      Entrance Loss Coef: 0.50
     Rise(in): 16.00          16.00                          Exit Loss Coef: 1.00
   Invert(ft): 30.950         30.370                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


-------------------------------------------------------------------------------------------------
         Name: R008                From Node: 008A               Length(ft): 132.00
        Group: BASE                  To Node: 007                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
```

```
     Span(in): 18.00          18.00                     Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                         Exit Loss Coef: 1.00
   Invert(ft): 46.400         32.500                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R01                 From Node: 01                 Length(ft): 370.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 48.00          48.00                        Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                            Exit Loss Coef: 1.00
   Invert(ft): 6.830          6.780                            Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------
         Name: R013                From Node: 013                Length(ft): 62.00
        Group: BASE                  To Node: 007                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
   Invert(ft): 33.300         32.320                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R02                 From Node: 02                 Length(ft): 370.00
        Group: BASE                  To Node: 01                      Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 48.00          48.00                        Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                            Exit Loss Coef: 1.00
   Invert(ft): 6.880          6.830                            Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------
         Name: R020                From Node: 020                Length(ft): 85.00
        Group: BASE                  To Node: 019                     Count: 1
```

```
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 12.00          12.00                    Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                        Exit Loss Coef: 1.00
   Invert(ft): 19.330         19.820                       Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------------
         Name: R03                 From Node: 03                 Length(ft): 118.00
        Group: BASE                  To Node: 02                      Count: 1
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 36.00          36.00                    Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                        Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                        Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------------
         Name: R032_NEW            From Node: 032                Length(ft): 100.00
        Group: BASE                  To Node: 034B                    Count: 2
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 18.00          18.00                    Entrance Loss Coef: 0.70
     Rise(in): 18.00          18.00                        Exit Loss Coef: 1.00
   Invert(ft): 14.000         14.000                       Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Proposed Culverts 2x18 inch HDPE

-----------------------------------------------------------------------------------------------------
         Name: R032A               From Node: 032                Length(ft): 57.00
        Group: BASE                  To Node: 033                     Count: 1
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 18.00          18.00                    Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                        Exit Loss Coef: 1.00
   Invert(ft): 13.670         13.580                       Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
```

```
-----------------------------------------------------------------------------------------------
         Name: R032B              From Node: 032               Length(ft): 57.00
        Group: BASE                 To Node: 033                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.790         13.560                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R034               From Node: 034               Length(ft): 93.00
        Group: BASE                 To Node: 035                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 14.00          14.00                      Entrance Loss Coef: 0.50
     Rise(in): 14.00          14.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.350         13.130                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


-----------------------------------------------------------------------------------------------
         Name: R034_new_pipe      From Node: 034B              Length(ft): 145.00
        Group: BASE                 To Node: 043                    Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 14.000         13.450                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

(2) new 18-inch pipes

-----------------------------------------------------------------------------------------------
         Name: R034B              From Node: 034               Length(ft): 145.00
        Group: BASE                 To Node: 034B                   Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 14.050         13.450                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech for US Inv and Size; (12-inch HDPE Pipe) and
Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

---

```
         Name: R036                From Node: 036                Length(ft): 30.00
        Group: BASE                  To Node: 037                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                      Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                          Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe

---

```
         Name: R037                From Node: 037                Length(ft): 470.00
        Group: BASE                  To Node: 037A                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 0.50
     Rise(in): 22.15          22.15                          Exit Loss Coef: 0.00
   Invert(ft): 9.000          8.300                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

---

```
         Name: R037A               From Node: 037A               Length(ft): 290.00
        Group: BASE                  To Node: 037B                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                          Exit Loss Coef: 0.00
   Invert(ft): 8.300          7.820                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

---

```
         Name: R037B               From Node: 037B               Length(ft): 220.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                          Friction Equation: Automatic
```

```
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                          Exit Loss Coef: 1.00
   Invert(ft): 7.820          7.500                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R038                From Node: 038                Length(ft): 30.00
        Group: BASE                  To Node: 037                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 11.53          11.53                      Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                          Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R04                 From Node: 04                 Length(ft): 225.00
        Group: BASE                  To Node: 03                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 36.00          36.00                      Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                          Exit Loss Coef: 1.00
   Invert(ft): 7.080          6.980                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------
         Name: R040                From Node: 040                Length(ft): 45.00
        Group: BASE                  To Node: 038                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.140         12.510                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R041                From Node: 041                Length(ft): 45.00
        Group: BASE                  To Node: 036                     Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
   Invert(ft): 13.160         12.370                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R042_A              From Node: 042                Length(ft): 40.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.480         13.030                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R042_B              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.010         13.880                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R042_C              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 18.00          18.00                        Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                            Exit Loss Coef: 1.00
   Invert(ft): 13.640         13.710                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

```
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R043_NEW            From Node: 043                Length(ft): 180.00
        Group: BASE                  To Node: 2                       Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 18.00          18.00                     Entrance Loss Coef: 0.70
     Rise(in): 18.00          18.00                         Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.500                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

1x18-inch Proposed Culvert

-----------------------------------------------------------------------------------------------
         Name: R045                From Node: 045                Length(ft): 62.00
        Group: BASE                  To Node: 046                     Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 1.00
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 13.500         12.000                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe, 90 deg. ELL at the end


-----------------------------------------------------------------------------------------------
         Name: R046                From Node: 046                Length(ft): 95.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 11.480         9.400                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R05                 From Node: 05                 Length(ft): 205.00
        Group: BASE                  To Node: 02                      Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
```

```
     Span(in): 42.00          42.00                     Entrance Loss Coef: 0.50
     Rise(in): 42.00          42.00                         Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                         Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------------
         Name: R2                  From Node: 2                  Length(ft): 45.00
        Group: BASE                  To Node: 1                       Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 11.53          11.53                        Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                            Exit Loss Coef: 1.00
   Invert(ft): 10.000         9.800                            Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------------
         Name: R3A                 From Node: 3                  Length(ft): 70.00
        Group: BASE                  To Node: 1                       Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 11.53          11.53                        Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                            Exit Loss Coef: 1.00
   Invert(ft): 11.300         10.300                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------------
         Name: R4                  From Node: 4                  Length(ft): 34.00
        Group: BASE                  To Node: 1                       Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 33.00          33.00                        Entrance Loss Coef: 0.50
     Rise(in): 33.00          33.00                            Exit Loss Coef: 1.00
   Invert(ft): 9.330          8.980                            Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

```
Source: Existing Pipe in ERP Construction Plan, Allied New Technologies 2 Plant

==========================================================================================
==== Channels ============================================================================
==========================================================================================

          Name: R003                From Node: 003                Length(ft): 510.00
         Group: BASE                  To Node: 002                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 25.000         25.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-------------------------------------------------------------------------------------------------
          Name: R005                From Node: 005                Length(ft): 569.00
         Group: BASE                  To Node: 004                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-------------------------------------------------------------------------------------------------
          Name: R006                From Node: 006                Length(ft): 724.00
         Group: BASE                  To Node: 005                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-------------------------------------------------------------------------------------------------
          Name: R011                From Node: 011                Length(ft): 1047.00
         Group: BASE                  To Node: 010                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
```

```
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 48.000         43.900                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 23.400         8.600
  LtSdSlp(h/v): 3.50           3.50
  RtSdSlp(h/v): 3.50           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R012                From Node: 012                Length(ft): 1337.00
         Group: BASE                  To Node: 011                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 53.200         48.000                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 65.000         40.500
  LtSdSlp(h/v): 3.70           3.50
  RtSdSlp(h/v): 3.60           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R014                From Node: 014                Length(ft): 460.00
         Group: BASE                  To Node: 013                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 34.200         33.000                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R015                From Node: 015                Length(ft): 468.00
         Group: BASE                  To Node: 014                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 35.500         34.200                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
```

```
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R017                From Node: 017                Length(ft): 200.00
         Group: BASE                  To Node: 016                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R018                From Node: 018                Length(ft): 672.00
         Group: BASE                  To Node: 017                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R019                From Node: 019                Length(ft): 696.00
         Group: BASE                  To Node: 018                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
```

```
          Name: R021                From Node: 021                Length(ft): 1057.00
         Group: BASE                  To Node: 022                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 35.300         30.600                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R022                From Node: 022                Length(ft): 762.00
         Group: BASE                  To Node: 023                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.600         29.100                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R024                From Node: 024                Length(ft): 541.00
         Group: BASE                  To Node: 025                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 25.100         24.600                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R025                From Node: 025                Length(ft): 582.00
         Group: BASE                  To Node: 026                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 24.600         24.000                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
```

```
  AuxElev1(ft):                                          Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-------------------------------------------------------------------------------------------------
          Name: R026                From Node: 026                Length(ft): 577.00
         Group: BASE                  To Node: 027                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 24.000         23.500                                 Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-------------------------------------------------------------------------------------------------
          Name: R029                From Node: 029                Length(ft): 670.00
         Group: BASE                  To Node: 030                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 15.250         14.700                                 Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-------------------------------------------------------------------------------------------------
          Name: R030                From Node: 030                Length(ft): 1035.00
         Group: BASE                  To Node: 031                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 14.700         13.700                                 Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
```

Seepage and Return Ditches

```
-----------------------------------------------------------------------------------------------------
          Name: R031                From Node: 031                Length(ft): 471.00
         Group: BASE                  To Node: 032                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.700         13.300                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

-----------------------------------------------------------------------------------------------------
          Name: R033                From Node: 033                Length(ft): 287.00
         Group: BASE                  To Node: 034                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.300         13.250                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         20.000
  LtSdSlp(h/v): 4.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

-----------------------------------------------------------------------------------------------------
          Name: R035                From Node: 035                Length(ft): 784.00
         Group: BASE                  To Node: 036                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.000         12.500                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 13.600         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

-----------------------------------------------------------------------------------------------------
          Name: R039                From Node: 039                Length(ft): 935.00
         Group: BASE                  To Node: 038                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.500         12.500                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
```

```
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 12.800        10.000
  LtSdSlp(h/v): 3.00          3.00
  RtSdSlp(h/v): 3.00          3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


==========================================================================================
==== Drop Structures =====================================================================
==========================================================================================

         Name: R0-NE               From Node: 0-NE              Length(ft): 70.00
        Group: BASE                  To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.850                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-NE ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-NW               From Node: 0-NW              Length(ft): 70.00
        Group: BASE                  To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.880                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe

*** Weir 1 of 1 for Drop Structure R0-NW ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350
```

```
-----------------------------------------------------------------------------------------------
         Name: R0-SE               From Node: 0-SE               Length(ft): 80.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                      Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.370                          Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SE ***
                                                                                    TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                        Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-----------------------------------------------------------------------------------------------
         Name: R0-SW               From Node: 0-SW               Length(ft): 80.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                      Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.080                          Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SW ***
                                                                                    TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                        Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-----------------------------------------------------------------------------------------------
         Name: R002A               From Node: 002                Length(ft): 125.00
        Group: BASE                  To Node: 001                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                   Flow: Both
     Rise(in): 7.96           7.96                       Entrance Loss Coef: 1.300
   Invert(ft): 13.800         13.800                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

```
Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
8-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet, butterfly valve, 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R002A ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 17.500
               Rise(in): 36.00                  Control Elev(ft): 17.500


-----------------------------------------------------------------------------------------------
         Name: R002B               From Node: 002                Length(ft): 135.00
        Group: BASE                  To Node: 001                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 22.15          22.15                                  Flow: Both
     Rise(in): 22.15          22.15                      Entrance Loss Coef: 0.500
   Invert(ft): 20.000         13.500                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 48-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R002B ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 48.00                       Invert(ft): 27.000
               Rise(in): 48.00                  Control Elev(ft): 27.000


-----------------------------------------------------------------------------------------------
         Name: R004                From Node: 004                Length(ft): 75.00
        Group: BASE                  To Node: 003                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 16.61          16.61                                  Flow: Both
     Rise(in): 16.61          16.61                      Entrance Loss Coef: 0.500
   Invert(ft): 26.000         25.500                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
18-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R004 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 30.500
               Rise(in): 36.00                  Control Elev(ft): 30.500


-----------------------------------------------------------------------------------------------
         Name: R005B               From Node: 005B               Length(ft): 507.00
```

```
        Group: BASE                 To Node: 040                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                 Flow: Both
     Rise(in): 16.00          16.00                    Entrance Loss Coef: 0.500
   Invert(ft): 69.610         13.500                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech, updated for the closure design

*** Weir 1 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 76.160
              Rise(in): 6.00                  Control Elev(ft): 76.160

*** Weir 2 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 79.410
              Rise(in): 30.00                 Control Elev(ft): 79.410


-----------------------------------------------------------------------------------------------
         Name: R009                From Node: 009                Length(ft): 217.50
        Group: BASE                  To Node: 008A                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                 Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 72.900         47.100                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration



*** Weir 1 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 80.300
              Rise(in): 6.00                  Control Elev(ft): 80.300

*** Weir 2 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 81.200
              Rise(in): 30.00                 Control Elev(ft): 81.200


-----------------------------------------------------------------------------------------------
         Name: R010                From Node: 010                Length(ft): 300.00
        Group: BASE                  To Node: 007                    Count: 1
```

```
              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                Flow: Both
     Rise(in): 12.00          12.00                    Entrance Loss Coef: 1.700
   Invert(ft): 38.620         36.500                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 6.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source:  2021 Survey Data by SurvTech
5.5 ft X 7.0 ft Inlet Box
Pipe DS Invert per Construction Plan - Gypsum Stack System Closure
NGS-S CAP and NGS-N Relief Ditch
PIpe clipped at US end for the closure scenario


*** Weir 1 of 1 for Drop Structure R010 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 84.00                       Invert(ft): 43.900
              Rise(in): 66.00                  Control Elev(ft): 43.900


-------------------------------------------------------------------------------------------------
         Name: R016                From Node: 016                Length(ft): 420.00
        Group: BASE                  To Node: 001                     Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.500
   Invert(ft): 15.710         13.500                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
Type C Inlet with 12-inch DR21 HDPE Pipe


*** Weir 1 of 1 for Drop Structure R016 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 19.000
              Rise(in): 24.00                  Control Elev(ft): 19.000


-------------------------------------------------------------------------------------------------
         Name: R023                From Node: 023                Length(ft): 71.50
        Group: BASE                  To Node: 024                     Count: 3

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                Flow: Both
     Rise(in): 12.00          12.00                    Entrance Loss Coef: 0.500
   Invert(ft): 25.360         25.590                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Note: This drop inlet will be redesigned for the closure scenario IV. The inlet capacity was trippled for this scenario.
```

```
*** Weir 1 of 1 for Drop Structure R023 ***
                                                                                    TABLE
                 Count: 3                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 29.480
              Rise(in): 30.00                  Control Elev(ft): 29.480


-----------------------------------------------------------------------------------------------
         Name: R028A               From Node: 028                Length(ft): 100.00
        Group: BASE                  To Node: 029                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                   Flow: Both
     Rise(in): 7.96           7.96                      Entrance Loss Coef: 1.350
   Invert(ft): 16.630         15.880                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Clousre Phase II
36-inch HDPE Riser with 8-inch DR26 HDPE Pipe, butterfly valve, 45 deg ell


*** Weir 1 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 22.000
              Rise(in): 36.00                  Control Elev(ft): 22.000

*** Weir 2 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 20.500
              Rise(in): 6.00                   Control Elev(ft): 20.500


-----------------------------------------------------------------------------------------------
         Name: R028B               From Node: 028                Length(ft): 170.00
        Group: BASE                  To Node: 029                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 21.17          21.17                                  Flow: Both
     Rise(in): 21.17          21.17                     Entrance Loss Coef: 1.100
   Invert(ft): 20.000         15.800                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Closure Phase II
48-inch HDPE Riser with 24-inch DR17 HDPE Pipe, 3x 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R028B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 27.000
```

```
              Rise(in): 48.00                 Control Elev(ft): 27.000


-----------------------------------------------------------------------------------------------------
         Name: R042                From Node: 042                Length(ft): 25.00
        Group: BASE                  To Node: 037A                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                   Entrance Loss Coef: 0.700
   Invert(ft): 9.500          8.790                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                  Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                      Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R042 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R042 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                 Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------------
         Name: R043                From Node: 043                Length(ft): 25.00
        Group: BASE                  To Node: 037B                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                   Entrance Loss Coef: 0.700
   Invert(ft): 8.770          8.320                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                  Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                      Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R043 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R043 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600
```

```
              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                  Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------
         Name: R1                  From Node: 1                  Length(ft): 75.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 8.000          7.200                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
TYpe C Inlet Box with 12-inch DR21 HDPE Pipe



*** Weir 1 of 2 for Drop Structure R1 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 11.000
              Rise(in): 24.00                  Control Elev(ft): 11.000

*** Weir 2 of 2 for Drop Structure R1 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 8.000
              Rise(in): 6.00                   Control Elev(ft): 8.000


-----------------------------------------------------------------------------------------------
         Name: RBASIN_2            From Node: BASIN_2            Length(ft): 95.00
        Group: BASE                  To Node: BOX_001                 Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                Flow: Both
     Rise(in): 16.00          16.00                     Entrance Loss Coef: 0.600
   Invert(ft): 2.980          1.960                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 4.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Gate valve in the discharge line

*** Weir 1 of 2 for Drop Structure RBASIN_2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 6.280
              Rise(in): 6.00                   Control Elev(ft): 6.280

*** Weir 2 of 2 for Drop Structure RBASIN_2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600
```

```
              Span(in): 37.20                      Invert(ft): 7.280
              Rise(in): 27.60                 Control Elev(ft): 7.280


-----------------------------------------------------------------------------------------------
         Name: RCOLLING_P          From Node: NCOLLING_P         Length(ft): 61.00
        Group: BASE                  To Node: 020                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 15.88          15.88                                 Flow: Both
     Rise(in): 15.88          15.88                     Entrance Loss Coef: 0.700
   Invert(ft): 22.500         21.300                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Drawings - Gypsum Stack Closure - North Cooling Pond
Modified Type "E" Inlet with 18-inch DR-17 HDPE Pipe, 45 deg. Ell


*** Weir 1 of 2 for Drop Structure RCOLLING_P ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 54.00                      Invert(ft): 27.200
              Rise(in): 45.60                 Control Elev(ft): 27.200

*** Weir 2 of 2 for Drop Structure RCOLLING_P ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 54.00                      Invert(ft): 31.000
              Rise(in): 36.00                 Control Elev(ft): 31.000


-----------------------------------------------------------------------------------------------
         Name: RNGS-N              From Node: NGS-N              Length(ft): 300.00
        Group: BASE                  To Node: 028                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                 Flow: Both
     Rise(in): 14.72          14.72                     Entrance Loss Coef: 0.500
   Invert(ft): 34.600         25.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
Proposed Excess Weir Elevation to treat 1.0-inch RO=40.39 ft



*** Weir 1 of 2 for Drop Structure RNGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                      Invert(ft): 40.390
              Rise(in): 36.00                 Control Elev(ft): 40.390

*** Weir 2 of 2 for Drop Structure RNGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 6.00                        Invert(ft): 37.700
              Rise(in): 6.00                  Control Elev(ft): 37.700


-----------------------------------------------------------------------------------------------
         Name: RNGS-S              From Node: NGS-S              Length(ft): 280.00
        Group: BASE                  To Node: 021                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                 Flow: Both
     Rise(in): 14.72          14.72                    Entrance Loss Coef: 0.500
   Invert(ft): 50.500         35.000                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=56.30 ft

*** Weir 1 of 2 for Drop Structure RNGS-S ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 56.300
              Rise(in): 36.00                  Control Elev(ft): 56.300

*** Weir 2 of 2 for Drop Structure RNGS-S ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 54.000
              Rise(in): 6.00                   Control Elev(ft): 54.000


-----------------------------------------------------------------------------------------------
         Name: RNGS-S2             From Node: NGS-S2             Length(ft): 280.00
        Group: BASE                  To Node: 027                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                 Flow: Both
     Rise(in): 14.72          14.72                    Entrance Loss Coef: 0.500
   Invert(ft): 50.500         25.000                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=56.09 ft

*** Weir 1 of 2 for Drop Structure RNGS-S2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 56.090
              Rise(in): 36.00                  Control Elev(ft): 56.090

*** Weir 2 of 2 for Drop Structure RNGS-S2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 6.00                        Invert(ft): 54.000
              Rise(in): 6.00                  Control Elev(ft): 54.000


-----------------------------------------------------------------------------------------------
         Name: RNGS-S_CAP          From Node: NGS-S_CAP          Length(ft): 120.00
        Group: BASE                  To Node: 011                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.10          11.10                                  Flow: Both
     Rise(in): 11.10          11.10                     Entrance Loss Coef: 0.500
   Invert(ft): 54.000         52.300                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
NGS-N CAP and NGS-N Relief Ditch
12-inch DR15.5 HDPE Pipe with Type C Inlet Box


*** Weir 1 of 1 for Drop Structure RNGS-S_CAP ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                        Invert(ft): 56.500
              Rise(in): 24.00                  Control Elev(ft): 56.500


-----------------------------------------------------------------------------------------------
         Name: ROGS-N              From Node: OGS-N              Length(ft): 245.00
        Group: BASE                  To Node: 010                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                  Flow: Both
     Rise(in): 14.72          14.72                     Entrance Loss Coef: 0.500
   Invert(ft): 51.800         44.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=57.85 feet

*** Weir 1 of 2 for Drop Structure ROGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                        Invert(ft): 57.850
              Rise(in): 36.00                  Control Elev(ft): 57.850

*** Weir 2 of 2 for Drop Structure ROGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                         Invert(ft): 53.530
              Rise(in): 6.00                   Control Elev(ft): 53.530


-----------------------------------------------------------------------------------------------
         Name: ROGS-S              From Node: OGS-S              Length(ft): 220.00
        Group: BASE                  To Node: OGS-N                   Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
```

```
     Span(in): 14.72          14.72                                  Flow: Both
     Rise(in): 14.72          14.72                     Entrance Loss Coef: 0.500
   Invert(ft): 70.300         68.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=75.57 feet

*** Weir 1 of 2 for Drop Structure ROGS-S ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 75.570
              Rise(in): 36.00                 Control Elev(ft): 75.570

*** Weir 2 of 2 for Drop Structure ROGS-S ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 72.000
              Rise(in): 6.00                  Control Elev(ft): 72.000


==================================================================================
==== Weirs =======================================================================
==================================================================================

         Name: R008_O              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                   Span(in): 6.00
                   Rise(in): 6.00
                 Invert(ft): 55.200
       Control Elevation(ft): 55.200
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration


-------------------------------------------------------------------------------------------------
         Name: R008_W              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Circular

                   Span(in): 30.00
                   Rise(in): 30.00
                 Invert(ft): 56.700
       Control Elevation(ft): 56.700
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech


-------------------------------------------------------------------------------------------------
         Name: R013W               From Node: 013
        Group: BASE                  To Node: 007
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                       XSec: X013W
                 Invert(ft): 38.110
       Control Elevation(ft): 38.110
```

```
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R027W               From Node: 027
        Group: BASE                  To Node: 028
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
       Left Side Slope(h/v): 3.00
      Right Side Slope(h/v): 3.00
                  Invert(ft): 23.500
      Control Elevation(ft): 23.500
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
         Name: R040W               From Node: 040
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X040W
                  Invert(ft): 13.170
      Control Elevation(ft): 13.170
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W               From Node: 042
        Group: BASE                  To Node: 040
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W
                  Invert(ft): 13.830
      Control Elevation(ft): 13.830
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W2              From Node: 042
        Group: BASE                  To Node: 043
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W2
                  Invert(ft): 13.220
      Control Elevation(ft): 13.220
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R043W               From Node: 043
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
```

```
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X043W
                   Invert(ft): 13.610
      Control Elevation(ft): 13.610
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R044W               From Node: 044
       Group: BASE                  To Node: 043
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X044W
                   Invert(ft): 13.270
      Control Elevation(ft): 13.270
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R2_W                From Node: 2
       Group: BASE                  To Node: 1
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X2_W
                   Invert(ft): 12.860
      Control Elevation(ft): 12.860
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R3_W                From Node: 3
       Group: BASE                  To Node: 4
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X3_W
                   Invert(ft): 13.300
      Control Elevation(ft): 13.300
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R3B                 From Node: 3
       Group: BASE                  To Node: 2
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X3B
                   Invert(ft): 13.220
      Control Elevation(ft): 13.220
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: W_001               From Node: BOX_001
       Group: BASE                  To Node: TW_001
```

```
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 38.40
                   Rise(in): 9999.00
                 Invert(ft): 3.000
       Control Elevation(ft): 3.000
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.2 ft wide weir

-----------------------------------------------------------------------------------------------------
         Name: W_003               From Node: BOX_003
        Group: BASE                  To Node: TW_003
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 38.64
                   Rise(in): 9999.00
                 Invert(ft): 7.500
       Control Elevation(ft): 7.500
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.22 ft wide weir

==========================================================================================
==== Hydrology Simulations ===============================================================
==========================================================================================

         Name: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\25YR_24HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.50

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------------
         Name: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\Mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 4.70

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

==========================================================================================
==== Routing Simulations =================================================================
==========================================================================================

         Name: 25YR_24HR           Hydrology Sim: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\25YR_24HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

```
-----------------------------------------------------------------------------------------------
         Name: Mean                Hydrology Sim: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\Mean.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

| Name | Group | Simulation | Max Time Stage hrs | Max Stage ft | Warning Stage ft | Max Delta Stage ft | Max Surf Area ft2 | Max Time Inflow hrs | Max Inflow cfs | Max Time Outflow hrs | Max Outflow cfs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-NE | BASE | 25YR_24HR | 15.12 | 10.77 | 13.00 | 0.0010 | 345506 | 12.08 | 64.21 | 15.12 | 4.76 |
| 0-NW | BASE | 25YR_24HR | 14.16 | 11.17 | 13.00 | 0.0011 | 195583 | 12.17 | 35.32 | 14.16 | 5.89 |
| 0-SE | BASE | 25YR_24HR | 13.40 | 10.74 | 13.00 | 0.0022 | 145697 | 12.08 | 28.58 | 13.40 | 5.11 |
| 0-SW | BASE | 25YR_24HR | 14.49 | 11.16 | 13.00 | 0.0011 | 229129 | 12.25 | 36.18 | 13.97 | 5.87 |
| 001 | BASE | 25YR_24HR | 32.76 | 15.13 | 18.50 | 0.0023 | 409 | 32.71 | 8.75 | 32.21 | 8.75 |
| 002 | BASE | 25YR_24HR | 72.00 | 27.04 | 29.00 | 0.0020 | 251031 | 12.00 | 126.92 | 72.00 | 4.22 |
| 003 | BASE | 25YR_24HR | 72.00 | 27.05 | 29.00 | 0.0018 | 8345 | 12.00 | 32.96 | 12.04 | 32.19 |
| 004 | BASE | 25YR_24HR | 12.49 | 32.37 | 33.50 | 0.0016 | 9863 | 12.00 | 23.96 | 12.49 | 17.18 |
| 005 | BASE | 25YR_24HR | 12.49 | 32.40 | 34.00 | 0.0014 | 22332 | 12.00 | 29.95 | 12.96 | 15.14 |
| 005B | BASE | 25YR_24HR | 14.67 | 79.11 | 82.00 | 0.0023 | 56792 | 12.00 | 30.84 | 14.67 | 1.55 |
| 006 | BASE | 25YR_24HR | 12.50 | 32.41 | 33.50 | 0.0013 | 12583 | 12.00 | 19.50 | 15.34 | 12.47 |
| 007 | BASE | 25YR_24HR | 15.15 | 35.10 | 37.00 | 0.0018 | 46045 | 12.00 | 33.61 | 15.40 | 11.32 |
| 008 | BASE | 25YR_24HR | 13.63 | 56.76 | 59.50 | 0.0010 | 42800 | 12.00 | 18.90 | 13.63 | 1.40 |
| 008A | BASE | 25YR_24HR | 13.70 | 47.16 | 55.50 | -0.0020 | 205 | 13.71 | 2.50 | 13.70 | 2.50 |
| 009 | BASE | 25YR_24HR | 14.12 | 81.26 | 83.50 | 0.0006 | 67263 | 12.00 | 18.18 | 14.12 | 1.12 |
| 01 | BASE | 25YR_24HR | 12.22 | 10.31 | 14.48 | 0.0050 | 1099 | 12.20 | 38.41 | 12.22 | 38.36 |
| 010 | BASE | 25YR_24HR | 41.48 | 55.36 | 76.00 | 0.0050 | 44807 | 11.93 | 52.17 | 41.48 | 7.19 |
| 011 | BASE | 25YR_24HR | 41.48 | 55.36 | 75.00 | 0.0030 | 100824 | 12.00 | 62.83 | 15.69 | 22.45 |
| 012 | BASE | 25YR_24HR | 41.46 | 55.36 | 63.00 | 0.0004 | 56008 | 12.00 | 22.13 | 12.08 | 18.35 |
| 013 | BASE | 25YR_24HR | 12.40 | 36.55 | 38.50 | 0.0032 | 5755 | 12.00 | 11.26 | 12.18 | 6.16 |
| 014 | BASE | 25YR_24HR | 12.40 | 36.56 | 39.00 | 0.0022 | 8959 | 12.00 | 12.29 | 12.12 | 4.07 |
| 015 | BASE | 25YR_24HR | 12.39 | 36.57 | 38.50 | 0.0014 | 3242 | 12.00 | 5.16 | 12.01 | 3.97 |
| 016 | BASE | 25YR_24HR | 30.10 | 23.43 | 23.50 | 0.0016 | 33717 | 12.03 | 19.80 | 29.96 | 5.34 |
| 017 | BASE | 25YR_24HR | 30.10 | 23.43 | 24.00 | 0.0014 | 16072 | 12.06 | 18.15 | 12.07 | 14.03 |
| 018 | BASE | 25YR_24HR | 30.10 | 23.43 | 24.50 | 0.0012 | 25153 | 12.00 | 18.96 | 12.09 | 13.82 |
| 019 | BASE | 25YR_24HR | 30.09 | 23.44 | 24.50 | 0.0017 | 12856 | 12.00 | 11.70 | 12.10 | 9.14 |
| 02 | BASE | 25YR_24HR | 12.21 | 10.78 | 12.48 | 0.0049 | 435 | 12.17 | 38.52 | 12.20 | 38.41 |
| 020 | BASE | 25YR_24HR | 24.02 | 27.34 | 25.00 | 0.0027 | 60252 | 12.00 | 32.10 | 18.35 | 7.72 |
| 021 | BASE | 25YR_24HR | 12.03 | 36.82 | 38.00 | 0.0020 | 7803 | 12.00 | 27.40 | 12.07 | 27.04 |
| 022 | BASE | 25YR_24HR | 12.44 | 32.76 | 34.00 | 0.0020 | 18377 | 12.01 | 43.92 | 12.04 | 36.92 |
| 023 | BASE | 25YR_24HR | 12.47 | 32.58 | 32.50 | 0.0046 | 11122 | 12.04 | 45.54 | 12.56 | 25.77 |
| 024 | BASE | 25YR_24HR | 22.11 | 27.94 | 29.50 | 0.0027 | 7624 | 12.08 | 31.67 | 12.14 | 30.38 |
| 025 | BASE | 25YR_24HR | 22.11 | 27.92 | 29.40 | 0.0022 | 16966 | 12.04 | 42.93 | 12.15 | 39.24 |
| 026 | BASE | 25YR_24HR | 22.11 | 27.90 | 29.20 | 0.0020 | 19432 | 12.08 | 51.73 | 12.15 | 47.89 |
| 027 | BASE | 25YR_24HR | 22.10 | 27.89 | 29.00 | 0.0028 | 10390 | 12.12 | 68.68 | 12.13 | 66.14 |
| 028 | BASE | 25YR_24HR | 22.10 | 27.88 | 28.50 | 0.0033 | 538526 | 12.00 | 209.61 | 22.04 | 33.74 |
| 029 | BASE | 25YR_24HR | 24.20 | 17.84 | 17.80 | 0.0027 | 9764 | 22.04 | 33.86 | 22.10 | 33.58 |
| 03 | BASE | 25YR_24HR | 12.22 | 10.94 | 15.13 | -0.0049 | 139 | 12.25 | 15.06 | 12.25 | 15.08 |
| 030 | BASE | 25YR_24HR | 24.47 | 17.67 | 17.50 | 0.0013 | 26949 | 22.11 | 33.84 | 22.56 | 32.74 |
| 031 | BASE | 25YR_24HR | 24.63 | 17.55 | 17.00 | -0.0012 | 27300 | 22.50 | 32.93 | 23.48 | 31.71 |
| 032 | BASE | 25YR_24HR | 24.65 | 17.53 | 17.00 | -0.0012 | 9294 | 23.48 | 31.78 | 23.63 | 31.42 |
| 033 | BASE | 25YR_24HR | 24.89 | 17.21 | 16.50 | 0.0013 | 5712 | 23.58 | 11.24 | 23.80 | 11.03 |
| 034 | BASE | 25YR_24HR | 24.89 | 17.21 | 17.80 | 0.0013 | 6172 | 23.79 | 11.08 | 24.30 | 10.91 |
| 034B | BASE | 25YR_24HR | 27.64 | 16.32 | 16.30 | 0.0009 | 201130 | 12.17 | 33.25 | 27.64 | 18.54 |
| 035 | BASE | 25YR_24HR | 25.27 | 14.80 | 16.50 | 0.0009 | 9591 | 12.00 | 9.77 | 25.11 | 7.82 |
| 036 | BASE | 25YR_24HR | 25.28 | 14.76 | 16.50 | 0.0013 | 9436 | 12.00 | 8.20 | 25.28 | 4.63 |
| 037 | BASE | 25YR_24HR | 33.19 | 13.19 | 19.00 | 0.0047 | 146 | 12.36 | 8.06 | 12.38 | 8.05 |
| 037A | BASE | 25YR_24HR | 34.34 | 12.70 | 11.70 | 0.0114 | 148 | 28.91 | 11.42 | 28.93 | 11.42 |
| 037B | BASE | 25YR_24HR | 36.23 | 11.80 | 11.70 | -0.0042 | 137 | 22.45 | 17.63 | 22.44 | 17.63 |
| 038 | BASE | 25YR_24HR | 12.30 | 14.16 | 16.00 | 0.0012 | 9167 | 12.00 | 8.03 | 12.30 | 3.68 |
| 039 | BASE | 25YR_24HR | 12.21 | 14.28 | 16.50 | 0.0009 | 8572 | 12.00 | 6.96 | 12.08 | 4.32 |
| 04 | BASE | 25YR_24HR | 12.22 | 11.12 | 12.48 | 0.0050 | 130 | 12.25 | 14.25 | 12.25 | 14.26 |
| 040 | BASE | 25YR_24HR | 33.12 | 14.18 | 16.30 | 0.0005 | 93323 | 12.25 | 13.38 | 12.57 | 12.25 |
| 041 | BASE | 25YR_24HR | 33.12 | 14.19 | 16.50 | 0.0005 | 106567 | 12.03 | 13.17 | 9.82 | 0.08 |
| 042 | BASE | 25YR_24HR | 33.12 | 14.18 | 14.00 | 0.0012 | 192392 | 12.08 | 40.52 | 12.69 | 12.42 |
| 043 | BASE | 25YR_24HR | 33.12 | 14.19 | 13.50 | 0.0017 | 281671 | 12.08 | 54.37 | 31.15 | 10.02 |
| 044 | BASE | 25YR_24HR | 33.12 | 14.19 | 12.70 | 0.0008 | 27457 | 12.08 | 12.24 | 12.09 | 12.10 |
| 045 | BASE | 25YR_24HR | 13.59 | 14.77 | 16.00 | 0.0008 | 105517 | 12.08 | 23.27 | 13.59 | 2.45 |
| 046 | BASE | 25YR_24HR | 12.80 | 12.73 | 13.20 | 0.0007 | 5737 | 12.08 | 3.79 | 12.80 | 2.85 |
| 05 | BASE | 25YR_24HR | 12.21 | 10.90 | 11.98 | 0.0037 | 131 | 12.17 | 16.68 | 12.17 | 16.61 |
| 1 | BASE | 25YR_24HR | 45.35 | 11.41 | 13.00 | 0.0018 | 31993 | 12.06 | 17.29 | 23.64 | 3.58 |
| 2 | BASE | 25YR_24HR | 40.92 | 12.32 | 13.00 | 0.0010 | 77665 | 12.02 | 23.17 | 36.93 | 3.73 |
| 3 | BASE | 25YR_24HR | 12.02 | 13.48 | 13.20 | 0.0050 | 13559 | 12.00 | 18.58 | 12.02 | 18.20 |
| 4 | BASE | 25YR_24HR | 45.31 | 11.41 | 11.30 | 0.0020 | 4903 | 12.02 | 7.07 | 12.06 | 6.33 |
| BASIN_2 | BASE | 25YR_24HR | 46.48 | 10.30 | 13.00 | 0.0010 | 879300 | 12.00 | 204.34 | 46.48 | 13.88 |
| BOX_001 | BASE | 25YR_24HR | 46.48 | 4.28 | 8.10 | 0.0017 | 113 | 46.48 | 13.88 | 46.48 | 13.88 |
| BOX_003 | BASE | 25YR_24HR | 32.61 | 8.44 | 12.90 | 0.0008 | 481 | 32.21 | 8.75 | 32.61 | 8.75 |
| LPWS | BASE | 25YR_24HR | 24.50 | 20.97 | 23.50 | 0.0003 | 466860 | 12.00 | 72.51 | 0.00 | 0.00 |
| NCOLLING_P | BASE | 25YR_24HR | 13.05 | 29.45 | 33.00 | -0.0183 | 284696 | 12.00 | 145.61 | 12.06 | 15.58 |
| NGS-N | BASE | 25YR_24HR | 13.51 | 42.10 | 73.00 | 0.0024 | 265968 | 12.00 | 180.75 | 13.51 | 15.00 |
| NGS-S | BASE | 25YR_24HR | 14.15 | 58.35 | 74.00 | 0.0024 | 353119 | 12.00 | 256.54 | 14.15 | 15.42 |
| NGS-S2 | BASE | 25YR_24HR | 12.84 | 57.46 | 74.00 | 0.0020 | 191074 | 12.00 | 121.89 | 12.84 | 14.45 |
| NGS-S_CAP | BASE | 25YR_24HR | 12.97 | 57.18 | 63.00 | 0.0005 | 187232 | 12.00 | 51.24 | 12.97 | 5.34 |
| OGS-N | BASE | 25YR_24HR | 20.24 | 61.45 | 86.00 | 0.0038 | 258669 | 12.00 | 197.44 | 11.80 | 13.96 |
| OGS-S | BASE | 25YR_24HR | 13.10 | 76.40 | 85.00 | 0.0050 | 325639 | 12.00 | 123.89 | 13.10 | 11.83 |
| TW_001 | BASE | 25YR_24HR | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 46.48 | 13.88 | 0.00 | 0.00 |
| TW_003 | BASE | 25YR_24HR | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 32.61 | 8.75 | 0.00 | 0.00 |
| 0-NE | BASE | Mean | 24.14 | 10.42 | 13.00 | 0.0008 | 262315 | 12.08 | 27.82 | 24.14 | 0.61 |
| 0-NW | BASE | Mean | 14.04 | 10.57 | 13.00 | 0.0012 | 110846 | 12.25 | 15.33 | 14.04 | 3.16 |
| 0-SE | BASE | Mean | 19.97 | 10.42 | 13.00 | 0.0025 | 108326 | 12.08 | 12.36 | 19.97 | 0.55 |
| 0-SW | BASE | Mean | 14.26 | 10.58 | 13.00 | 0.0011 | 123382 | 12.25 | 15.63 | 14.26 | 3.33 |
| 001 | BASE | Mean | 24.25 | 14.97 | 18.50 | -0.0029 | 458 | 24.10 | 7.49 | 23.97 | 7.49 |
| 002 | BASE | Mean | 49.90 | 23.13 | 29.00 | 0.0016 | 192873 | 12.00 | 63.43 | 49.90 | 3.28 |
| 003 | BASE | Mean | 12.12 | 26.24 | 29.00 | 0.0014 | 6759 | 12.06 | 21.56 | 12.12 | 20.82 |
| 004 | BASE | Mean | 12.31 | 31.22 | 33.50 | 0.0009 | 7946 | 12.09 | 16.09 | 12.31 | 14.89 |
| 005 | BASE | Mean | 12.31 | 31.36 | 34.00 | 0.0011 | 18302 | 12.05 | 16.22 | 12.31 | 12.84 |
| 005B | BASE | Mean | 13.57 | 78.01 | 82.00 | 0.0021 | 30778 | 12.00 | 13.67 | 13.57 | 1.19 |
| 006 | BASE | Mean | 12.31 | 31.43 | 33.50 | 0.0011 | 10484 | 12.01 | 10.81 | 12.36 | 8.96 |
| 007 | BASE | Mean | 16.14 | 33.52 | 37.00 | 0.0023 | 36478 | 12.00 | 19.22 | 16.14 | 8.10 |
| 008 | BASE | Mean | 13.62 | 55.99 | 59.50 | 0.0008 | 31683 | 12.00 | 8.38 | 13.62 | 0.69 |
| 008A | BASE | Mean | 14.03 | 46.85 | 55.50 | -0.0021 | 196 | 13.94 | 1.08 | 14.03 | 1.08 |
| 009 | BASE | Mean | 15.58 | 80.80 | 83.50 | 0.0005 | 52761 | 12.00 | 8.06 | 15.58 | 0.39 |
| 01 | BASE | Mean | 12.29 | 9.23 | 14.48 | 0.0038 | 1550 | 12.26 | 19.83 | 12.29 | 19.75 |
| 010 | BASE | Mean | 21.71 | 51.49 | 76.00 | 0.0050 | 30613 | 12.24 | 33.28 | 21.71 | 6.40 |
| 011 | BASE | Mean | 21.79 | 51.49 | 75.00 | 0.0031 | 70428 | 12.02 | 28.93 | 22.49 | 17.79 |
| 012 | BASE | Mean | 12.11 | 53.39 | 63.00 | 0.0003 | 40907 | 12.00 | 10.61 | 12.11 | 8.34 |
| 013 | BASE | Mean | 12.31 | 35.28 | 38.50 | -0.0030 | 4021 | 12.00 | 6.86 | 12.31 | 4.52 |
| 014 | BASE | Mean | 12.31 | 35.33 | 39.00 | -0.0021 | 5721 | 12.00 | 6.12 | 12.05 | 3.45 |
| 015 | BASE | Mean | 12.09 | 35.97 | 38.50 | 0.0009 | 2132 | 12.00 | 2.47 | 12.05 | 2.21 |
| 016 | BASE | Mean | 21.72 | 21.43 | 23.50 | 0.0018 | 26364 | 12.10 | 10.21 | 21.57 | 4.72 |
| 017 | BASE | Mean | 21.72 | 21.43 | 24.00 | 0.0017 | 10840 | 12.12 | 9.20 | 12.27 | 8.42 |
| 018 | BASE | Mean | 21.68 | 21.44 | 24.50 | 0.0015 | 16964 | 12.03 | 10.07 | 12.32 | 7.97 |

| Name | Group | Simulation | Max Time Stage hrs | Max Stage ft | Warning Stage ft | Max Delta Stage ft | Max Surf Area ft2 | Max Time Inflow hrs | Max Inflow cfs | Max Time Outflow hrs | Max Outflow cfs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 019 | BASE | Mean | 21.64 | 21.45 | 24.50 | 0.0022 | 8698 | 15.03 | 7.56 | 15.05 | 7.15 |
| 02 | BASE | Mean | 12.28 | 9.50 | 12.48 | 0.0037 | 1254 | 12.24 | 19.94 | 12.26 | 19.83 |
| 020 | BASE | Mean | 15.43 | 25.05 | 25.00 | 0.0034 | 46152 | 12.00 | 22.59 | 15.03 | 7.43 |
| 021 | BASE | Mean | 13.06 | 36.37 | 38.00 | 0.0011 | 6196 | 13.00 | 12.50 | 13.07 | 12.49 |
| 022 | BASE | Mean | 13.09 | 31.73 | 34.00 | 0.0016 | 12457 | 12.00 | 15.24 | 13.09 | 13.32 |
| 023 | BASE | Mean | 12.12 | 29.84 | 32.50 | 0.0005 | 5814 | 12.09 | 15.67 | 12.12 | 15.55 |
| 024 | BASE | Mean | 12.16 | 26.64 | 29.50 | 0.0019 | 5343 | 12.08 | 19.31 | 12.14 | 18.21 |
| 025 | BASE | Mean | 33.97 | 26.38 | 29.40 | 0.0021 | 11772 | 12.08 | 23.76 | 12.23 | 21.02 |
| 026 | BASE | Mean | 33.95 | 26.38 | 29.20 | 0.0020 | 14121 | 12.13 | 25.47 | 12.28 | 24.02 |
| 027 | BASE | Mean | 33.28 | 26.37 | 29.00 | 0.0027 | 7757 | 12.33 | 30.38 | 12.25 | 28.83 |
| 028 | BASE | Mean | 33.38 | 26.37 | 28.50 | 0.0030 | 500492 | 12.00 | 86.36 | 33.38 | 3.71 |
| 029 | BASE | Mean | 12.11 | 16.06 | 17.80 | 0.0025 | 5442 | 12.00 | 5.96 | 12.09 | 5.47 |
| 03 | BASE | Mean | 12.28 | 9.55 | 15.13 | -0.0050 | 476 | 12.25 | 7.88 | 12.26 | 7.84 |
| 030 | BASE | Mean | 12.22 | 15.67 | 17.50 | 0.0012 | 14582 | 12.00 | 11.30 | 12.18 | 8.38 |
| 031 | BASE | Mean | 12.46 | 15.05 | 17.00 | 0.0013 | 14487 | 12.08 | 11.86 | 12.36 | 8.51 |
| 032 | BASE | Mean | 12.50 | 14.95 | 17.00 | 0.0012 | 5271 | 12.29 | 9.31 | 12.41 | 8.83 |
| 033 | BASE | Mean | 12.53 | 14.88 | 16.50 | 0.0013 | 3506 | 12.26 | 5.53 | 12.42 | 5.14 |
| 034 | BASE | Mean | 12.53 | 14.87 | 17.80 | 0.0013 | 4142 | 12.31 | 5.72 | 12.58 | 5.46 |
| 034B | BASE | Mean | 14.71 | 14.59 | 16.30 | 0.0007 | 137669 | 12.25 | 13.71 | 14.69 | 2.66 |
| 035 | BASE | Mean | 12.94 | 13.96 | 16.50 | 0.0009 | 7640 | 12.08 | 5.23 | 12.73 | 3.98 |
| 036 | BASE | Mean | 13.00 | 13.89 | 16.50 | 0.0013 | 7405 | 12.02 | 4.86 | 13.00 | 3.15 |
| 037 | BASE | Mean | 12.66 | 10.20 | 19.00 | 0.0011 | 553 | 12.65 | 5.40 | 5.35 | 7.72 |
| 037A | BASE | Mean | 12.75 | 9.61 | 11.70 | 0.0114 | 788 | 5.35 | 7.72 | 12.72 | 6.23 |
| 037B | BASE | Mean | 12.84 | 9.35 | 11.70 | 0.0014 | 537 | 12.81 | 6.82 | 12.84 | 6.82 |
| 038 | BASE | Mean | 12.56 | 13.54 | 16.00 | 0.0012 | 7558 | 12.06 | 4.59 | 12.55 | 2.30 |
| 039 | BASE | Mean | 12.15 | 13.91 | 16.50 | 0.0006 | 7282 | 12.00 | 3.33 | 12.11 | 2.26 |
| 04 | BASE | Mean | 12.27 | 9.60 | 12.48 | 0.0044 | 358 | 12.25 | 7.49 | 12.25 | 7.46 |
| 040 | BASE | Mean | 13.72 | 13.74 | 16.30 | 0.0007 | 63132 | 12.33 | 6.30 | 13.75 | 3.16 |
| 041 | BASE | Mean | 13.72 | 13.74 | 16.50 | 0.0007 | 81905 | 12.18 | 7.13 | 11.86 | 0.08 |
| 042 | BASE | Mean | 17.58 | 12.90 | 14.00 | 0.0009 | 106999 | 12.08 | 17.69 | 17.58 | 0.92 |
| 043 | BASE | Mean | 24.52 | 13.26 | 13.50 | 0.0011 | 199263 | 12.08 | 23.06 | 28.06 | 2.10 |
| 044 | BASE | Mean | 12.10 | 13.45 | 12.70 | 0.0010 | 9550 | 12.08 | 5.36 | 12.10 | 5.24 |
| 045 | BASE | Mean | 13.26 | 14.27 | 16.00 | 0.0007 | 64870 | 12.08 | 10.26 | 13.21 | 1.37 |
| 046 | BASE | Mean | 13.16 | 12.25 | 13.20 | 0.0007 | 4302 | 12.33 | 1.66 | 13.15 | 1.49 |
| 05 | BASE | Mean | 12.27 | 9.54 | 11.98 | -0.0031 | 429 | 12.17 | 8.76 | 12.23 | 8.61 |
| 1 | BASE | Mean | 14.69 | 10.33 | 13.00 | 0.0019 | 23285 | 12.23 | 7.81 | 14.68 | 1.22 |
| 2 | BASE | Mean | 29.29 | 10.61 | 13.00 | 0.0003 | 58763 | 12.08 | 6.60 | 29.27 | 1.01 |
| 3 | BASE | Mean | 12.19 | 13.34 | 13.20 | 0.0050 | 11216 | 12.00 | 8.21 | 12.19 | 5.21 |
| 4 | BASE | Mean | 14.78 | 10.33 | 11.30 | 0.0035 | 2484 | 12.08 | 1.00 | 12.23 | 1.34 |
| BASIN_2 | BASE | Mean | 24.90 | 7.69 | 13.00 | 0.0008 | 684269 | 12.00 | 106.42 | 24.90 | 9.52 |
| BOX_001 | BASE | Mean | 24.90 | 3.99 | 8.10 | 0.0011 | 113 | 24.90 | 9.52 | 24.90 | 9.52 |
| BOX_003 | BASE | Mean | 24.22 | 8.34 | 12.90 | -0.0017 | 496 | 23.97 | 7.49 | 24.22 | 7.49 |
| LPWS | BASE | Mean | 24.50 | 20.63 | 23.50 | 0.0002 | 464373 | 12.00 | 40.09 | 0.00 | 0.00 |
| NCOLLING_P | BASE | Mean | 12.50 | 28.69 | 33.00 | -0.0106 | 171263 | 12.00 | 64.55 | 12.50 | 15.38 |
| NGS-N | BASE | Mean | 12.91 | 40.82 | 73.00 | 0.0029 | 141376 | 12.00 | 80.12 | 12.91 | 9.42 |
| NGS-S | BASE | Mean | 13.09 | 56.82 | 74.00 | 0.0026 | 189920 | 12.00 | 113.72 | 13.09 | 11.86 |
| NGS-S2 | BASE | Mean | 12.85 | 56.42 | 74.00 | 0.0022 | 112884 | 12.00 | 54.03 | 12.85 | 6.84 |
| NGS-S_CAP | BASE | Mean | 12.59 | 56.78 | 63.00 | 0.0003 | 161240 | 12.00 | 22.72 | 12.59 | 4.50 |
| OGS-N | BASE | Mean | 13.63 | 58.67 | 86.00 | 0.0046 | 106578 | 12.00 | 84.78 | 12.34 | 13.47 |
| OGS-S | BASE | Mean | 13.04 | 75.85 | 85.00 | 0.0050 | 247794 | 12.00 | 54.92 | 13.04 | 5.96 |
| TW_001 | BASE | Mean | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 24.90 | 9.52 | 0.00 | 0.00 |
| TW_003 | BASE | Mean | 0.00 | 1.30 | 1.30 | 0.0000 | 0 | 24.22 | 7.49 | 0.00 | 0.00 |

ADDENDUM 1

Responses to FDEP, Request for Additional Information Dated March 16, 2022 - Questions 7 & 8

**March 16th, 2022 – FDEP Comments**

7. The review of the site's existing hydrology and the performance of the conceptual closure plan on the site's surface water runoff, drainage patterns and existing storm water controls are documented in Attachment 1, Hydrologic and Hydraulic Evaluations, for the conceptual closure stormwater management system. The department acknowledges that the proposed conceptual closure plan provides protection against off-site flooding by providing detention that effectively maintains peak stormwater discharge rates so that they do not exceed existing site conditions for the 25-year, 24-hour design storm event.

Figure C, however, shows an extension in the inundation period within Basin 2 that is on the order of two to three days. Please review the proposed closure configuration for the existing inlet structure for Basin 2 to determine whether modification of the low-level orifices for this inlet structure may provide a more rapid recession of the water levels in Basin 2 while not exceeding existing peak flow rates and minimizing maintenance concerns for vegetative cover that may occur with extended periods of inundation within Basin 2.

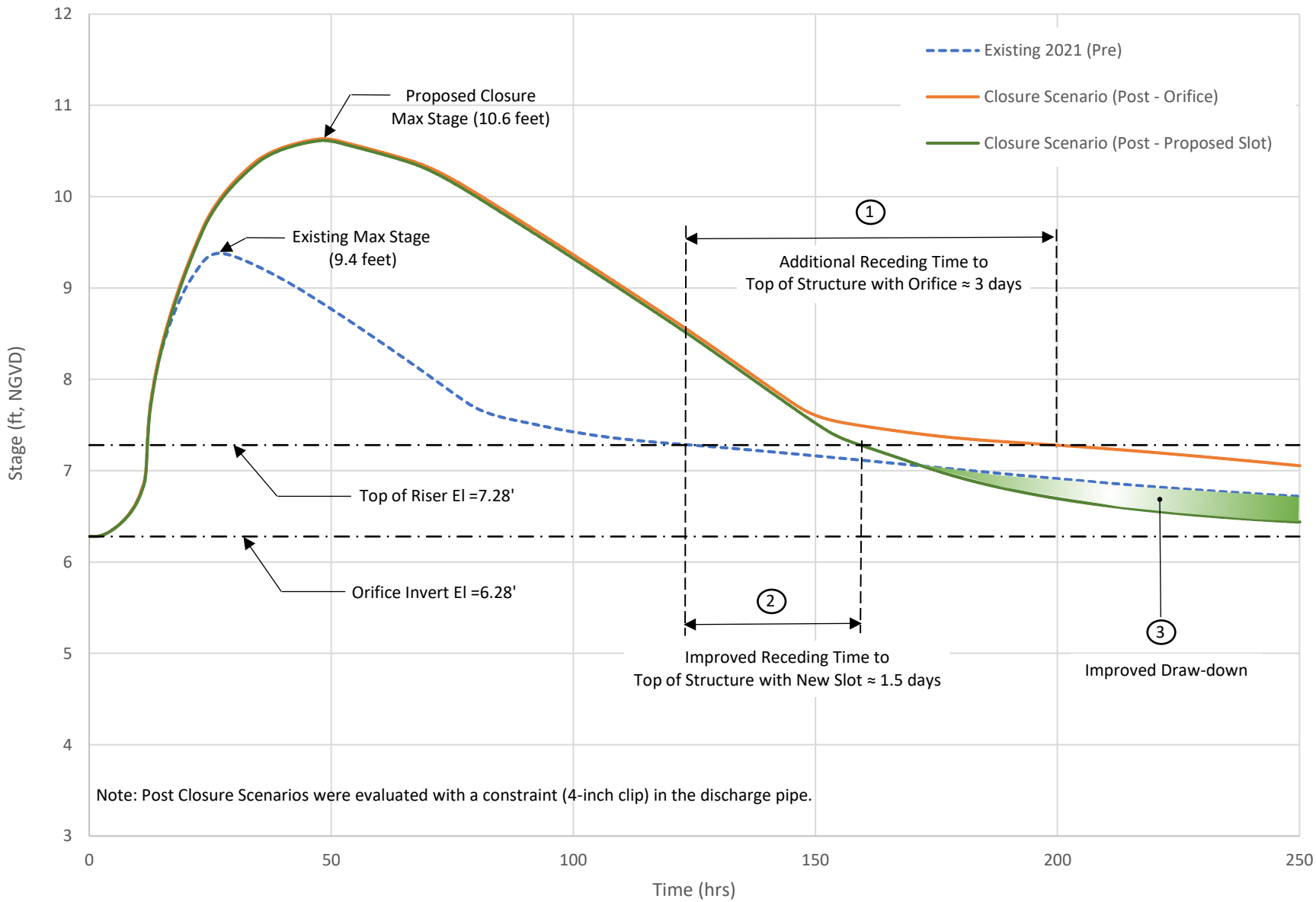
**Response to Comment No 7**

Basin 2 discharge control structure is comprised of one FDOT Type C inlet box with one 6-inch orifice and one 18-inch diameter DR21 pipe connecting to Outfall 001. The FDOT Type C top of riser is at elevation 7.28 feet (NGVD29) while the orifice invert elevation is at 6.28 feet. The 18-inch DR21 pipe upstream elevation is at 2.98 feet and the downstream is at elevation 1.96 feet.

As depicted on Figure ADD1 below, it will take approximately 3 days to release the additional volume generated by the final closure. To expedite the system recovery without increasing the existing discharge rate, FDEP proposed to cut a 2.0 foot wide notch to the same elevation as the orifice invert of elevation of 6.28 feet. As shown in Figure ADD_1, the proposed notch would allow for faster drainage at the end of six days following the storm event, resulting in better recovery of the Basin 2 storage capacity. Simulation results suggest that Basin 2 receding time could be improved by approximately 1.5 days in addition to the improved drawdown of the treatment volume with the proposed notch.

Also, the existing and proposed closure scenarios (with existing orifice and proposed notch) discharge hydrographs are shown in Figure ADD_2. The model results suggest that the proposed closure scenarios peak discharge rates from Outfall 001 would be less than the existing peak flow rates.

Figure ADD_1. Basin 2 (pre Vs post) Stage Hydrographs (25-Year Event)



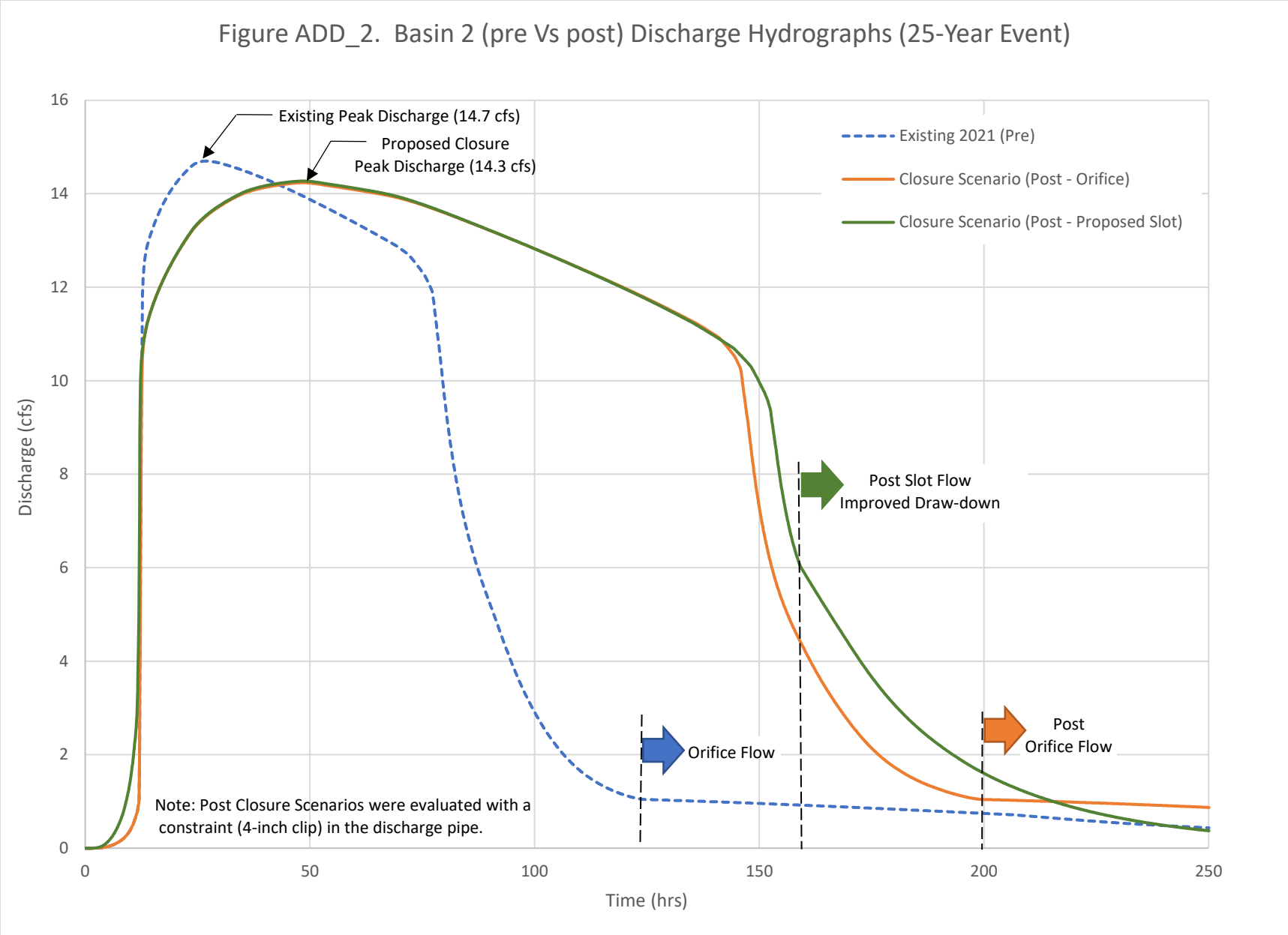


Figure ADD_2. Basin 2 (pre Vs post) Discharge Hydrographs (25-Year Event)
Existing Peak Discharge (14.7 cfs)
Proposed Closure
Peak Discharge (14.3 cfs)
Existing 2021 (Pre)
Closure Scenario (Post - Orifice)
Closure Scenario (Post - Proposed Slot)
Post Slot Flow
Improved Draw-down
Orifice Flow
Post
Orifice Flow
Note: Post Closure Scenarios were evaluated with a
constraint (4-inch clip) in the discharge pipe.
Discharge (cfs)
Time (hrs)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
250

8. Please review the proposed conceptual closure stormwater management plan and provide a comparison of the existing and proposed maximum stage and extent (similar to Figure 6 for the 25-year, 24-hour design storm event) and outfall hydrographs for the site's 100-year, 24-hour design storm event. From this review, please identify any critical locations and recommendations that may be needed for control structures or discharges that are expected to occur in response to extreme rainfall events at or exceeding the 100-year, 24-hour design storm.

**Response to Comment No 8**

As shown in Figure ADD_3, it is feasible to contain the 100y/24hr storm event with additional improvements in addition to the previously suggested improvements for the 25yr/24hr event as follows:

- Raise the access road to elevation 28.5 feet (NGVD) near potential internal overtop.
- Replace the existing drop structure on the east side slope ditch of NGS-S with (2) new drop-structures with one 36-inch vertical riser coupled with one horizontal 24-inch discharge pipe each.
- Add (2) 24-inch pipes from the west perimeter ditch two the low lying area (north of West Field) and add (2) 24-inch pipes from the low lying area to the West Field.

Improvements previously described will be part of the Conceptual Closure Plan. As mentioned in the H&H report, a list of improvements will be available for the final detail design.

Existing and proposed closure scenarios discharge hydrographs in response to a 100-year, 24-hour storm event from Outfalls 001 and 003 are provided below as Figure ADD_4 and ADD_5, respectively.

Due to implementation of previously mentioned improvements, model results will be revised for the Mean and 25-year 24-hour storm events.

# Figure ADD_3. PROPOSED CLOSURE-100Yr-24hr Results

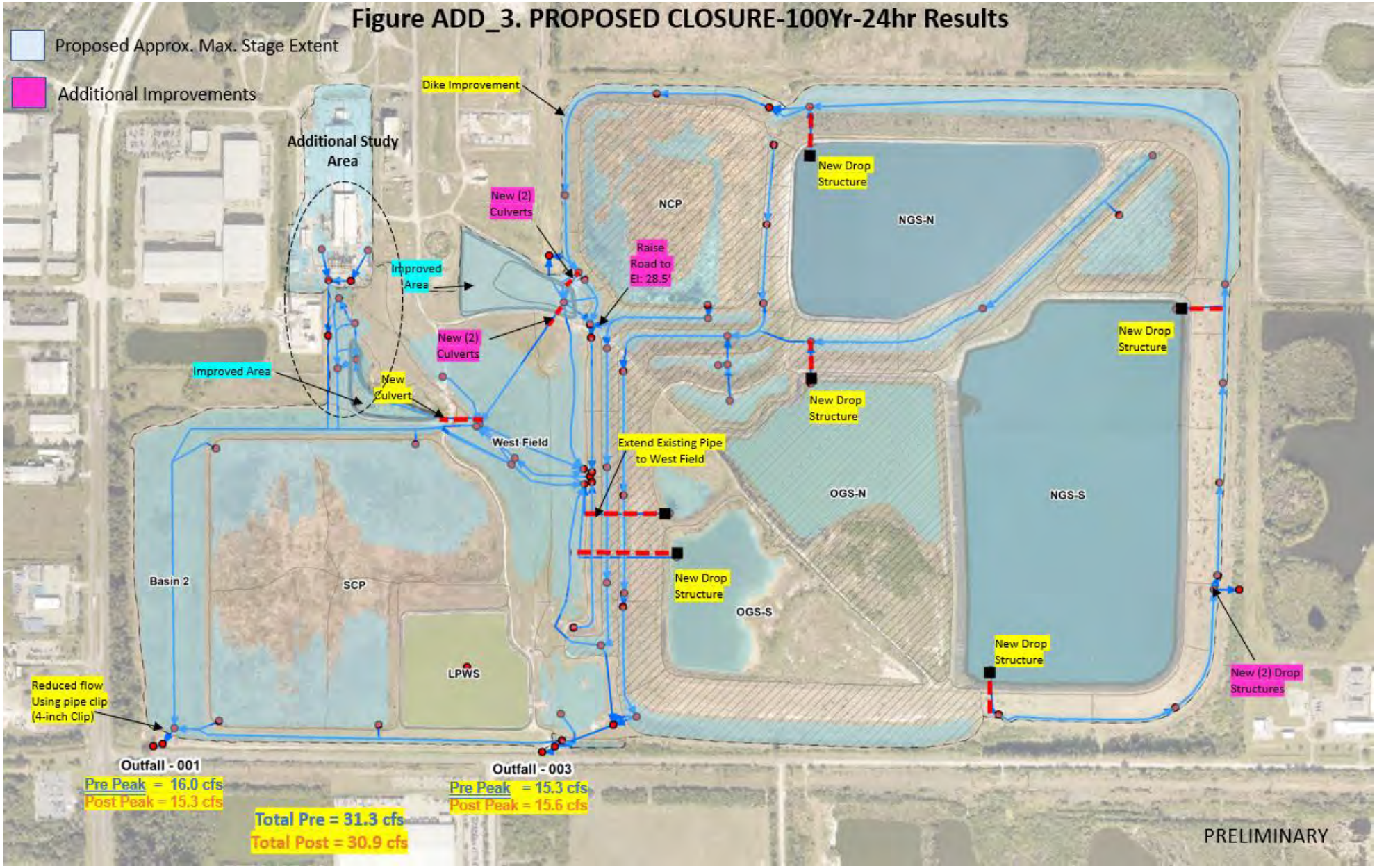


Figure ADD_4. Existing vs. Closure Scenario Discharge Hydrographs at Outfall 001
100-year, 24-hour Storm Event

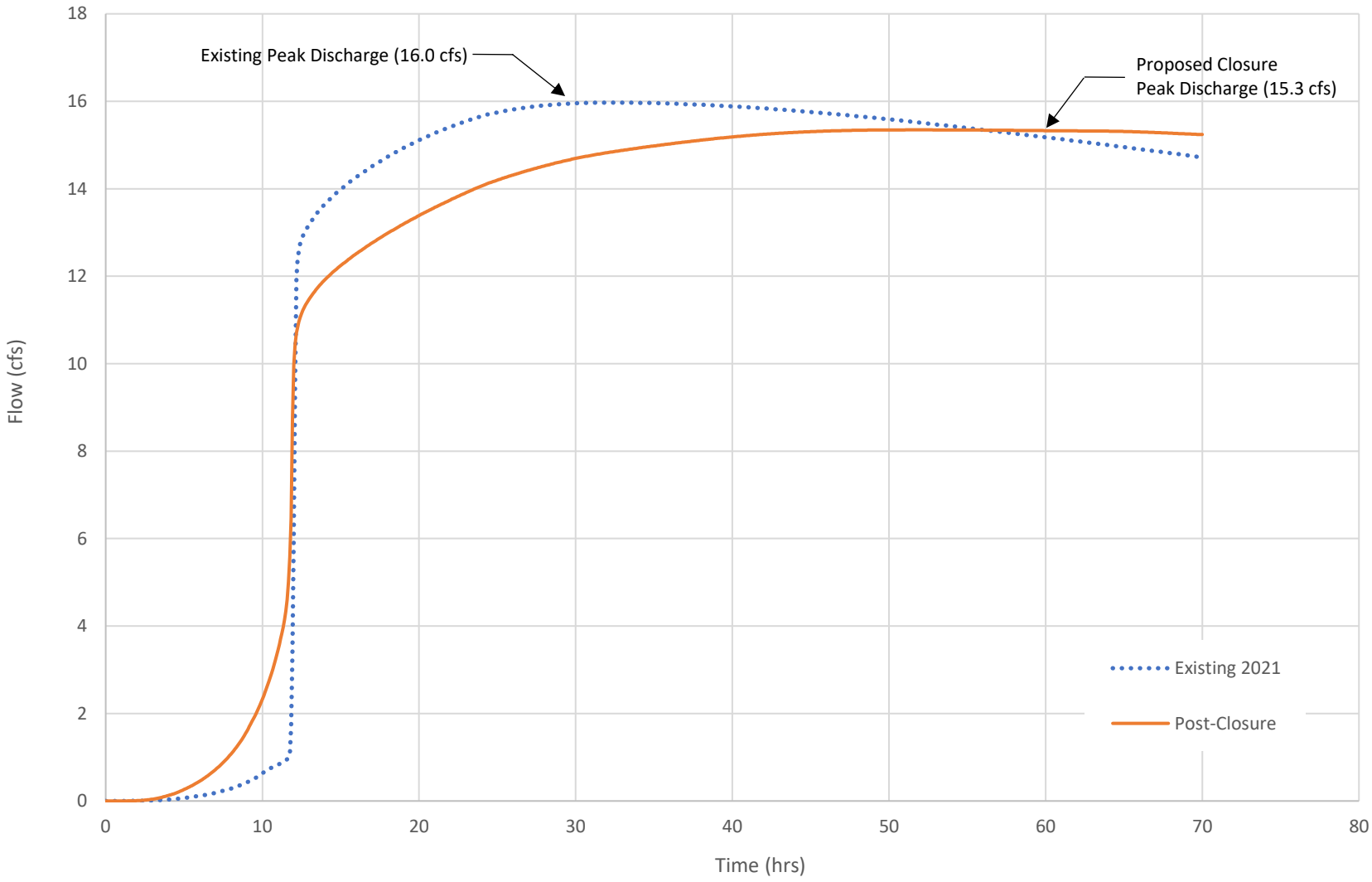
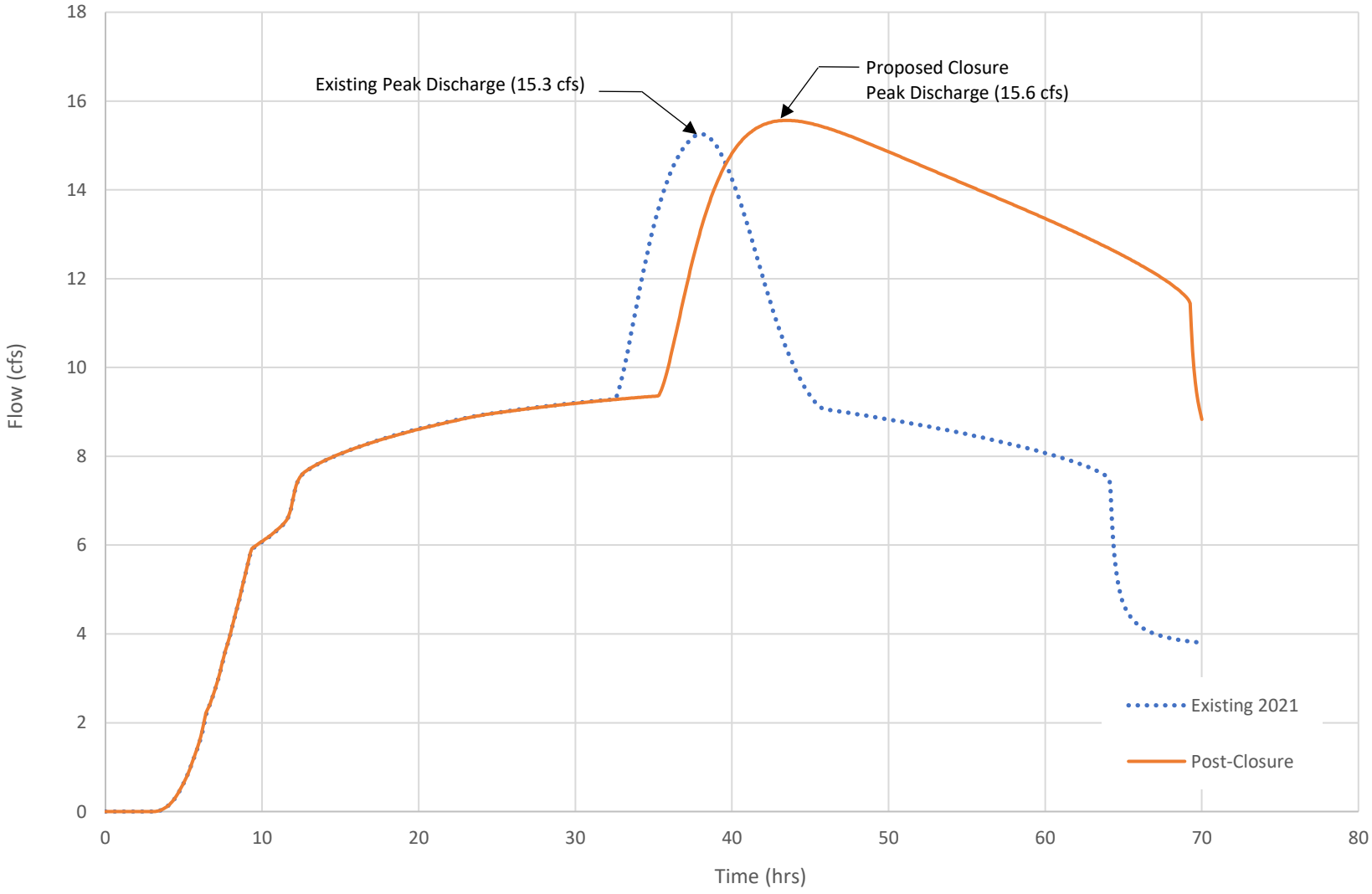



Figure ADD_5. Existing vs. Closure Scenario Discharge Hydrographs at Outfall 003
100-year, 24-hour Storm Event