Run-on and Run-off Control System Plan
Cells 1 and 2
Orlando Utilities Commission
Stanton Energy Center
Orange County, Florida

January 26, 2024

Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company

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Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company

January 26, 2024
File Number 23-13-0058

Orlando Utilities Commission
P.O. Box 3193
Orlando, FL 32802-2723

Attention: Mr. Tom Gaboian, P.E.
Senior Environmental Compliance Specialist

Subject: Run-on and Run-off Control System Plan, Cells 1 and 2, Orlando Utilities Commission, Stanton Energy Center, Orange County, Florida

Gentlemen/Ladies:

As requested by Orlando Utilities Commission (OUC), Ardaman & Associates, Inc., a Tetra Tech Company (TT-AAI), has prepared this report to provide a run-on and run-off control system plan for Cells 1 and 2 at the Stanton Energy Center (SEC) located in Orange County, Florida.

The initial run-on and run-off control system plan for Cell 1, when it was the only active coal combustion residuals (CCR) landfill unit, was prepared by TT-AAI and submitted to OUC on October 14, 2016. A 5-year update of the run-on and run-off control system plan for Cell 1, as required by the CCR Rule, was prepared by TT-AAI and submitted to OUC on October 15, 2021. These written plans were submitted to OUC for implementation, placement in the facility's operating record, and posting on OUC's public CCR website (https://oucccr.com/). In addition to the 5-year updates, the owner or operator of a CCR landfill unit is also required to amend a run-on and run-off control system plan whenever there are material changes in site and landfill conditions that would substantially affect the latest plan in effect. Since the latest plan was completed on October 15, 2021, Cell 1 has received additional waste, and Cell 2 was constructed near the end of 2020 and has been receiving waste since May 28, 2022. These events require an update to the latest run-on and run-off control system plan to cover both Cells 1 and 2.

Regulatory Requirements

According to the CCR Rule (40 CFR Part 257, Subpart D), which was promulgated by the Environmental Protection Agency (EPA) on April 17, 2015, the operator of a CCR landfill is required to operate and maintain: (1) a run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 25-year, 24-hour design storm event; and (2) a run-off control system to contain the water volume from leaving the active portion of the CCR unit under a 25-year, 24-hour design storm event. For landfills that receive CCR on or after October 19, 2015, the owner or operator must prepare initial and periodic run-on and run-off control system plans according to the requirements specified in the rule. These plans must document how the run-on and run-off control systems have been designed and constructed to meet the applicable requirements.

The CCR Rule defines run-on as "*any rainwater, leachate, or other liquid that drains over land onto any part of a CCR landfill or lateral expansion of a CCR landfill,"* and run-off as *"any*

rainwater, leachate, or other liquid that drains over land from any part of a CCR landfill or lateral expansion of a CCR landfill." According to the CCR Rule, active portion means *"that part of the CCR unit that has received or is receiving CCR or non-CCR waste and that has not completed closure in accordance with § 257.102."*

Based on the 24-hour isohyetal maps published by the St. Johns River Water Management District (SJRWMD), which covers the SEC site, the total rainfall depth from a 25-year, 24-hour design storm event at the SEC is 8.8 inches. In Florida, the 24-hour rainfall distribution from a design storm event is commonly based on the Soil Conservation Service (SCS) Type II Florida-modified rainfall distribution.

Description of CCR Landfill Units

The area that has been designated for disposal or storage of CCR generated at the SEC is located on the west side of the facility. The designated boundary of the entire combustion waste storage area (CWSA) initially encompassed approximately 312 acres. However, construction of Innovation Way to the west of the SEC and development of a solar energy facility in the northern part of the CWSA have reduced the potential ultimate footprint of the CWSA to approximately 250 acres. Waste materials that have been landfilled within the CWSA since commencement of commercial operation of the first coal-fired generating unit in 1987 consisted primarily of fixated flue gas desulfurization (FGD) sludge (referred to by OUC as "ProMat"), unsold bottom ash, fly ash, and miscellaneous power plant wastes.

A site plan of the SEC that shows the locations of the CCR landfill units is presented on a 2023 aerial photograph in Figure 1. As shown, the CCR landfill units consists of the 90-acre closed original combustion waste storage area (original CWSA) or original landfill, the closed vertical expansion above part of the original CWSA (vertical expansion), and the 90-acre horizontal expansion to the west of the original CWSA (horizontal expansion). The horizontal expansion was planned to have three adjoining landfill units designated, from south to north, Cells 1, 2, and 3, with each cell having a base area of approximately 30 acres and a slope area that piggybacks on the west slope of the closed original landfill. Cells 1 and 2 are currently the only active CCR landfill units at the SEC. Cell 3 was planned as part of the horizontal expansion, but the need for this future landfill cell is uncertain. The northern portion of the 250-acre CWSA is currently undeveloped.

The 90-acre closed original CWSA, which was placed in service in 1987 when the SEC began commercial operation, was provided with a layer of ProMat with a thickness of greater than 18 inches and a hydraulic conductivity of less than $1x10^{-7}$ cm/sec at the bottom of the landfill. It was designed to have a top elevation of approximately +150 feet (NAVD88). In 2010, OUC decided to construct a lined horizontal expansion to the west of the original CWSA. To ensure uninterrupted waste disposal operation during planning, design, and permitting of the 90-acre horizontal expansion and construction of the 30-acre Cell 1, OUC sought permission from the Florida Department of Environmental Protection (FDEP) and constructed a vertical expansion on top of the original CWSA, essentially raising the original CWSA by approximately 25 feet to a top elevation of approximately +175 feet (NAVD88). The vertical expansion has a base area (i.e., the top area of the original CWSA) of approximately 34 acres and a top area of approximately 16 acres. The vertical expansion ceased to receive wastes on August 28, 2015. Final closure of the original CWSA and vertical expansion was completed in January 2016 and was approved by the FDEP in a letter dated April 18, 2016. Because the original CWSA and vertical expansion ceased to receive CCR prior to October 19, 2015, these landfill units are exempt from the CCR Rule requirements.

A site plan of the CWSA, which includes Cells 1 and 2, is shown in Figure 2. As mentioned previously, Cells 1 and 2 each has a base area of approximately 30 acres and piggyback on the closed west slope of the original CWSA and vertical expansion (i.e., the horizontal expansion will eventually be combined with the original CWSA and vertical expansion). The original designs for Cells 1, 2, and 3, which were approved by the FDEP on March 16, 2012, incorporated a double geomembrane liner system at the base and a single geomembrane liner system on the west slope of the original CWSA. The bottom and slope liner systems comply with applicable requirements of Chapter 62-701, F.A.C., which governs the design, construction, operation, and closure of solid waste management facilities in Florida.

Construction of Cell 1, which was based on the FDEP-approved design, was completed near the end of 2012. Cell 1 began to receive waste materials on May 28, 2015. This landfill unit was divided into four sub-cells, each with its own leachate collection and removal system. The leachate collection system drains to four leachate collection sumps (i.e., one for each sub-cell) located on the west side of Cell 1. The leachate in the sumps is pumped into an 8-inch diameter force main that discharges into the double-lined CWSA Runoff Pond located east of the 250-acre CWSA.

To comply with the CCR Rule requirements, Cell 2 was re-designed with a double-composite liner system at the base. However, the design of the single geomembrane liner system on the west slope of the original CWSA remained the same as the FDEP-approved design. The double-composite liner comprises two components, with the top component consisting of a single geomembrane liner, and the bottom component consisting of a composite liner with a geomembrane liner on top of a 12-inch thick compacted soil liner. Also, the low point of each subcell (i.e., the bottom elevation of the compacted soil liner beneath the leachate collection sump) was raised to the seasonal high groundwater elevation to comply with the CCR Rule requirements. The bottom and slope liner systems for Cell 2 were connected to the bottom and slope liner systems for Cell 1 to form a continuous bottom and slope liner systems for the two adjoining landfill units. Like Cell 1, Cell 2 was divided into four sub-cells, each with its own leachate collection system. Construction of Cell 2 was completed near the end of 2020, and Cell 2 was activated (i.e., when waste was first placed into the landfill cell) on May 28, 2022.

The waste in Cell 1 is expected to reach the maximum design elevations in 2024, and closure construction for Cell 1 is scheduled to begin shortly after that.

Current Condition of Cells 1 and 2

A topographic map, composited from the most recent topographic survey performed within the waste limits of Cells 1 and 2 by Mikon Corporation dated September 9, 2023, the topographic survey performed for the as-built condition of Cell 2 by L&S Diversified, and the topographic survey performed by Pickett and Associates dated March 3, 2018 for areas outside Cells 1 and 2, is presented in Figure 3.

As shown in Figure 3, along the east side of Cell 1 that piggybacks on the west slope of the closed original CWSA and vertical expansion, the waste materials had typical elevations of approximately +160 to +170 feet (NAVD88) and a maximum elevation of approximately +172 feet (NAVD88). The west slope of the closed vertical expansion (i.e., part of the Cells 1 and 2 waste disposal areas) that had not yet been covered with waste had an area of approximately 1 acre. The waste surface within the base area of Cell 1 had typical elevations of approximately +167 to +170 feet (NAVD88). Approximately 11 acres of the base area of Subcells 1 and 2 (i.e., the two southernmost subcells) of Cell 2 had been covered with waste, with a maximum waste elevation of approximately +116 feet (NAVD88).

Cells 1 and 2 were designed to have a maximum design elevation of +175 feet (NAVD88) at closure, corresponding to a height of approximately 90 feet above natural grade.

Run-On Control

The top area of the closed vertical expansion is the only area located upgradient (i.e., at higher elevations) of Cells 1 and 2, and thus could potentially contribute run-on into Cells 1 and 2. A photovoltaic solar station was constructed on the top area of the vertical expansion and has been in operation since December 2017. It has an area of approximately 16 acres and is divided into three subareas. As shown in the figure in Appendix 1, each of the subareas drains at a grade of approximately 1 percent to a low point near the southeastern corner of the subarea where two 36-inch diameter HDPE culverts discharge the run-off into a concrete flume, which conveys the collected run-off down the eastern or southern side slope of the closed original landfill and vertical expansion into a perimeter ditch that conveys the run-off into the existing wet detention pond located south of the CWSA.

When Cell 2 was constructed, the perimeter ditch along the north side of Cell 1 was abandoned and relocated to the north side of Cell 2, and the perimeter ditch along the west side of the horizontal expansion was extended with four additional box culverts at ditch crossings; however, the stormwater conveyance system on the east and south sides or the closed original landfill and vertical expansion was unaffected. Adjacent to Cell 1, the bench around the top of the closed vertical expansion, with an elevation of approximately +175 feet (NAVD88), is sloped to the east away from Cells 1 and 2. The stormwater conveyance system design for the closed vertical expansion contains all run-off from the top area and diverts it away from Cells 1 and 2 under the 25-year, 24-hour design storm event.

The lined slope area on the east side of Cell 2 that overlays the western side slope of the closed vertical expansion above slopes toward a bench in the liner system and protective cover at elevations of approximately +159 to +160 feet (NAVD88) that runs the entire north-south length of Cell 2. A berm with top elevations of approximately +161.2 to +161.8 feet (NAVD88) along the western edge of this bench retains flow on the bench and prevents it from running onto the active portion of Cell 2. As shown in the final grading plan for Cell 2 in Appendix 2, run-off that collects on the bench flows to the north to a trapezoidal concrete flume that discharges through three 36-inch diameter culverts into the perimeter ditch around Cells 1 and 2 ,which then conveys flow to the wet detention pond located south of the CWSA.

As shown in Figure 4, the slope and bench area diverted from entering the downgradient portion of Cell 2 is approximately 4 acres. Hydrologic and hydraulic calculations for this area are presented in Appendix 3. As shown, under the 25-year, 24-hour design storm event, the maximum flow along the bench is approximately 12 cfs, and the maximum stage is approximately +160.4 feet (NAVD 88), which is at least 0.8 feet lower than the top of the adjacent berm. Therefore, the produced run-off will be contained below the bench without running onto the downgradient area of Cell 2.

This diversion will only be effective until waste placement in Cell 2 covers the bench at which time the bench will become part of the active portion of Cell 2.

Run-Off Control

Results of the hydrologic modeling for the CWSA under buildout condition, including the closed original CWSA and vertical expansion and closed horizontal expansion are provided in Appendix 4. Appendix 5 contains the modeling for sizing the box culverts in the perimeter ditch on the west

side of Cells 1 and 2. The modeling demonstrates that under a 25-year, 24-hour design stormwater event, run-off from the 250-acre CWSA will be contained in the existing wet detention pond located south of the CWSA and that the perimeter ditch around the CWSA will convey the peak flows without overtopping the perimeter or containment dikes. The currently constructed CWSA only cover about 150 acres, so the actual flow will be less than the modeled flow. The wet detention pond meets the stormwater management requirements and has been approved by FDEP.

Rainfall that has come in contact with waste materials or leachate is considered leachate. Under the CCR Rule [§ 257.81(b)], run-off from the active portion of the CCR unit must be handled in accordance with the surface water requirements under § 257.3–3, which include not causing a discharge of pollutants into waters of the United States that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES) under Section 402 of the Clean Water Act. To meet this requirement, leachate from Cells 1 and 2 must be contained within the landfill unit or the process water system without resulting in run-off discharging into the stormwater management system or nearby natural drainageways from run-off generated from the 25-year, 24-hour design storm event (i.e., 8.8 inches of rain).

Rainfall that readily infiltrates through the waste materials in Cells 1 and 2 percolates into the leachate collection and removal system above the bottom liner system, and eventually enters the eight leachate collection sumps (i.e., four sumps in each cell) where the collected leachate is removed and discharged into the CWSA Runoff Pond via an 8-inch diameter force main. Proper operation of the leachate collection and removal system, including prompt removal of the collected leachate in the sumps, is important for run-off control.

Rainfall that has come in contact with the waste materials or leachate in Cells 1 and 2 but does not infiltrate readily through the waste materials into the underlying leachate collection system will become contact runoff and eventually accumulate in the low areas of Cell 2. The low areas in Cell 2 must provide sufficient storage capacity below the liner anchor trench elevation (i.e., +94.8 feet, NAVD88) if the containment dike is used to contain the contact runoff temporarily until it infiltrates into the leachate collection sumps or is removed by auxiliary pumps, and eventually discharges into the CWSA Runoff Pond. OUC should have the waste surfaces and boundaries in Cells 1 and 2 surveyed or monitored periodically, and make sure the available storage capacity in Cell 2 (i.e., the storage volume below the liner anchor trench elevation) is sufficient to contain the contact runoff generated within Cells 1 and 2 from a 25-year, 24-hour design storm event. To be conservative, OUC should assume the infiltration rates to be zero until the infiltration rates in the areas with and without waste materials can be established by field testing. If requested, Ardaman can assist OUC to develop and evaluate the field testing program.

Landfilling within the sump area of Cell 2 is proceeding from south to north in approximately 10-foot lifts. According to the Landfill Operation and Maintenance Plan, when waste placement in a subcell reaches the western edge of the cell, 18 inches of intermediate soil cover will be placed on the outside slope of each lift of waste, and the top of each lift will be graded so that contact runoff from uncovered waste slopes above is directed to the inside and conveyed into the remaining area of the lined cell that has not been covered with waste. Filling will proceed at a rate such that exposed waste on the outside slope of the lift will be covered with 18 inches of intermediate cover soil within three days of placement. Contact runoff from temporarily exposed waste slopes will be collected and directed into the lower areas of the active subcells and allow the contact water either to infiltrate or pump out using auxiliary pumps. Once the outside waste slope has been covered with at least 18 inches of soil cover and there is no leachate run-off from upslope areas, any run-off may be managed as non-contact stormwater run-off and discharged to the existing wet detention pond, either by gravity drainage in the perimeter ditch or by pumping.

Closure of Cell 1 is anticipated to occur in 2024. Selected construction drawings for Cell 1 closure are presented in Appendix 6. Hydrologic and hydraulic calculations for the Cell 1 closure are presented in Appendix 7. As shown in the drawings, no run-off from the closed area of Cell 1 will be directed toward the active portion of Cell 2. Although properly closed areas of Cell 1 will no longer be subject to the run-off control provisions of the CCR Rule, run-off from closed areas will be collected and controlled.

Closure

In our professional opinion, the run-on and run-off control system plans for Cells 1 and 2, as described above, meets the requirements of 40 CFR § 257.81.

OUC should be cognizant of the following CCR Rule requirements: (i) The periodic run-on and run-off control system plan updates must be placed in the written operating record at the facility as stipulated in by 40 CFR § 257.105(g)(3); (ii) the State Director[1] must be notified of the availability of the report as stipulated in 40 CFR § 257.106(g)(3); and (iii) the plan must be posted on the OUC website, as stipulated in 40 CFR § 257.107(g)(3). Furthermore, OUC should review the landfilling operation and site condition periodically and, if needed, update the run-on and run-off control system plan.

We trust that the above information satisfies your need. If you have any questions or need additional information, please contact us.

Very truly yours,
ARDAMAN & ASSOCIATES, INC. – *A Tetra Tech Company*
Certificate of Authorization No. 5950

Jeyisanker Mathiyaparanam, P.E.
Senior Project Engineer

Patrick A. Kennedy, P.E.
Senior Project Manager

Francis K. Cheung, P.E.
Principal Engineer 01/26/2024
Florida License Number 36382

FRANCIS K CHEUNG LICENSE No. 36382 STATE OF FLORIDA PROFESSIONAL ENGINEER

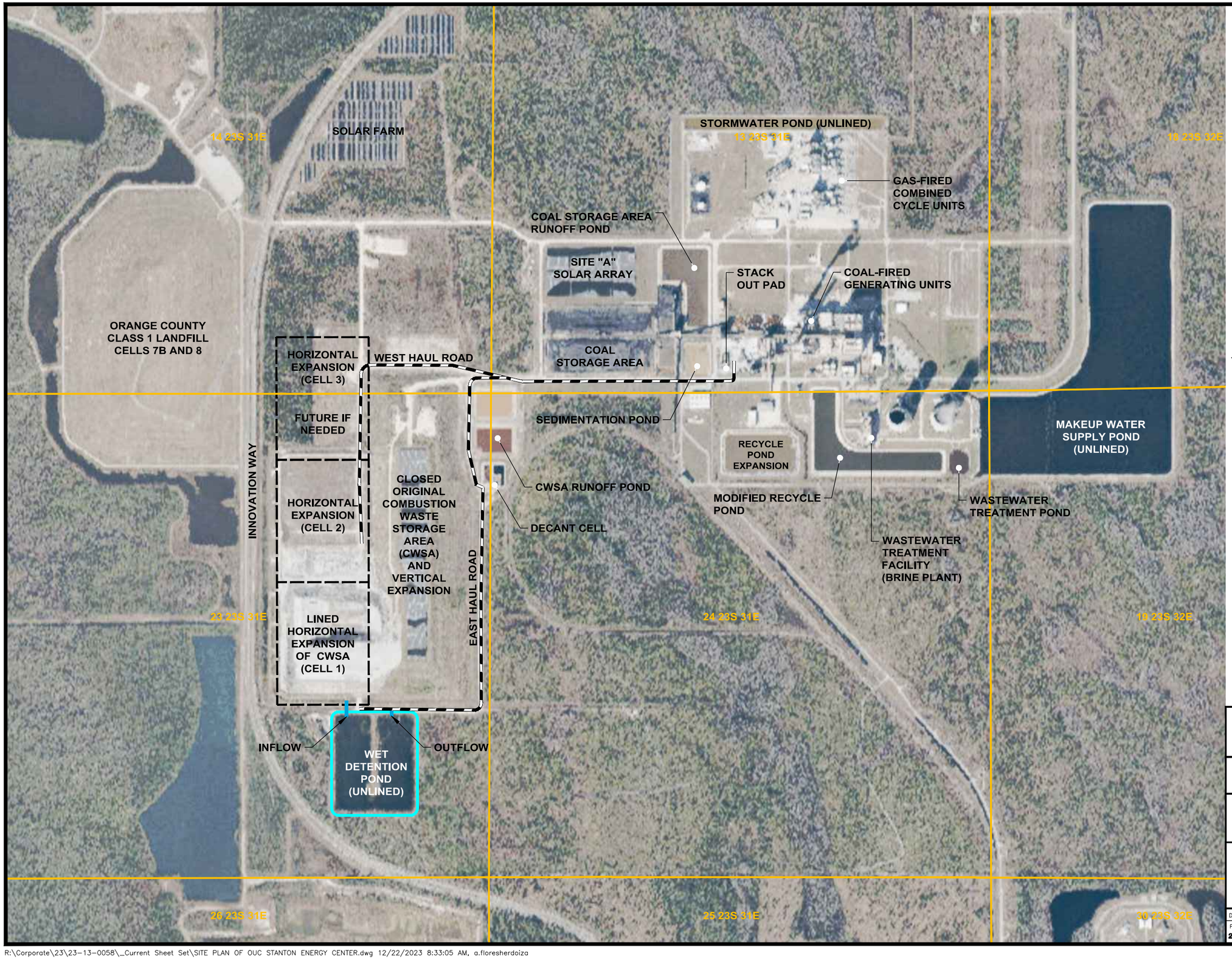
Francis K Cheung Digitally signed by Francis K Cheung Date: 2024.01.26 11:17:36 -05'00'

Enclosures

This item has been digitally signed and sealed by Francis K. Cheung on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

[1] In the CCR Rule, the State Director refers to "*the chief administrative officer of the lead state agency responsible for implementing the state program regulating disposal in CCR landfills, CCR surface impoundments, and all lateral expansions of a CCR unit*."



N

0 500 1000

SCALE:—1"=1000'

AERIAL PHOTOGRAPH FROM ORANGE COUNTY PROPERTY APPRAISER.

IMAGERY DATE: JAN.–FEB. 2023

LEGEND

- HAUL ROADS
- HORIZONTAL EXPANSION OF CWSA
- PUBLIC LAND SURVEY SYSTEM

SITE PLAN OF OUC STANTON ENERGY CENTER

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

OUC The Reliable One

RUN-ON AND RUN-OFF CONTROL SYSTEM PLAN FOR CELLS 1 AND 2 OF HORIZONTAL EXPANSION OF ORIGINAL CWSA AT STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

DRAWN BY:	CHECKED BY:	DATE:
AFH	PAK	12/22/2023

FILE NO.	APPROVED BY:	FIGURE:
23-13-0058	FKC	1

R:\Corporate\23\23-13-0058_Current Sheet Set\SITE PLAN OF OUC STANTON ENERGY CENTER.dwg 12/22/2023 8:33:05 AM, a.floresherdoiza

1508000 1507200 1506400 1505600 1504800 1504000 1503200

600000 599000 598000 597000 596000

MW-19
MW-18
MW-6
Town St
Lyn St
MW-20
CWSA
Runoff Pond
North
Compartment
South
Compartment
Decant
Cell
MW-17
24" HDPE
Box Culvert
MW-11D
MW-11
Box Culvert
East Haul Road
(2) 36" HDPE
(2) 24" HDPE
8" HDPE Leachate
Force Main
(2) 24" HDPE
(2) 36" HDPE
(2) 36" HDPE
(2) 36" HDPE
Closed
Vertical
Expansion
Photovoltaic Cells
Closed
Original
CWSA
36" HDPE
West Haul Road
MW-D
(2) 36" HDPE
Slope of Cell 2
Slope of
Cell 1
Unlined Wet
Detention Pond
(3) 36" HDPE
West Haul Road
MW-A
(2) 19" x 36" RCP
36" HDPE
Base Area
of Cell 2
Base Area
of Cell 1
(2) 36" HDPE
MW-10
Sump 4
Sump 3
Sump 2
Sump 1
Sump 4
Sump 3
Sump 2
Sump 1
8" HDPE Leachate
Force Main
Containment
Dike
Box Culvert 8
Box Culvert 7
Box Culvert 6
Box Culvert 5
Box Culvert 4
Box Culvert 3
Box Culvert 2
Box Culvert 1
Perimeter
Dike
MW-9R
Innovation Way
Innovation Way
Innovation Way
Innovation Way
Innovation Way
Innovation Way

0 200 400 Feet

AERIAL PHOTOGRAPH FROM
ORANGE COUNTY
PROPERTY APPRAISER

IMAGERY DATE: JANUARY - FEBRUARY 2023

Legend

- FDEP Monitor Wells
- CCR Rule Monitor Wells
- Pump Station Control Panel
- Containment Dike Centerline
- Perimeter Dike Centerline
- Cell Boundaries
- Liner Area
- Closed Vertical Expansion
- Original CWSA Limits
- PLSS
- Fabriform

SITE PLAN OF COMBUSTION WASTE STORAGE AREA

Ardaman & Associates, Inc.
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Materials Consultants
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RUN-ON AND RUN-OFF CONTROL SYSTEM PLAN FOR CELLS 1 AND 2 OF HORIZONTAL EXPANSION OF ORIGINAL CWSA AT STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

DRAWN BY: ACV	CHECKED BY: PAK	DATE: 12/01/2023
FILE NO. 22-13-0058	APPROVED BY: FKC	FIGURE: 2

W:\Projects\2022\22-13-0058\MXD\20231204_Site\20231204_Site.aprx

(2) 36" HDPE

(2) 36" HDPE

(2) 36" HDPE

(2) 36" HDPE

(3) 36" DIA. HDPE CULVERT PIPES

BROKEN CONCRETE RIPRAP

L & S DIVERSIFIED, LLC NOVEMBER 10, 2020 — MIKON CORPORATION SEPTEMBER 9, 2023

CELL 2

CELL 1

WET DETENTION POND

MIKON CORPORATION SEPTEMBER 9, 2023 — PICKETT AND ASSOCIATES, INC. MARCH 3, 2018

(5) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(5) 10'x8' BOX CULVERTS

(5) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(5) 10'x8' BOX CULVERTS

INNOVATION WAY

N

0 100 200

SCALE: 1"=100'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC.
TOPOGRAPHIC SURVEY DATED
MARCH 3, 2018
CONTOUR INTERVAL = 1'

TOPOGRAPHIC SURVEY PERFORMED BY MIKON CORPORATION
TOPOGRAPHIC SURVEY DATED
SEPTEMBER 9, 2023
CONTOUR INTERVAL = 2'

TOPOGRAPHIC SURVEY PERFORMED BY L & S DIVERSIFIED, LLC, INC.
TOPOGRAPHIC SURVEY DATED
NOVEMBER 10, 2020
CONTOUR INTERVAL = 1'

TOPOGRAPHIC SURVEY OF CELLS 1 AND 2

Ardaman & Associates, Inc.
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RUN-ON AND RUN-OFF CONTROL SYSTEM PLAN FOR CELLS 1 AND 2 OF HORIZONTAL EXPANSION OF ORIGINAL CWSA AT STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

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FILE NO.	23-13-0058	APPROVED BY:	FKC	FIGURE:	3

R:\Corporate\23\23-13-0058_Current Sheet Set\COMPOSITE TOPOGRAPHIC MAP.dwg 2023/12/22 2:22 PM, Floresheredoza, Angelo

(2) 36" HDPE

(2) 36" HDPE

(2) 36" HDPE

(2) 36" HDPE

(3) 36" DIA. HDPE CULVERT PIPES

BROKEN CONCRETE RIPRAP

L & S DIVERSIFIED, LLC NOVEMBER 10, 2020 — MIKON CORPORATION SEPTEMBER 9, 2023

MIKON CORPORATION SEPTEMBER 9, 2023 — PICKETT AND ASSOCIATES, INC. MARCH 3, 2018

CELL 1

CELL 2

WET DETENTION POND

(5) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(5) 10'x8' BOX CULVERTS

(5) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(3) 10'x8' BOX CULVERTS

(5) 10'x8' BOX CULVERTS

INNOVATION WAY

0 100 200

SCALE: 1"=100'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC.
TOPOGRAPHIC SURVEY DATED
MARCH 3, 2018
CONTOUR INTERVAL = 1'

TOPOGRAPHIC SURVEY PERFORMED BY MIKON CORPORATION
TOPOGRAPHIC SURVEY DATED
SEPTEMBER 9, 2023
CONTOUR INTERVAL = 2'

TOPOGRAPHIC SURVEY PERFORMED BY L & S DIVERSIFIED, LLC, INC.
TOPOGRAPHIC SURVEY DATED
NOVEMBER 10, 2020
CONTOUR INTERVAL = 1'

CELL 2 DIVERSION AREA

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

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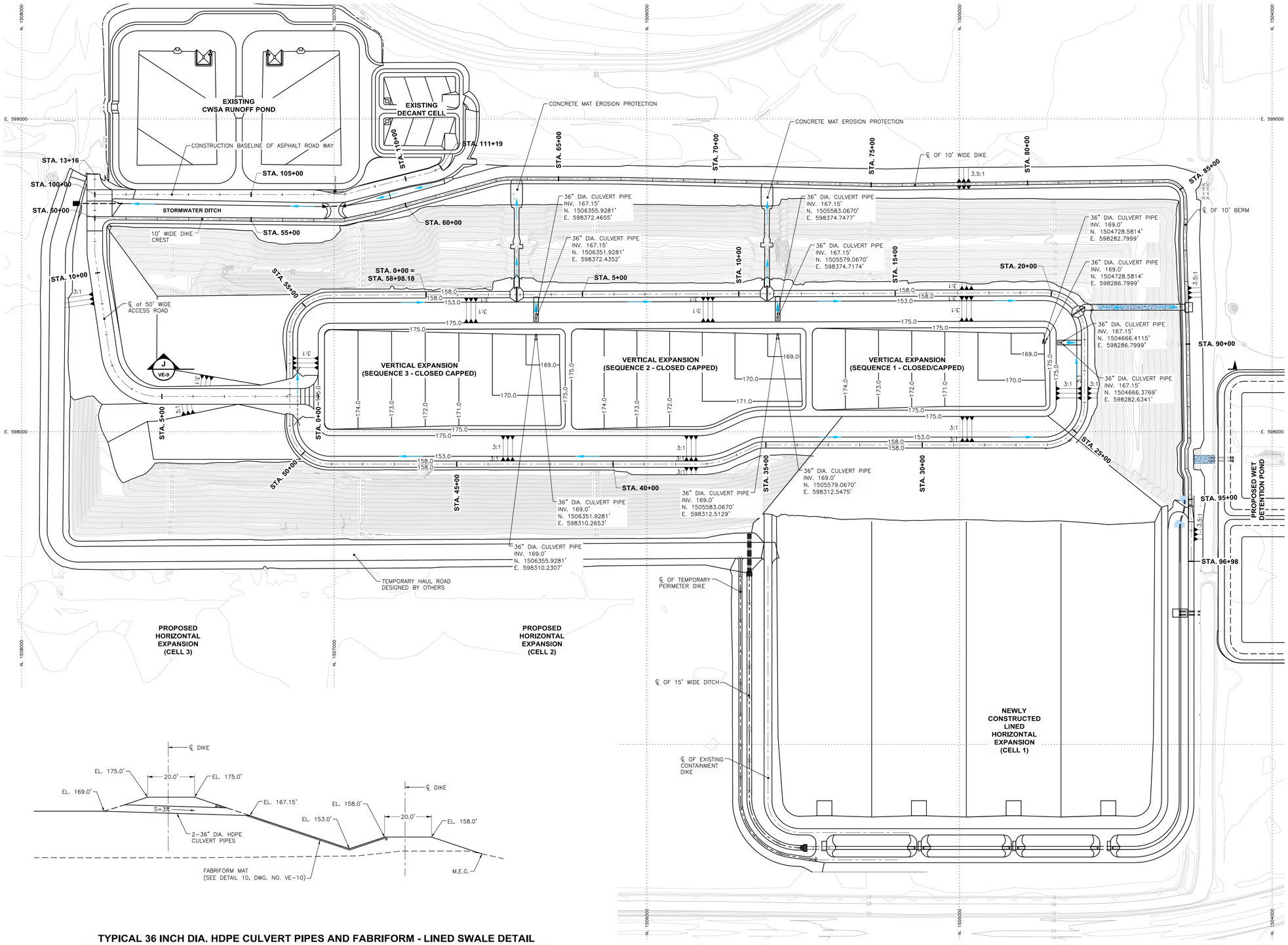
RUN-ON AND RUN-OFF CONTROL SYSTEM PLAN FOR CELLS 1 AND 2 OF HORIZONTAL EXPANSION OF ORIGINAL CWSA AT STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

DRAWN BY:	AFH	CHECKED BY:	PAK	DATE:	01/04/2024
FILE NO.	23-13-0058	APPROVED BY:	FKC	FIGURE:	4

R:\Corporate\23\23-13-0058_Current Sheet Set\CELL 2 DIVERSION AREA.dwg 2024/01/04 8:14 AM, Floresherdoiza, Angelo

Appendix 1

Stormwater Conveyance System from Certification of Construction Completion Report for Closed Original CWSA and Vertical Expansion



TYPICAL 36 INCH DIA. HDPE CULVERT PIPES AND FABRIFORM - LINED SWALE DETAIL

SCALE: 1" = 20'

0 150 300

SCALE: 1"=150'

TOPOGRAPHIC SURVEY PERFORMED BY TKW CONSULTING ENGINEERS ON 03/31/14 AND 06/10/14

AND BY TETRA TECH GEOMATIC TECHNOLOGIES ON 07/19/11

CONTOUR INTERVAL = 1' INCREMENT

DATUM: NAVD 1988

FINAL CLOSURE CONFIGURATION

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

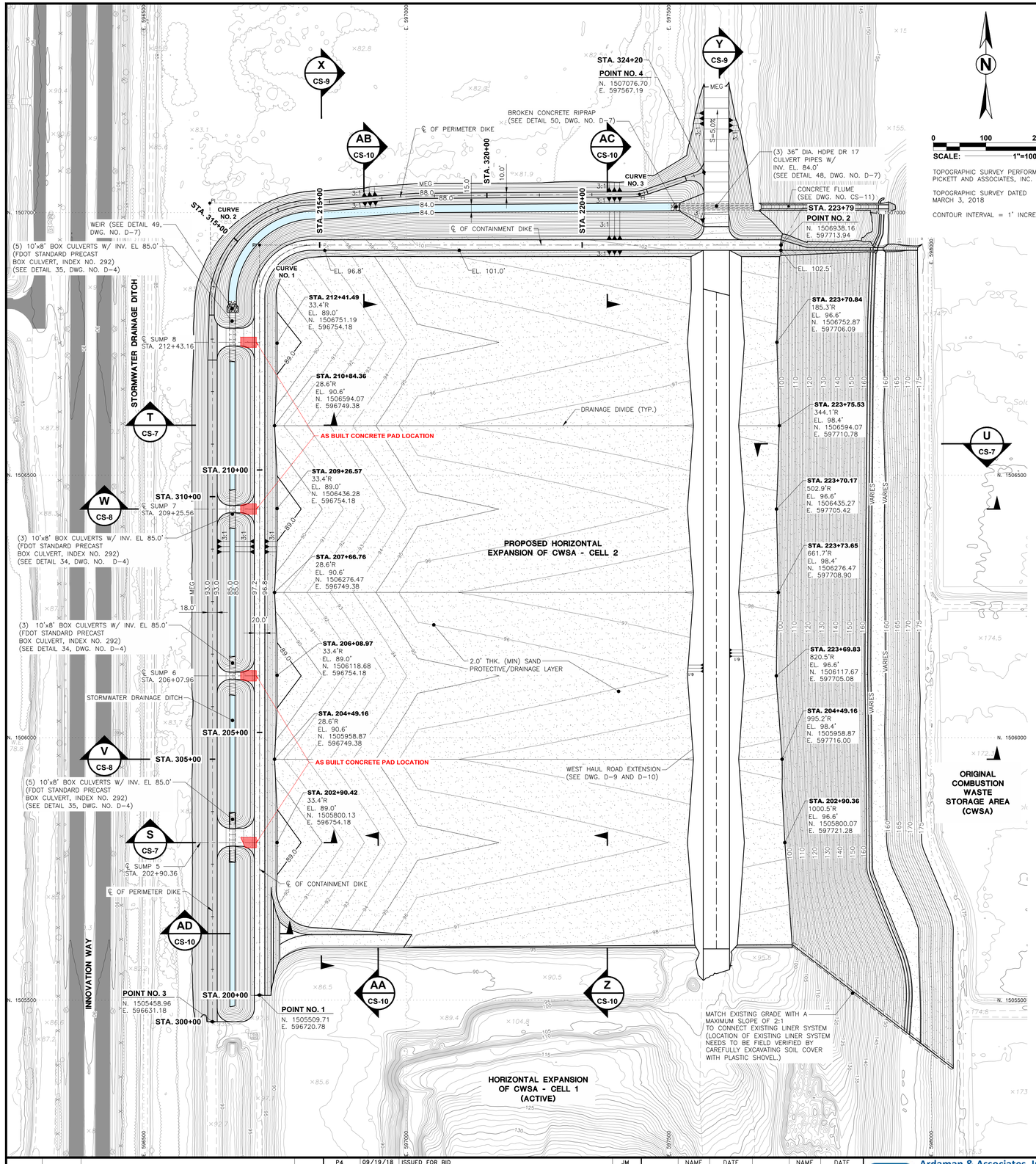
OUC The Reliable One®

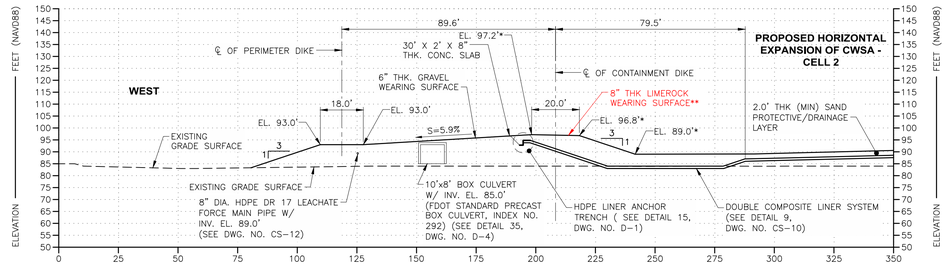
CERTIFICATION OF CLOSURE CONSTRUCTION COMPLETION FOR ORIGINAL COMBUSTION WASTE STORAGE AREA AT THE ORLANDO UTILITIES COMMISSION, STANTON ENERGY CENTER

DRAWN BY:	CHECKED BY:	DATE:
PS	JM	02/09/16
FILE NO. 15-13-0249	APPROVED BY:	FIGURE: 2

Appendix 2

As-Built Protective Soil Cover Grading Plan for Cell 2

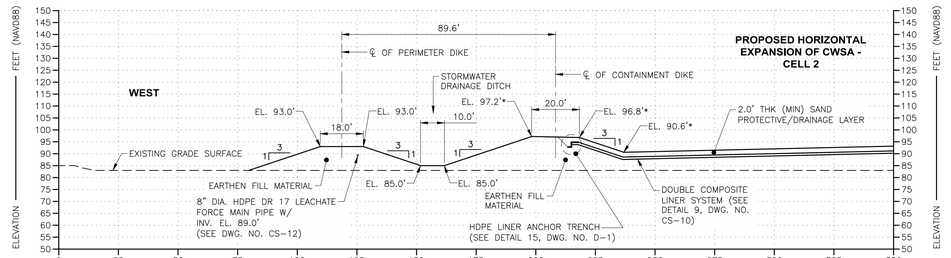




S CS-7 **CROSS SECTION**

SCALE: 1" = 30'

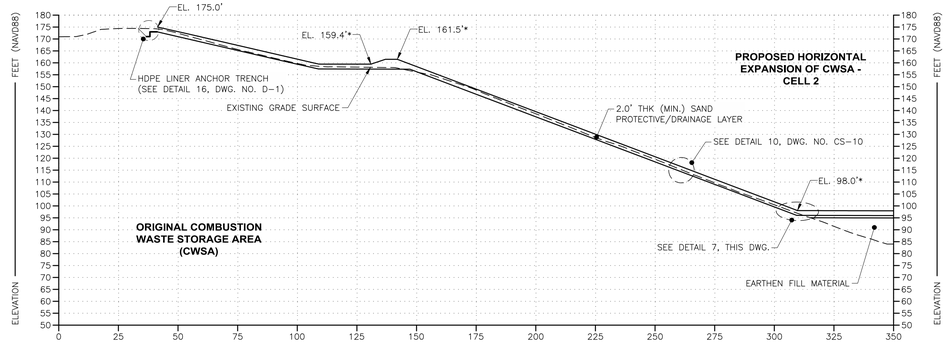
* APPLIES TO THIS CROSS SECTION ONLY
** THE TOP OF THE CONTAINMENT DIKE SHALL BE PROVIDED WITH AN 8" THK. GRAVEL WEARING SURFACE.



T CS-7 **CROSS SECTION**

SCALE: 1" = 30'

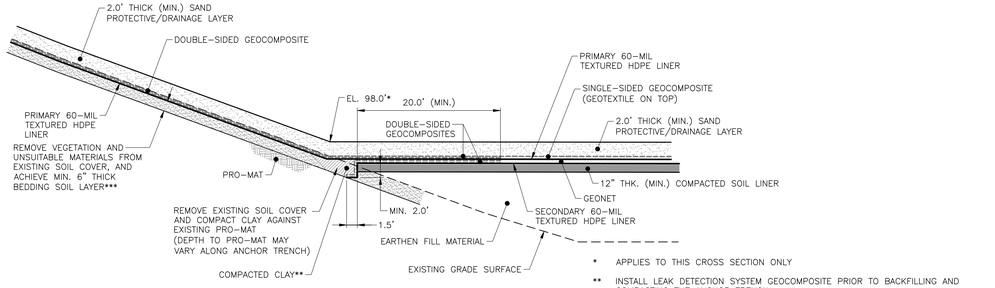
* APPLIES TO THIS CROSS SECTION ONLY



U CS-7 **CROSS SECTION**

SCALE: 1" = 30'

* APPLIES TO THIS CROSS SECTION ONLY



* APPLIES TO THIS CROSS SECTION ONLY

** INSTALL LEAK DETECTION SYSTEM GEOCOMPOSITE PRIOR TO BACKFILLING AND COMPACTING THE ANCHOR TRENCH.

*** SLOPE DESIGN GRADE IS ESTABLISHED TO MINIMIZE EXCAVATION INTO WASTE MATERIAL AND PROVIDE 6-INCH THICK BEDDING LAYER WITH A SMOOTH SURFACE FOR LINER PLACEMENT. IF INCIDENTAL WASTE MATERIALS WERE ENCOUNTERED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF OVEREXCAVATION OF WASTE MATERIAL AND PROVIDE MINIMUM 6-INCH THICK BEDDING LAYER.

7 CS-7 **ANCHOR TRENCH DETAIL ALONG TOE OF ORIGINAL CWSA**

SCALE: 1" = 10'

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM

REVISION	DATE	DESCRIPTION	APPR'D
P4	09/19/18	ISSUED FOR BID	JM
P3	07/24/18	ISSUED FOR REGULATORY REVIEW	JM
P2	06/28/18	ISSUED FOR OWNER'S REVIEW (90% COMPLETE)	JM
P1	04/30/18	ISSUED FOR REGULATORY PRELIMINARY REVIEW	JM
P0	04/20/18	ISSUED FOR OWNER'S REVIEW (50% COMPLETE)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	12/11/17	CHECKED BY	FKC	04/09/18
DRAWN BY	MAM	12/11/17	CHECKED BY	DTC	04/19/18
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

OUC STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

PROTECTIVE SOIL COVER FINAL GRADING PLAN

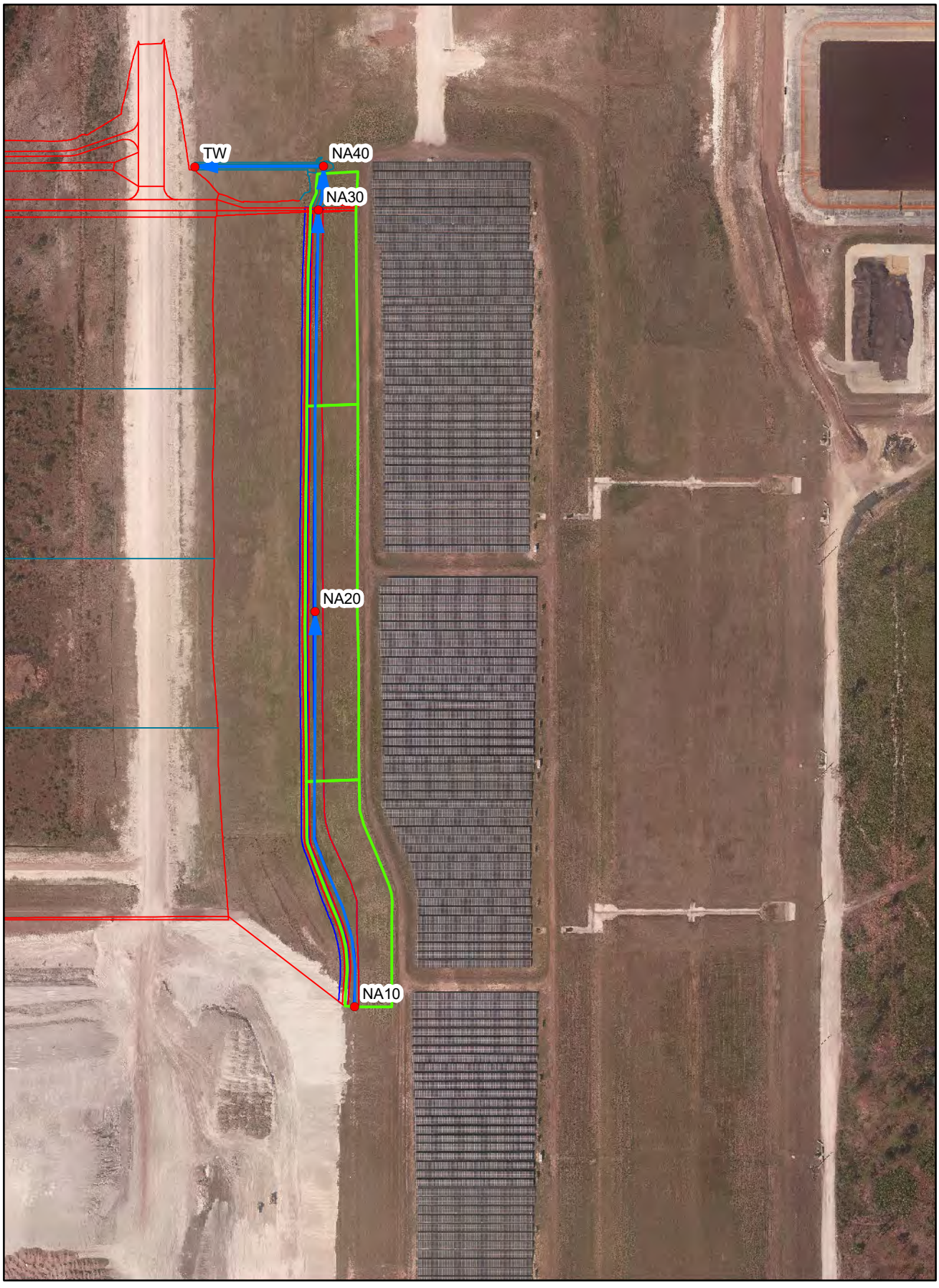
DRAWING NO. **CS-7**

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\CS-7 PROTECTIVE SOIL COVER FINAL GRADING PLAN.dwg 2021/09/03 10:43 AM, Mohammed, Mosaab

Appendix 3

Hydrologic and Hydraulic Calculations for Cell 2 Diversion Bench

113-17-13-0166 OUC– CELL 2



300 150 0 300 Feet

N
W E
S

==========
==== Basins ====
==========

Name: A10 Node: NA10 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): 6.00
Area(ac): 1.001 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: A20 Node: NA20 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): 6.00
Area(ac): 1.577 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: A30 Node: NA30 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): 6.00
Area(ac): 0.892 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

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

Name: NA10 Base Flow(cfs): 0.000 Init Stage(ft): 159.500
Group: BASE Warn Stage(ft): 161.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA20 Base Flow(cfs): 0.000 Init Stage(ft): 159.500
Group: BASE Warn Stage(ft): 161.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA30 Base Flow(cfs): 0.000 Init Stage(ft): 159.500
Group: BASE Warn Stage(ft): 161.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA40 Base Flow(cfs): 0.000 Init Stage(ft): 159.500
Group: BASE Warn Stage(ft): 161.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: TW Base Flow(cfs): 0.000 Init Stage(ft): 0.000

Group: BASE Warn Stage(ft): 0.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	84.000
999.00	84.000

Channels

Name: RA10 From Node: NA10 Length(ft): 753.00
Group: BASE To Node: NA20 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	159.500	159.500	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.100
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.300
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	17.000	25.000		
LtSdSlp(h/v):	3.00	3.00		
RtSdSlp(h/v):	4.00	4.00		

Name: RA20 From Node: NA20 Length(ft): 753.00
Group: BASE To Node: NA30 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	159.500	159.500	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.100
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.300
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	25.000	17.000		
LtSdSlp(h/v):	3.00	3.00		
RtSdSlp(h/v):	4.00	4.00		

Name: RA30 From Node: NA30 Length(ft): 83.00
Group: BASE To Node: NA40 Count: 1

```
               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 159.500        159.500                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.100
   Manning's N: 0.025000       0.025000                    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         8.000
  LtSdSlp(h/v): 2.00           2.00
  RtSdSlp(h/v): 4.00           4.00


-------------------------------------------------------------------------------------------------
          Name: RA40               From Node: NA40              Length(ft): 214.00
         Group: BASE                 To Node: TW                     Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 159.500        84.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.100
   Manning's N: 0.025000       0.025000                    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): 7.500          7.500
  LtSdSlp(h/v): 2.00           2.00
  RtSdSlp(h/v): 2.00           2.00


===============================================================================================
==== Hydrology Simulations ====================================================================
===============================================================================================

         Name: 25YR-24HR
     Filename: Y:\Projects\2017\17-13-0166 OUC\ICPR\20180411\25YR-24HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.80

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

===============================================================================================
==== Routing Simulations ======================================================================
===============================================================================================

         Name: 25YR-24HR          Hydrology Sim: 25YR-24HR
     Filename: Y:\Projects\2017\17-13-0166 OUC\ICPR\20180411\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): 48.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 5.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
RA10	BASE	25YR-24HR	12.03	3.74	0.013	12.12	160.36	12.13	160.35
RA20	BASE	25YR-24HR	12.14	8.81	0.031	12.13	160.35	12.12	160.21
RA30	BASE	25YR-24HR	12.12	11.97	0.041	12.12	160.21	12.13	159.91
RA40	BASE	25YR-24HR	12.13	11.97	0.041	12.13	159.91	12.12	84.16

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
NA10	BASE	25YR-24HR	12.12	160.36	161.50	0.0017	9534	12.00	6.37	12.03	3.74
NA20	BASE	25YR-24HR	12.13	160.35	161.50	0.0017	21822	12.00	13.69	12.14	8.81
NA30	BASE	25YR-24HR	12.12	160.21	161.50	0.0015	9786	12.00	13.00	12.12	11.97
NA40	BASE	25YR-24HR	12.13	159.91	161.00	0.0011	1539	12.12	11.97	12.13	11.97
TW	BASE	25YR-24HR	0.00	84.00	0.00	84.0000	40	12.13	11.97	0.00	0.00

Appendix 4

Hydrologic Modeling of 250-Acre CWSA at Buildout

HYDROLOGIC AND HYDRAULIC REPORT
PROPOSED HORIZONTAL EXPANSION OF
COAL COMBUSTION WASTE LANDFILL

FILE NUMBER: 10-13-0249

Prepared for:

OUC
The *Reliable* One®

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

November 03, 2011

Prepared by:

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Hydrologic and Hydraulic Modeling and Stormwater Management Design Report

Proposed Horizontal Expansion of Coal Combustion Waste Landfill

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

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Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company

November 03, 2011
File Number 10-13-0249

Florida Department of Environmental Protection
Central District
3319 Maguire Blvd, Suite 232
Orlando, Florida 32803-3767

Attention: Debra Laisure, P.E.
Stormwater Permitting Manager
Submerged Lands and Environmental Resource Permitting

Subject: Hydrologic and Hydraulic Analyses in Support of the Proposed Horizontal Expansion for the Orlando Utilities Commission (OUC) Coal Combustion Waste Landfill Project, Orange County, Florida.

Dear Ms. Laisure:

Enclosed please find the hydrologic and hydraulic modeling and stormwater management design for the proposed horizontal expansion of the coal combustion waste landfill located in southeastern Orange County.

If you have any questions or comments regarding this report, or if we may be of further assistance in expediting your review, please feel free to contact one of the undersigned

Very truly yours,
ARDAMAN & ASSOCIATES, INC. - A Tetra Tech Company
Certificate of Authorization No. 5950

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Enclosures

cc: Mr. Thomas Lubozynski, P.E. (FDEP)
Mr. Charles W. Doud, P.E. (OUC)
Mr. Garfield Blair (OUC)

TABLE OF CONTENTS

Section	Title	Page
1.0	**INTRODUCTION**	1
1.1	Site Location	1
1.2	Project Description and Background	1
2.0	**SCOPE OF HYDROLOGIC AND HYDRAULIC REPORT**	2
2.1	Data Collection	2
2.2	Pre-Development Condition Model	2
2.3	Post-Development Condition Model	2
2.4	Documentation of Results	2
3.0	**PROJECTION AND DATUM**	3
4.0	**REGULATORY REQUIREMENTS**	3
5.0	**PRE-DEVELOPMENT CONDITIONS**	4
6.0	**POST-DEVELOPMENT CONDITIONS**	4
7.0	**METHODOLOGY AND MODEL DEVELOPMENT**	5
7.1	Model Selection	5
7.2	Model Network Layout	5
7.3	Basin Delineation	6
7.4	Land Use and Cover	6
7.5	Hydrologic Soil Groups	6
7.6	Runoff Curve Number	7
7.7	Time of Concentration	7
7.8	Surface Storage	7
7.9	Boundary Conditions	7
7.10	Model Testing	8
8.0	**RESULTS OF HYDROLOGIC AND HYDRAULIC ANALYSES**	8
8.1	Pre-Development Condition Simulation Results	8
8.2	Post-Development Condition Simulation Results	8
9.0	**SUMMARY**	9
10.0	**FINAL POND CONFIGURATION AND PROJECT PHASES**	11

LIST OF TABLES

Table	Title
1	Pre and Post Discharge Comparison, Mean Annual Storm Event
2	Pre and Post Stage Comparison, Mean Annual Storm Event
3	Pre and Post Discharge Comparison, 25-Year Storm Event
4	Pre and Post Stage Comparison, 25-Year Storm Event

LIST OF FIGURES

Figure	Title
1	Site Location Map
2	Stormwater Conceptual Design
3	Pre-Development Network Layout
4	Post-Development Network Layout
5	Pre-Development Land Use
6	Post-Development Land Use
7	Soils Hydrologic Group

LIST OF APPENDICES

Appendix	Title
A	Design Calculations
B	Summary of Wet Detention Pond Design Parameters
C	Pre-Development CN Calculations
D	Post-Development CN Calculations
E	Pre-Development TC Calculations
F	Post-Development TC Calculations
G	ICPR Input and Output Files, Pre-Development
H	ICPR Input and Output Files, Post-Development
I	Pre and Post Hydrographs at Reach RPRE140
J	Pre and Post Hydrographs at Reach RPRE 160
K	Treatment Volume Recovery Analysis
L	Monitoring Well (MW-10) Groundwater Data and Piezometers
M	Design Drawings
N	Stormwater Pollution Prevention Plan

1.0 INTRODUCTION

Orlando Utilities Commission (OUC) plans to expand the Coal Combustion Waste (CCW) landfill at the Stanton Energy Center (SEC), also known as Combustion Waste Storage Area (CWSA), located in southeastern Orange County, Florida. A stormwater management plan is proposed to provide stormwater treatment and attenuation for the interim phases and the final landfill configuration. The final landfill footprint will consist of 250 acres, including the existing 90-acre CCW. This report presents a technical discussion of hydrologic and hydraulic analyses that were undertaken to support management, planning, and design associated with the proposed work.

1.1 Site Location

The Orlando Utilities Commission SEC is located in southeastern Orange County, Florida in the vicinity of the Econlockhatchee River, about 12 miles southeast of downtown Orlando and 6 miles northeast of Orlando International Airport. The location of the SEC site is shown in Figure 1. The site is located within Sections 13, 14, 23, and 24 of Township 23 South, Range 31 East, and Sections 7, 18, and 19 of Township 23 South, Range 32 East. The address of the facility is 5100 South Alafaya Trail, Orlando, Florida. Alafaya Trail ends at the site entrance. The site is north of the Beach Line Expressway (State Road 528) and east of Innovation Way, which provides access from Alafaya Trail to State Road 528.

1.2 Project Description and Background

The existing CCW at the SEC has been in operation since 1987 under Conditions of Certification approved by the Florida Department of Environmental Protection (FDEP) Siting Coordination Office. Fly ash and dewatered flue gas desulfurization (FGD) sludge from the SEC, and high lime-content fly ash from two other Florida power plants, are processed on site to produce a fixated material, which is called ProMat. The ProMat is delivered to the CCW already mixed, properly cured, and ready for placement. In addition to ProMat, unsold bottom ash, brine concentrator/crystallizer solids from the onsite wastewater treatment facility, and approved miscellaneous power plant solid wastes are also placed in the CCW landfill. Approximately 90 acres of the originally proposed CCW have been used to-date and waste is currently being landfilled in an approved vertical expansion.

The existing CCW landfill does not have a bottom liner and leachate collection system or a low permeability cap. The Conditions of Certification allow fixated wastes that achieve a specified maximum permeability to be placed in the unlined facility. Conditions of Certification (COC), which govern construction and operation of the existing SEC facility, require one of the following mitigative measures be adopted by OUC to reduce the potential for groundwater impacts: a) use of an adequate chemical fixation process on the solid wastes to achieve a uniform layer at least 18 inches thick across the cell bottom with a permeability of $1x10^{-7}$ cm/sec or less; b) use of an adequate chemical fixation process on the solid wastes to achieve a permeability of $5x10^{-6}$ cm/sec or less.

The current proposed project consists of an approximately 91.5-acre lined horizontal expansion located west of and contiguous with the existing 90-acre unlined CCW. The horizontal expansion area is divided into three lined cells, which will be constructed sequentially. The ultimate footprint of the CCW is approximately 250 acres, including the existing 90-acre CCW, the proposed lined horizontal expansion, and future areas north of the existing area. The

existing 90-acre CCW, the lined horizontal expansion area and ultimate footprint are shown on Figure 2.

Currently, stormwater runoff that comes into contact with the waste is collected in the existing CCW and ditches lined with at least 3 feet of fixated waste and discharged to the CCW Runoff Pond, which is lined with an HDPE geomembrane. Stormwater runoff from side slope areas that have received soil cover is allowed to be discharged to the natural drainage system without treatment. Current plans are for stormwater runoff from the properly closed portions of the existing CCW, vertical expansion and the horizontal expansion areas to be collected and treated in the proposed stormwater detention pond to be located south of the landfill (Figure 2).

2.0 SCOPE OF HYDROLOGIC AND HYDRAULIC REPORT

The primary objective of the hydrologic study is to develop a stormwater management plan for the future 250-acre CCW landfill. The plan provides for stormwater runoff treatment and attenuation utilizing a wet detention pond as the most suitable method since groundwater levels in the area are close to land surface. The wet detention pond is proposed south of the 250-acre landfill expansion (see Figure 2).

The stormwater management system and its various components were evaluated using Interconnected Channel and Pond Routing (ICPR) model version 3.10 Service Pack 7. The hydrologic and hydraulic analyses, which are described in detail throughout the remainder of this report, generally include the following work elements.

2.1 Data Collection

This task included compilation and review of existing available information ranging from 2006 and 2011 topographic maps and aerial photography, land use, soils information, 2009 revised FEMA flood hazard maps, national wetland inventory (NWI), USGS maps, and 2011 surveys.

2.2 Pre-Development Condition Model

Collected data were compiled and used to develop a model representing the pre-development condition. In previous meetings with FDEP, it was established that the pre-development scenario is the current 2011 condition. The model database was assembled, tested, and refined to provide a reliable tool for prediction of the system's response to a design storm event rainfall.

2.3 Post-Development Condition Model

In support of the final 250-acre landfill expansion, a model was developed and tested to represent the designed post-development conditions. This hydrologic and hydraulic (H&H) model was assembled to demonstrate compliance with regulatory criteria.

2.4 Documentation of Results

This report summarizes data collected and methodologies used to evaluate hydrologic and hydraulic conditions, under both pre-development and post-development conditions. It also describes the performance criteria used in the design of the proposed stormwater management system.

3.0 PROJECTION AND DATUM

The horizontal datum used in this evaluation is the North America Datum 83 (NAD83). The vertical datum is the North American Vertical Datum of 1988 (NAVD88) and the horizontal projection is State Plane Florida East.

4.0 REGULATORY REQUIREMENTS

The site lies within the St. Johns River Water Management District (SJRMWD) within the Econlockhatchee River Basin and, as delegated by the Florida Department of Environmental Protection (FDEP), the Site is subject to the stormwater management rules developed by the SJRMWD.

Per the criteria, the post-development peak rate of discharge must not exceed the pre-development peak rate of discharge. To be consistent with applicable requirements, the following 24-hour duration events were simulated: the mean annual storm (2.33-year return) with a total rainfall depth of 4.4 inches and the 25-year storm with a total rainfall depth of 8.8 inches. Total rainfall depths were derived from the SJRWMD rainfall maps. The Florida Modified Type II distribution was used for these simulations.

Wet detention system design requirements:

(a) For a wet detention system, the design treatment volume is the greater of the following: one inch of runoff over the drainage area or 2.5 inches over the impervious area (excluding water bodies). FDEP believes that the proposed wet detention system directly discharges into Outstanding Florida Waters (OFWs) and, therefore, requested that an additional 50 percent water quality treatment volume be considered. Additionally per FDEP, landfill areas with an impermeable liner and two feet of soil cover are considered impervious; Refer to Appendix A for calculations.

(b) The outfall structure should be designed to drawdown one-half the required treatment volume within 24 and 30 hours following a storm event; refer to Appendix A for calculations.

(c) The permanent pool should be sized to provide at least a 14-day residence time for stormwater runoff during the wet season, which occurs from June to October. Because FDEP considers the wet detention pond system discharges to Outstanding Florida Waters, an additional 50 percent permanent pool volume is required; refer to Appendix A for calculations.

(d) At least 30 percent of the wet detention pond surface area shall consist of a littoral zone. As an alternative to a littoral zone, either an additional 50 percent of the appropriate permanent pool volume or pre-treatment of the stormwater prior to entering the wet detention pond may be used. An additional 50 percent of permanent pool was used in this evaluation (i.e., a 21-day residence time was used); refer to Appendix A for calculations.

(e) A maximum pond depth of 12 feet and a mean depth between 2 and 8 feet. An estimated pond depth of 12 feet will be used in this design and the mean depth was calculated to be 3.09 feet; refer to Appendix A and B for calculations and design elevations.

(f) The average pond ratio must be at least 2:1; under these design conditions, short circuiting is minimized and pollutant removal efficiency and mixing is maximized. A square shape with a

partition dike was used in this design to maximize mixing; refer to Drawings 16, 17, and 18 in Appendix M.

(g) To minimize groundwater contributions which may lower treatment efficiencies, the control elevation should be set at or above the normal on-site ground water table elevation. The normal water level (NWL) was estimated to be +81.5 feet (NAVD88) based on groundwater elevation in a nearby monitor well with 22 years of groundwater elevation records, and a battery of 5 piezometers installed in August 2011 within the proposed pond location; refer to Appendix L.

(h) Pond side slopes must be no steeper than 3:1 (horizontal: vertical) between the control elevation and two feet below. A constant slope of 3:1 was used from the top of dike to pond bottom. Note that the pond is located in an industrial site, thus no public access is expected; refer to Drawings 16, 17, and 18 in Appendix M.

5.0 PRE-DEVELOPMENT CONDITIONS

As previously described, the pre-development scenario represents the current 2011 conditions. The pre-development model was assembled, tested and refined to provide a reliable tool for prediction of the system response to a storm event rainfall.

Under existing conditions, runoff from the existing 90-acre CCW flows into the CCW runoff pond as well as two man-made ditches located east, and west at the toe of the landfill; refer to Figure 3 for basin delineation and flow direction. Currently, 49 acres flows into the CCW runoff pond, 22 acres flows into the east ditch, and 19 acres into the west ditch. Discharges from the CCW runoff pond are routed via pipe into the Recycle Pond. Discharges from the east ditch continue eastward into a man-made ditch that connects to a wetland system, which ultimately discharges into the Econlockhatchee River. Runoff in the western ditch remains in a low-laying area with a potential discharge into the area north of the existing CCW. For the area between Innovation Way and west of the existing CCW, runoff is routed into the western ditch. For areas north of the existing CCW, surface water runoff flows toward the northeast into a wetland area across Innovation Way. For the remaining areas east and south of the existing CCW, flow is generally east through a man-made ditch and into a series of wetlands flowing towards the Green Branch tributary of the Econlockhatchee River.

6.0 POST-DEVELOPMENT CONDITIONS

A wet detention system was selected to treat runoff from the 250-acre proposed landfill expansion area. As previously mentioned, the 250-acre area encompasses the existing 90-acre CCW. Runoff from the expanded area will be collected in a perimeter toe ditch which is connected to the proposed wet detention pond through two drop inlets. For the horizontal expansion, the designed trapezoidal perimeter ditch is 10.0 feet wide at the invert, 8.0 feet deep with an invert elevation of 85.0 feet (NAVD). On the existing 90-acre CCW, the designed triangular perimeter ditch invert elevation is at 90.0 feet (NAVD) and is 6.0 feet deep. Each drop inlet consists of one FDOT Type D structure with one 36-inch HDPE pipe. The top of each riser is flush with the trapezoidal ditch at elevation 85.0 feet (NAVD) and the culvert invert elevation is set at elevation 75.5 feet (NAVD). The culverts are designed to cross beneath and perpendicular to the existing man-made ditch; refer to Appedix M, Design Drawings.

Excess runoff from the wet detention pond will be discharged into the existing man-made ditch through two riser structures. The proposed wet detention pond is located south of the landfill

expansion; refer to Figures 2 and 4. Elements involved in the design of the stormwater management system include a pair of riser structures sized to treat and attenuate runoff from the 250-acre expansion area, a set of bleed-down devices to restore the treatment volume, and a pair of pipes to effectively convey the excess runoff in to the existing man-made ditch. The wet detention pond has a total contributing area of 250 acres with a required treatment volume of 60.0 acre-feet; refer to design calculations in Appendix A. The bottom surface area of the pond will be 15.6 acres at elevation 69.5 feet; the pond area at the control elevation of 81.5 feet (NAVD) was determined to be 20.0 acres; the design elevation of the treatment volume is at 84.5 feet (NAVD) with a total area of 21.1 acres. The top of dike is at elevation 88.0 feet (NAVD) with a total area of 22.5 acres. Each drop structure consists of one FDOT Type D outlet with one 36-inch HDPE pipe. Also, each drop structure will have a pair of 10.0-inch diameter bleed down devices at elevation 81.5 feet (NAVD) to recover the treatment volume and one rectangular notch with a width of 4 feet and an invert elevation of 84.5 feet (NAVD) to limit peak discharges. The required permanent pool volume is 61.76 acre-ft with a mean depth of 3.09 feet; however, the pond will likely be excavated to an even greater depth to provide fill material for landfill construction. Refer to Appendix A and B for design calculations and wet detention pond design parameters. Also, typical details of the proposed wet detention pond are presented in Drawings 16, 17, and 18 in Appendix M.

7.0 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.

7.1 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. Frequency of the rainfall event (in this case, a synthetic design storm) is assumed to be the same as the frequency of its resulting flood in terms of flows and stages.

Numerous computer programs are available for use in hydro-meteorological simulation. ICPR 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.

7.2 Model Network Layout

ICPR operates with a model network comprised of a series of node and link 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 “time-stage”) must be defined.

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

7.3 **Basin Delineation**

Basins represent local drainage areas delineated so that they contribute runoff to a single point, a node, in the model network. The 2006 1-foot contours obtained from Orange County in combination with the 2011 1-foot topographic contours (produced for this project by Geometic Technologies) were used to determine drainage divides in support of the existing scenario; refer to Figure 3. Design drawings in conjunction with 1-foot contours were used to define proposed conditions; refer to Figure 4.

7.4 **Land Use and Cover**

Land use categories were used along with soil types to define runoff potential. Categories used to describe land use and cover for the project site and offsite areas are based upon the Florida Land Use, Cover and Forms Classification System (FLUCFCS). Generalized land use conditions were evaluated for the site based on GIS coverage files available from SJRWMD. This information was then updated and used to evaluate existing conditions; refer to Figure 5. Similarly, post-development land use conditions were evaluated and updated to represent the future condition. Land uses for the proposed scenario are presented in Figure 6.

7.5 **Hydrologic Soil Groups**

Soils are classified into hydrologic soil groups, depending on their infiltration rate and rate of water transmission that relate to runoff potential. Classification of soils, their hydrologic soil groups and their respective areas of coverage across the site were obtained from Natural Resources Conservation Service (NRCS). Hydrologic soil groups were used along with land use to define runoff potential, as discussed later in this report: Refer to Figure 7.

A general description of Hydrologic Soil Groups (HSG) is presented below:

- Class A: High infiltration rates. Soils are deep well drained to excessively drained sands and gravels.
- Class B: Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
- Class C: Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
- Class D: Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Some soils are classified as belonging to two hydrologic soil groups, such as A/D, B/D, and C/D. These ratings mean that, under natural conditions, the soil is classified as belonging to hydrologic soil group D, but by artificial methods (e.g. ditching) the water table could be lowered sufficiently so that the soil would fit into a lower runoff potential category.

7.6 Runoff Curve Number

Hydrologic losses from each sub-basin were computed using the SCS curve number option available in ICPR. This option in ICPR uses SCS curve numbers to compute runoff excess from rainfall as described in the National Resource Conservation Service (NRCS), formerly the Soil Conservation Service (SCS) publication, TR-55.

The curve number (CN) for each sub-basin was assigned based on the land use and soil type information for both the pre-development and post-development conditions. Runoff curve numbers used in this analysis are representative of average antecedent moisture conditions (AMC-II). For overall weighted curve numbers and breakdown of curve numbers per basin for the pre-development and post-development conditions, please refer to Appendices C and D.

7.7 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 to a receiving water body. This parameter is then used 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. Travel segment data for this study was developed using contours and aerial photographs. The flow path along the surface of the basins was broken into two main components; sheet flow and shallow concentrated flow. Since some of the basins rendered times of concentration smaller than 6 minutes, a minimum value of 6 minutes was used. For TC calculations, please refer to Appendix E for pre-development conditions and Appendix F for post-development conditions. Please note Appendix F only includes TC calculations for post-development areas impacted by the expansion; for post-development areas not impacted by the expansion, please refer to Appendix E.

7.8 Surface Storage

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

Design plans were used to define a stage area relationship for the proposed storm water management facility. Comprehensive modeling input data can be retrieved from the model input files in Appendices G and H of this report.

7.9 Boundary Conditions

The receiving water feature from the wet detention treatment facility is an existing manmade ditch; refer to Figure 2. The manmade ditch generally runs parallel to Innovation Way, north and south. On the south side, the ditch flows towards the east for ultimate discharge into a series of wetlands southeast of the proposed landfill. These series of wetlands ultimately discharge in to the Econlockhatchee River. On the north side, the ditch flows east into to a wetland system which eventually discharges under Innovation Way for ultimately discharge into the Econlockhatchee River. The ditch and all its hydraulic and hydrologic components were evaluated in the ICRP model to assess fluctuations and potential impacts during the storm event

since this ditch was used as the receiving feature (i.e., variable tailwater node). Refer to Appendixes G and H for model input and output data.

7.10 **Model Testing**

A thorough review of model input data was undertaken and a qualitative assessment of preliminary model results was made. Input data were reviewed, to yield consistent and defensible use of parameter values. Commonly accepted values for parameters (runoff curve number, time of concentration, peak rate factor, and structure discharge coefficients) were carefully and thoughtfully employed.

Model testing was performed to identify and account for overflows and to generally evaluate model performance. Modifications to input data were made until the model yielded reasonably reliable results and could be used as a reasonable predictor of watershed response to rainfall.

8.0 **RESULTS OF HYDROLOGIC AND HYDRAULIC ANALYSES**

The results of storm event simulations were used to establish pre-development conditions, to evaluate the effectiveness of the proposed stormwater management system, and to demonstrate that regulatory requirements were met. The following discussion of simulation results is limited to those comparisons that are necessary to describe the effectiveness of the proposed stormwater management system.

8.1 **Pre-Development Condition Simulation Results**

Results of storm event simulations from the pre-development model were used to provide a baseline when defining the design peak stages and discharge rates. Model results of the 2.33y/24h and 25y/24h storm events are shown in tables 1, 2, 3, and 4. These locations were selected along the existing man-made ditch since they better represent probable impacted areas. Also, hydrographs (discharge and stage) of reaches RPRE140 and RPRE160 are provided in Appendices I and J. Additional model results information can be found in Appendix G; Refer to Figure 3**.**

8.2 **Post-Development Condition Simulation Results**

The results of the storm event simulation, using the post-development conditions model network, were evaluated to demonstrate that the peak discharge rates and stages from the proposed stormwater management systems were not greater than the peak discharge rates of pre-development conditions, and that the required treatment volume was met. Refer to tables 1, 2, 3, and 4 for model results. Also, hydrographs (discharge and stage) of reaches RPRE140 and RPRE160 are provided in Appendices I and J. Additional model results information can be found in Appendix H; Refer to Figure 4.

The landfill will be constructed in several phases (e.g., Phases I, II, III, and IV). Each phase has a different contributing area, therefore different treatment volume depths. The proposed pond will be constructed to serve each phase as well as the final configuration or phase IV. Under this condition, the drawdown mechanism consists of two 10-inch orifices per drop structure, for a total of four 10-inch orifices at elevation 81.5 feet (NAVD88).

9.0 SUMMARY

The proposed stormwater management system was designed to treat and attenuate the 250-acre landfill expansion. Analyses of the pre-development and post-development hydrologic and hydraulic conditions were performed using a hydro- meteorological, hydrodynamic modeling approach to provide a level of understanding of the existing and proposed systems response to a storm event.

Based on comparisons of existing and proposed conditions simulation results of the system response, the proposed scenarios will not cause an increase in peak discharge rates and/or stages, resulting in no adverse impacts to downstream adjacent land areas. Also, the system has been shown to provide sufficient treatment storage and allows for recovery of that storage volume according to regulatory requirements. Refer to Tables 1 and 2 below for pre/post discharge comparison for the mean annual and 25 year storm events.

Table 1: Pre and Post Discharge Comparison, Mean Annual Storm Event

Reach Name	Pre Max Discharge (cfs)	Post Max Discharge (cfs)
RPRE350	25.25	24.89
RPRE340	23.12	22.74
RPRE330	21.28	20.87
RPRE300	9.5	8.21
RPRE100A	9.07	7.3
RPRE100	12.38	10.89
RPRE105	11.95	10.37
RPRE115	5.24	3.46
RPRE120	4.82	2.92
RPRE130	44.33	4.48
RPRE140	34.27	13.8
RPRE160	45.73	15.45
RPRE170	54.5	43.91
RPRE180	44.88	28.36
RPRE190	54.78	44.2
RPRE200	54.99	44.39

Table 2: Pre and Post Stage Comparison, Mean Annual Storm Event

Node Name	Pre Max Stage (feet)	Post Max Stage (feet)
NPRE350	76.21	76.15
NPRE340	76.27	76.21
NPRE330	76.59	76.56
NPRE300	79.08	79.06
NPRE100	81.02	81.2
NPRE105	81.83	81.8
NPRE115	82.14	82.08
NPRE120	82.13	82.07
NPRE130	80.62	80.27
NPRE140	80.60	80.12
NPRE160	79.97	79.99
NPRE170	79.92	79.96
NPRE180	79.86	79.92
NPRE190	77.51	77.39
NPRE200	77.18	77.14

Table 3: Pre and Post Discharge Comparison, 25-Year Storm Event

Reach Name	Pre Max Discharge (cfs)	Post Max Discharge (cfs)
RPRE350	53.76	52.23
RPRE340	50.14	48.49
RPRE330	46.87	45.17
RPRE300	21.3	19.41
RPRE100A	17	12.81
RPRE100	52.34	51.98
RPRE105	38.91	30.82
RPRE115	9.21	6.25
RPRE120	9.72	6.29
RPRE130	44.88	41.39
RPRE140	67.07	54.4
RPRE160	89.89	54.65
RPRE170	162.67	129.07
RPRE180	47.5	30.21
RPRE190	163.56	129.89
RPRE200	164	130.3

Table 4: Pre and Post Stage Comparison, 25-Year Storm Event

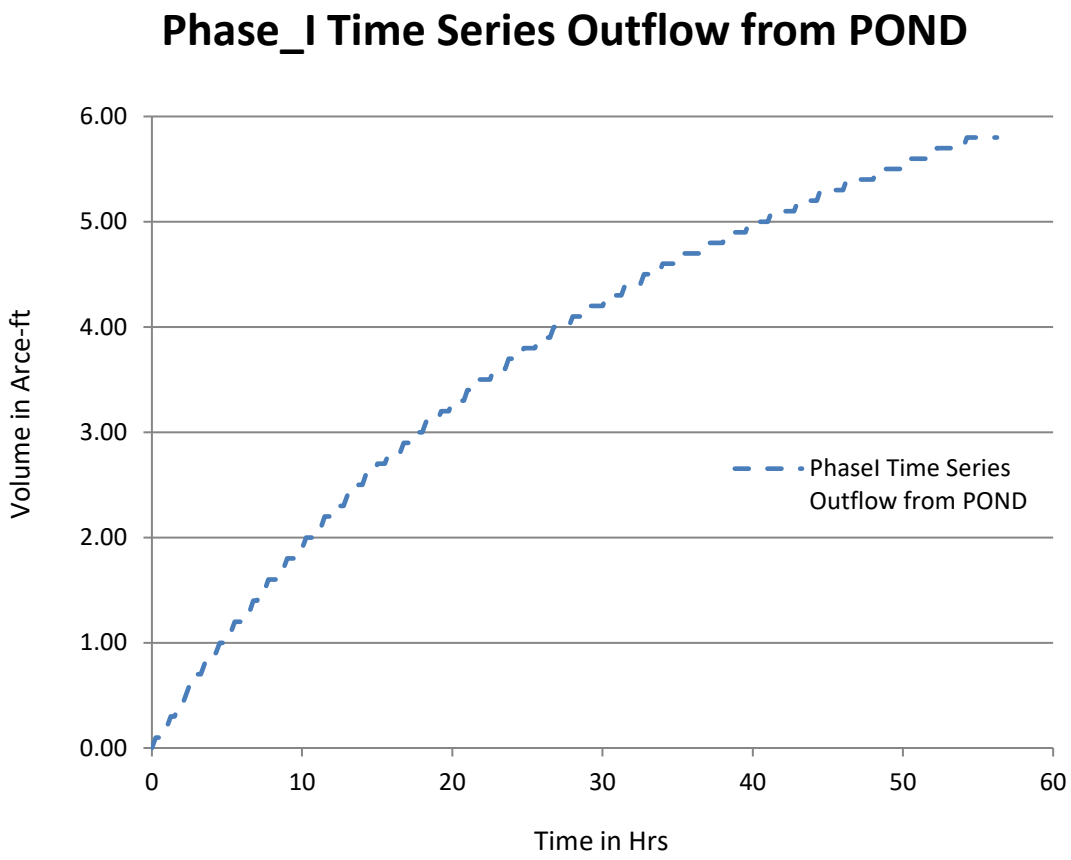
Node Name	Pre Max Stage (feet)	Post Max Stage (feet)
NPRE350	76.61	76.43
NPRE340	76.69	76.53
NPRE330	77.58	77.51
NPRE300	79.27	79.25
NPRE100	82.73	82.63
NPRE105	82.74	82.64
NPRE115	82.98	82.79
NPRE120	82.97	82.79
NPRE130	82.63	81.78
NPRE140	82.62	81.78
NPRE160	81.80	80.83
NPRE170	80.87	80.64
NPRE180	80.61	80.45
NPRE190	78.54	78.26
NPRE200	77.53	77.45

Summary tables of design parameters for the post-development condition are provided in Appendix B - Summary of Wet Detention Pond Design Parameters. Also, hydrographs comparison results (at selected locations) of pre-development and post-development analyses are presented in Appendices I and J. Similarly, input and output data are provided in Appendices G and H.

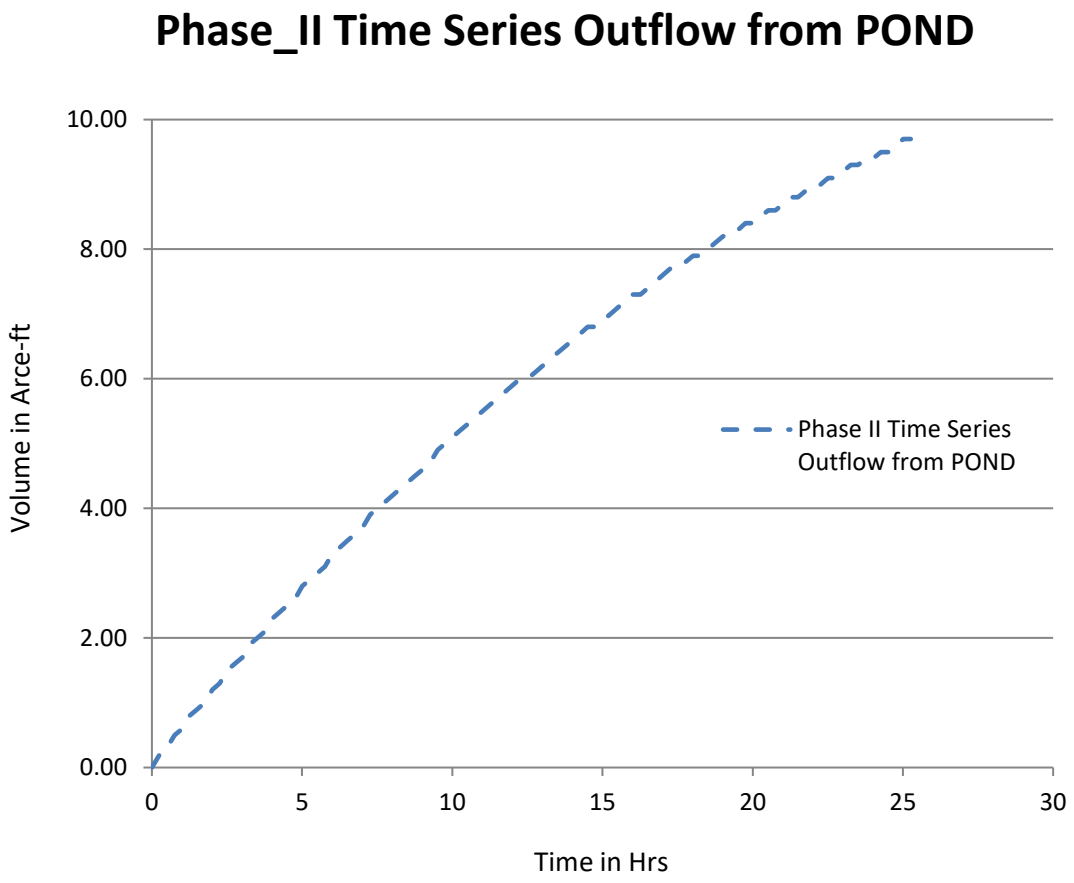
10.0 FINAL POND CONFIGURATION AND PROJECT PHASES

The landfill will be constructed in several phases (e.g., Phases I, II, III, and IV). Each phase has a different contributing area, therefore different treatment volume depths. The proposed pond will be constructed to serve the final configuration or phase IV. Under this condition, the drawdown mechanism consists of two 10-inch orifices per drop structure, for a total of four 10-inch orifices at elevation 81.5 feet (NAVD88).

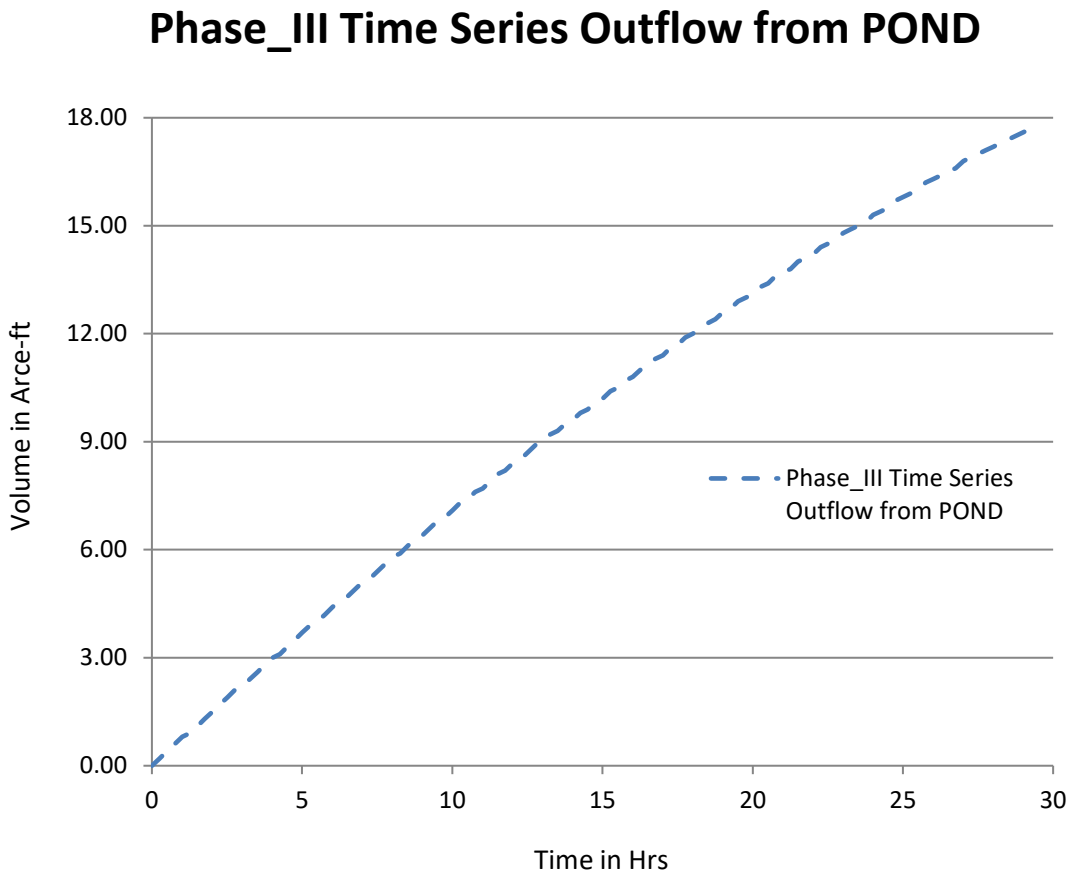
For Phase I, the total impervious area is approximately 37 acres. The required treatment volume is $2.5\ inch \times 37\ acre \times 1.5\ (additional) \div 12 \frac{inch}{feet} = 11.56\ acre - ft.$ The treatment depth is $11.56\ acre.ft \div 20\ acre = 0.57\ ft.$ Under this condition, it is required that one half of the treatment volume ($5.78\ acre - ft$) be released between 24-30 hours. As shown in the graph below, half of the treatment volume is discharged in 55 hrs. This extended time is due to the small hydrostatic head available in this scenario. No additional orifices are proposed to recover the treatment volume within 24-30 hours since additional storage is available in the pond for the next storm.



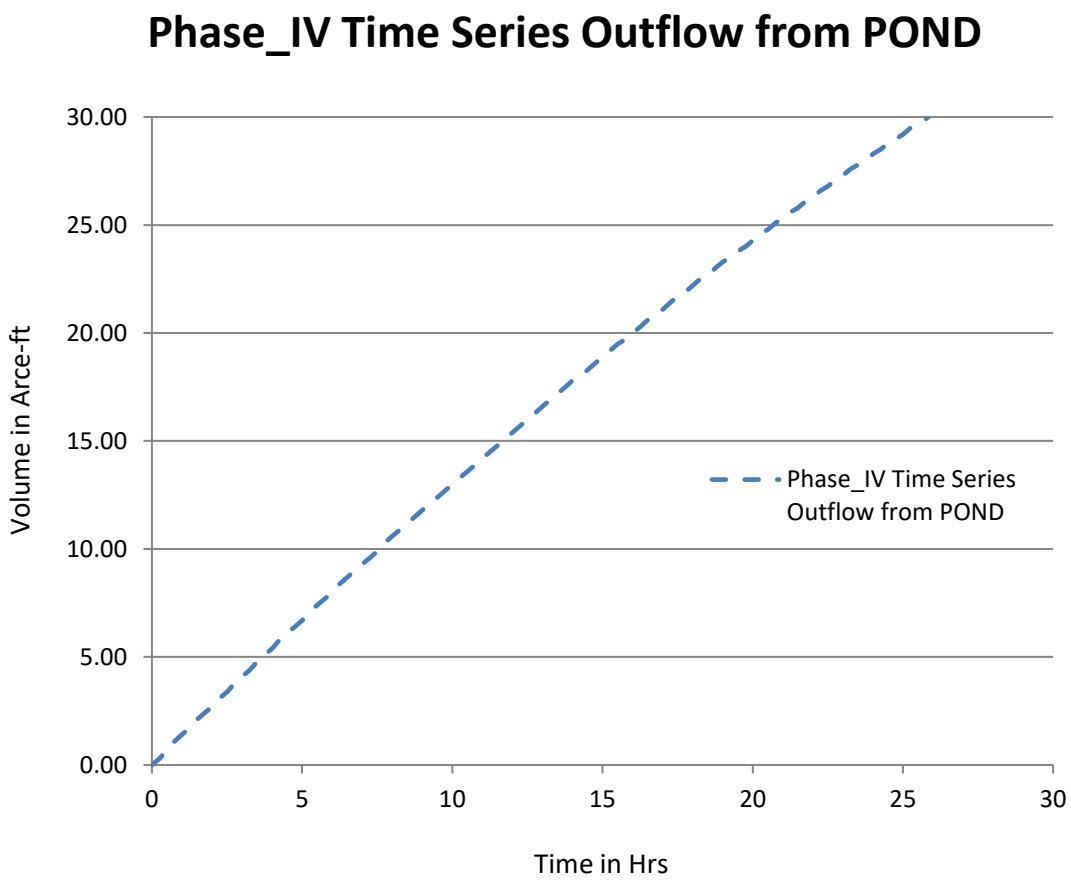
For phase II, the total impervious area is approximately 62 acres. The required treatment volume is $2.5\ inch \times 62\ acre \times 1.5(additional) \div 12\frac{inch}{feet} = 19.37\ acre - ft.$ The treatment depth is $19.37\ acre - ft \div 20\ acre = 0.97ft.$ For this condition, it is required that one half of the treatment volume $(9.68\ acre.ft)$ be released between 24-30 hours. As demonstrated in the graph below, half of the treatment volume is discharged in 25 hrs.

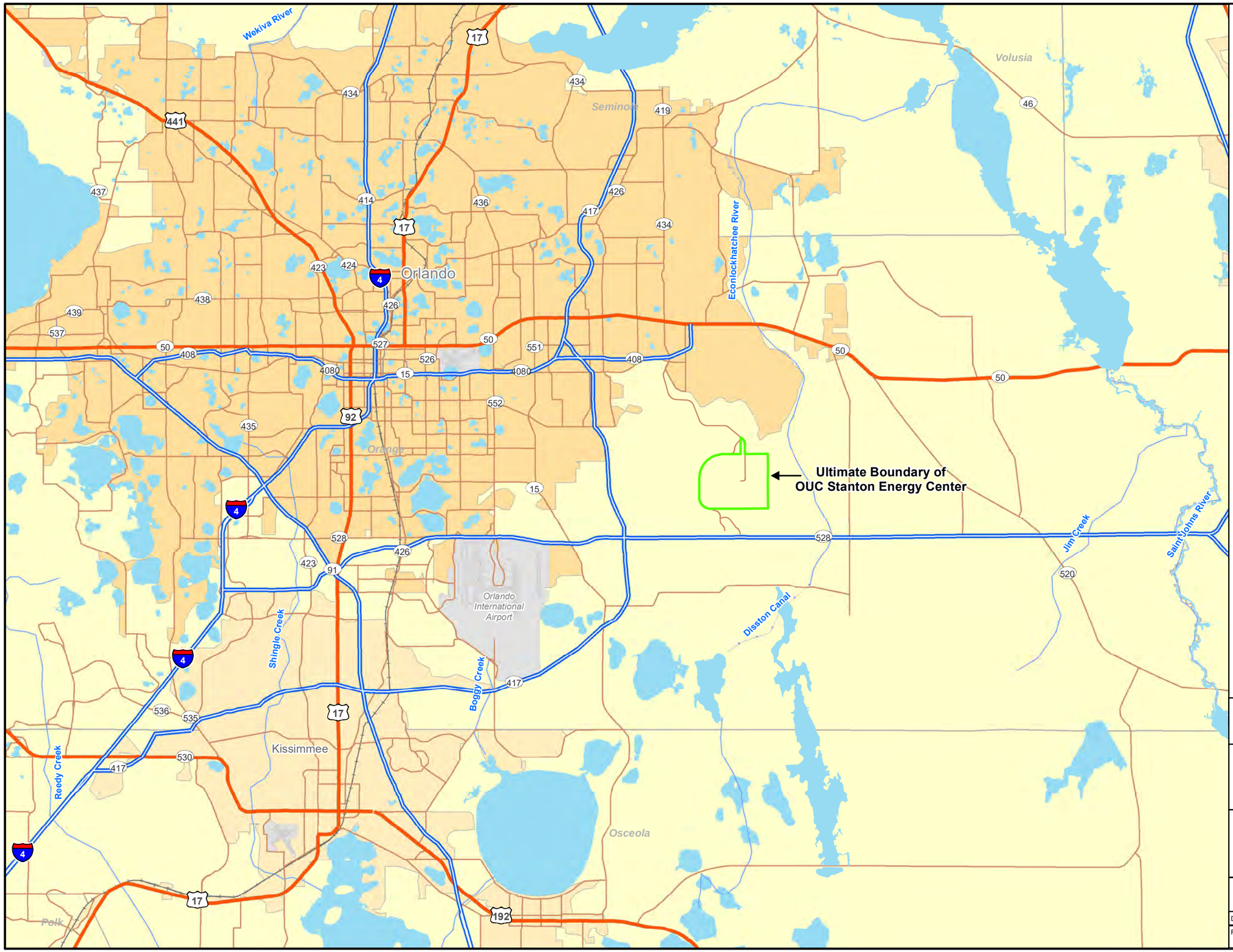


For phase III, the total impervious area is approximately 114 acres. The required treatment volume is $2.5\,inch \times 114\,acre \times 1.5 \div 12\frac{inch}{feet} = 35.62\,acre - ft$. The treatment depth is $35.62\,acre - ft \div 20\,acre = 1.78ft$. For this condition, it is required that one half of the treatment volume ($17.81\,acre - ft$) be released between 24-30 hours, but not early than 24 hrs. In this case, the treatment volume is being released in 22 hrs. Since the time is shorter than required, it is proposed to close one orifice. Under this condition (one orifice closed), the discharge time equals 29 hours. As shown in graph below, half of the treatment volume is discharged in 29 hrs.



For phase IV, the total impervious area is approximately 190 acres. The required treatment volume is $2.5\ inch \times 190\ acre \times 1.5 \div 12 \frac{inch}{feet} = 59.37\ acre - ft$. The treatment depth is $60.0\ acre.ft \div 20\ acre = 3.0\ ft.$ For this condition, it is required that one half of the treatment volume $(30.0\ acre - ft)$ be released between 24-30 hours. As demonstrated in graph below, half of the treatment volume is discharged in 26 hrs.





N
W E
S

0 9,000 18,000

Scale: 1" = 18,000'

Source: ESRI

Legend

Site Boundary

SITE LOCATION MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

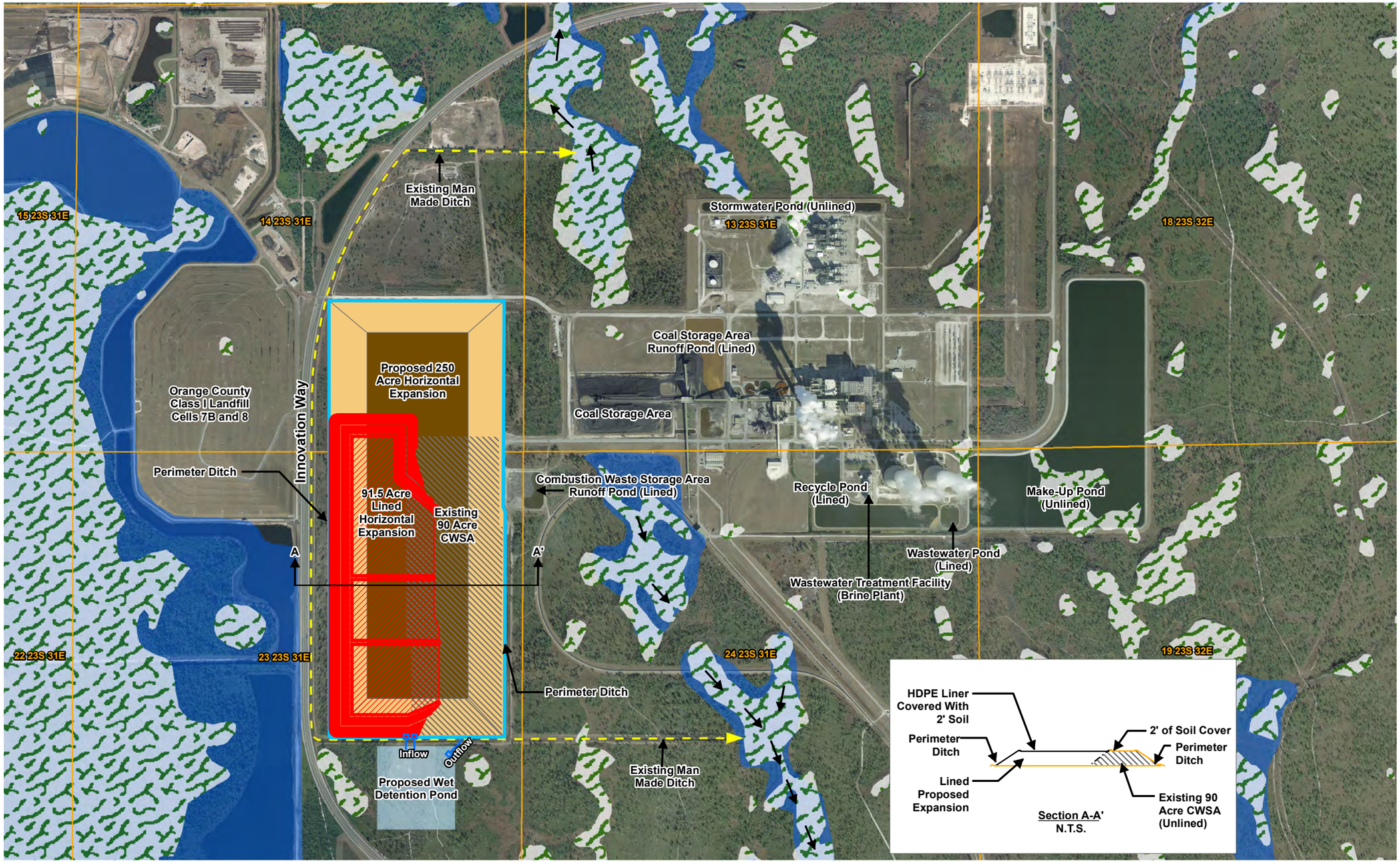
OUC The Reliable One

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

HORIZONTAL EXPANSION OF COAL COMBUSTION WASTE LANDFILL

DRAWN BY: **RMC**	CHECKED BY:	DATE: **10-24-11**
FILE NO. **10-0249**	APPROVED BY:	FIGURE: **1**

W:\Projects\2010\10-0249\ArcGIS_ArcLayouts\Figure1_SiteLocationMap.mxd



N
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0 600 1,200
Feet

Scale: 1" = 1,200'

- Proposed Landfill Ditch
- Existing CWSA
- Side Slopes
- Top of Landfill
- PLSS
- National Wetlands Inventory
- FEMA Flood Zone A

Imagery	Orange County Property Appraiser	Jan 2011
FEMA	Orange County	2009

OUC The Reliable One

Figure 2

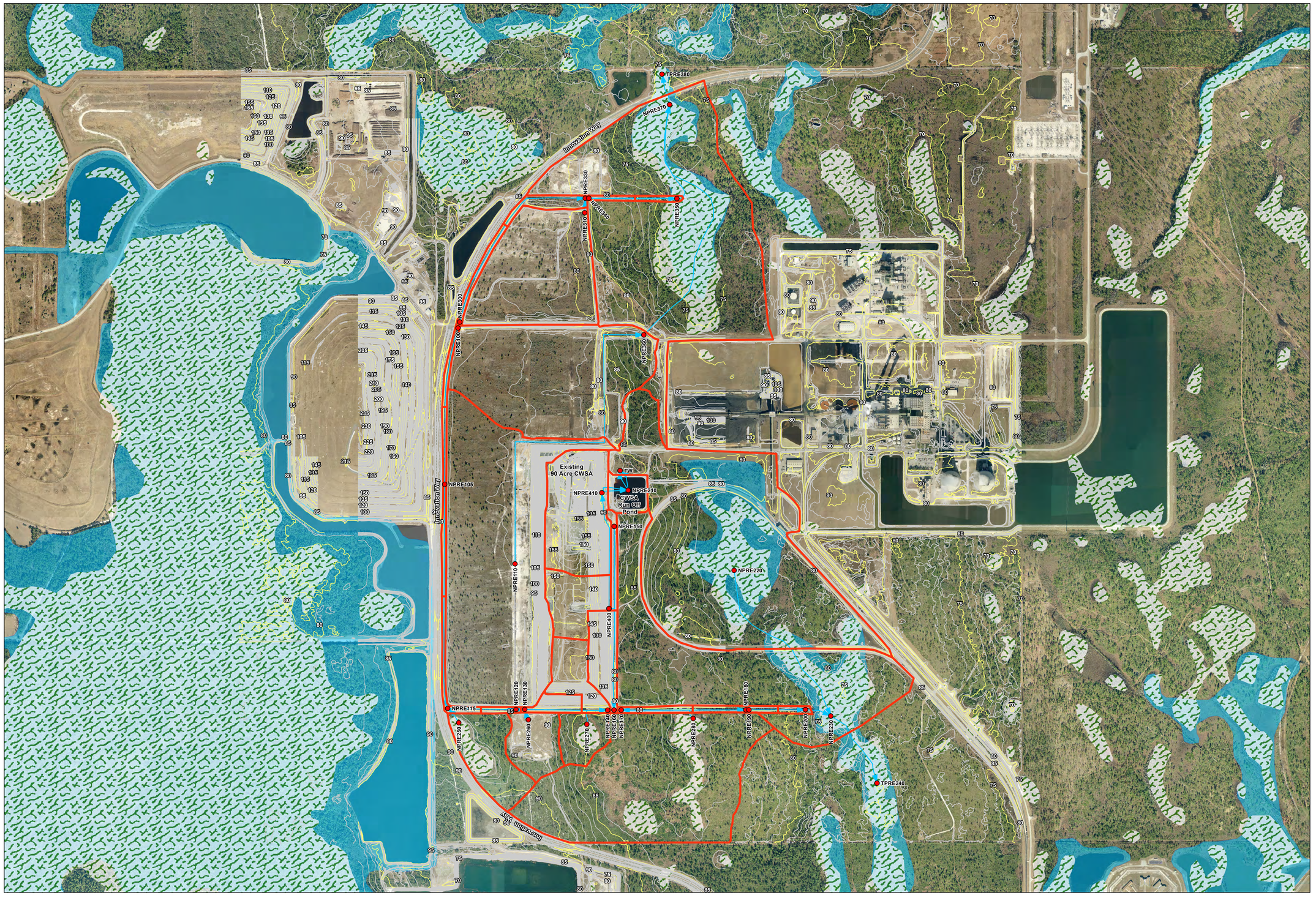
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Prepared by: RMC	Modified by: TJC	Modified: 10-21-11
File: \\2010\10-0249\ArcGIS_ArcLayouts\20110915\NWI_FEMA_Map.mxd		

STORMWATER CONCEPTUAL DESIGN

OUC STANTON ENERGY CENTER CCW LANDFILL

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

FIGURE 3

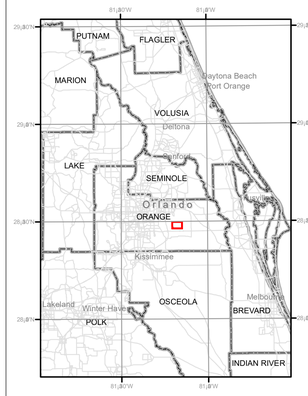


N
W E
S

Scale 1" = 600'
Feet
0 300 600 1,200 1,800
0 100 200 400
Meters

- Existing Node
- Existing Reach
- Existing Basin
- National Wetland Inventory
- FEMA Flood Zone A
- 5' Contour
- 1' Contour

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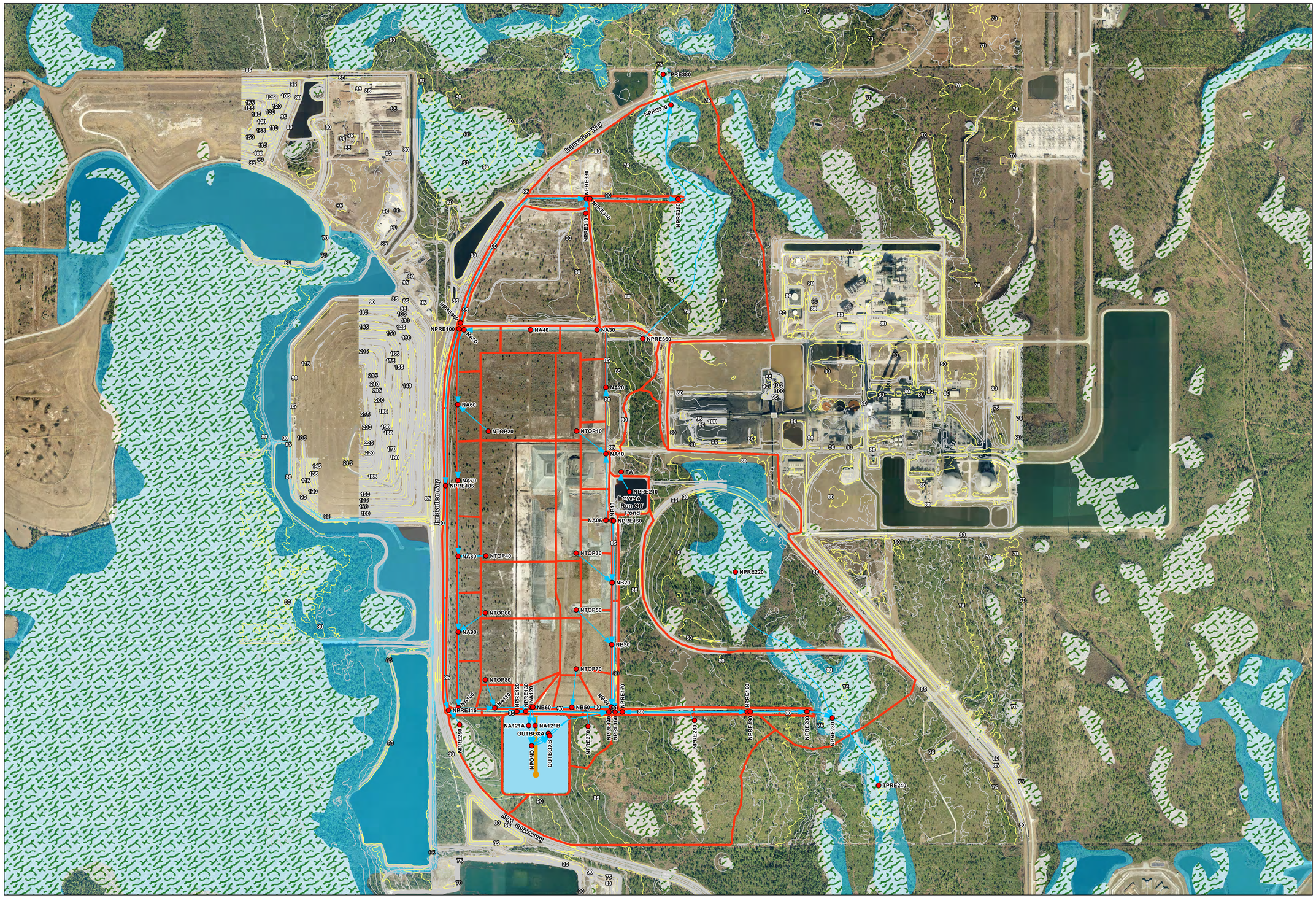
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Prepared by: XL	Revised by:	Revised:
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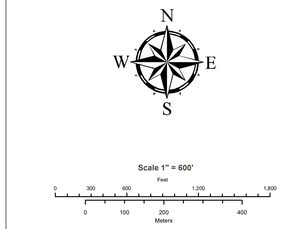
PRE-DEVELOPMENT NETWORK LAYOUT

OUC STANTON ENERGY CENTER COAL COMBUSTION WASTE LANDFILL

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, Fl. 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

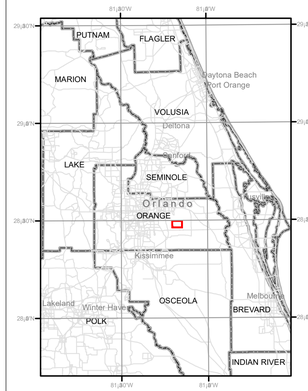
FIGURE 4





- Proposed Node
- Proposed Reach
- Proposed Basin
- Proposed Wet Detention Pond
- National Wetland Inventory
- FEMA Flood Zone A
- 5' Contour
- 1' Contour

OUC The Reliable One®

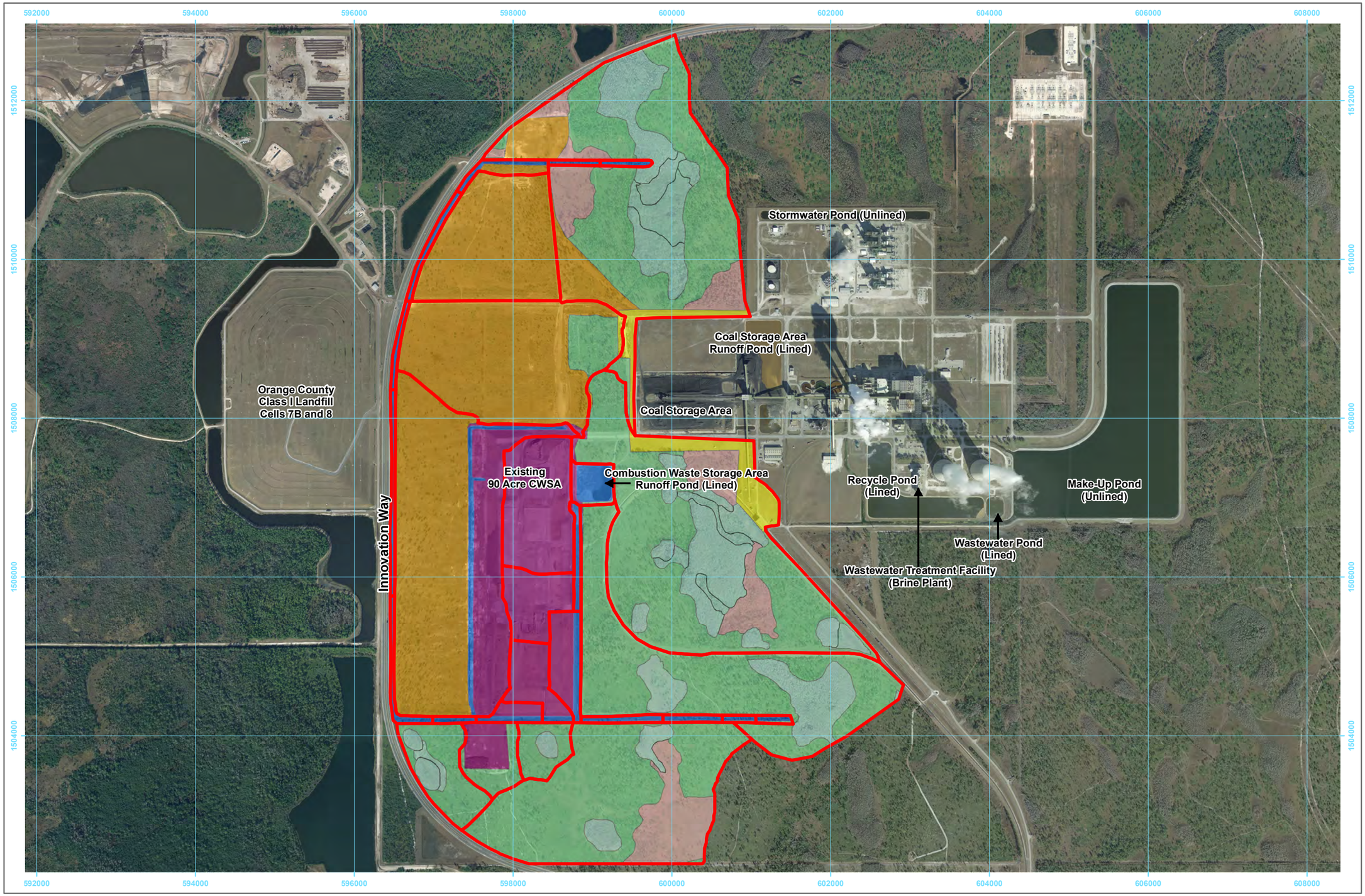


Project: 10-0249	Projection: State Plane Florida East	
Prepared: 09-21-11	Horizontal Datum: NAD83	Vertical Datum:
Prepared by: XL	Revised by:	Revised:
File: W:\Projects\2010\10-0249\ArcGIS_ArcLayouts\20111007\Proposed.mxd		

POST-DEVELOPMENT NETWORK LAYOUT

OUC STANTON ENERGY CENTER COAL COMBUSTION WASTE LANDFILL

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N
W E
S

0 600 1,200
Feet

Scale: 1" = 1,200'

Existing Basin

Landuse

- OPEN LAND
- RANGELAND
- UPLAND FORESTS
- STREAMS AND WATERWAYS
- WETLANDS
- TRANS, COMM, & UTIL
- SOLID WASTE DISPOSAL

Imagery	Orange County Property Appraiser	2011
Landuse	SJRWMD	2004

OUC The Reliable One

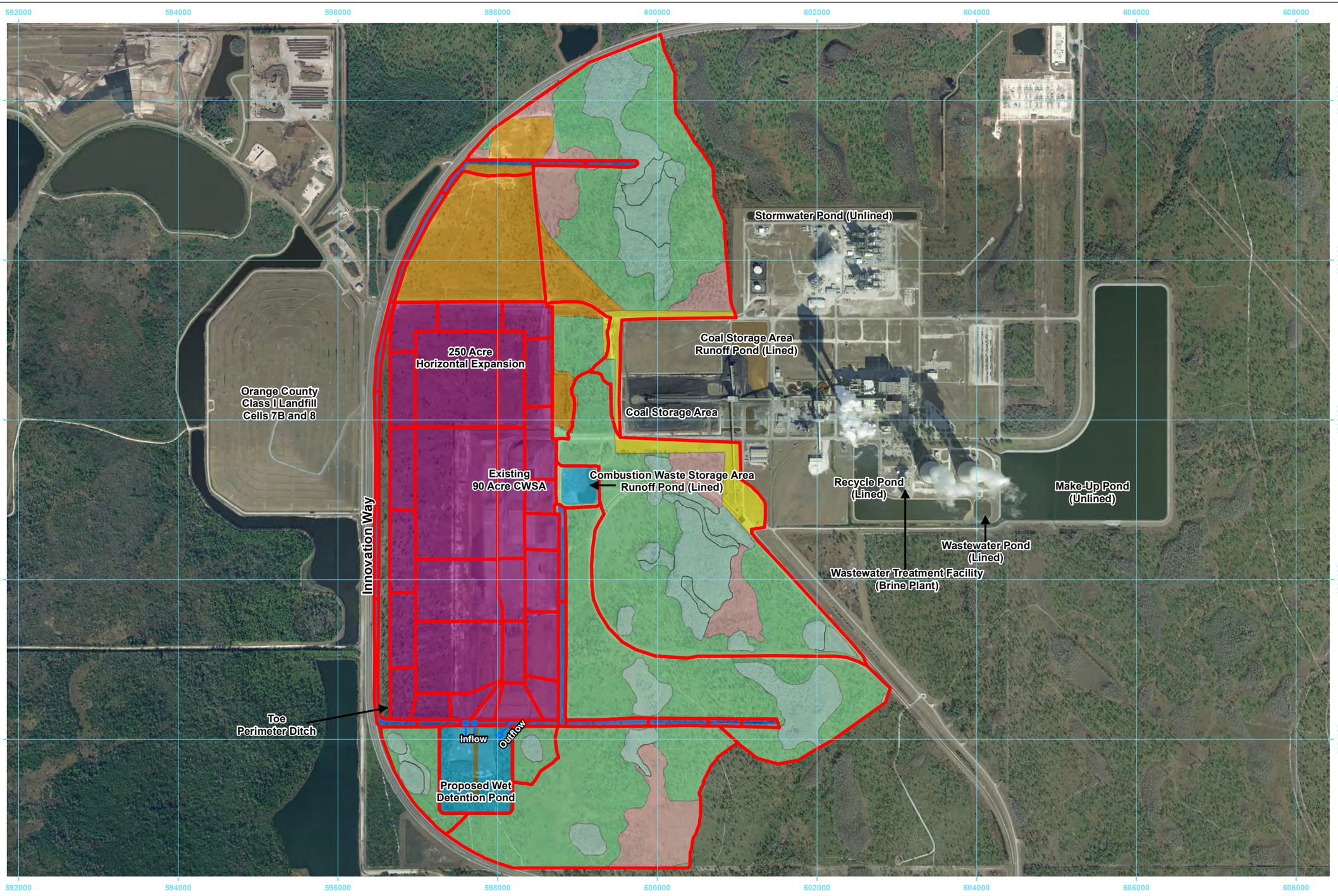
Figure 5

Project: 10-13-0024	Projection: State Plane Florida East	
Prepared: 10-20-11	Horizontal Datum: NAD83	Vertical Datum: N/A
Prepared by: RMC	Modified by:	Modified:
File: W:\Projects\2010\10-0249\ArcGIS_ArcLayouts\Figure5_Pre Landuse.mxd		

PRE-DEVELOPMENT LAND USE

OUC STANTON ENERGY CENTER COAL COMBUSTION WASTE LANDFILL

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N
W E
S

0 600 1,200
Feet

Scale: 1" = 1,200'

- Proposed Basin

Landuse

- OPEN LAND
- RANGELAND
- UPLAND FORESTS
- STREAMS AND WATERWAYS
- RESERVOIRS
- WETLANDS
- TRANS, COMM, & UTIL
- SOLID WASTE DISPOSAL
- PRIMITIVE/TRAILS

Imagery	Orange County Property Appraiser	2011
Landuse	SJRWMD	2004

OUC The Reliable One

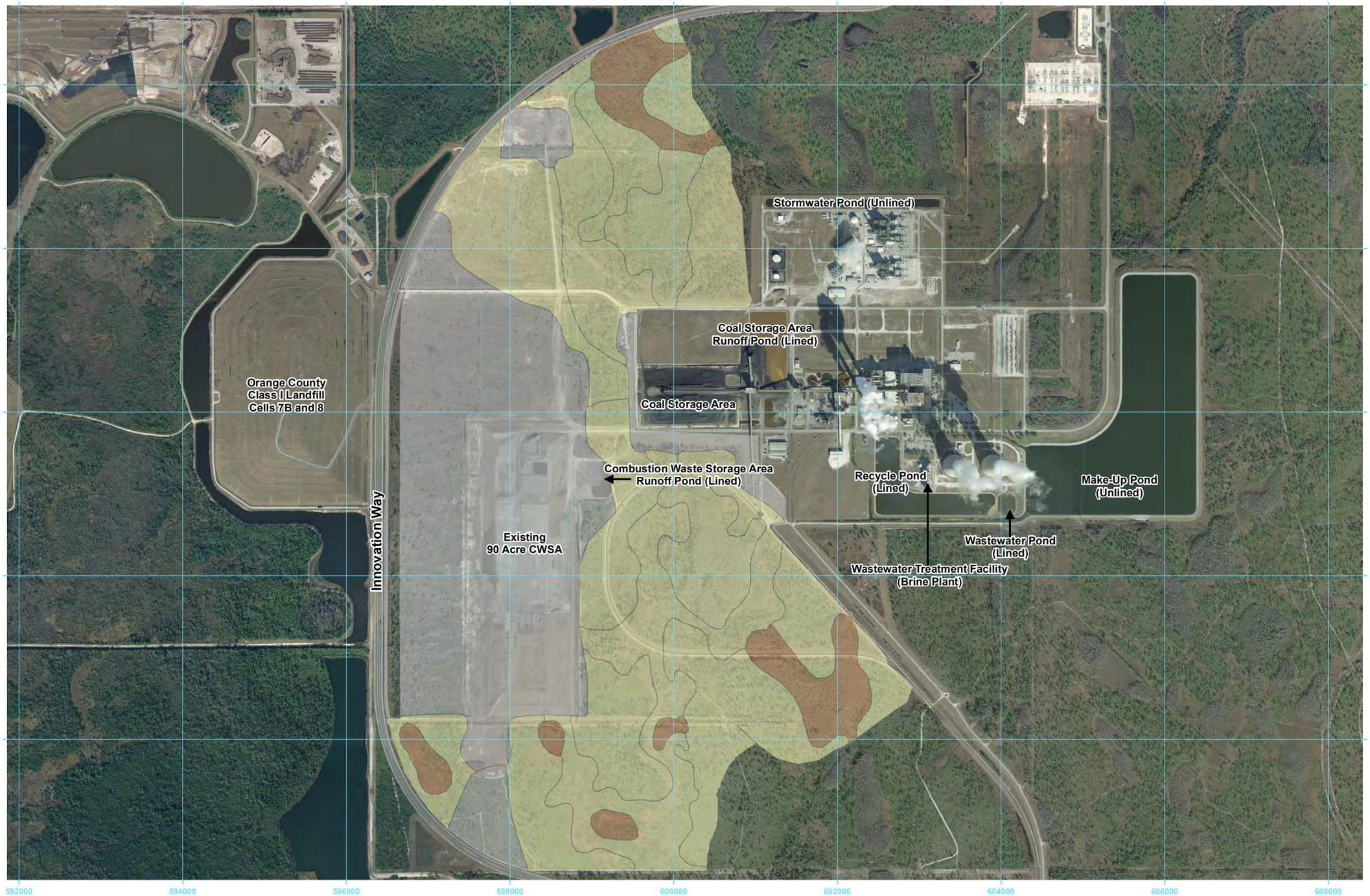
Figure 6

POST-DEVELOPMENT LAND USE

OUC STANTON ENERGY CENTER COAL COMBUSTION WASTE LANDFILL

Project: 10-13-0024	Projection: State Plane Florida East	
Prepared: 10-26-11	Horizontal Datum: NAD83	Vertical Datum: N/A
Prepared by: XL	Modified by:	Modified:
File: W:\Projects\2010\10-0249\ArcGIS_ArcLayouts\Figure6_Post Landuse.mxd		

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N
W E
S

0 600 1,200
Feet

Scale: 1" = 1,200'

Soils

- B/D
- C
- D

Imagery	Orange County Property Appraiser	2011
Soils	SJRWMD	2001

OUC The Reliable One

Figure 7

SOIL HYDROLOGIC GROUP

OUC STANTON ENERGY CENTER COAL COMBUSTION WASTE LANDFILL

Project: 10-13-0024	Projection: State Plane Florida East	
Prepared: 10-20-11	Horizontal Datum: NAD83	Vertical Datum: N/A
Prepared by: XL	Modified by:	Modified:
File: W:\Projects\2010\10-0249\ArcGIS_ArcLayouts\Figure7_Soils_Map.mxd		

Ardaman & Associates, Inc.
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Appendix A: Design Calculations

Treatment volume:

Total contributing area: 250-acre
Total impervious area (liner with two feet of soil cover): 190-acre
Total previous area (two feet of soil cover): 60 acres
The required treatment volume should be the greater of the following:
Treatment volume: $\frac{1\ inch \times 250\ acre}{\frac{12 inch}{ft}} = 20.83\ acre.ft$
or
Treatment volume: $\frac{2.5\ inch \times 190\ acre}{12 inch/ft} = 39.58\ acre.ft$

Additional 50 percent due to OFW: $39.58\ acre.ft \times 50\ percent = 19.79\ acre.ft$
Total treatment volume: $39.58\ acre.ft + 19.79\ acre.ft = 59.37\ acre.ft \approx 60.0\ acre.ft$
Pond Normal Water Level (NWL): 81.5' NAVD88
Orifice invert elevation: 81.5' NAVD88
Pond Area at NWL: 20 acres
Treatment volume depth: $\frac{60\ acre.ft}{20\ acre} = 3.0\ feet$
Weir elevation: $81.5\ ft + 3.0\ ft = 84.5\ feet$

Required Permanent Pool Volume:

Since the system is considered (by FDEP) to be directly connected to outstanding Florida Waters, an additional fifty percent of permanent pool volume is required.

Where: *DA*: 250 Acre - Drainage area to pond.
C: 0.45 - Runoff coefficient.
R: 32 inches - Wet season rainfall, from SJWMD (Wet Season Normal Rainfall from June - October)
RT: 21 days - Residence time, 14 days required plus 50% as an alternative to replace the littoral zone.
WS: 153 days - length of the wet season (June – October)
Additional 50% (1.5) is provided due to OFW

$$PPV = \frac{250\ acre \times 0.45 \times 32\ inch \times 21\ days \times (1.5)}{153\ days \times 12\ inch/ft} = 61.76\ acre.ft$$

Mean Depth:

$$MD = \frac{61.76 acre.ft}{20\ acres} = 3.09\ ft$$

Mean depth is within the required range, between 2 and 8 feet.

Recovery time:

Half of the treatment volume (30.0 acre.ft) should be discharged within the first 24 hrs to 30 hrs after the storm event.

$$Q = \frac{30.0\ acre.ft \times 43560 \frac{sqft}{acre}}{24\ hrs \times 3600\ sec/hrs} = 15.13\ cfs$$

Design 4 orifices: $Q = \frac{15.13\ cfs}{4} = 3.78 cfs\ each$

Treatment volume depth $h1 = 81.5\ ft - 84.5\ ft = 3\ ft$

Stage at half the treatment volume $= \frac{30\ acre.ft \times (84.5-81.5)}{278.85\ acre.ft - 217.2\ acre.ft} + 81.5 ft = 82.96\ ft$

$$h2 = 82.96 ft - 81.5 ft = 1.46 ft$$

$$h = \frac{3 ft + 1.46 ft}{2 ft} = 2.23 ft$$

Then, area of each orifice $A = \frac{3.78 cfs}{0.6 \times 2 \sqrt{\frac{32.2 ft}{sec2}} \times 2.23 ft} = 0.53 sqft$

The diameter of each orifice $D = \sqrt{\frac{4 \times 0.53 sqft}{\pi}} = 0.82\ feet\ or\ 9.82\ inch\ each\ orifice$

(4) 10 inch diameter orifices were use to drawdown the treatment volume. Refer to Appendix K for recovery analysis resulting from the H&H ICPR model. Also, refer to Appendix B for Summary of Wet Detention Pond Design Parameters.

Appendix B: Summary of Wet Detention Pond Design Parameters

Table 1: Wet Detention Pond Design Parameters

Wet Detention Pond	Contributing Area	Treatment Volume
	250 acres	60.0 acre-ft
Pond Geometry (Required Permanent Pool and Treatment Volume)	**Pond Bottom Elevation**	**Area**
	69.5 feet	15.58 acres
	Normal Water Level (NWL)	**Area**
	81.5 feet	20.0 acres
	Treatment Volume Elevation	**Area**
	84.5 feet	21.1 acres
	Pond Crest Elevation	**Area**
	88.0 feet	22.5 acres
Designed Water Control Structure (Overflow Elevation) (two required)	**Type**	Sharp Weir
	Geometry	Rectangular
	Total Length	4.0 feet
	Overflow Weir Elevation	84.5 feet
	Emergency overflow	85.9 feet
(Outfall Pipe) (two required)	**Geometry**	Circular
	Diameter (nominal)	36 Inches
	Material	HDPE SRD 21
	Upstream Invert	80.0 feet
	Downstream Invert	80.0 feet
	Length	110.0 feet
Designed Bleed-Down Device (Control Elevation) (two required per structure)	**Type**	Orifice
	Geometry	Circular
	Material	PVC SCH 40
	Diameter (ID)	10.0 Inches
	Invert	181.5 feet
Skimmer	**Top**	85.90 feet
	Bottom	84.16 feet

Appendix C: Pre-Development CN Calculations

Pre-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE100	1900	C	0.037132	74	
PRE100	5100	C	1.554868	100	99.8
PRE105	5100	C	3.215	100	100.0
PRE110	1900	B/D	1.025557	80	
PRE110	1900	C	85.74487	74	
PRE110	8350	C	36.510328	86	
PRE110	5100	C	0.10413	100	
PRE110	5100	C	6.074817	100	78.7
PRE115	5100	C	1.663	100	
PRE115	5100	B/D	0.956	100	
PRE115	5100	C	0.098	100	100.0
PRE120	4110	B/D	0.091821	80	
PRE120	5100	B/D	0.837279	100	
PRE120	5100	C	0.089498	100	
PRE120	8350	B/D	0.028091	89	
PRE120	8350	C	0.006875	86	98.8
PRE130	4110	B/D	0.044329	80	
PRE130	4110	C	0.012179	74	
PRE130	4110	D	0.000395	80	
PRE130	8350	B/D	0.320986	89	
PRE130	8350	C	2.139991	86	
PRE130	5100	B/D	0.580065	100	
PRE130	5100	C	0.710775	100	
PRE130	5100	D	0.005419	100	
PRE130	8350	C	0.049878	86	90.8
PRE140	4110	D	0.00023	80	
PRE140	8350	B/D	0.064413	89	
PRE140	8350	C	10.291724	86	
PRE140	8350	B/D	0.375189	89	
PRE140	8350	B/D	0.011166	89	
PRE140	5100	B/D	0.047615	100	
PRE140	5100	B/D	0.356993	100	
PRE140	5100	B/D	0.0184	100	
PRE140	5100	D	0.269565	100	87.0
PRE150	8350	C	0.159023	86	
PRE150	8350	C	0.011536	86	
PRE150	5100	C	2.104812	100	
PRE150	5100	B/D	0.104816	100	
PRE150	5100	C	0.498684	100	99.2
PRE160	4110	B/D	0.002599	80	
PRE160	8350	C	7.868982	86	
PRE160	8350	B/D	0.006594	89	
PRE160	8350	B/D	0.003257	89	
PRE160	8350	B/D	0.010618	89	
PRE160	5100	B/D	0.000922	100	
PRE160	5100	C	2.650268	100	
PRE160	5100	B/D	0.049926	100	
PRE160	5100	B/D	0.001666	100	

Pre-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE160	5100	B/D	0.261482	100	89.8
PRE170	4110	B/D	0.095312	80	
PRE170	4110	B/D	0.326829	80	
PRE170	4110	D	0.055461	80	
PRE170	5100	B/D	0.281765	100	
PRE170	5100	B/D	1.21353	100	
PRE170	5100	D	0.101706	100	
PRE170	5100	B/D	0.012147	100	95.4
PRE180	4110	B/D	0.193044	80	
PRE180	4110	D	0.133674	80	
PRE180	5100	B/D	0.826913	100	
PRE180	5100	B/D	0.041122	100	
PRE180	5100	D	0.409406	100	95.9
PRE190	4110	B/D	0.248185	80	
PRE190	5100	B/D	0.655091	100	94.5
PRE200	4110	B/D	0.40816	80	
PRE200	5100	B/D	0.650805	100	92.3
PRE210	4110	C	0.381274	74	
PRE210	4110	B/D	0.290291	80	
PRE210	4110	C	0.238126	74	
PRE210	8350	C	0.940562	86	
PRE210	8350	C	0.011317	86	
PRE210	5100	C	0.002589	100	
PRE210	5300	C	4.0978	100	
PRE210	5300	B/D	0.437523	100	94.5
PRE220	6210	B/D	0.145362	100	
PRE220	6210	D	1.25056	100	
PRE220	6430	B/D	0.831225	100	
PRE220	6430	D	1.113553	100	
PRE220	6210	B/D	0.742034	100	
PRE220	6210	D	1.316215	100	
PRE220	6210	B/D	0.013526	100	
PRE220	6210	B/D	1.537251	100	
PRE220	6460	B/D	1.345059	100	
PRE220	6460	B/D	0.097223	100	
PRE220	6460	B/D	1.230597	100	
PRE220	3100	B/D	7.716539	80	
PRE220	3100	B/D	0.472656	80	
PRE220	3100	B/D	0.364512	80	
PRE220	3100	D	0.394386	80	
PRE220	6300	B/D	0.234956	100	
PRE220	6300	B/D	1.090514	100	
PRE220	6430	B/D	1.932468	100	
PRE220	6430	B/D	1.704443	100	
PRE220	6210	B/D	0.474674	100	
PRE220	6210	B/D	17.483602	100	
PRE220	6460	B/D	0.338867	100	
PRE220	6460	B/D	2.159466	100	

Pre-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE220	6210	B/D	0.279476	100	
PRE220	6210	B/D	0.937282	100	
PRE220	6170	B/D	0.018637	100	
PRE220	6170	B/D	0.836738	100	
PRE220	6170	C	0.254667	100	
PRE220	6170	B/D	0.425502	100	
PRE220	6170	B/D	0.61999	100	
PRE220	3300	C	1.677442	74	
PRE220	3300	B/D	6.075224	80	
PRE220	3300	B/D	0.379558	80	
PRE220	8310	C	11.058445	74	
PRE220	8310	B/D	0.012081	80	
PRE220	8310	B/D	2.292828	80	
PRE220	8310	B/D	0.080083	80	
PRE220	1900	B/D	0.16061	80	
PRE220	1900	C	0.117637	74	
PRE220	1900	B/D	0.087804	80	
PRE220	4110	B/D	4.183328	80	
PRE220	4110	C	0.684923	74	
PRE220	4110	B/D	4.747539	80	
PRE220	4110	C	1.487466	74	
PRE220	4110	B/D	25.821548	80	
PRE220	4110	B/D	23.706858	80	
PRE220	4110	B/D	6.951773	80	
PRE220	4110	B/D	16.247047	80	
PRE220	4110	D	2.098403	80	
PRE220	8350	C	0.577273	86	
PRE220	8350	B/D	0.018894	89	85.9
PRE230	6460	B/D	0.167522	100	
PRE230	6210	B/D	1.53049	100	
PRE230	6210	B/D	0.017514	100	
PRE230	6210	D	14.469979	100	
PRE230	6430	B/D	0.199564	100	
PRE230	6430	B/D	4.560241	100	
PRE230	6430	B/D	1.392544	100	
PRE230	4110	B/D	27.489871	80	
PRE230	4110	C	1.427966	74	
PRE230	4110	B/D	9.499157	80	
PRE230	4110	B/D	9.241766	80	
PRE230	4110	C	3.37031	74	
PRE230	4110	B/D	10.105858	80	
PRE230	4110	D	6.141751	80	
PRE230	4110	B/D	11.279254	80	
PRE230	4110	D	0.018489	80	
PRE230	8350	C	0.128886	86	
PRE230	8350	B/D	0.200702	89	
PRE230	8350	B/D	0.016499	89	
PRE230	8350	C	0.22801	86	

Pre-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE230	5100	B/D	0.006631	100	
PRE230	5100	B/D	0.004221	100	
PRE230	5100	B/D	0.168379	100	
PRE230	5100	D	0.000598	100	
PRE230	5100	C	0.062706	100	
PRE230	5100	B/D	0.030862	100	
PRE230	5100	C	0.173193	100	
PRE230	5100	B/D	0.001726	100	84.2
PRE250	6210	B/D	0.818877	100	
PRE250	6210	D	1.42636	100	
PRE250	6430	B/D	0.132427	100	
PRE250	6430	D	1.250698	100	
PRE250	6210	B/D	0.280175	100	
PRE250	6210	D	0.910395	100	
PRE250	1900	B/D	0.000239	80	
PRE250	4110	B/D	8.482755	80	
PRE250	4110	D	2.852905	80	
PRE250	4110	C	3.543163	74	
PRE250	5100	B/D	0.000001	100	
PRE250	8350	B/D	0.112199	89	
PRE250	8350	C	0.003002	86	83.8
PRE260	4110	B/D	2.466644	80	
PRE260	4110	C	0.729992	74	
PRE260	4110	C	3.081241	74	
PRE260	8350	B/D	0.770809	89	
PRE260	8350	C	5.813974	86	
PRE260	8350	C	0.651586	86	81.7
PRE270	6460	B/D	1.001899	100	
PRE270	6460	D	0.693555	100	
PRE270	4110	B/D	5.685619	80	
PRE270	4110	B/D	0.950966	80	
PRE270	4110	D	1.396429	80	
PRE270	5100	B/D	0.010891	100	
PRE270	5100	D	0.010296	100	83.5
PRE280	6170	B/D	0.567363	100	
PRE280	6170	B/D	1.960225	100	
PRE280	6170	D	0.82291	100	
PRE280	3100	B/D	6.105088	80	
PRE280	3100	B/D	14.15638	80	
PRE280	3100	B/D	0.880307	80	
PRE280	3100	D	0.148558	80	
PRE280	3100	D	0.021103	80	
PRE280	6210	B/D	1.268319	100	
PRE280	6210	B/D	0.984599	100	
PRE280	6210	D	0.928723	100	
PRE280	4110	B/D	29.906616	80	
PRE280	4110	B/D	17.230913	80	
PRE280	4110	B/D	15.005179	80	

Pre-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE280	4110	D	0.504605	80	
PRE280	4110	C	9.117664	74	
PRE280	4110	D	3.025305	80	
PRE280	5100	B/D	0.00035	100	
PRE280	5100	B/D	0.004806	100	80.7
PRE300	1900	B/D	0.127341	80	
PRE300	1900	C	0.166797	74	
PRE300	1900	C	0.014126	74	
PRE300	5100	B/D	0.686288	100	
PRE300	5100	C	1.428148	100	
PRE300	5100	C	0.044248	100	97.1
PRE310	1900	B/D	42.294649	80	
PRE310	1900	C	0.112293	74	
PRE310	1900	C	10.532688	74	
PRE310	1900	C	0.709774	74	78.7
PRE330	1900	B/D	1.33104	80	
PRE330	1900	C	1.134972	74	
PRE330	5100	B/D	1.049279	100	
PRE330	5100	C	0.776558	100	86.9
PRE340	3300	B/D	0.003223	80	
PRE340	3300	C	0.006058	74	
PRE340	1900	C	0.000684	74	
PRE340	5100	B/D	0.518814	100	
PRE340	5100	C	0.477023	100	99.8
PRE350	3300	B/D	0.000016	80	
PRE350	5100	B/D	0.081174	100	
PRE350	5100	B/D	1.045734	100	100.0
PRE360	8310	B/D	0.329709	80	
PRE360	8310	C	0.494502	74	
PRE360	1900	B/D	2.254673	80	
PRE360	1900	B/D	3.983389	80	
PRE360	1900	C	67.487482	74	
PRE360	1900	B/D	0.048588	80	
PRE360	4110	B/D	5.567058	80	
PRE360	4110	B/D	3.137986	80	
PRE360	4110	C	0.059266	74	
PRE360	4110	C	0.820267	74	
PRE360	8350	C	0.339947	86	
PRE360	5100	C	0.004283	100	75.3
PRE370	3200	B/D	6.456361	80	
PRE370	6300	B/D	9.012078	100	
PRE370	6460	B/D	0.747893	100	
PRE370	6460	B/D	7.806455	100	
PRE370	6300	D	0.306625	100	
PRE370	6300	B/D	0.037585	100	
PRE370	6300	B/D	1.023945	100	
PRE370	6430	D	0.438032	100	
PRE370	6430	B/D	1.682946	100	

Pre-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE370	6430	B/D	1.509079	100	
PRE370	3200	B/D	0.592852	80	
PRE370	3300	B/D	7.967304	80	
PRE370	3300	B/D	1.057921	80	
PRE370	3300	B/D	0.424103	80	
PRE370	3300	C	1.512823	74	
PRE370	8310	B/D	1.272921	80	
PRE370	8310	B/D	1.845307	80	
PRE370	8310	B/D	0.496748	80	
PRE370	8310	C	2.967504	74	
PRE370	6210	B/D	0.195636	100	
PRE370	6210	D	15.041142	100	
PRE370	6210	B/D	2.079943	100	
PRE370	6210	B/D	0.101035	100	
PRE370	4110	B/D	27.572287	80	
PRE370	4110	D	7.542032	80	
PRE370	4110	B/D	12.366098	80	
PRE370	4110	C	0.047729	74	
PRE370	4110	B/D	19.844442	80	
PRE370	4110	B/D	8.604476	80	
PRE370	1900	B/D	9.563784	80	
PRE370	1900	B/D	2.684083	80	
PRE370	1900	C	7.822557	74	
PRE370	4110	B/D	0.587388	80	
PRE370	4110	C	0.007554	74	
PRE370	3200	B/D	2.494013	80	
PRE370	3200	B/D	0.031449	80	
PRE370	4110	B/D	0.432261	80	
PRE370	4110	B/D	0.793089	80	
PRE370	4110	C	0.590869	74	
PRE370	4110	B/D	0.098364	80	
PRE370	5100	B/D	0.00146	100	
PRE370	5100	B/D	0.005091	100	
PRE370	5100	C	0.002357	100	85.0
PRE400	8350	C	14.665931	86	
PRE400	5100	C	0.010031	100	86.0
PRE410	8350	C	33.110624	86	
PRE410	5100	C	0.012866	100	86.0

Appendix D: Post-Development CN Calculations

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
A05	Landfill Side Slopes	C	3.781593	85	85.0
A10	Landfill Side Slopes	C	7.845837	85	85.0
A100	Landfill Side Slopes	B/D	0.251647	85	
A100	Landfill Side Slopes	C	4.327166	85	85.0
A110	Landfill Side Slopes	B/D	0.680144	85	
A110	Landfill Side Slopes	C	2.793269	85	85.0
A120	Landfill Side Slopes	B/D	0.058565	85	
A120	Landfill Side Slopes	C	3.432542	85	85.0
A20	Landfill Side Slopes	B/D	0.150895	85	
A20	Landfill Side Slopes	C	6.677039	85	85.0
A30	Landfill Side Slopes	B/D	3.308166	85	
A30	Landfill Side Slopes	C	2.682273	85	85.0
A40	Landfill Side Slopes	B/D	0.160496	85	
A40	Landfill Side Slopes	C	6.750515	85	85.0
A50	Landfill Side Slopes	C	6.589191	85	85.0
A60	Landfill Side Slopes	C	6.9778	85	85.0
A70	Landfill Side Slopes	C	7.567817	85	85.0
A80	Landfill Side Slopes	C	7.668058	85	85.0
A90	Landfill Side Slopes	C	6.889174	85	85.0
B10	Landfill Side Slopes	C	4.472431	85	85.0
B20	Landfill Side Slopes	C	7.598812	85	85.0
B30	Landfill Side Slopes	C	8.040879	85	85.0
B40	Landfill Side Slopes	C	3.619675	85	
B40	Landfill Side Slopes	B/D	0.220024	85	85.0
B50	Landfill Side Slopes	C	4.126115	85	
B50	Landfill Side Slopes	B/D	0.562347	85	85.0
B60	Landfill Side Slopes	C	1.819863	85	85.0
POND	4110	B/D	0.00007	80	
POND	5300	B/D	7.713351	100	
POND	5300	C	5.769296	100	
POND	5300	C	6.514761	100	
POND	8140	B/D	1.423447	93	
POND	8140	C	0.840142	92	
POND	8140	D	0.05846	93	
POND	8140	C	0.841883	92	99.0
PRE100	5100	C	1.554868	100	
PRE100	1900	C	0.037132	74	99.8
PRE105	5100	C	3.215	100	100.0
PRE115	5100	C	1.663	100	
PRE115	5100	B/D	0.956	100	
PRE115	5100	D	0.098	100	100.0
PRE120	4110	B/D	0.091821	80	
PRE120	5100	B/D	0.837279	100	
PRE120	5100	C	0.089498	100	
PRE120	8350	B/D	0.028091	89	
PRE120	8350	C	0.006875	86	98.9
PRE130	4110	B/D	0.017745	80	
PRE130	4110	D	0.000395	80	

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE130	5100	B/D	0.580065	100	
PRE130	5100	C	0.710775	100	
PRE130	5100	D	0.005419	100	
PRE130	8140	B/D	0.000029	93	
PRE130	8140	C	0.00642	92	99.7
PRE140	4110	D	0.00023	80	
PRE140	5100	B/D	0.047615	100	
PRE140	5100	B/D	0.356994	100	
PRE140	5100	B/D	0.0184	100	
PRE140	5100	D	0.269565	100	100.0
PRE150	4110	C	0.139058	74	
PRE150	4110	C	0.011536	74	
PRE150	5100	C	1.842373	100	
PRE150	5100	B/D	0.054362	100	
PRE150	5100	C	0.498685	100	98.5
PRE160	4110	C	0.026748	74	
PRE160	4110	B/D	0.006594	80	
PRE160	4110	B/D	0.003257	80	
PRE160	4110	B/D	0.002588	80	
PRE160	5100	C	2.935605	100	
PRE160	5100	B/D	0.100382	100	
PRE160	5100	B/D	0.001666	100	
PRE160	5100	B/D	0.261453	100	
PRE160	5100	B/D	0.000922	100	99.7
PRE170	4110	B/D	0.095313	80	
PRE170	4110	B/D	0.32681	80	
PRE170	4110	D	0.055461	80	
PRE170	5100	B/D	0.012147	100	
PRE170	5100	B/D	0.281765	100	
PRE170	5100	B/D	1.21326	100	
PRE170	5100	D	0.101707	100	95.4
PRE180	4110	B/D	0.193044	80	
PRE180	4110	D	0.133674	80	
PRE180	5100	B/D	0.826913	100	
PRE180	5100	B/D	0.041122	100	
PRE180	5100	D	0.409406	100	95.9
PRE190	4110	B/D	0.247279	80	
PRE190	5100	B/D	0.653073	100	94.5
PRE200	4110	B/D	0.409063	80	
PRE200	5100	B/D	0.652822	100	92.3
PRE210	5300	C	4.0978	100	
PRE210	5300	B/D	0.437523	100	
PRE210	4110	C	1.321836	74	
PRE210	4110	B/D	0.295305	80	
PRE210	4110	C	0.249443	74	
PRE210	5100	C	0.002589	100	92.7
PRE220	6210	B/D	0.145363	100	
PRE220	6210	D	1.25056	100	

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE220	6430	B/D	0.831226	100	
PRE220	6430	D	1.113553	100	
PRE220	6210	B/D	0.742034	100	
PRE220	6210	D	1.316216	100	
PRE220	6210	B/D	0.013526	100	
PRE220	6210	B/D	1.53725	100	
PRE220	6460	B/D	1.345059	100	
PRE220	6460	B/D	0.097223	100	
PRE220	6460	B/D	1.230597	100	
PRE220	3100	B/D	7.716539	80	
PRE220	3100	B/D	0.472656	80	
PRE220	3100	B/D	0.364512	80	
PRE220	3100	D	0.394386	80	
PRE220	6300	B/D	0.234956	100	
PRE220	6300	B/D	1.090514	100	
PRE220	6430	B/D	1.932467	100	
PRE220	6430	B/D	1.704442	100	
PRE220	6210	B/D	0.474674	100	
PRE220	6210	B/D	17.483604	100	
PRE220	6460	B/D	0.338867	100	
PRE220	6460	B/D	2.159467	100	
PRE220	6210	B/D	0.279476	100	
PRE220	6210	B/D	0.937281	100	
PRE220	6170	B/D	0.018637	100	
PRE220	6170	B/D	0.836737	100	
PRE220	6170	C	0.254667	100	
PRE220	6170	B/D	0.425502	100	
PRE220	6170	B/D	0.619989	100	
PRE220	3300	C	1.677443	74	
PRE220	3300	B/D	6.075223	80	
PRE220	3300	B/D	0.379558	80	
PRE220	8310	C	11.063427	74	
PRE220	8310	B/D	0.012081	80	
PRE220	8310	B/D	2.292829	80	
PRE220	8310	B/D	0.080084	80	
PRE220	4110	B/D	4.183286	80	
PRE220	4110	C	0.686575	74	
PRE220	4110	B/D	4.74754	80	
PRE220	4110	C	2.050677	74	
PRE220	4110	B/D	25.819382	80	
PRE220	4110	B/D	23.70686	80	
PRE220	4110	B/D	6.951774	80	
PRE220	4110	B/D	16.247048	80	
PRE220	4110	D	2.098404	80	
PRE220	1900	B/D	0.16061	80	
PRE220	1900	C	0.115251	74	
PRE220	1900	B/D	0.087605	80	85.9
PRE230	6460	B/D	0.167522	100	

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE230	6210	B/D	1.53049	100	
PRE230	6210	B/D	0.017514	100	
PRE230	6210	D	14.46998	100	
PRE230	6430	B/D	0.199565	100	
PRE230	6430	B/D	4.560241	100	
PRE230	6430	B/D	1.392544	100	
PRE230	4110	B/D	27.487809	80	
PRE230	4110	C	1.55685	74	
PRE230	4110	B/D	9.722754	80	
PRE230	4110	B/D	9.258262	80	
PRE230	4110	C	3.598319	74	
PRE230	4110	B/D	10.105857	80	
PRE230	4110	D	6.14175	80	
PRE230	4110	B/D	11.279286	80	
PRE230	4110	D	0.018489	80	
PRE230	5100	C	0.062704	100	
PRE230	5100	B/D	0.030861	100	
PRE230	5100	C	0.173192	100	
PRE230	5100	B/D	0.001755	100	
PRE230	5100	B/D	0.006631	100	
PRE230	5100	B/D	0.00422	100	
PRE230	5100	B/D	0.16865	100	
PRE230	5100	D	0.000598	100	84.2
PRE250	6210	B/D	0.818877	100	
PRE250	6210	D	1.42636	100	
PRE250	6430	B/D	0.132426	100	
PRE250	6430	D	1.250698	100	
PRE250	6210	B/D	0.280176	100	
PRE250	6210	D	0.910395	100	
PRE250	1900	B/D	0.000014	80	
PRE250	4110	B/D	6.082398	80	
PRE250	4110	D	2.794445	80	
PRE250	4110	C	1.375389	74	
PRE250	5100	B/D	0.000001	100	
PRE250	8140	B/D	0.000121	93	
PRE250	8140	C	0.000025	92	85.8
PRE270	6460	B/D	1.001899	100	
PRE270	6460	D	0.693555	100	
PRE270	4110	B/D	3.813632	80	
PRE270	4110	B/D	0.95102	80	
PRE270	4110	D	1.39643	80	
PRE270	5100	B/D	0.011067	100	
PRE270	5100	D	0.010296	100	
PRE270	8140	B/D	0.000133	93	84.4
PRE280	6170	B/D	0.567363	100	
PRE280	6170	B/D	1.960225	100	
PRE280	6170	D	0.822909	100	
PRE280	3100	B/D	6.105088	80	

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE280	3100	B/D	14.156381	80	
PRE280	3100	B/D	0.880307	80	
PRE280	3100	D	0.148558	80	
PRE280	3100	D	0.021103	80	
PRE280	6210	B/D	1.268319	100	
PRE280	6210	B/D	0.984599	100	
PRE280	6210	D	0.928723	100	
PRE280	4110	B/D	28.455122	80	
PRE280	4110	B/D	17.230858	80	
PRE280	4110	B/D	15.005178	80	
PRE280	4110	D	0.504604	80	
PRE280	4110	C	7.661669	74	
PRE280	4110	D	3.025306	80	
PRE280	5100	B/D	0.000174	100	
PRE280	5100	B/D	0.004806	100	80.9
PRE300	5100	B/D	0.686288	100	
PRE300	5100	C	1.428149	100	
PRE300	5100	C	0.044248	100	
PRE300	1900	C	0.03101	74	
PRE300	1900	C	0.003923	74	
PRE300	1900	B/D	0.127342	80	
PRE300	1900	C	0.119189	74	97.3
PRE310	1900	C	0.016598	74	
PRE310	1900	C	0.012781	74	
PRE310	1900	B/D	42.294649	80	
PRE310	1900	C	0.112293	74	
PRE310	1900	C	10.532688	74	
PRE310	1900	C	0.702775	74	78.7
PRE330	5100	B/D	1.049279	100	
PRE330	5100	C	0.776556	100	
PRE330	1900	B/D	1.331041	80	
PRE330	1900	C	1.134972	74	86.9
PRE340	3300	C	0	74	
PRE340	1900	C	0.000413	74	
PRE340	5100	B/D	0.518815	100	
PRE340	5100	C	0.477022	100	
PRE340	3300	B/D	0.003223	80	
PRE340	3300	C	0.006058	74	
PRE340	1900	C	0.00027	74	99.8
PRE350	5100	B/D	0.081174	100	
PRE350	5100	B/D	1.045736	100	
PRE350	3300	B/D	0.000016	80	100.0
PRE360	8310	B/D	0.3299	80	
PRE360	8310	C	0.494502	74	
PRE360	4110	B/D	5.567059	80	
PRE360	4110	B/D	3.138027	80	
PRE360	4110	C	0.059266	74	
PRE360	4110	C	1.460942	74	

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE360	1900	B/D	2.254673	80	
PRE360	1900	B/D	0.363834	80	
PRE360	1900	C	4.233731	74	
PRE360	1900	B/D	0.048786	80	78.7
PRE370	3200	B/D	6.456364	80	
PRE370	6300	B/D	9.012077	100	
PRE370	6460	B/D	0.747893	100	
PRE370	6460	B/D	7.806455	100	
PRE370	6300	D	0.306626	100	
PRE370	6300	B/D	0.037585	100	
PRE370	6300	B/D	1.023945	100	
PRE370	6430	D	0.438032	100	
PRE370	6430	B/D	1.682946	100	
PRE370	6430	B/D	1.509079	100	
PRE370	3200	B/D	0.592852	80	
PRE370	3300	B/D	6.963976	80	
PRE370	3300	B/D	1.057921	80	
PRE370	3300	B/D	0.065531	80	
PRE370	3300	C	0.744436	74	
PRE370	8310	B/D	1.27273	80	
PRE370	8310	B/D	1.845303	80	
PRE370	8310	B/D	0.496747	80	
PRE370	8310	C	2.96493	74	
PRE370	6210	B/D	0.195637	100	
PRE370	6210	D	15.041142	100	
PRE370	6210	B/D	2.079943	100	
PRE370	6210	B/D	0.101035	100	
PRE370	4110	B/D	23.628359	80	
PRE370	4110	D	4.497538	80	
PRE370	4110	B/D	6.401515	80	
PRE370	4110	B/D	19.844445	80	
PRE370	4110	B/D	8.604477	80	
PRE370	1900	B/D	0.897224	80	
PRE370	1900	B/D	0.336319	80	
PRE370	1900	C	7.751868	74	
PRE370	4110	B/D	0.587387	80	
PRE370	4110	C	0.007554	74	
PRE370	3200	B/D	2.494009	80	
PRE370	3200	B/D	0.031449	80	
PRE370	4110	B/D	0.432261	80	
PRE370	4110	B/D	0.793089	80	
PRE370	4110	C	0.589217	74	
PRE370	4110	B/D	0.091517	80	
PRE370	5100	B/D	0.00146	100	
PRE370	5100	B/D	0.00509	100	
PRE370	5100	C	0.002357	100	
PRE370	4110	B/D	3.943928	80	
PRE370	4110	D	3.044492	80	

Post-Development CN Calculations

BASINS_ID	LAND_USE	SOIL_TYPE	AREA	CN	Wght CN
PRE370	4110	B/D	5.964583	80	
PRE370	4110	C	0.047729	74	
PRE370	3300	B/D	1.003328	80	
PRE370	3300	B/D	0.358572	80	
PRE370	3300	C	0.768387	74	
PRE370	1900	B/D	8.66656	80	
PRE370	1900	B/D	2.347762	80	
PRE370	1900	C	0.07069	74	85.0
TOP10	Landfill Top	C	9.297894	80	80.0
TOP20	Landfill Top	C	28.353395	80	80.0
TOP30	Landfill Top	C	12.777302	80	80.0
TOP40	Landfill Top	C	39.132328	80	80.0
TOP50	Landfill Top	C	5.772421	80	80.0
TOP60	Landfill Top	C	18.686543	80	80.0
TOP70	Landfill Top	C	5.058031	80	80.0
TOP80	Landfill Top	C	21.78639	80	80.0

Appendix E: Pre-Development TC Calculations

Project	Water Resources Engineer	Date	Revision
10-0249	SG	November 1, 2011	

CASE #	PRE110	PRE140	PRE220	PRE230	PRE250	PRE260	PRE270	PRE280	PRE310	PRE360	PRE370	PRE400	PRE410
SHEET FLOW CALCULATIONS (LEN <= 300-FT)													
Surface Description	ss-Range Sl	ss-Range Sl	Woods Light	Woods Light	Woods Light	Woods Light	Woods Light	Woods Light	ss-Range Sl	ss-Range Sl	Woods Dens	ss-Range Sl	ss-Range Sl
Manning's Roughness Coefficient	0.15	0.15	0.4	0.4	0.4	0.4	0.4	0.4	0.15	0.15	0.8	0.15	0.15
Upstream Invert Elevation, ft	83.15	150.50	85.80	88.50	89.97	89.20	88.00	90.05	82.30	83.00	81.00	150.50	149.50
Downstream Invert Elevation, ft	83.00	148.00	85.00	88.00	88.90	89.00	87.00	89.97	82.20	82.80	80.00	148.00	146.00
Flow Length, ft	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2-yr Rain	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40
Sheet Flow Travel Time, min	23.55	7.64	26.42	31.88	23.52	46.00	24.16	66.36	27.69	20.99	42.07	7.64	6.68
SHALLOW CONCENTRATED FLOW CALCULATIONS													
Surface Description	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved
Upstream Invert Elevation, ft	83.00	148.00	85.00	88.00	88.90	89.00	87.00	89.97	82.20	82.80	80.00	148.00	146.00
Downstream Invert Elevation, ft	82.00	89.00	77.00	76.00	87.00	87.00	84.00	82.30	79.00	79.00	74.00	89.00	89.00
Flow Length, ft	1905.00	633.00	1261.00	3623.00	470.00	470.00	265.00	2302.00	2086.00	2613.00	1307.00	633.00	531.00
Shallow Concentrated Flow Travel Time, min	85.89	2.14	16.35	65.03	7.64	7.44	2.57	41.20	55.02	70.78	19.93	2.14	1.67
CHANNEL FLOW CALCULATIONS													
Manning's Roughness Coefficient													
Upstream Invert Elevation, ft													
Downstream Invert Elevation, ft													
Flow Length, ft													
Channel Side Slopes, ft/ft													
Channel Bottom Width, ft													
Depth of Flow, ft													
Channel Flow Travel Time, min													
TOTAL FLOW TRAVEL TIME													
Total Flow Travel Time, min	109.44	9.78	42.77	96.91	31.15	53.44	26.74	107.56	82.71	91.77	62.00	9.78	8.35

Appendix F: Post-Development TC Calculations

Project	Water Resources Engineer	Date	Revision
10-0249	SG	November 1, 2011	

CASE #	TOP10	TOP20	TOP30	TOP40	TOP50	TOP60	TOP70	TOP80		
SHEET FLOW CALCULATIONS (LEN <= 300-FT)										
Surface Description	ss-Range Sh	ss-Range Sh	ss-Range Sh	ss-Range Sh	ss-Range Sh	ss-Range Sh	ss-Range Sh	ss-Range Short		
Manning's Roughness Coefficient	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		
Upstream Invert Elevation, ft	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00		
Downstream Invert Elevation, ft	174.00	174.00	174.00	174.00	174.00	174.00	174.00	174.00		
Flow Length, ft	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
2-yr Rain	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40		
Sheet Flow Travel Time, min	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03		
SHALLOW CONCENTRATED FLOW CALCULATIONS										
Surface Description	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved		
Upstream Invert Elevation, ft	174.00	174.00	174.00	174.00	174.00	174.00	174.00	174.00		
Downstream Invert Elevation, ft	169.00	169.00	169.00	169.00	169.00	169.00	169.00	169.00		
Flow Length, ft	900.00	1300.00	1350.00	1650.00	500.00	1000.00	500.00	1150.00		
Shallow Concentrated Flow Travel Time, min	12.47	21.65	22.91	30.96	5.16	14.61	5.16	18.02		
CHANNEL FLOW CALCULATIONS										
Manning's Roughness Coefficient										
Upstream Invert Elevation, ft										
Downstream Invert Elevation, ft										
Flow Length, ft										
Channel Side Slopes, ft/ft										
Channel Bottom Width, ft										
Depth of Flow, ft										
Channel Flow Travel Time, min										
TOTAL FLOW TRAVEL TIME										
Total Flow Travel Time, min	23.50	32.68	33.94	41.99	16.19	25.63	16.19	29.04		

Project	Water Resources Engineer	Date	Revision
10-0249	JD	November 1, 2011	

CASE #	PRE110	PRE220	PRE230	PRE250	PRE260	PRE270	PRE280	PRE310	PRE360	PRE370
SHEET FLOW CALCULATIONS (LEN <= 300-FT)										
Surface Description		Woods Light	Woods Light	Woods Light		Woods Light	Woods Light	ss-Range Sl	ss-Range Sl	Woods Dense
Manning's Roughness Coefficient		0.4	0.4	0.4		0.4	0.4	0.15	0.15	0.8
Upstream Invert Elevation, ft		85.80	88.50	89.97		86.85	90.05	82.30	89.96	81.00
Downstream Invert Elevation, ft		85.00	88.00	88.90		86.06	89.97	82.20	89.00	80.00
Flow Length, ft		100.00	100.00	100.00		100.00	100.00	100.00	100.00	100.00
2-yr Rain		4.40	4.40	4.40		4.40	4.40	4.40	4.40	4.40
Sheet Flow Travel Time, min		26.42	31.88	23.52		26.55	66.36	27.69	11.21	42.07
SHALLOW CONCENTRATED FLOW CALCULATIONS										
Surface Description		Unpaved	Unpaved	Unpaved		Unpaved	Unpaved	Unpaved	Unpaved	Unpaved
Upstream Invert Elevation, ft		85.00	88.00	88.90		86.06	89.97	82.20	89.00	80.00
Downstream Invert Elevation, ft		77.00	76.00	87.00		85.00	82.30	79.00	79.00	74.00
Flow Length, ft		1261.00	3623.00	470.00		164.00	2302.00	2086.00	1520.00	1307.00
Shallow Concentrated Flow Travel Time, min		16.35	65.03	7.64		2.11	41.20	55.02	19.36	19.93
CHANNEL FLOW CALCULATIONS										
Manning's Roughness Coefficient										
Upstream Invert Elevation, ft										
Downstream Invert Elevation, ft										
Flow Length, ft										
Channel Side Slopes, ft/ft										
Channel Bottom Width, ft										
Depth of Flow, ft										
Channel Flow Travel Time, min										
TOTAL FLOW TRAVEL TIME										
Total Flow Travel Time, min		42.77	96.91	31.15		28.66	107.56	82.71	30.56	62.00

Appendix G: ICPR Input and Output Files, Pre-Development

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

         Name: PRE100                  Node: NPRE100               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): 6.00
             Area(ac): 1.592                  Time Shift(hrs): 0.00
         Curve Number: 99.79              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
         Name: PRE105                  Node: NPRE105               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): 6.00
             Area(ac): 3.216                  Time Shift(hrs): 0.00
         Curve Number: 100.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
         Name: PRE110                  Node: NPRE110               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): 109.00
             Area(ac): 129.460                Time Shift(hrs): 0.00
         Curve Number: 78.67              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
         Name: PRE115                  Node: NPRE115               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): 6.00
             Area(ac): 2.717                  Time Shift(hrs): 0.00
         Curve Number: 100.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
         Name: PRE120                  Node: NPRE120               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): 6.00
             Area(ac): 1.054                  Time Shift(hrs): 0.00
         Curve Number: 98.78              Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE130                  Node: NPRE130               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): 6.00
            Area(ac): 3.864                Time Shift(hrs): 0.00
        Curve Number: 90.84            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE140                  Node: NPRE140               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): 11.435               Time Shift(hrs): 0.00
        Curve Number: 86.97            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE150                  Node: NPRE150               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): 6.00
            Area(ac): 2.879                Time Shift(hrs): 0.00
        Curve Number: 99.17            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE160                  Node: NPRE160               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): 6.00
            Area(ac): 10.856               Time Shift(hrs): 0.00
        Curve Number: 89.83            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE170                  Node: NPRE170               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): 6.00
            Area(ac): 2.087                Time Shift(hrs): 0.00
        Curve Number: 95.42            Max Allowable Q(cfs): 0.000
```

DCIA(%): 0.00

Name: PRE180 Node: NPRE180 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): 6.00
Area(ac): 1.604 Time Shift(hrs): 0.00
Curve Number: 95.93 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE190 Node: NPRE190 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): 6.00
Area(ac): 0.903 Time Shift(hrs): 0.00
Curve Number: 94.50 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE200 Node: NPRE200 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): 6.00
Area(ac): 1.059 Time Shift(hrs): 0.00
Curve Number: 92.29 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE210 Node: NPRE210 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): 6.00
Area(ac): 6.399 Time Shift(hrs): 0.00
Curve Number: 94.49 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE220 Node: NPRE220 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): 43.00
Area(ac): 155.829 Time Shift(hrs): 0.00
Curve Number: 85.92 Max Allowable Q(cfs): 0.000

DCIA(%): 0.00

Name: PRE230 Node: NPRE230 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): 97.00
Area(ac): 101.935 Time Shift(hrs): 0.00
Curve Number: 84.23 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE250 Node: NPRE250 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): 31.00
Area(ac): 19.813 Time Shift(hrs): 0.00
Curve Number: 83.84 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE260 Node: NPRE260 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): 53.00
Area(ac): 13.514 Time Shift(hrs): 0.00
Curve Number: 81.69 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE270 Node: NPRE270 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): 27.00
Area(ac): 9.750 Time Shift(hrs): 0.00
Curve Number: 83.52 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE280 Node: NPRE280 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): 107.00
Area(ac): 102.639 Time Shift(hrs): 0.00
Curve Number: 80.74 Max Allowable Q(cfs): 0.000

DCIA(%): 0.00

Name: PRE300 Node: NPRE300 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): 6.00
Area(ac): 2.467 Time Shift(hrs): 0.00
Curve Number: 97.06 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE310 Node: NPRE310 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): 83.00
Area(ac): 53.649 Time Shift(hrs): 0.00
Curve Number: 78.73 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE330 Node: NPRE330 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): 6.00
Area(ac): 4.292 Time Shift(hrs): 0.00
Curve Number: 86.92 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE340 Node: NPRE340 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): 6.00
Area(ac): 1.006 Time Shift(hrs): 0.00
Curve Number: 99.76 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE350 Node: NPRE350 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): 6.00
Area(ac): 1.127 Time Shift(hrs): 0.00
Curve Number: 100.00 Max Allowable Q(cfs): 0.000

```
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE360                  Node: NPRE360               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): 92.00
            Area(ac): 84.527                 Time Shift(hrs): 0.00
        Curve Number: 75.30              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE370                  Node: NPRE370               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): 62.00
            Area(ac): 165.668                Time Shift(hrs): 0.00
        Curve Number: 85.01              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE400                  Node: NPRE400               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): 14.676                 Time Shift(hrs): 0.00
        Curve Number: 86.01              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE410                  Node: NPRE410               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): 8.00
            Area(ac): 33.123                 Time Shift(hrs): 0.00
        Curve Number: 86.01              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


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

     Name: NPRE100            Base Flow(cfs): 0.000         Init Stage(ft): 78.870
    Group: BASE                                           Warn Stage(ft): 85.600
     Type: Stage/Area
```

Stage(ft)	Area(ac)

Name: NPRE105 Base Flow(cfs): 0.000 Init Stage(ft): 81.500
Group: BASE Warn Stage(ft): 85.800
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE110 Base Flow(cfs): 0.000 Init Stage(ft): 80.300
Group: BASE Warn Stage(ft): 81.500
Type: Stage/Area

Stage(ft)	Area(ac)
80.300	1.0500
81.000	1.5800
82.000	17.4800
83.000	96.0300
84.000	105.8200
85.000	107.3900
86.000	108.2600
87.000	109.1300
88.000	109.6400
89.000	110.0300
90.000	110.4100
91.000	110.7700
92.000	111.1300
93.000	111.4700
94.000	111.8100
95.000	112.1600
96.000	112.4900
97.000	112.8100
98.000	113.1300
99.000	113.4500
100.000	113.7800
101.000	114.0900
102.000	114.3800
103.000	114.6900
104.000	115.0600
105.000	115.4000
106.000	115.6900
107.000	115.9800
108.000	116.2500
109.000	116.5100
110.000	116.7800
111.000	117.0400
112.000	117.3000
113.000	117.5600
114.000	117.8200
115.000	118.0800
116.000	118.3400
117.000	118.6000
118.000	118.9200
119.000	119.3100
120.000	119.5900
121.000	119.8200

```
        122.000        120.0600
        123.000        120.2900
        124.000        120.5300
        125.000        120.7600
        126.000        121.0000
        127.000        121.2300
        128.000        121.4700
        129.000        121.7000
        130.000        121.9300
        131.000        122.1600
        132.000        122.3800
        133.000        122.6000
        134.000        122.8200
        135.000        123.0500
        136.000        123.2700
        137.000        123.5000
        138.000        123.7300
        139.000        123.9500
        140.000        124.1800
        141.000        124.4200
        142.000        124.6600
        143.000        124.9100
        144.000        125.1700
        145.000        125.5200
        146.000        126.0800
        147.000        126.4800
        148.000        126.7400
        149.000        127.0000
        150.000        127.2900
        151.000        127.4900
        152.000        127.5600
        153.000        127.6400
        154.000        127.6900
        155.000        127.7600
        155.090        127.7800

-------------------------------------------------------------------------------------------
      Name: NPRE115             Base Flow(cfs): 0.000          Init Stage(ft): 80.650
     Group: BASE                                              Warn Stage(ft): 86.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE120             Base Flow(cfs): 0.000          Init Stage(ft): 80.910
     Group: BASE                                              Warn Stage(ft): 85.700
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE130             Base Flow(cfs): 0.000          Init Stage(ft): 80.100
     Group: BASE                                              Warn Stage(ft): 85.000
      Type: Stage/Area


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

```
--------------------------------------------------------------------------------------------
      Name: NPRE140             Base Flow(cfs): 0.000         Init Stage(ft): 77.830
     Group: BASE                                             Warn Stage(ft): 85.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE150             Base Flow(cfs): 0.000         Init Stage(ft): 82.600
     Group: BASE                                             Warn Stage(ft): 86.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE160             Base Flow(cfs): 0.000         Init Stage(ft): 77.050
     Group: BASE                                             Warn Stage(ft): 83.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE170             Base Flow(cfs): 0.000         Init Stage(ft): 77.440
     Group: BASE                                             Warn Stage(ft): 81.400
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE180             Base Flow(cfs): 0.000         Init Stage(ft): 77.000
     Group: BASE                                             Warn Stage(ft): 80.200
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE190             Base Flow(cfs): 0.000         Init Stage(ft): 77.000
     Group: BASE                                             Warn Stage(ft): 79.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE200             Base Flow(cfs): 0.000         Init Stage(ft): 77.000
     Group: BASE                                             Warn Stage(ft): 77.000
      Type: Stage/Area
```

Stage(ft)	Area(ac)

Name: NPRE210 Base Flow(cfs): 0.000 Init Stage(ft): 78.500
Group: BASE Warn Stage(ft): 83.500
Type: Stage/Area

Stage(ft)	Area(ac)
78.480	0.0100
81.580	3.9900
82.000	4.4000
83.000	4.5400
83.500	4.8000
84.000	4.8000

Name: NPRE220 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
75.390	0.0100
76.000	5.2300
77.000	27.9300
78.000	64.2400
79.000	83.2400
80.000	107.7800
81.000	120.5900
82.000	129.3000
83.000	135.4500
84.000	141.7500
85.000	146.0900
86.000	149.3000
87.000	152.0600
88.000	154.5500
89.000	155.6900
90.000	155.7400
91.000	155.7800
92.000	155.8300
93.000	155.8300

Name: NPRE230 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 77.000
Type: Stage/Area

Stage(ft)	Area(ac)
74.170	0.0100
75.000	0.4300
76.000	7.4400
77.000	19.2300
78.000	33.0400

79.000	45.3200
80.000	50.1900
81.000	58.2600
82.000	72.6300
83.000	81.9700
84.000	89.7100
85.000	92.2400
86.000	95.1800
87.000	99.0500
88.000	101.4100
89.000	101.9300

Name: NPRE250 Base Flow(cfs): 0.000 Init Stage(ft): 86.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
86.000	1.2000
87.000	4.7700
88.000	7.7900
89.000	14.7200
90.000	18.2500
90.970	19.8100

Name: NPRE260 Base Flow(cfs): 0.000 Init Stage(ft): 88.000
Group: BASE Warn Stage(ft): 88.000
Type: Stage/Area

Stage(ft)	Area(ac)
87.000	0.2300
88.000	4.0500
89.000	10.6400
90.000	12.6200
91.000	12.7700
92.000	13.2000
93.000	13.4900
94.000	13.5000
95.000	13.5100
96.000	13.5100

Name: NPRE270 Base Flow(cfs): 0.000 Init Stage(ft): 84.800
Group: BASE Warn Stage(ft): 84.800
Type: Stage/Area

Stage(ft)	Area(ac)
84.310	0.0100
85.000	5.6300
86.000	7.2600
87.000	9.0000
88.000	9.7400
89.000	9.7500
90.000	9.7500
91.000	9.7500

92.000	9.7500

Name: NPRE280 Base Flow(cfs): 0.000 Init Stage(ft): 81.400
Group: BASE Warn Stage(ft): 81.400
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0100
81.000	1.8700
82.000	17.8300
83.000	43.9300
84.000	72.9400
85.000	81.6900
86.000	84.5200
87.000	86.9900
88.000	89.6800
89.000	93.5400
90.000	97.6000
90.990	102.6400

Name: NPRE300 Base Flow(cfs): 0.000 Init Stage(ft): 78.810
Group: BASE Warn Stage(ft): 83.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE310 Base Flow(cfs): 0.000 Init Stage(ft): 76.590
Group: BASE Warn Stage(ft): 80.900
Type: Stage/Area

Stage(ft)	Area(ac)
77.660	0.0100
78.000	0.0200
79.000	1.2600
80.000	7.4200
81.000	17.3900
82.000	33.0500
83.000	49.4100
84.000	51.7100
85.000	52.1900
86.000	52.6200
87.000	52.8000
88.000	53.1000
89.000	53.6000
90.000	53.6200
91.000	53.6300
92.000	53.6300
93.000	53.6300
94.000	53.6300
94.950	53.6500

Name: NPRE330 Base Flow(cfs): 0.000 Init Stage(ft): 76.000

```
     Group: BASE                                            Warn Stage(ft): 80.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE340             Base Flow(cfs): 0.000          Init Stage(ft): 76.000
     Group: BASE                                            Warn Stage(ft): 78.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE350             Base Flow(cfs): 0.000          Init Stage(ft): 76.000
     Group: BASE                                            Warn Stage(ft): 76.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE360             Base Flow(cfs): 0.000          Init Stage(ft): 76.000
     Group: BASE                                            Warn Stage(ft): 79.600
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         77.000          0.0100
         78.000          0.1000
         79.000          1.0700
         80.000          4.7000
         81.000         22.5700
         82.000         49.8500
         83.000         71.0500
         84.000         76.6700
         85.000         79.4900
         86.000         82.5500
         87.000         83.0500
         88.000         83.5500
         89.000         83.9400
         90.000         83.9900
         91.000         84.0300
         92.000         84.0800

-------------------------------------------------------------------------------------------
      Name: NPRE370             Base Flow(cfs): 0.000          Init Stage(ft): 76.000
     Group: BASE                                            Warn Stage(ft): 76.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         72.650          0.0100
         73.000          1.1800
```

```
         74.000         40.2600
         75.000         74.6300
         76.000         93.7100
         77.000        110.8100
         78.000        127.3500
         79.000        139.7100
         80.000        148.5900
         81.000        157.6700
         82.000        162.9500
         83.000        164.9000
         84.000        165.6200
         85.000        165.6400
         86.000        165.6500
         87.000        165.6600
         88.000        165.6700
         89.000        165.6700
         90.000        165.6700

-------------------------------------------------------------------------------------------
      Name: NPRE400             Base Flow(cfs): 0.000          Init Stage(ft): 87.000
     Group: BASE                                              Warn Stage(ft): 88.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE410             Base Flow(cfs): 0.000          Init Stage(ft): 79.090
     Group: BASE                                              Warn Stage(ft): 88.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: TPRE240             Base Flow(cfs): 0.000          Init Stage(ft): 77.000
     Group: BASE                                              Warn Stage(ft): 77.000
      Type: Time/Stage


      Time(hrs)       Stage(ft)
--------------- ---------------
           0.00          77.000
         999.00          77.000

-------------------------------------------------------------------------------------------
      Name: TPRE380             Base Flow(cfs): 0.000          Init Stage(ft): 76.000
     Group: BASE                                              Warn Stage(ft): 76.000
      Type: Time/Stage


      Time(hrs)       Stage(ft)
--------------- ---------------
           0.00          76.000
         999.00          76.000

-------------------------------------------------------------------------------------------
      Name: TW                  Base Flow(cfs): 0.000          Init Stage(ft): 71.000
     Group: BASE                                              Warn Stage(ft): 71.000
```

Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	71.000
999.00	71.000

==========
==== Cross Sections ==========
==========

Name: XPRE230 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	78.500	0.000000
430.000	78.500	0.000000
430.000	77.500	0.000000
485.000	77.500	0.000000
485.000	78.500	0.000000
920.000	78.500	0.000000

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

Name: RPRE100A From Node: NPRE100 Length(ft): 75.00
Group: BASE To Node: NPRE300 Count: 1
Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Most Restrictive
Span(in):	18.00	18.00	Flow:	Both
Rise(in):	18.00	18.00	Entrance Loss Coef:	0.50
Invert(ft):	78.970	78.970	Exit Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Name: RPRE120 From Node: NPRE120 Length(ft): 42.00
Group: BASE To Node: NPRE130 Count: 1
Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Most Restrictive
Span(in):	18.00	18.00	Flow:	Both
Rise(in):	18.00	18.00	Entrance Loss Coef:	0.50
Invert(ft):	80.910	80.910	Exit Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

```
         Name: RPRE140             From Node: NPRE140           Length(ft): 50.00
        Group: BASE                  To Node: NPRE160                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 36.00          36.00                     Entrance Loss Coef: 0.90
     Rise(in): 36.00          36.00                         Exit Loss Coef: 0.00
   Invert(ft): 78.520         78.520                        Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting

```
         Name: RPRE160             From Node: NPRE160           Length(ft): 40.00
        Group: BASE                  To Node: NPRE170                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 36.00          36.00                     Entrance Loss Coef: 0.90
     Rise(in): 36.00          36.00                         Exit Loss Coef: 0.00
   Invert(ft): 77.220         77.220                        Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting

```
         Name: RPRE180             From Node: NPRE180           Length(ft): 16.00
        Group: BASE                  To Node: NPRE190                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 24.00          24.00                     Entrance Loss Coef: 0.50
     Rise(in): 24.00          24.00                         Exit Loss Coef: 0.00
```

```
   Invert(ft): 75.770        75.770                    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 dn
 Bot Clip(in): 0.000         0.000                 Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting



-------------------------------------------------------------------------------------------------
         Name: RPRE210             From Node: NPRE210           Length(ft): 4230.00
        Group: BASE                  To Node: TW                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 24.00          24.00                     Entrance Loss Coef: 0.50
     Rise(in): 24.00          24.00                         Exit Loss Coef: 1.00
   Invert(ft): 78.500         71.000                        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

From old model

-------------------------------------------------------------------------------------------------
         Name: RPRE220             From Node: NPRE220           Length(ft): 80.00
        Group: BASE                  To Node: NPRE230                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Rectangular    Rectangular                     Flow: Both
     Span(in): 360.00         360.00                    Entrance Loss Coef: 0.50
     Rise(in): 60.00          60.00                         Exit Loss Coef: 0.00
   Invert(ft): 76.000         76.000                        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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares



-------------------------------------------------------------------------------------------------
         Name: RPRE310             From Node: NPRE310           Length(ft): 80.00
        Group: BASE                  To Node: NPRE330                Count: 1
                                                          Friction Equation: Automatic
```

```
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                              Flow: Both
     Span(in): 24.00          24.00                  Entrance Loss Coef: 0.90
     Rise(in): 24.00          24.00                      Exit Loss Coef: 0.00
   Invert(ft): 76.590         76.590                     Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                 Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                     Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting



-------------------------------------------------------------------------------------------------
         Name: RPRE330             From Node: NPRE330           Length(ft): 25.00
        Group: BASE                  To Node: NPRE340                Count: 2
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                              Flow: Both
     Span(in): 36.00          36.00                  Entrance Loss Coef: 0.90
     Rise(in): 36.00          36.00                      Exit Loss Coef: 0.00
   Invert(ft): 74.780         74.780                     Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                 Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                     Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting



-------------------------------------------------------------------------------------------------
         Name: RPRE360             From Node: NPRE360           Length(ft): 55.00
        Group: BASE                  To Node: NPRE370                Count: 3
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                              Flow: Both
     Span(in): 24.00          24.00                  Entrance Loss Coef: 0.50
     Rise(in): 24.00          24.00                      Exit Loss Coef: 0.00
   Invert(ft): 75.980         75.980                     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 dn
 Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting
```

```
-------------------------------------------------------------------------------------------------
         Name: RPRE370             From Node: NPRE370           Length(ft): 120.00
        Group: BASE                  To Node: TPRE380                Count: 3
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Rectangular    Rectangular                             Flow: Both
     Span(in): 96.00          96.00                     Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                         Exit Loss Coef: 0.00
   Invert(ft): 74.250         74.250                        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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares


-------------------------------------------------------------------------------------------------
         Name: RPRE410A            From Node: NPRE410           Length(ft): 108.00
        Group: BASE                  To Node: NPRE210                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 30.00          30.00                     Entrance Loss Coef: 0.50
     Rise(in): 30.00          30.00                         Exit Loss Coef: 1.00
   Invert(ft): 79.090         78.480                        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


-------------------------------------------------------------------------------------------------
         Name: RPRE410B            From Node: NPRE410           Length(ft): 108.00
        Group: BASE                  To Node: NPRE210                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 30.00          30.00                     Entrance Loss Coef: 0.50
     Rise(in): 30.00          30.00                         Exit Loss Coef: 1.00
   Invert(ft): 79.210         78.310                        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

==========
==== Channels ==========
==========

```
         Name: RPRE100             From Node: NPRE100           Length(ft): 2161.00
        Group: BASE                  To Node: NPRE105                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
   Invert(ft): 78.870         81.500                                Flow: Both
TClpInitZ(ft): 9999.000       9999.000                Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                  Expansion Coef: 0.000
 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 dn
    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
```

```
         Name: RPRE105             From Node: NPRE105           Length(ft): 3076.00
        Group: BASE                  To Node: NPRE115                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
   Invert(ft): 81.500         80.650                                Flow: Both
TClpInitZ(ft): 9999.000       9999.000                Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                  Expansion Coef: 0.000
 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
```

```
         Name: RPRE115             From Node: NPRE115           Length(ft): 935.00
        Group: BASE                  To Node: NPRE120                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
   Invert(ft): 80.650         80.910                                Flow: Both
TClpInitZ(ft): 9999.000       9999.000                Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                  Expansion Coef: 0.000
 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


-------------------------------------------------------------------------------------------------
          Name: RPRE130             From Node: NPRE130           Length(ft): 1134.00
         Group: BASE                  To Node: NPRE140                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 80.100         77.830                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RPRE150             From Node: NPRE150           Length(ft): 2615.00
         Group: BASE                  To Node: NPRE160                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 82.600         77.050                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RPRE170             From Node: NPRE170           Length(ft): 1705.00
         Group: BASE                  To Node: NPRE180                Count: 1
```

```
               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 77.440        75.600                                 Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                    Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                      Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RPRE190             From Node: NPRE190           Length(ft): 774.00
         Group: BASE                  To Node: NPRE200                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 75.100        75.900                                 Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                    Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                      Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RPRE300             From Node: NPRE300           Length(ft): 805.00
         Group: BASE                  To Node: NPRE330                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 78.810        74.510                                 Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                    Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                      Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
         Name: RPRE340             From Node: NPRE340           Length(ft): 1206.00
        Group: BASE                  To Node: NPRE350                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 75.000        73.900                                 Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                   Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
         Name: RPRE400             From Node: NPRE400           Length(ft): 1603.00
        Group: BASE                  To Node: NPRE410                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 87.000        79.090                                 Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                   Expansion Coef: 0.000
  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): 15.000        15.000
  LtSdSlp(h/v): 3.00          3.00
  RtSdSlp(h/v): 3.00          3.00

Channel xsection estimated based on DEM

=================================================================================
==== Weirs =======================================================================
=================================================================================

         Name: Overflow2          From Node: NPRE400
        Group: BASE                 To Node: NPRE160
         Flow: Both                   Count: 1
         Type: Vertical: Mavis     Geometry: Trapezoidal

            Bottom Width(ft): 170.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                 Invert(ft): 88.300
```

```
       Control Elevation(ft): 88.300
      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: Overflow3           From Node: NPRE110
        Group: BASE                  To Node: NPRE360
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                  Invert(ft): 81.500
       Control Elevation(ft): 81.500
      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



-------------------------------------------------------------------------------------------------
         Name: RPRE200             From Node: NPRE200
        Group: BASE                  To Node: NPRE230
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 55.00
       Left Side Slope(h/v): 11.00
      Right Side Slope(h/v): 11.00
                  Invert(ft): 76.000
       Control Elevation(ft): 76.000
      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: RPRE230             From Node: NPRE230
        Group: BASE                  To Node: TPRE240
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 55.00
       Left Side Slope(h/v): 280.00
      Right Side Slope(h/v): 280.00
                  Invert(ft): 76.500
       Control Elevation(ft): 76.500
      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



-----------------------------------------------------------------------------------------------
         Name: RPRE250             From Node: NPRE250
        Group: BASE                  To Node: NPRE115
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                 Invert(ft): 86.000
       Control Elevation(ft): 86.000
      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: RPRE260             From Node: NPRE260
        Group: BASE                  To Node: NPRE130
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                 Invert(ft): 88.000
       Control Elevation(ft): 88.000
      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: RPRE270             From Node: NPRE270
        Group: BASE                  To Node: NPRE140
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                 Invert(ft): 84.800
       Control Elevation(ft): 84.800
      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: RPRE280             From Node: NPRE280
        Group: BASE                  To Node: NPRE170
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                 Invert(ft): 81.400
       Control Elevation(ft): 81.400
     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: RPRE350             From Node: NPRE350
        Group: BASE                  To Node: NPRE370
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 20.00
       Left Side Slope(h/v): 5.00
      Right Side Slope(h/v): 5.00
                 Invert(ft): 74.000
       Control Elevation(ft): 74.000
     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: WPRE180             From Node: NPRE180
        Group: BASE                  To Node: NPRE190
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 60.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                 Invert(ft): 79.700
       Control Elevation(ft): 79.700
     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: WPRE210             From Node: NPRE210
        Group: BASE                  To Node: TW
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal
```

```
           Bottom Width(ft): 50.00
        Left Side Slope(h/v): 0.00
       Right Side Slope(h/v): 0.00
                  Invert(ft): 83.500
       Control Elevation(ft): 83.500
      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



================================================================================
==== Hydrology Simulations =====================================================
================================================================================

         Name: 25Yr
     Filename: W:\Projects\2010\10-0249\ICPR\PRE\20111031_PRE\25Yr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.80

Time(hrs)       Print Inc(min)
--------------- ---------------
60.000          5.00

--------------------------------------------------------------------------------------------------------
         Name: Mean
     Filename: W:\Projects\2010\10-0249\ICPR\PRE\20111031_PRE\Mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 4.40

Time(hrs)       Print Inc(min)
--------------- ---------------
60.000          5.00

================================================================================
==== Routing Simulations =======================================================
================================================================================

         Name: 25Yr               Hydrology Sim: 25Yr
     Filename: W:\Projects\2010\10-0249\ICPR\PRE\20111031_PRE\25Yr.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): 35.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 1.0000
        Boundary Stages:                         Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
60.000          5.000
```

Group	Run
BASE	Yes

```
         Name: Mean                Hydrology Sim: Mean
     Filename: W:\Projects\2010\10-0249\ICPR\PRE\20111031_PRE\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): 35.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 1.0000
        Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
60.000	5.000

Group	Run
BASE	Yes

ICPR Output File
PRE, Mean Annual 24-Hour

Name	Group	Simulation	Max Time Stage	Max Stage	Warning Stage	Max Delta Stage	Max Surf Area	Max Time Inflow	Max Inflow	Max Time Outflow	Max Outflow
			hrs	ft	ft	ft	ft2	hrs	cfs	hrs	cfs
NPRE100	BASE	Mean	14.2	81.0	85.6	0.0	32622.0	12.0	4.8	15.8	3.11
NPRE105	BASE	Mean	13.2	81.8	85.8	0.0	62656.0	11.9	5.4	12.0	0.35
NPRE110	BASE	Mean	15.0	81.8	81.5	0.0	597638.0	13.3	51.4	15.0	35.17
NPRE115	BASE	Mean	12.9	82.1	86.0	0.0	55275.0	12.1	19.9	12.5	5.24
NPRE120	BASE	Mean	13.0	82.1	85.7	0.0	13107.0	12.4	6.2	13.0	4.82
NPRE130	BASE	Mean	12.1	80.6	85.0	0.0	15151.0	12.0	14.4	12.1	44.33
NPRE140	BASE	Mean	12.2	80.6	85.0	0.0	19083.0	12.1	69.6	12.2	34.27
NPRE150	BASE	Mean	12.1	82.8	86.0	0.0	32212.0	12.0	8.7	12.1	6.75
NPRE160	BASE	Mean	14.4	80.0	83.0	0.0	43725.0	12.0	67.2	12.4	45.73
NPRE170	BASE	Mean	14.4	79.9	81.4	0.0	32200.0	14.2	55.1	14.3	54.5
NPRE180	BASE	Mean	14.4	79.9	80.2	0.0	36671.0	14.3	54.8	14.4	54.63
NPRE190	BASE	Mean	14.4	77.5	79.0	0.0	12808.0	14.4	54.8	14.5	54.8
NPRE200	BASE	Mean	14.2	77.2	77.0	0.0	11485.0	14.5	55.0	14.5	55.03
NPRE210	BASE	Mean	14.1	81.6	83.5	0.0	177375.0	12.1	91.5	14.1	9.05
NPRE220	BASE	Mean	13.4	77.2	86.0	0.0	1564629.0	12.4	153.5	13.2	87.01
NPRE230	BASE	Mean	13.6	77.1	77.0	0.0	920388.0	13.3	181.6	13.6	178.68
NPRE250	BASE	Mean	12.5	86.2	86.0	0.0	81156.0	12.3	21.9	12.5	20.81
NPRE260	BASE	Mean	13.1	88.1	88.0	0.0	204651.0	12.6	10.1	13.1	8.02
NPRE270	BASE	Mean	12.7	84.9	84.8	0.0	209506.0	12.3	11.6	12.7	8.13
NPRE280	BASE	Mean	14.2	81.7	81.4	0.0	549171.0	13.3	45.0	14.2	37.04
NPRE300	BASE	Mean	14.2	79.1	83.0	0.0	9885.0	14.1	9.5	14.2	9.5
NPRE310	BASE	Mean	15.4	79.5	80.9	0.0	194959.0	13.0	26.2	15.4	12.76
NPRE330	BASE	Mean	14.5	76.5	80.0	0.0	12035.0	12.0	24.4	12.1	22.8
NPRE340	BASE	Mean	14.7	76.3	78.0	0.0	17667.0	12.1	25.2	12.1	24.71
NPRE350	BASE	Mean	15.1	76.2	76.0	0.0	19419.0	12.1	27.2	12.1	26.97
NPRE360	BASE	Mean	14.7	78.4	79.6	0.0	21125.0	14.6	56.6	14.7	56.4
NPRE370	BASE	Mean	15.2	76.1	76.0	0.0	4177699.0	12.8	171.7	15.2	125.32
NPRE400	BASE	Mean	12.1	87.8	88.0	0.0	19849.0	12.0	37.3	12.1	33.19
NPRE410	BASE	Mean	12.2	83.3	88.0	0.0	28294.0	12.0	118.4	12.2	77.8
TPRE240	BASE	Mean	0.0	77.0	77.0	0.0	0.0	13.6	178.7	0.0	0
TPRE380	BASE	Mean	0.0	76.0	76.0	0.0	1440.0	15.2	125.3	0.0	0
TW	BASE	Mean	0.0	71.0	71.0	0.0	212.0	14.1	9.1	0.0	0

ICPR Output File
PRE, 25-Year 24-Hour

			Max Time	Max	Warning	Max Delta	Max Surf	Max Time	Max	Max Time	Max
Name	Group	Simulation	Stage	Stage	Stage	Stage	Area	Inflow	Inflow	Outflow	Outflow
			hrs	ft	ft	ft	ft2	hrs	cfs	hrs	cfs
NPRE100	BASE	25Yr	13.8	82.7	85.6	0.0	42499.0	12.0	9.7	17.3	13.78
NPRE105	BASE	25Yr	13.8	82.7	85.8	0.0	78417.0	11.9	2.3	7.6	0.07
NPRE110	BASE	25Yr	14.2	82.1	81.5	0.0	1063711.0	13.3	145.1	14.2	117.33
NPRE115	BASE	25Yr	12.9	83.0	86.0	0.0	64840.0	12.1	31.4	12.3	9.21
NPRE120	BASE	25Yr	12.9	83.0	85.7	0.0	15436.0	12.2	12.8	13.8	9.72
NPRE130	BASE	25Yr	12.8	82.6	85.0	0.0	21975.0	12.0	36.4	11.7	44.88
NPRE140	BASE	25Yr	12.8	82.6	85.0	0.0	25828.0	12.0	91.5	12.1	67.07
NPRE150	BASE	25Yr	12.1	83.0	86.0	0.0	36575.0	12.0	17.5	12.1	14.09
NPRE160	BASE	25Yr	12.6	81.8	83.0	0.0	54665.0	12.0	160.9	12.1	89.89
NPRE170	BASE	25Yr	13.9	80.9	81.4	0.0	36748.0	13.8	162.9	13.9	162.67
NPRE180	BASE	25Yr	13.9	80.6	80.2	0.0	40770.0	13.9	163.3	13.9	163.23
NPRE190	BASE	25Yr	14.0	78.5	79.0	0.0	14800.0	13.9	163.6	14.0	163.56
NPRE200	BASE	25Yr	13.9	77.6	77.0	0.0	12720.0	14.0	164.0	14.0	164.03
NPRE210	BASE	25Yr	13.6	83.8	83.5	0.0	210305.0	12.1	151.7	13.6	31.22
NPRE220	BASE	25Yr	13.7	77.6	86.0	0.0	2159944.0	12.4	369.1	13.6	173.01
NPRE230	BASE	25Yr	13.7	77.4	77.0	0.0	1061689.0	13.5	457.7	13.7	453.38
NPRE250	BASE	25Yr	12.4	86.3	86.0	0.0	105505.0	12.3	54.7	12.4	52.07
NPRE260	BASE	25Yr	13.0	88.2	88.0	0.0	232420.0	12.6	26.4	13.0	22.4
NPRE270	BASE	25Yr	12.6	85.0	84.8	0.0	242669.0	12.3	28.9	12.6	22
NPRE280	BASE	25Yr	14.0	81.9	81.4	0.0	733701.0	13.2	121.3	14.0	102.65
NPRE300	BASE	25Yr	12.1	79.3	83.0	0.0	10656.0	12.0	22.0	12.1	21.31
NPRE310	BASE	25Yr	17.9	80.7	80.9	0.0	615793.0	12.9	73.5	17.9	18
NPRE330	BASE	25Yr	12.1	77.2	80.0	0.0	13458.0	12.0	54.2	12.1	50.04
NPRE340	BASE	25Yr	16.0	76.6	78.0	0.0	19030.0	12.1	55.0	12.2	53.47
NPRE350	BASE	25Yr	16.2	76.5	76.0	0.0	20746.0	12.1	58.4	12.1	57.56
NPRE360	BASE	25Yr	16.2	80.9	79.6	0.0	939817.0	13.6	197.5	16.2	127.28
NPRE370	BASE	25Yr	16.2	76.5	76.0	0.0	4438411.0	12.7	430.7	16.2	238.72
NPRE400	BASE	25Yr	12.1	88.4	88.0	0.0	27200.0	12.0	87.0	12.0	79.34
NPRE410	BASE	25Yr	12.3	87.7	88.0	0.0	44848.0	12.0	264.2	12.2	120.98
TPRE240	BASE	25Yr	0.0	77.0	77.0	0.0	0.0	13.7	453.4	0.0	0
TPRE380	BASE	25Yr	0.0	76.0	76.0	0.0	1440.0	16.2	238.7	0.0	0
TW	BASE	25Yr	0.0	71.0	71.0	0.0	212.0	13.6	31.2	0.0	0

Pre Mass Balance Report

25 Yr 24 HR Storm Event

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	0	0	0	0	0	0
25Yr	0.08	38	0	38	0	0
25Yr	0.17	156.1	0	156.1	0	0
25Yr	0.25	344.6	12.4	332.2	0	0
25Yr	0.33	583.3	55.9	527.5	0	0
25Yr	0.42	862.3	107.1	755.2	0	0
25Yr	0.5	1172.9	164.1	1008.8	0	0
25Yr	0.58	1506.5	225	1281.5	0	0
25Yr	0.67	1856.8	288.2	1568.6	0	0
25Yr	0.75	2220.7	352.6	1868.1	0	0
25Yr	0.83	2596.9	417.8	2179.1	0	0
25Yr	0.92	2984.2	484.1	2500.1	0	0
25Yr	1	3382.2	552.3	2830	0	0
25Yr	1.08	3797	623.3	3173.7	0	0
25Yr	1.17	4234.7	700.4	3534.2	0	0
25Yr	1.25	4694	783.9	3910.1	0	0
25Yr	1.33	5173.2	873.4	4299.8	0	0
25Yr	1.42	5671.2	969.7	4701.5	0	0
25Yr	1.5	6186.8	1071.8	5114.9	0	0
25Yr	1.58	6718.7	1179.8	5538.8	0	0
25Yr	1.67	7265.8	1293.6	5972.1	0	0
25Yr	1.75	7827.3	1413.7	6413.7	0	0
25Yr	1.83	8402.8	1539.7	6863	0	0
25Yr	1.92	8991.6	1671.8	7319.8	0	0
25Yr	2	9594.2	1810.2	7784.1	0	0
25Yr	2.08	10218.3	1955.3	8263	0	0
25Yr	2.17	10872.4	2108.4	8764	0	0
25Yr	2.25	11555.9	2270.2	9285.8	0	0
25Yr	2.33	12265.3	2439.7	9825.6	0	0
25Yr	2.42	12998	2616.2	10381.8	0	0
25Yr	2.5	13752.1	2800.7	10951.4	0	0
25Yr	2.58	14525.9	2992.1	11533.7	0	0
25Yr	2.67	15317.9	3190.8	12127.2	0	0
25Yr	2.75	16127.9	3395.8	12732.1	0	0
25Yr	2.83	16957.5	3606.9	13350.7	0	0
25Yr	2.92	17809.2	3824.6	13984.6	0	0
25Yr	3	18688.9	4049.6	14639.3	0	0
25Yr	3.08	19620.1	4284	15336.1	0	0
25Yr	3.17	20627.2	4531	16096.2	0	0
25Yr	3.25	21710.5	4792.9	16917.7	0	0
25Yr	3.33	22864.7	5068.5	17796.2	0	0
25Yr	3.42	24091.3	5363.9	18727.3	0	0
25Yr	3.5	25394.4	5688.1	19706.4	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	3.58	26779.5	6046	20733.5	0	0
25Yr	3.67	28253	6444.9	21808.1	0	0
25Yr	3.75	29822.6	6891.8	22930.8	0	0
25Yr	3.83	31495.9	7388.6	24107.3	0	0
25Yr	3.92	33280.3	7945.8	25334.5	0	0
25Yr	4	35182.3	8569.9	26612.5	0	0
25Yr	4.08	37246.3	9268.7	27977.6	0	0
25Yr	4.17	39518.1	10053.5	29464.6	0	0
25Yr	4.25	41987.3	10934.1	31053.2	0	0
25Yr	4.33	44636.3	11917.3	32719	0	0
25Yr	4.42	47464.8	13009.7	34455.1	0	0
25Yr	4.5	50476.2	14218.3	36257.9	0	0
25Yr	4.58	53673.8	15549.7	38124.1	0	0
25Yr	4.67	57061.4	17010.4	40051	0	0
25Yr	4.75	60642.8	18605.7	42037.1	0	0
25Yr	4.83	64422.5	20340.8	44081.7	0	0
25Yr	4.92	68404.6	22220.4	46184.1	0	0
25Yr	5	72592.9	24248.6	48344.2	0	0
25Yr	5.08	77017.5	26429.8	50587.7	0	0
25Yr	5.17	81710.3	28770.1	52940.2	0	0
25Yr	5.25	86664	31277.6	55386.3	0	0
25Yr	5.33	91866	33961	57905	0	0
25Yr	5.42	97317.3	36828.4	60488.9	0	0
25Yr	5.5	103021.2	39887.2	63134	0	0
25Yr	5.58	108981.3	43144.1	65837.3	0	0
25Yr	5.67	115200.9	46604.1	68596.7	0	0
25Yr	5.75	121683	50271.6	71411.4	0	0
25Yr	5.83	128431	54149.9	74281.1	0	0
25Yr	5.92	135447.5	58241.5	77206	0	0
25Yr	6	142735.4	62548.5	80186.9	0	0
25Yr	6.08	150390.5	67073.3	83317.2	0	0
25Yr	6.17	158516.8	71823.9	86692.9	0	0
25Yr	6.25	167076.7	76809.7	90267	0	0
25Yr	6.33	176014	82038.8	93975.2	0	0
25Yr	6.42	185321.8	87518.4	97803.3	0	0
25Yr	6.5	195002.8	93257	101745.9	0	0
25Yr	6.58	205059.9	99262.3	105797.6	0	0
25Yr	6.67	215494.6	105541.4	109953.2	0	0
25Yr	6.75	226308.4	112100.1	114208.4	0	0
25Yr	6.83	237503.1	118943	118560.1	0	0
25Yr	6.92	249079.2	126073.9	123005.3	0	0
25Yr	7	261036.6	133495	127541.5	0	0
25Yr	7.08	273481.5	141209.8	132271.7	0	0
25Yr	7.17	286533.4	149225.5	137307.9	0	0
25Yr	7.25	300146.9	157551.3	142595.5	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	7.33	314251.7	166196.8	148054.8	0	0
25Yr	7.42	328836.8	175171.1	153665.7	0	0
25Yr	7.5	343903.5	184483.4	159420.1	0	0
25Yr	7.58	359452.6	194143.3	165309.2	0	0
25Yr	7.67	375483.4	204159.8	171323.6	0	0
25Yr	7.75	391994.6	214540.2	177454.4	0	0
25Yr	7.83	408984.8	225290.7	183694.1	0	0
25Yr	7.92	426451.8	236415.8	190036	0	0
25Yr	8	444391.9	247918.7	196473.2	0	0
25Yr	8.08	462958.9	259802.5	203156.4	0	0
25Yr	8.17	482323.1	272074.5	210248.7	0	0
25Yr	8.25	502414	284744.2	217669.8	0	0
25Yr	8.33	523128.6	297821.2	225307.4	0	0
25Yr	8.42	544450.8	311315.2	233135.6	0	0
25Yr	8.5	566383.4	325236.5	241146.9	0	0
25Yr	8.58	589092.3	339596.9	249495.4	0	0
25Yr	8.67	612760.3	354411.4	258348.8	0	0
25Yr	8.75	637316.8	369696.4	267620.4	0	0
25Yr	8.83	662655.7	385466.9	277188.8	0	0
25Yr	8.92	688761.6	401737.3	287024.4	0	0
25Yr	9	715635.9	418521.5	297114.4	0	0
25Yr	9.08	743363.7	435832.7	307531	0	0
25Yr	9.17	772036.9	453684.1	318352.9	0	0
25Yr	9.25	801614.3	472088	329526.3	0	0
25Yr	9.33	832035.4	491054.9	340980.5	0	0
25Yr	9.42	863285.9	510594	352691.9	0	0
25Yr	9.5	895361.3	530712.2	364649	0	0
25Yr	9.58	928519.5	551416.7	377102.8	0	0
25Yr	9.67	963049.5	572718.7	390330.8	0	0
25Yr	9.75	998832.4	594631.8	404200.6	0	0
25Yr	9.83	1035691	617168.4	418522.3	0	0
25Yr	9.92	1073596	640343.1	433253.1	0	0
25Yr	10	1112551	664177.6	448373.7	0	0
25Yr	10.08	1153017	688692.6	464324.7	0	0
25Yr	10.17	1195511	713916	481594.6	0	0
25Yr	10.25	1239836	739887	499948.9	0	0
25Yr	10.33	1285695	766646.1	519049	0	0
25Yr	10.42	1333050	794188.9	538860.9	0	0
25Yr	10.5	1381915	822505	559410.4	0	0
25Yr	10.58	1432962	851605.1	581356.6	0	0
25Yr	10.67	1486939	881520.9	605417.7	0	0
25Yr	10.75	1543571	912297.1	631274	0	0
25Yr	10.83	1602432	943979.8	658451.7	0	0
25Yr	10.92	1663468	976611.7	686856.1	0	0
25Yr	11	1726694	1010233	716461.4	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	11.08	1792311	1044880	747430.4	0	0
25Yr	11.17	1860529	1080590	779939.2	0	0
25Yr	11.25	1931274	1117390	813884.2	0	0
25Yr	11.33	2007605	1155304	852301.5	0	0
25Yr	11.42	2093134	1194347	898786.5	0	0
25Yr	11.5	2186719	1234629	952089.9	0	0
25Yr	11.58	2302600	1276358	1026242.5	0	0
25Yr	11.67	2459517	1319871	1139646.2	0	0
25Yr	11.75	2651966	1365627	1286338.3	0	0
25Yr	11.83	2886461	1414145	1472316	0	0
25Yr	11.92	3181429	1466139	1715289.6	0	0
25Yr	12	3532344	1522426	2009917.9	0	0
25Yr	12.08	3905699	1583804	2321894.4	0	0
25Yr	12.17	4273089	1651455	2621634.3	0	0
25Yr	12.25	4645386	1727114	2918271.2	0	0
25Yr	12.33	5029456	1811620	3217836.8	0	0
25Yr	12.42	5415910	1905461	3510449.1	0	0
25Yr	12.5	5806347	2008559	3797787.8	0	0
25Yr	12.58	6201427	2120556	4080871	0	0
25Yr	12.67	6596182	2240991	4355190.7	0	0
25Yr	12.75	6989373	2369336	4620037	0	0
25Yr	12.83	7379508	2504995	4874513.2	0	0
25Yr	12.92	7763716	2647311	5116404.5	0	0
25Yr	13	8140794	2795937	5344856.9	0	0
25Yr	13.08	8509393	2951146	5558247.2	0	0
25Yr	13.17	8867921	3112431	5755490	0	0
25Yr	13.25	9216114	3278965	5937149.1	0	0
25Yr	13.33	9554210	3449836	6104374	0	0
25Yr	13.42	9882295	3624170	6258124.5	0	0
25Yr	13.5	10200474	3801193	6399280.2	0	0
25Yr	13.58	10508244	3980245	6527999	0	0
25Yr	13.67	10805099	4160756	6644342.5	0	0
25Yr	13.75	11091722	4342233	6749489.4	0	0
25Yr	13.83	11369045	4524262	6844782	0	0
25Yr	13.92	11637576	4706512	6931064.4	0	0
25Yr	14	11897737	4888718	7009019.3	0	0
25Yr	14.08	12149607	5070672	7078934.6	0	0
25Yr	14.17	12393189	5252199	7140990.6	0	0
25Yr	14.25	12629018	5433140	7195877.9	0	0
25Yr	14.33	12857735	5613362	7244373.2	0	0
25Yr	14.42	13079774	5792753	7287021.7	0	0
25Yr	14.5	13295502	5971222	7324280.3	0	0
25Yr	14.58	13504952	6148681	7356270.9	0	0
25Yr	14.67	13708112	6325035	7383077.2	0	0
25Yr	14.75	13905426	6500184	7405242.5	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	14.83	14097341	6674040	7423301.3	0	0
25Yr	14.92	14284072	6846532	7437540.3	0	0
25Yr	15	14465806	7017607	7448199	0	0
25Yr	15.08	14642629	7187224	7455405.3	0	0
25Yr	15.17	14814608	7355348	7459259.8	0	0
25Yr	15.25	14981979	7521942	7460036.4	0	0
25Yr	15.33	15145012	7686980	7458031.8	0	0
25Yr	15.42	15303917	7850441	7453476.8	0	0
25Yr	15.5	15458879	8012309	7446569.8	0	0
25Yr	15.58	15609826	8172574	7437252.1	0	0
25Yr	15.67	15756650	8331220	7425429.8	0	0
25Yr	15.75	15899574	8488230	7411344.6	0	0
25Yr	15.83	16038857	8643591	7395265.9	0	0
25Yr	15.92	16174652	8797304	7377348.3	0	0
25Yr	16	16307096	8949377	7357718.5	0	0
25Yr	16.08	16436209	9099835	7336374.6	0	0
25Yr	16.17	16562027	9248702	7313324.6	0	0
25Yr	16.25	16684787	9396001	7288785.5	0	0
25Yr	16.33	16804764	9541753	7263010.3	0	0
25Yr	16.42	16922129	9685981	7236148	0	0
25Yr	16.5	17037021	9828707	7208314.9	0	0
25Yr	16.58	17149480	9969970	7179510.6	0	0
25Yr	16.67	17259513	10109806	7149706.4	0	0
25Yr	16.75	17367289	10248209	7119079.2	0	0
25Yr	16.83	17473008	10385163	7087844.6	0	0
25Yr	16.92	17576792	10520661	7056131.2	0	0
25Yr	17	17678729	10654708	7024020.8	0	0
25Yr	17.08	17778892	10787327	6991565.2	0	0
25Yr	17.17	17877343	10918543	6958799.9	0	0
25Yr	17.25	17974140	11048383	6925756.6	0	0
25Yr	17.33	18069337	11176877	6892459.7	0	0
25Yr	17.42	18162976	11304115	6858860.9	0	0
25Yr	17.5	18255096	11430231	6824865.2	0	0
25Yr	17.58	18345512	11555321	6790191.3	0	0
25Yr	17.67	18433992	11679443	6754549.1	0	0
25Yr	17.75	18520653	11802598	6718055	0	0
25Yr	17.83	18605681	11924648	6681032.9	0	0
25Yr	17.92	18689122	12045461	6643660.2	0	0
25Yr	18	18771000	12164975	6606025	0	0
25Yr	18.08	18851477	12283170	6568306.5	0	0
25Yr	18.17	18930753	12400055	6530698.2	0	0
25Yr	18.25	19008857	12515655	6493201.9	0	0
25Yr	18.33	19085767	12630002	6455764.3	0	0
25Yr	18.42	19161524	12743129	6418394.9	0	0
25Yr	18.5	19236184	12855067	6381116.1	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	18.58	19309568	12965848	6343719.8	0	0
25Yr	18.67	19381461	13075494	6305966.3	0	0
25Yr	18.75	19451988	13184022	6267966.7	0	0
25Yr	18.83	19521326	13291445	6229881.2	0	0
25Yr	18.92	19589513	13397780	6191732.9	0	0
25Yr	19	19656560	13503045	6153515.1	0	0
25Yr	19.08	19722590	13607256	6115334	0	0
25Yr	19.17	19787750	13710433	6077317.1	0	0
25Yr	19.25	19852018	13812600	6039418	0	0
25Yr	19.33	19915346	13913781	6001564.8	0	0
25Yr	19.42	19977755	14013995	5963760	0	0
25Yr	19.5	20039281	14113261	5926020.1	0	0
25Yr	19.58	20099849	14211598	5888251.6	0	0
25Yr	19.67	20159366	14309025	5850341.2	0	0
25Yr	19.75	20217909	14405561	5812347.6	0	0
25Yr	19.83	20275578	14501225	5774353.1	0	0
25Yr	19.92	20332405	14596035	5736370.5	0	0
25Yr	20	20388403	14690007	5698396.2	0	0
25Yr	20.08	20443471	14783159	5660312.3	0	0
25Yr	20.17	20497497	14875504	5621993.1	0	0
25Yr	20.25	20550554	14967056	5583498.2	0	0
25Yr	20.33	20602741	15057827	5544913.3	0	0
25Yr	20.42	20654087	15147830	5506256.7	0	0
25Yr	20.5	20704614	15237079	5467534.9	0	0
25Yr	20.58	20754347	15325592	5428755.5	0	0
25Yr	20.67	20803310	15413393	5389917.3	0	0
25Yr	20.75	20851526	15500512	5351014.1	0	0
25Yr	20.83	20899017	15586970	5312046.6	0	0
25Yr	20.92	20945802	15672783	5273018.5	0	0
25Yr	21	20991904	15757964	5233939.5	0	0
25Yr	21.08	21037350	15842524	5194826.2	0	0
25Yr	21.17	21082168	15926470	5155698.3	0	0
25Yr	21.25	21126387	16009811	5116575	0	0
25Yr	21.33	21170030	16092557	5077472.7	0	0
25Yr	21.42	21213122	16174717	5038404.6	0	0
25Yr	21.5	21255686	16256302	4999384.5	0	0
25Yr	21.58	21297752	16337323	4960428.7	0	0
25Yr	21.67	21339352	16417798	4921554.2	0	0
25Yr	21.75	21380517	16497746	4882771.4	0	0
25Yr	21.83	21421270	16577185	4844085	0	0
25Yr	21.92	21461630	16656131	4805498.6	0	0
25Yr	22	21501614	16734603	4767011.5	0	0
25Yr	22.08	21541235	16812613	4728621.3	0	0
25Yr	22.17	21580502	16890177	4690324.9	0	0
25Yr	22.25	21619424	16967306	4652118.2	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	22.33	21658008	17044012	4613996.5	0	0
25Yr	22.42	21696261	17120305	4575956.5	0	0
25Yr	22.5	21734194	17196195	4537998.8	0	0
25Yr	22.58	21771713	17271692	4500021.3	0	0
25Yr	22.67	21808712	17346801	4461911.6	0	0
25Yr	22.75	21845263	17421528	4423735.5	0	0
25Yr	22.83	21881464	17495877	4385586.7	0	0
25Yr	22.92	21917346	17569853	4347492.4	0	0
25Yr	23	21952919	17643458	4309461.4	0	0
25Yr	23.08	21988190	17716691	4271498.7	0	0
25Yr	23.17	22023166	17789554	4233611.8	0	0
25Yr	23.25	22057856	17862044	4195811.5	0	0
25Yr	23.33	22092269	17934162	4158106.4	0	0
25Yr	23.42	22126413	18005908	4120505.2	0	0
25Yr	23.5	22160298	18077281	4083016.8	0	0
25Yr	23.58	22193823	18148284	4045539	0	0
25Yr	23.67	22226869	18218915	4007953.4	0	0
25Yr	23.75	22259490	18289176	3970314.9	0	0
25Yr	23.83	22291770	18359066	3932704	0	0
25Yr	23.92	22323721	18428584	3895136.5	0	0
25Yr	24	22355343	18497728	3857614.5	0	0
25Yr	24.08	22386060	18566495	3819565.2	0	0
25Yr	24.17	22415224	18634871	3780352.8	0	0
25Yr	24.25	22443074	18702842	3740232	0	0
25Yr	24.33	22469967	18770387	3699580	0	0
25Yr	24.42	22495936	18837485	3658451.3	0	0
25Yr	24.5	22520948	18904104	3616844.5	0	0
25Yr	24.58	22544980	18970209	3574770.9	0	0
25Yr	24.67	22568024	19035765	3532258.9	0	0
25Yr	24.75	22590083	19100739	3489344.1	0	0
25Yr	24.83	22611161	19165098	3446062.8	0	0
25Yr	24.92	22631274	19228815	3402459	0	0
25Yr	25	22650450	19291865	3358584.6	0	0
25Yr	25.08	22668723	19354232	3314490.9	0	0
25Yr	25.17	22686128	19415902	3270226.3	0	0
25Yr	25.25	22702705	19476866	3225838.4	0	0
25Yr	25.33	22718493	19537116	3181376.8	0	0
25Yr	25.42	22733534	19596645	3136888.3	0	0
25Yr	25.5	22747865	19655450	3092414.8	0	0
25Yr	25.58	22761523	19713524	3047998.4	0	0
25Yr	25.67	22774541	19770857	3003683.2	0	0
25Yr	25.75	22786952	19827438	2959514.6	0	0
25Yr	25.83	22798793	19883253	2915539.1	0	0
25Yr	25.92	22810093	19938281	2871811.8	0	0
25Yr	26	22820881	19992501	2828379.7	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	26.08	22831183	20045919	2785263.9	0	0
25Yr	26.17	22841024	20098548	2742476.7	0	0
25Yr	26.25	22850428	20150399	2700028.3	0	0
25Yr	26.33	22859415	20201486	2657928.8	0	0
25Yr	26.42	22868007	20251818	2616188.7	0	0
25Yr	26.5	22876223	20301407	2574816.1	0	0
25Yr	26.58	22884080	20350262	2533818.2	0	0
25Yr	26.67	22891598	20398396	2493202	0	0
25Yr	26.75	22898791	20445820	2452971.1	0	0
25Yr	26.83	22905674	20492546	2413127.7	0	0
25Yr	26.92	22912260	20538588	2373672.7	0	0
25Yr	27	22918562	20583949	2334613.1	0	0
25Yr	27.08	22924593	20628593	2295999.6	0	0
25Yr	27.17	22930364	20672508	2257856.2	0	0
25Yr	27.25	22935888	20715706	2220182.3	0	0
25Yr	27.33	22941176	20758200	2182975.8	0	0
25Yr	27.42	22946238	20800000	2146237.3	0	0
25Yr	27.5	22951084	20841115	2109969.5	0	0
25Yr	27.58	22955724	20881549	2074174.9	0	0
25Yr	27.67	22960167	20921310	2038856.9	0	0
25Yr	27.75	22964421	20960402	2004019.4	0	0
25Yr	27.83	22968495	20998829	1969666.5	0	0
25Yr	27.92	22972397	21036596	1935800.2	0	0
25Yr	28	22976133	21073711	1902421.9	0	0
25Yr	28.08	22979713	21110179	1869533.3	0	0
25Yr	28.17	22983142	21146006	1837136.3	0	0
25Yr	28.25	22986430	21181198	1805231.1	0	0
25Yr	28.33	22989581	21215764	1773817.1	0	0
25Yr	28.42	22992604	21249711	1742892.8	0	0
25Yr	28.5	22995502	21283044	1712457.6	0	0
25Yr	28.58	22998280	21315771	1682509.5	0	0
25Yr	28.67	23000944	21347898	1653045.6	0	0
25Yr	28.75	23003496	21379432	1624064.1	0	0
25Yr	28.83	23005942	21410377	1595564.4	0	0
25Yr	28.92	23008284	21440739	1567544.6	0	0
25Yr	29	23010527	21470525	1540001.8	0	0
25Yr	29.08	23012673	21499739	1512933.6	0	0
25Yr	29.17	23014726	21528387	1486338.8	0	0
25Yr	29.25	23016688	21556472	1460216.3	0	0
25Yr	29.33	23018563	21583999	1434563.8	0	0
25Yr	29.42	23020353	21610974	1409379.6	0	0
25Yr	29.5	23022062	21637399	1384662.8	0	0
25Yr	29.58	23023691	21663278	1360412.9	0	0
25Yr	29.67	23025245	21688616	1336628.4	0	0
25Yr	29.75	23026724	21713417	1313307.6	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	29.83	23028133	21737683	1290449.8	0	0
25Yr	29.92	23029473	21761418	1268054.8	0	0
25Yr	30	23030747	21784626	1246121	0	0
25Yr	30.08	23031958	21807311	1224646.8	0	0
25Yr	30.17	23033109	21829477	1203631.6	0	0
25Yr	30.25	23034202	21851127	1183075.3	0	0
25Yr	30.33	23035240	21872264	1162976	0	0
25Yr	30.42	23036225	21892895	1143330.6	0	0
25Yr	30.5	23037159	21913022	1124136.9	0	0
25Yr	30.58	23038042	21932649	1105393.5	0	0
25Yr	30.67	23038878	21951781	1087097.6	0	0
25Yr	30.75	23039669	21970423	1069245.3	0	0
25Yr	30.83	23040415	21988581	1051833.6	0	0
25Yr	30.92	23041119	22006258	1034860.2	0	0
25Yr	31	23041782	22023460	1018321.3	0	0
25Yr	31.08	23042405	22040194	1002211.8	0	0
25Yr	31.17	23042992	22056464	986527.5	0	0
25Yr	31.25	23043542	22072278	971264.8	0	0
25Yr	31.33	23044059	22087640	956418.7	0	0
25Yr	31.42	23044542	22102559	941982.8	0	0
25Yr	31.5	23044994	22117043	927951.3	0	0
25Yr	31.58	23045417	22131098	914318.9	0	0
25Yr	31.67	23045810	22144731	901079.1	0	0
25Yr	31.75	23046177	22157953	888224.1	0	0
25Yr	31.83	23046518	22170772	875746	0	0
25Yr	31.92	23046835	22183197	863637.6	0	0
25Yr	32	23047128	22195237	851890.7	0	0
25Yr	32.08	23047399	22206904	840495.1	0	0
25Yr	32.17	23047650	22218208	829441.4	0	0
25Yr	32.25	23047881	22229161	818720.1	0	0
25Yr	32.33	23048094	22239773	808321.2	0	0
25Yr	32.42	23048289	22250057	798232.4	0	0
25Yr	32.5	23048469	22260027	788441.9	0	0
25Yr	32.58	23048633	22269695	778938.3	0	0
25Yr	32.67	23048784	22279075	769709	0	0
25Yr	32.75	23048920	22288180	760740.4	0	0
25Yr	32.83	23049045	22297026	752018.5	0	0
25Yr	32.92	23049157	22305627	743530.3	0	0
25Yr	33	23049259	22313996	735262.4	0	0
25Yr	33.08	23049350	22322150	727200.1	0	0
25Yr	33.17	23049432	22330102	719329.6	0	0
25Yr	33.25	23049505	22337866	711638.3	0	0
25Yr	33.33	23049570	22345457	704113.3	0	0
25Yr	33.42	23049628	22352887	696740.9	0	0
25Yr	33.5	23049679	22360170	689508.9	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	33.58	23049723	22367316	682406.8	0	0
25Yr	33.67	23049762	22374338	675424.2	0	0
25Yr	33.75	23049796	22381246	668550.5	0	0
25Yr	33.83	23049825	22388049	661776.6	0	0
25Yr	33.92	23049850	22394755	655095.4	0	0
25Yr	34	23049871	22401371	648499.8	0	0
25Yr	34.08	23049888	22407905	641982.6	0	0
25Yr	34.17	23049902	22414363	635538.6	0	0
25Yr	34.25	23049913	22420748	629164.2	0	0
25Yr	34.33	23049921	22427066	622855.2	0	0
25Yr	34.42	23049927	22433319	616607.8	0	0
25Yr	34.5	23049931	22439511	610419.9	0	0
25Yr	34.58	23049933	22445643	604290.4	0	0
25Yr	34.67	23049934	22451717	598217.8	0	0
25Yr	34.75	23049935	22457734	592200.8	0	0
25Yr	34.83	23049935	22463695	586240.3	0	0
25Yr	34.92	23049935	22469598	580337.6	0	0
25Yr	35	23049935	22475422	574512.9	0	0

Appendix H: ICPR Input and Output Files, Post-Development

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

        Name: A05                   Node: NA05                  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): 6.00
            Area(ac): 3.779                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------
        Name: A10                   Node: NA10                  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): 6.00
            Area(ac): 7.840                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------
        Name: A100                  Node: NA100                 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): 6.00
            Area(ac): 4.576                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------
        Name: A110                  Node: NA110                 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): 6.00
            Area(ac): 3.471                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------
        Name: A120                  Node: NA120                 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): 6.00
            Area(ac): 3.489                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: A20                     Node: NA20                   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): 6.00
            Area(ac): 6.823                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: A30                     Node: NA30                   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): 6.00
            Area(ac): 5.986                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: A40                     Node: NA40                   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): 6.00
            Area(ac): 6.906                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: A50                     Node: NA50                   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): 6.00
            Area(ac): 6.585                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: A60                     Node: NA60                   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): 6.00
            Area(ac): 6.973                 Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 0.000
```

DCIA(%): 0.00

Name: A70 Node: NA70 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): 6.00
Area(ac): 7.563 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A80 Node: NA80 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): 6.00
Area(ac): 7.663 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A90 Node: NA90 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): 6.00
Area(ac): 6.884 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B10 Node: NB10 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): 6.00
Area(ac): 4.469 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B20 Node: NB20 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): 6.00
Area(ac): 7.594 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000

DCIA(%): 0.00

Name: B30 Node: NB30 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): 6.00
Area(ac): 8.035 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B40 Node: NB40 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): 6.00
Area(ac): 3.837 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B50 Node: NB50 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): 6.00
Area(ac): 4.685 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B60 Node: NB60 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): 6.00
Area(ac): 1.819 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: POND Node: NPOND 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): 6.00
Area(ac): 23.146 Time Shift(hrs): 0.00
Curve Number: 98.97 Max Allowable Q(cfs): 0.000

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE100                  Node: NPRE100               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): 6.00
            Area(ac): 1.592                Time Shift(hrs): 0.00
        Curve Number: 99.79            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE105                  Node: NPRE105               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): 6.00
            Area(ac): 3.216                Time Shift(hrs): 0.00
        Curve Number: 100.00           Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE115                  Node: NPRE115               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): 6.00
            Area(ac): 2.717                Time Shift(hrs): 0.00
        Curve Number: 100.00           Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE120                  Node: NPRE120               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): 6.00
            Area(ac): 1.054                Time Shift(hrs): 0.00
        Curve Number: 98.93            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE130                  Node: NPRE130               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): 6.00
            Area(ac): 1.320                Time Shift(hrs): 0.00
        Curve Number: 99.69            Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE140                  Node: NPRE140               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): 6.00
            Area(ac): 0.692                Time Shift(hrs): 0.00
        Curve Number: 99.99            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE150                  Node: NPRE150               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): 6.00
            Area(ac): 2.544                Time Shift(hrs): 0.00
        Curve Number: 98.46            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE160                  Node: NPRE160               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): 6.00
            Area(ac): 3.337                Time Shift(hrs): 0.00
        Curve Number: 99.72            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE170                  Node: NPRE170               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): 6.00
            Area(ac): 2.085                Time Shift(hrs): 0.00
        Curve Number: 95.42            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE180                  Node: NPRE180               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): 6.00
            Area(ac): 1.603                Time Shift(hrs): 0.00
        Curve Number: 95.93            Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE190                  Node: NPRE190               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): 6.00
            Area(ac): 0.900                 Time Shift(hrs): 0.00
        Curve Number: 94.51             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE200                  Node: NPRE200               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): 6.00
            Area(ac): 1.061                 Time Shift(hrs): 0.00
        Curve Number: 92.30             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE210                  Node: NPRE210               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): 6.00
            Area(ac): 6.400                 Time Shift(hrs): 0.00
        Curve Number: 92.70             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE220                  Node: NPRE220               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): 43.00
            Area(ac): 155.691               Time Shift(hrs): 0.00
        Curve Number: 85.88             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE230                  Node: NPRE230               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): 97.00
            Area(ac): 101.886               Time Shift(hrs): 0.00
        Curve Number: 84.17             Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE250                  Node: NPRE250               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): 31.10
            Area(ac): 15.061                Time Shift(hrs): 0.00
        Curve Number: 85.85             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE270                  Node: NPRE270               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): 28.66
            Area(ac): 7.873                 Time Shift(hrs): 0.00
        Curve Number: 84.36             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE280                  Node: NPRE280               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): 107.00
            Area(ac): 99.663                Time Shift(hrs): 0.00
        Curve Number: 80.85             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE300                  Node: NPRE300               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): 6.00
            Area(ac): 2.438                 Time Shift(hrs): 0.00
        Curve Number: 97.31             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE310                  Node: NPRE310               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): 83.00
            Area(ac): 53.635                Time Shift(hrs): 0.00
        Curve Number: 78.73             Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE330                  Node: NPRE330               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): 6.00
            Area(ac): 4.289                 Time Shift(hrs): 0.00
        Curve Number: 86.92             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE340                  Node: NPRE340               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): 6.00
            Area(ac): 1.005                 Time Shift(hrs): 0.00
        Curve Number: 99.76             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE350                  Node: NPRE350               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): 6.00
            Area(ac): 1.126                 Time Shift(hrs): 0.00
        Curve Number: 100.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE360                  Node: NPRE360               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): 31.00
            Area(ac): 17.938                Time Shift(hrs): 0.00
        Curve Number: 78.69             Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: PRE370                  Node: NPRE370               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): 62.00
            Area(ac): 165.543               Time Shift(hrs): 0.00
        Curve Number: 85.01             Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: TOP10                   Node: NTOP10                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): 23.50
            Area(ac): 9.292                Time Shift(hrs): 0.00
        Curve Number: 80.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: TOP20                   Node: NTOP20                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): 32.68
            Area(ac): 28.334               Time Shift(hrs): 0.00
        Curve Number: 80.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: TOP30                   Node: NTOP30                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): 33.94
            Area(ac): 12.769               Time Shift(hrs): 0.00
        Curve Number: 80.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: TOP40                   Node: NTOP40                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): 41.99
            Area(ac): 39.106               Time Shift(hrs): 0.00
        Curve Number: 80.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: TOP50                   Node: NTOP50                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): 16.19
            Area(ac): 5.768                Time Shift(hrs): 0.00
        Curve Number: 80.00            Max Allowable Q(cfs): 0.000
```

```
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------
        Name: TOP60                   Node: NTOP60                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): 25.63
            Area(ac): 18.674                 Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------
        Name: TOP70                   Node: NTOP70                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): 16.19
            Area(ac): 5.055                  Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------
        Name: TOP80                   Node: NTOP80                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): 29.04
            Area(ac): 21.772                 Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


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

     Name: NA05               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
    Group: BASE                                            Warn Stage(ft): 93.000
     Type: Stage/Area


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

--------------------------------------------------------------------------------------------
     Name: NA10               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
    Group: BASE                                            Warn Stage(ft): 93.000
     Type: Stage/Area


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

```
--------------------------------------------------------------------------------------------
      Name: NA100               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                              Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NA110               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                              Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NA120               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                              Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NA121A              Base Flow(cfs): 0.000          Init Stage(ft): 81.500
     Group: BASE                                              Warn Stage(ft): 93.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         76.000          0.0010
         93.000          0.0010

--------------------------------------------------------------------------------------------
      Name: NA121B              Base Flow(cfs): 0.000          Init Stage(ft): 81.500
     Group: BASE                                              Warn Stage(ft): 93.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         76.000          0.0010
         93.000          0.0010

--------------------------------------------------------------------------------------------
      Name: NA20                Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                              Warn Stage(ft): 93.000
      Type: Stage/Area


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

```
--------------------------------------------------------------------------------
      Name: NA30               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------
      Name: NA40               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------
      Name: NA50               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------
      Name: NA60               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------
      Name: NA70               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------
      Name: NA80               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------
      Name: NA90               Base Flow(cfs): 0.000         Init Stage(ft): 85.000
     Group: BASE                                            Warn Stage(ft): 93.000
      Type: Stage/Area
```

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

-------------------------------------------------------------------------------------------
      Name: NB10               Base Flow(cfs): 0.000          Init Stage(ft): 90.000
     Group: BASE                                             Warn Stage(ft): 95.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NB20               Base Flow(cfs): 0.000          Init Stage(ft): 90.000
     Group: BASE                                             Warn Stage(ft): 95.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NB30               Base Flow(cfs): 0.000          Init Stage(ft): 90.000
     Group: BASE                                             Warn Stage(ft): 95.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NB40               Base Flow(cfs): 0.000          Init Stage(ft): 90.000
     Group: BASE                                             Warn Stage(ft): 95.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NB50               Base Flow(cfs): 0.000          Init Stage(ft): 90.000
     Group: BASE                                             Warn Stage(ft): 95.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NB60               Base Flow(cfs): 0.000          Init Stage(ft): 90.000
     Group: BASE                                             Warn Stage(ft): 95.000
      Type: Stage/Area


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

```
--------------------------------------------------------------------------------------------
      Name: NPOND              Base Flow(cfs): 0.000         Init Stage(ft): 81.500
     Group: BASE                                            Warn Stage(ft): 88.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         69.500         15.5800
         81.500         20.0000
         88.000         22.4700

--------------------------------------------------------------------------------------------
      Name: NPRE100            Base Flow(cfs): 0.000         Init Stage(ft): 78.870
     Group: BASE                                            Warn Stage(ft): 85.600
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE105            Base Flow(cfs): 0.000         Init Stage(ft): 81.500
     Group: BASE                                            Warn Stage(ft): 85.800
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE115            Base Flow(cfs): 0.000         Init Stage(ft): 80.650
     Group: BASE                                            Warn Stage(ft): 86.000
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE120            Base Flow(cfs): 0.000         Init Stage(ft): 80.800
     Group: BASE                                            Warn Stage(ft): 85.700
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE130            Base Flow(cfs): 0.000         Init Stage(ft): 80.100
     Group: BASE                                            Warn Stage(ft): 87.100
      Type: Stage/Area


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

--------------------------------------------------------------------------------------------
      Name: NPRE140            Base Flow(cfs): 0.000         Init Stage(ft): 77.830
```

```
     Group: BASE                                            Warn Stage(ft): 85.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE150             Base Flow(cfs): 0.000         Init Stage(ft): 82.600
     Group: BASE                                            Warn Stage(ft): 87.500
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE160             Base Flow(cfs): 0.000         Init Stage(ft): 77.050
     Group: BASE                                            Warn Stage(ft): 84.300
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE170             Base Flow(cfs): 0.000         Init Stage(ft): 77.440
     Group: BASE                                            Warn Stage(ft): 83.900
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE180             Base Flow(cfs): 0.000         Init Stage(ft): 75.800
     Group: BASE                                            Warn Stage(ft): 80.200
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE190             Base Flow(cfs): 0.000         Init Stage(ft): 77.000
     Group: BASE                                            Warn Stage(ft): 79.900
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NPRE200             Base Flow(cfs): 0.000         Init Stage(ft): 77.000
     Group: BASE                                            Warn Stage(ft): 77.000
      Type: Stage/Area
```

Stage(ft)	Area(ac)

Name: NPRE210 Base Flow(cfs): 0.000 Init Stage(ft): 78.500
Group: BASE Warn Stage(ft): 84.000
Type: Stage/Area

Stage(ft)	Area(ac)
78.480	0.0100
81.580	3.9900
82.000	4.4000
83.000	4.5400
83.500	4.8000
84.000	4.8000

Name: NPRE220 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
75.390	0.0100
76.000	5.2300
77.000	27.9300
78.000	64.2400
79.000	83.2400
80.000	107.7800
81.000	120.5900
82.000	129.3000
83.000	135.4500
84.000	141.7500
85.000	146.0900
86.000	149.3000
87.000	152.0600
88.000	154.5500
89.000	155.6900
90.000	155.7400
91.000	155.7800
92.000	155.8300
93.000	155.8300

Name: NPRE230 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 77.000
Type: Stage/Area

Stage(ft)	Area(ac)
74.170	0.0100
75.000	0.4300
76.000	7.4400
77.000	19.2000
78.000	33.0400
79.000	45.3200
80.000	50.1900
81.000	58.2600

82.000	72.6300
83.000	81.0700
84.000	89.3200
85.000	92.5900
86.000	95.0100
87.000	98.9700
88.000	101.3000
89.000	101.8600
90.000	101.8800
90.510	101.8800

Name: NPRE250 Base Flow(cfs): 0.000 Init Stage(ft): 86.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
86.000	1.2000
87.000	4.7700
88.000	7.7000
89.000	12.3800
90.000	13.7300
90.970	15.0700

Name: NPRE270 Base Flow(cfs): 0.000 Init Stage(ft): 84.800
Group: BASE Warn Stage(ft): 84.800
Type: Stage/Area

Stage(ft)	Area(ac)
84.310	0.0100
85.000	5.6300
86.000	7.1400
87.000	7.8700
88.000	7.8700
89.000	7.8700
90.000	7.8800
91.000	7.8800
92.000	7.8800

Name: NPRE280 Base Flow(cfs): 0.000 Init Stage(ft): 81.400
Group: BASE Warn Stage(ft): 81.400
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0100
81.000	1.8700
82.000	17.8300
83.000	43.9300
84.000	72.9400
85.000	81.6900
86.000	84.5200
87.000	86.9800
88.000	89.0600
89.000	91.7900

90.000	94.6900
90.990	99.7300

Name: NPRE300 Base Flow(cfs): 0.000 Init Stage(ft): 78.810
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE310 Base Flow(cfs): 0.000 Init Stage(ft): 76.590
Group: BASE Warn Stage(ft): 80.900
Type: Stage/Area

Stage(ft)	Area(ac)
76.400	0.0100
77.660	0.0100
78.000	0.0200
79.000	1.2600
80.000	7.4200
81.000	17.3800
82.000	32.7500
83.000	49.2400
84.000	51.3700
85.000	51.8600
86.000	52.3000
87.000	52.6400
88.000	53.0000
89.000	53.4000
90.000	53.6200
91.000	53.6300
92.000	53.6300
93.000	53.6300
94.000	53.6300
94.950	53.6500

Name: NPRE330 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 80.900
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE340 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 79.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE350 Base Flow(cfs): 0.000 Init Stage(ft): 76.000

Group: BASE Warn Stage(ft): 77.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE360 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 79.600
Type: Stage/Area

Stage(ft)	Area(ac)
75.980	0.0100
77.000	0.0100
78.000	0.1000
79.000	1.0700
80.000	2.8800
81.000	7.0500
82.000	8.9700
83.000	10.6900
84.000	12.3200
85.000	14.5500
86.000	17.3000
87.000	17.5700
88.000	17.7100
89.000	17.7800
90.000	17.8600
91.000	17.9000
92.000	17.9500

Name: NPRE370 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 78.000
Type: Stage/Area

Stage(ft)	Area(ac)
72.000	0.0100
73.000	1.1800
74.000	40.2600
75.000	74.6600
76.000	93.7200
77.000	110.8100
78.000	127.3600
79.000	139.3900
80.000	147.1500
81.000	153.3400
82.000	158.3600
83.000	160.0300
84.000	160.6200
85.000	160.6800
86.000	160.7200
87.000	160.7400
88.000	160.7400
89.000	160.7400
90.000	160.7400

Name: NTOP10 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	1.7200
171.000	3.9700
172.000	5.2100
173.000	6.5300
174.000	7.8900
175.000	9.3000

Name: NTOP20 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	5.2500
171.000	12.1000
172.000	15.8900
173.000	19.9000
174.000	24.0500
175.000	28.3500

Name: NTOP30 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	2.3600
171.000	5.4500
172.000	7.1600
173.000	8.9700
174.000	10.8400
175.000	12.7800

Name: NTOP40 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	7.2400
171.000	16.7000
172.000	21.9300
173.000	27.4600
174.000	33.2000

```
       175.000         39.1300

-------------------------------------------------------------------------------------------
     Name: NTOP50              Base Flow(cfs): 0.000          Init Stage(ft): 169.100
    Group: BASE                                              Warn Stage(ft): 175.000
     Type: Stage/Area


     Stage(ft)        Area(ac)
-------------- ---------------
       169.000          0.1000
       170.000          0.7100
       171.000          1.7300
       172.000          2.4700
       173.000          3.1500
       174.000          3.8500
       175.000          4.5700

-------------------------------------------------------------------------------------------
     Name: NTOP60              Base Flow(cfs): 0.000          Init Stage(ft): 169.100
    Group: BASE                                              Warn Stage(ft): 175.000
     Type: Stage/Area


     Stage(ft)        Area(ac)
-------------- ---------------
       169.000          0.1000
       170.000          3.4600
       171.000          7.9700
       172.000         10.4700
       173.000         13.1100
       174.000         15.8500
       175.000         18.6900

-------------------------------------------------------------------------------------------
     Name: NTOP70              Base Flow(cfs): 0.000          Init Stage(ft): 169.100
    Group: BASE                                              Warn Stage(ft): 175.000
     Type: Stage/Area


     Stage(ft)        Area(ac)
-------------- ---------------
       169.000          0.1000
       170.000          0.7200
       171.000          1.6600
       172.000          2.1800
       173.000          2.7300
       174.000          3.3000
       175.000          3.8900

-------------------------------------------------------------------------------------------
     Name: NTOP80              Base Flow(cfs): 0.000          Init Stage(ft): 169.100
    Group: BASE                                              Warn Stage(ft): 175.000
     Type: Stage/Area


     Stage(ft)        Area(ac)
-------------- ---------------
       169.000          0.1000
       170.000          4.0300
       171.000          9.3000
```

172.000	12.2100
173.000	15.2900
174.000	18.4800
175.000	21.7900

Name: OUTBOXA Base Flow(cfs): 0.000 Init Stage(ft): 80.000
Group: BASE Warn Stage(ft): 88.000
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0010
88.000	0.0010

Name: OUTBOXB Base Flow(cfs): 0.000 Init Stage(ft): 80.000
Group: BASE Warn Stage(ft): 88.000
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0010
88.000	0.0010

Name: TPRE240 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 77.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	77.000
999.00	77.000

Name: TPRE380 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 76.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	76.000
999.00	76.000

Name: TW Base Flow(cfs): 0.000 Init Stage(ft): 71.000
Group: BASE Warn Stage(ft): 71.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	71.000
999.00	71.000

==========
==== Cross Sections ==========
==========

Name: Group: BASE
Encroachment: No

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

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

Name: OUTPIPEA From Node: OUTBOXA Length(ft): 60.00
Group: BASE To Node: NPRE140 Count: 1
Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.50
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	32.57	32.57
Rise(in):	32.57	32.57
Invert(ft):	80.000	80.000
Manning's N:	0.012000	0.012000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

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

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

Name: OUTPIPEB From Node: OUTBOXB Length(ft): 60.00
Group: BASE To Node: NPRE140 Count: 1
Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.50
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	32.57	32.57
Rise(in):	32.57	32.57
Invert(ft):	80.000	80.000
Manning's N:	0.012000	0.012000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

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

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

Name: RA121A From Node: NA121A Length(ft): 165.00
Group: BASE To Node: NPOND Count: 1
Friction Equation: Automatic

```
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                              Flow: Both
     Span(in): 32.57          32.57                  Entrance Loss Coef: 0.50
     Rise(in): 32.57          32.57                      Exit Loss Coef: 1.00
   Invert(ft): 75.500         75.500                     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 dn
 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



-------------------------------------------------------------------------------------------------
         Name: RA121B              From Node: NA121B            Length(ft): 165.00
        Group: BASE                  To Node: NPOND                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                              Flow: Both
     Span(in): 32.57          32.57                  Entrance Loss Coef: 0.50
     Rise(in): 32.57          32.57                      Exit Loss Coef: 1.00
   Invert(ft): 75.500         75.500                     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 dn
 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



-------------------------------------------------------------------------------------------------
         Name: RPRE100A            From Node: NPRE100           Length(ft): 75.00
        Group: BASE                  To Node: NPRE300               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): 78.970         78.970                     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 dn
 Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting
```

```
-------------------------------------------------------------------------------------------------
         Name: RPRE120             From Node: NPRE120           Length(ft): 42.00
        Group: BASE                  To Node: NPRE130                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: 0.00
   Invert(ft): 80.910         80.910                         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 dn
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting



-------------------------------------------------------------------------------------------------
         Name: RPRE140             From Node: NPRE140           Length(ft): 50.00
        Group: BASE                  To Node: NPRE160                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 36.00          36.00                      Entrance Loss Coef: 0.90
     Rise(in): 36.00          36.00                          Exit Loss Coef: 0.00
   Invert(ft): 78.520         78.520                         Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting



-------------------------------------------------------------------------------------------------
         Name: RPRE160             From Node: NPRE160           Length(ft): 40.00
        Group: BASE                  To Node: NPRE170                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 36.00          36.00                      Entrance Loss Coef: 0.90
     Rise(in): 36.00          36.00                          Exit Loss Coef: 0.00
   Invert(ft): 77.220         77.220                         Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
```

Circular CMP: Projecting

```
-------------------------------------------------------------------------------------------------
         Name: RPRE180             From Node: NPRE180           Length(ft): 16.00
        Group: BASE                  To Node: NPRE190                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 24.00          24.00                     Entrance Loss Coef: 0.50
     Rise(in): 24.00          24.00                         Exit Loss Coef: 0.00
   Invert(ft): 75.770         75.770                        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 dn
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting


-------------------------------------------------------------------------------------------------
         Name: RPRE210             From Node: NPRE210           Length(ft): 4230.00
        Group: BASE                  To Node: TW                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 24.00          24.00                     Entrance Loss Coef: 0.50
     Rise(in): 24.00          24.00                         Exit Loss Coef: 1.00
   Invert(ft): 78.500         71.000                        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


-------------------------------------------------------------------------------------------------
         Name: RPRE220             From Node: NPRE220           Length(ft): 80.00
        Group: BASE                  To Node: NPRE230                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Rectangular    Rectangular                          Flow: Both
     Span(in): 360.00         360.00                    Entrance Loss Coef: 0.50
     Rise(in): 60.00          60.00                         Exit Loss Coef: 0.00
   Invert(ft): 76.000         76.000                        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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

```
         Name: RPRE310             From Node: NPRE310           Length(ft): 80.00
        Group: BASE                  To Node: NPRE330                Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 24.00          24.00                     Entrance Loss Coef: 0.90
     Rise(in): 24.00          24.00                         Exit Loss Coef: 0.00
   Invert(ft): 76.590         76.590                        Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting

```
         Name: RPRE330             From Node: NPRE330           Length(ft): 25.00
        Group: BASE                  To Node: NPRE340                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 36.00          36.00                     Entrance Loss Coef: 0.90
     Rise(in): 36.00          36.00                         Exit Loss Coef: 0.00
   Invert(ft): 74.780         74.780                        Bend Loss Coef: 0.00
  Manning's N: 0.024000       0.024000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting

```
         Name: RPRE360             From Node: NPRE360           Length(ft): 55.00
        Group: BASE                  To Node: NPRE370                Count: 3
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 24.00          24.00                     Entrance Loss Coef: 0.50
     Rise(in): 24.00          24.00                         Exit Loss Coef: 0.00
   Invert(ft): 75.980         75.980                        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 dn
```

```
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting



-------------------------------------------------------------------------------------------------
         Name: RPRE370             From Node: NPRE370           Length(ft): 120.00
        Group: BASE                  To Node: TPRE380                Count: 3
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Rectangular    Rectangular                           Flow: Both
     Span(in): 96.00          96.00                      Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                          Exit Loss Coef: 0.00
   Invert(ft): 74.250         74.250                         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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares



-------------------------------------------------------------------------------------------------
         Name: RTOP10              From Node: NTOP10            Length(ft): 50.00
        Group: BASE                  To Node: NA10                   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: 0.00
   Invert(ft): 169.100        168.000                        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



-------------------------------------------------------------------------------------------------
         Name: RTOP20              From Node: NTOP20            Length(ft): 50.00
        Group: BASE                  To Node: NA60                   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: 0.00
   Invert(ft): 169.100        168.000                     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



-------------------------------------------------------------------------------------------------
         Name: RTOP30              From Node: NTOP30             Length(ft): 50.00
        Group: BASE                  To Node: NB20                  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: 0.00
   Invert(ft): 169.100        168.000                         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



-------------------------------------------------------------------------------------------------
         Name: RTOP40              From Node: NTOP40             Length(ft): 50.00
        Group: BASE                  To Node: NA80                  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: 0.00
   Invert(ft): 169.100        168.000                         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



-------------------------------------------------------------------------------------------------
         Name: RTOP50              From Node: NTOP50             Length(ft): 50.00
        Group: BASE                  To Node: NB30                  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: 0.00
   Invert(ft): 169.100        168.000                 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



-------------------------------------------------------------------------------------------------
         Name: RTOP60              From Node: NTOP60            Length(ft): 50.00
        Group: BASE                  To Node: NA90                 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: 0.00
   Invert(ft): 169.100        168.000                 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



-------------------------------------------------------------------------------------------------
         Name: RTOP70              From Node: NTOP70            Length(ft): 50.00
        Group: BASE                  To Node: NB50                 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: 0.00
   Invert(ft): 169.100        168.000                 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
```

```
-----------------------------------------------------------------------------------------------
        Name: RTOP80              From Node: NTOP80             Length(ft): 50.00
       Group: BASE                  To Node: NA110                  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: 0.00
  Invert(ft): 169.100        168.000                       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


===============================================================================
==== Channels =================================================================
===============================================================================

         Name: RA05                From Node: NA05               Length(ft): 908.00
        Group: BASE                  To Node: NA10                    Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
    Geometry: Trapezoidal     Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 85.000         85.000                          Flow: Both
TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
 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 dn
    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


-----------------------------------------------------------------------------------------------
         Name: RA10                From Node: NA10               Length(ft): 908.00
        Group: BASE                  To Node: NA20                    Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
    Geometry: Trapezoidal     Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 85.000         85.000                          Flow: Both
TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
 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 dn
    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



-------------------------------------------------------------------------------------------------
          Name: RA100               From Node: NA100              Length(ft): 500.00
         Group: BASE                  To Node: NA110                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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



-------------------------------------------------------------------------------------------------
          Name: RA110               From Node: NA110              Length(ft): 500.00
         Group: BASE                  To Node: NA120                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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



-------------------------------------------------------------------------------------------------
          Name: RA20                From Node: NA20               Length(ft): 908.00
         Group: BASE                  To Node: NA30                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                               Flow: Both
```

```
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA30                From Node: NA30              Length(ft): 908.00
         Group: BASE                  To Node: NA40                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA40                From Node: NA40              Length(ft): 908.00
         Group: BASE                  To Node: NA50                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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
```

```
-----------------------------------------------------------------------------------------------
          Name: RA50                From Node: NA50              Length(ft): 1036.00
         Group: BASE                  To Node: NA60                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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


-----------------------------------------------------------------------------------------------
          Name: RA60                From Node: NA60              Length(ft): 1036.00
         Group: BASE                  To Node: NA70                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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


-----------------------------------------------------------------------------------------------
          Name: RA70                From Node: NA70              Length(ft): 1036.00
         Group: BASE                  To Node: NA80                   Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA80               From Node: NA80              Length(ft): 1036.00
         Group: BASE                 To Node: NA90                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA90               From Node: NA90              Length(ft): 1036.00
         Group: BASE                 To Node: NA100                  Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RB10               From Node: NB10              Length(ft): 850.00
         Group: BASE                 To Node: NB20                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 90.000         90.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 0.100          0.100
  LtSdSlp(h/v): 1.50           1.50
  RtSdSlp(h/v): 1.50           1.50


-------------------------------------------------------------------------------------------------
          Name: RB20                From Node: NB20              Length(ft): 850.00
         Group: BASE                  To Node: NB30                   Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 90.000         90.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 0.100          0.100
  LtSdSlp(h/v): 1.50           1.50
  RtSdSlp(h/v): 1.50           1.50


-------------------------------------------------------------------------------------------------
          Name: RB30                From Node: NB30              Length(ft): 850.00
         Group: BASE                  To Node: NB40                   Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 90.000         90.000                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                    Expansion Coef: 0.000
  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 dn
     Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 0.100          0.100
  LtSdSlp(h/v): 1.50           1.50
  RtSdSlp(h/v): 1.50           1.50


-------------------------------------------------------------------------------------------------
          Name: RB40                From Node: NB40              Length(ft): 540.00
         Group: BASE                  To Node: NB50                   Count: 1
```

```
               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 90.000         90.000                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                      Expansion Coef: 0.000
 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 dn
    Aux XSec1:                                         Stabilizer Option: None
 AuxElev2(ft):
    Aux XSec2:
Top Width(ft):
    Depth(ft):
Bot Width(ft): 0.100          0.100
 LtSdSlp(h/v): 1.50           1.50
 RtSdSlp(h/v): 1.50           1.50


-------------------------------------------------------------------------------------------------
         Name: RB50               From Node: NB50              Length(ft): 552.00
        Group: BASE                 To Node: NB60                   Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 90.000         90.000                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                      Expansion Coef: 0.000
 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 dn
    Aux XSec1:                                         Stabilizer Option: None
 AuxElev2(ft):
    Aux XSec2:
Top Width(ft):
    Depth(ft):
Bot Width(ft): 0.100          0.100
 LtSdSlp(h/v): 1.50           1.50
 RtSdSlp(h/v): 1.50           1.50


-------------------------------------------------------------------------------------------------
         Name: RPRE100            From Node: NPRE100           Length(ft): 2161.00
        Group: BASE                 To Node: NPRE105                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 78.870         81.500                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                      Expansion Coef: 0.000
 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 dn
    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


-------------------------------------------------------------------------------------------------
         Name: RPRE105             From Node: NPRE105           Length(ft): 3076.00
        Group: BASE                  To Node: NPRE115                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 81.500        80.650                             Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                   Expansion Coef: 0.000
  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


-------------------------------------------------------------------------------------------------
         Name: RPRE115             From Node: NPRE115           Length(ft): 935.00
        Group: BASE                  To Node: NPRE120                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 80.650        80.800                             Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                   Expansion Coef: 0.000
  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


-------------------------------------------------------------------------------------------------
         Name: RPRE130             From Node: NPRE130           Length(ft): 1134.00
        Group: BASE                  To Node: NPRE140                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 80.100        77.830                             Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                   Expansion Coef: 0.000
  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 dn
```

```
    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


-------------------------------------------------------------------------------------------------
         Name: RPRE150             From Node: NPRE150           Length(ft): 2615.00
        Group: BASE                  To Node: NPRE160                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
   Invert(ft): 82.600         77.050                                Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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


-------------------------------------------------------------------------------------------------
         Name: RPRE170             From Node: NPRE170           Length(ft): 1705.00
        Group: BASE                  To Node: NPRE180                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
   Invert(ft): 77.440         75.600                                Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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


-------------------------------------------------------------------------------------------------
         Name: RPRE190             From Node: NPRE190           Length(ft): 774.00
        Group: BASE                  To Node: NPRE200                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
```

```
    Invert(ft): 75.100         75.900                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RPRE300             From Node: NPRE300           Length(ft): 805.00
         Group: BASE                  To Node: NPRE330                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 78.810         74.510                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RPRE340             From Node: NPRE340           Length(ft): 1206.00
         Group: BASE                  To Node: NPRE350                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 75.000         73.900                              Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
  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 dn
     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
```

```
================================================================================
==== Weirs =====================================================================
================================================================================

        Name: ORIF_A             From Node: NPOND
       Group: BASE                 To Node: OUTBOXA
        Flow: Both                   Count: 2
        Type: Vertical: Mavis     Geometry: Circular

                  Span(in): 10.00
                  Rise(in): 10.00
              Invert(ft): 81.500
      Control Elevation(ft): 81.500
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600



--------------------------------------------------------------------------------------------------
        Name: ORIF_B             From Node: NPOND
       Group: BASE                 To Node: OUTBOXB
        Flow: Both                   Count: 2
        Type: Vertical: Mavis     Geometry: Circular

                  Span(in): 10.00
                  Rise(in): 10.00
              Invert(ft): 81.500
      Control Elevation(ft): 81.500
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600



--------------------------------------------------------------------------------------------------
        Name: RA120A             From Node: NA120
       Group: BASE                 To Node: NA121A
        Flow: Both                   Count: 1
        Type: Horizontal          Geometry: Rectangular

                  Span(in): 24.00
                  Rise(in): 36.00
              Invert(ft): 85.000
      Control Elevation(ft): 85.000
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600



--------------------------------------------------------------------------------------------------
        Name: RA120B             From Node: NA120
       Group: BASE                 To Node: NA121B
        Flow: Both                   Count: 1
        Type: Horizontal          Geometry: Rectangular

                  Span(in): 24.00
```

```
                  Rise(in): 36.00
                Invert(ft): 85.000
       Control Elevation(ft): 85.000
                                       TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------
         Name: RB10W               From Node: NB10
        Group: BASE                  To Node: NA05
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 0.10
       Left Side Slope(h/v): 1.50
      Right Side Slope(h/v): 1.50
                Invert(ft): 90.000
       Control Elevation(ft): 90.000
      Struct Opening Dim(ft): 9999.00
                                       TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
          Weir Discharge Coef: 2.500
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------
         Name: RB60                From Node: NB60
        Group: BASE                  To Node: NA120
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 0.10
       Left Side Slope(h/v): 1.50
      Right Side Slope(h/v): 1.50
                Invert(ft): 90.000
       Control Elevation(ft): 90.000
      Struct Opening Dim(ft): 9999.00
                                       TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
          Weir Discharge Coef: 2.500
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------
         Name: RPONDA              From Node: NPOND
        Group: BASE                  To Node: OUTBOXA
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 4.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                Invert(ft): 84.500
       Control Elevation(ft): 84.500
      Struct Opening Dim(ft): 9999.00
                                       TABLE
             Bottom Clip(ft): 0.000
```

```
               Top Clip(ft): 0.000
        Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: RPONDB              From Node: NPOND
        Group: BASE                  To Node: OUTBOXB
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 4.00
      Left Side Slope(h/v): 0.00
     Right Side Slope(h/v): 0.00
                Invert(ft): 84.500
     Control Elevation(ft): 84.500
     Struct Opening Dim(ft): 9999.00
                                       TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
        Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: RPRE200             From Node: NPRE200
        Group: BASE                  To Node: NPRE230
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 55.00
      Left Side Slope(h/v): 11.00
     Right Side Slope(h/v): 11.00
                Invert(ft): 76.000
     Control Elevation(ft): 76.000
     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: RPRE230             From Node: NPRE230
        Group: BASE                  To Node: TPRE240
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 55.00
      Left Side Slope(h/v): 280.00
     Right Side Slope(h/v): 280.00
                Invert(ft): 76.500
     Control Elevation(ft): 76.500
     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
```

```
-----------------------------------------------------------------------------------------------
        Name: RPRE250             From Node: NPRE250
       Group: BASE                  To Node: NPRE115
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

           Bottom Width(ft): 100.00
      Left Side Slope(h/v): 0.00
     Right Side Slope(h/v): 0.00
                Invert(ft): 86.000
     Control Elevation(ft): 86.000
    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: RPRE270             From Node: NPRE270
       Group: BASE                  To Node: NPRE140
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

           Bottom Width(ft): 100.00
      Left Side Slope(h/v): 0.00
     Right Side Slope(h/v): 0.00
                Invert(ft): 84.800
     Control Elevation(ft): 84.800
    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: RPRE280             From Node: NPRE280
       Group: BASE                  To Node: NPRE170
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

           Bottom Width(ft): 100.00
      Left Side Slope(h/v): 0.00
     Right Side Slope(h/v): 0.00
                Invert(ft): 81.400
     Control Elevation(ft): 81.400
    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: RPRE350             From Node: NPRE350
       Group: BASE                  To Node: NPRE370
        Flow: Both                    Count: 1
```

```
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 20.00
        Left Side Slope(h/v): 5.00
       Right Side Slope(h/v): 5.00
                  Invert(ft): 74.000
       Control Elevation(ft): 74.000
      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: WPRE180             From Node: NPRE180
        Group: BASE                  To Node: NPRE190
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 60.00
        Left Side Slope(h/v): 0.00
       Right Side Slope(h/v): 0.00
                  Invert(ft): 79.700
       Control Elevation(ft): 79.700
      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



=================================================================================================
==== Hydrology Simulations =====================================================================
=================================================================================================

         Name: 100Yr
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111101_POST\100Yr.R32

       Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 11.40

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-------------------------------------------------------------------------------------------------
         Name: 25Yr
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111101_POST\25Yr.R32

       Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.80

Time(hrs)       Print Inc(min)
--------------- ---------------
60.000          5.00
```

```
-----------------------------------------------------------------------------------------------
         Name: Mean
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111101_POST\Mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 4.40

Time(hrs)       Print Inc(min)
--------------- ---------------
60.000          5.00

===============================================================================================
==== Routing Simulations ======================================================================
===============================================================================================

         Name: 100Yr              Hydrology Sim: 100Yr
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111101_POST\100Yr.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): 100.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 1.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------
         Name: 25Yr               Hydrology Sim: 25Yr
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111101_POST\25Yr.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): 100.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 1.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
100.000         5.000

Group           Run
--------------- -----
BASE            Yes


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

```
         Name: Mean               Hydrology Sim: Mean
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111101_POST\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): 60.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 1.0000
       Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
60.000          5.000

Group           Run
--------------- -----
BASE            Yes
```

ICPR Output File
POST, Mean Annual 24-Hour

Name	Group	Simulation	Max Time Stage	Max Stage	Warning Stage	Max Delta Stage	Max Surf Area	Max Time Inflow	Max Inflow	Max Time Outflow	Max Outflow
			hrs	ft	ft	ft	ft2	hrs	cfs	hrs	cfs
NA05	BASE	Mean	13.7	88.0	93.0	0.0	12891.0	12.0	39.9	12.1	31.13
NA10	BASE	Mean	13.7	88.0	93.0	0.0	25697.0	12.0	49.5	12.1	31.8
NA100	BASE	Mean	14.4	87.6	93.0	0.0	18654.0	14.0	36.8	14.4	36.76
NA110	BASE	Mean	14.4	87.4	93.0	0.0	9441.0	14.4	42.2	14.4	42.22
NA120	BASE	Mean	12.1	85.9	93.0	0.0	3094.0	12.1	54.2	12.1	54.22
NA121A	BASE	Mean	24.1	83.4	93.0	0.0	120.0	12.1	27.1	12.1	27.1
NA121B	BASE	Mean	24.1	83.4	93.0	0.0	120.0	12.1	27.1	12.1	27.1
NA20	BASE	Mean	14.0	88.0	93.0	0.0	25590.0	12.0	44.3	12.2	29.72
NA30	BASE	Mean	14.0	88.0	93.0	0.0	25523.0	12.0	37.8	12.3	27.51
NA40	BASE	Mean	14.1	88.0	93.0	0.0	25446.0	12.3	34.9	12.4	26.35
NA50	BASE	Mean	14.1	88.0	93.0	0.0	27131.0	12.3	32.5	12.5	24.86
NA60	BASE	Mean	14.1	88.0	93.0	0.0	28820.0	12.3	31.4	12.6	26.57
NA70	BASE	Mean	14.2	87.9	93.0	0.0	28511.0	12.5	30.1	12.7	26.06
NA80	BASE	Mean	14.3	87.9	93.0	0.0	28238.0	12.8	31.4	14.2	30.39
NA90	BASE	Mean	14.3	87.8	93.0	0.0	27683.0	14.0	36.3	14.2	36.1
NB10	BASE	Mean	12.1	92.5	95.0	0.0	3671.0	12.0	11.6	12.0	9.49
NB20	BASE	Mean	12.1	93.4	95.0	0.0	8727.0	11.8	4.6	26.0	0.09
NB30	BASE	Mean	12.1	93.5	95.0	0.0	9108.0	11.9	15.9	12.0	8.68
NB40	BASE	Mean	12.1	93.4	95.0	0.0	7331.0	12.0	18.5	12.1	14.56
NB50	BASE	Mean	12.1	93.3	95.0	0.0	5456.0	12.0	26.1	12.1	24.24
NB60	BASE	Mean	12.1	92.4	95.0	0.0	2313.0	12.1	27.6	12.1	27.44
NPOND	BASE	Mean	27.5	83.4	88.0	0.0	902348.0	12.0	119.7	27.5	12.7
NPRE100	BASE	Mean	14.2	80.8	85.6	0.0	31494.0	12.0	4.8	16.0	2.79
NPRE105	BASE	Mean	13.1	81.8	85.8	0.0	61747.0	11.9	5.5	12.0	0.4
NPRE115	BASE	Mean	13.0	82.0	86.0	0.0	54329.0	12.1	18.1	12.5	4.44
NPRE120	BASE	Mean	13.0	82.0	85.7	0.0	13073.0	12.3	5.5	13.0	4.17
NPRE130	BASE	Mean	12.1	80.3	87.1	0.0	13253.0	12.0	5.3	12.1	4.92
NPRE140	BASE	Mean	24.1	79.9	85.0	0.0	17082.0	13.0	14.4	24.1	14.12
NPRE150	BASE	Mean	12.1	82.8	87.5	0.0	29779.0	12.0	7.7	12.1	5.97
NPRE160	BASE	Mean	16.0	79.6	84.3	0.0	41573.0	12.1	19.2	19.6	15.56
NPRE170	BASE	Mean	15.9	79.6	83.9	0.0	30445.0	14.3	45.0	14.9	42.02
NPRE180	BASE	Mean	15.9	79.5	80.2	0.0	34917.0	14.9	42.3	15.9	41.18
NPRE190	BASE	Mean	15.3	77.4	79.9	0.0	12503.0	15.9	41.3	16.0	41.33

ICPR Output File
POST, Mean Annual 24-Hour

			Max Time	Max	Warning	Max Delta	Max Surf	Max Time	Max	Max Time	Max
Name	Group	Simulation	Stage	Stage	Stage	Stage	Area	Inflow	Inflow	Outflow	Outflow
			hrs	ft	ft	ft	ft2	hrs	cfs	hrs	cfs
NPRE200	BASE	Mean	13.8	77.2	77.0	0.0	11316.0	16.0	41.5	15.9	41.53
NPRE210	BASE	Mean	12.5	79.5	84.0	0.0	64000.0	12.0	17.9	12.5	4.39
NPRE220	BASE	Mean	13.4	77.2	86.0	0.0	1552781.0	12.4	153.2	13.1	88.82
NPRE230	BASE	Mean	13.6	77.1	77.0	0.0	912039.0	13.3	169.2	13.6	166.6
NPRE250	BASE	Mean	12.5	86.2	86.0	0.0	77338.0	12.3	17.8	12.5	16.83
NPRE270	BASE	Mean	12.8	84.9	84.8	0.0	204576.0	12.3	9.3	12.8	6.49
NPRE280	BASE	Mean	14.2	81.7	81.4	0.0	545902.0	13.3	43.8	14.2	36.08
NPRE300	BASE	Mean	12.1	79.1	86.0	0.0	9843.0	12.0	9.1	12.1	8.6
NPRE310	BASE	Mean	15.4	79.5	80.9	0.0	194871.0	13.0	26.1	15.4	12.76
NPRE330	BASE	Mean	12.1	76.5	80.9	0.0	11978.0	12.0	24.4	12.1	22.73
NPRE340	BASE	Mean	14.2	76.2	79.5	0.0	17512.0	12.1	25.2	12.1	24.64
NPRE350	BASE	Mean	13.9	76.1	77.0	0.0	19269.0	12.1	27.2	12.1	26.88
NPRE360	BASE	Mean	12.3	77.2	79.6	0.0	1202.0	12.3	16.5	12.3	16.44
NPRE370	BASE	Mean	13.8	76.1	78.0	0.0	4148539.0	12.6	157.4	13.8	104.17
NTOP10	BASE	Mean	13.4	169.9	175.0	0.0	66416.0	12.2	10.4	13.4	3.69
NTOP20	BASE	Mean	14.8	170.1	175.0	0.0	243524.0	12.3	26.6	14.7	5.3
NTOP30	BASE	Mean	14.1	169.9	175.0	0.0	93943.0	12.3	11.7	14.0	3.96
NTOP40	BASE	Mean	15.8	170.1	175.0	0.0	351774.0	12.4	31.6	15.7	5.7
NTOP50	BASE	Mean	12.7	169.9	175.0	0.0	28455.0	12.1	7.7	12.7	3.92
NTOP60	BASE	Mean	14.0	170.0	175.0	0.0	150087.0	12.3	20.0	13.9	4.76
NTOP70	BASE	Mean	12.7	169.8	175.0	0.0	27180.0	12.1	6.8	12.7	3.38
NTOP80	BASE	Mean	14.3	170.0	175.0	0.0	178861.0	12.3	21.8	14.2	4.95
OUTBOXA	BASE	Mean	27.5	81.2	88.0	0.0	258.0	27.5	6.4	27.5	6.35
OUTBOXB	BASE	Mean	27.5	81.2	88.0	0.0	258.0	27.5	6.4	27.5	6.35
TPRE240	BASE	Mean	0.0	77.0	77.0	0.0	0.0	13.6	166.6	0.0	0
TPRE380	BASE	Mean	0.0	76.0	76.0	0.0	1440.0	13.8	104.2	0.0	0
TW	BASE	Mean	0.0	71.0	71.0	0.0	212.0	12.5	4.4	0.0	0

ICPR Output File
POST, 25-Year 24-Hour

			Max Time	Max	Warning	Max Delta	Max Surf	Max Time	Max	Max Time	Max
Name	Group	Simulation	Stage	Stage	Stage	Stage	Area	Inflow	Inflow	Outflow	Outflow
			hrs	ft	ft	ft	ft2	hrs	cfs	hrs	cfs
NA05	BASE	25Yr	14.6	90.6	93.0	0.0	19908.0	12.0	106.4	12.1	86.3
NA10	BASE	25Yr	14.6	90.6	93.0	0.0	39757.0	12.0	133.9	12.1	92.94
NA100	BASE	25Yr	14.6	90.5	93.0	0.0	31825.0	14.5	84.6	15.0	84.85
NA110	BASE	25Yr	14.6	90.5	93.0	0.0	19018.0	14.8	98.4	14.8	98.53
NA120	BASE	25Yr	14.6	90.4	93.0	0.0	9482.0	12.0	124.1	12.6	118.09
NA121A	BASE	25Yr	19.7	87.1	93.0	0.0	120.0	12.6	59.0	12.6	59.02
NA121B	BASE	25Yr	19.7	87.1	93.0	0.0	120.0	12.6	59.0	12.6	59.02
NA20	BASE	25Yr	14.6	90.6	93.0	0.0	39679.0	12.0	127.9	12.1	90.02
NA30	BASE	25Yr	14.6	90.6	93.0	0.0	39658.0	12.0	117.5	12.1	83.35
NA40	BASE	25Yr	14.6	90.6	93.0	0.0	39634.0	12.0	112.7	12.1	79.11
NA50	BASE	25Yr	14.6	90.6	93.0	0.0	42390.0	12.0	106.9	12.2	70.92
NA60	BASE	25Yr	14.6	90.6	93.0	0.0	45195.0	12.0	105.1	12.2	67.23
NA70	BASE	25Yr	14.6	90.6	93.0	0.0	45049.0	12.0	100.8	12.3	60.69
NA80	BASE	25Yr	14.6	90.6	93.0	0.0	45014.0	12.0	100.6	15.0	69.23
NA90	BASE	25Yr	14.6	90.5	93.0	0.0	44850.0	12.0	95.3	14.8	83.28
NB10	BASE	25Yr	12.0	93.8	95.0	0.0	5326.0	12.0	27.2	12.0	23.67
NB20	BASE	25Yr	12.1	94.8	95.0	0.0	12276.0	11.6	6.9	16.8	0.68
NB30	BASE	25Yr	12.1	94.9	95.0	0.0	12721.0	11.9	35.4	12.0	23.51
NB40	BASE	25Yr	12.1	94.8	95.0	0.0	10249.0	12.0	46.7	12.1	40.6
NB50	BASE	25Yr	12.1	94.7	95.0	0.0	7684.0	12.0	71.1	12.1	67.98
NB60	BASE	25Yr	12.1	93.6	95.0	0.0	3363.0	12.0	77.1	12.1	76.66
NPOND	BASE	25Yr	25.0	85.9	88.0	0.0	943271.0	12.0	251.5	25.0	56.36
NPRE100	BASE	25Yr	13.7	82.4	85.6	0.0	40329.0	12.0	9.7	16.2	13.78
NPRE105	BASE	25Yr	13.7	82.4	85.8	0.0	73280.0	11.9	3.6	8.8	0.07
NPRE115	BASE	25Yr	12.7	82.7	86.0	0.0	61708.0	12.0	26.9	12.4	8.72
NPRE120	BASE	25Yr	12.7	82.7	85.7	0.0	14940.0	12.3	11.4	12.7	8.84
NPRE130	BASE	25Yr	24.9	81.4	87.1	0.0	17846.0	12.0	13.1	12.6	44.13
NPRE140	BASE	25Yr	24.9	81.4	85.0	0.0	21973.0	12.6	71.3	25.0	58.24
NPRE150	BASE	25Yr	12.1	82.9	87.5	0.0	32411.0	12.0	15.4	12.1	12.6
NPRE160	BASE	25Yr	14.3	80.8	84.3	0.0	48842.0	24.9	58.3	25.3	58.51
NPRE170	BASE	25Yr	14.2	80.7	83.9	0.0	35672.0	14.1	129.7	14.2	129.45
NPRE180	BASE	25Yr	14.2	80.5	80.2	0.0	39867.0	14.1	130.0	14.2	129.95
NPRE190	BASE	25Yr	14.2	78.3	79.9	0.0	14287.0	14.2	130.3	14.2	130.26

ICPR Output File
POST, 25-Year 24-Hour

			Max Time	Max	Warning	Max Delta	Max Surf	Max Time	Max	Max Time	Max
Name	Group	Simulation	Stage	Stage	Stage	Stage	Area	Inflow	Inflow	Outflow	Outflow
			hrs	ft	ft	ft	ft2	hrs	cfs	hrs	cfs
NPRE200	BASE	25Yr	14.1	77.5	77.0	0.0	12428.0	14.2	130.6	14.2	130.71
NPRE210	BASE	25Yr	12.6	80.1	84.0	0.0	94194.0	12.0	37.9	12.6	7.92
NPRE220	BASE	25Yr	13.6	77.6	86.0	0.0	2135726.0	12.4	368.6	13.5	174.53
NPRE230	BASE	25Yr	13.9	77.3	77.0	0.0	1042472.0	13.6	416.6	13.9	412.27
NPRE250	BASE	25Yr	12.4	86.3	86.0	0.0	97383.0	12.3	42.7	12.4	40.62
NPRE270	BASE	25Yr	12.7	85.0	84.8	0.0	232684.0	12.3	22.8	12.7	17.36
NPRE280	BASE	25Yr	14.0	81.9	81.4	0.0	726877.0	13.2	118.0	14.0	99.86
NPRE300	BASE	25Yr	12.1	79.3	86.0	0.0	10626.0	12.0	21.3	12.1	20.56
NPRE310	BASE	25Yr	17.9	80.7	80.9	0.0	615394.0	12.9	73.5	17.9	18
NPRE330	BASE	25Yr	12.1	77.2	80.9	0.0	13416.0	12.0	53.5	12.1	49.31
NPRE340	BASE	25Yr	12.2	76.6	79.5	0.0	18516.0	12.1	54.3	12.2	52.75
NPRE350	BASE	25Yr	14.3	76.4	77.0	0.0	20191.0	12.1	57.7	12.1	56.85
NPRE360	BASE	25Yr	12.4	78.1	79.6	0.0	7835.0	12.3	45.4	12.4	45.05
NPRE370	BASE	25Yr	14.3	76.3	78.0	0.0	4315116.0	12.6	385.4	14.3	193.93
NTOP10	BASE	25Yr	13.3	170.5	175.0	0.0	118758.0	12.2	28.0	13.3	9.93
NTOP20	BASE	25Yr	14.7	170.7	175.0	0.0	442576.0	12.3	71.3	14.6	13.63
NTOP30	BASE	25Yr	13.9	170.5	175.0	0.0	169459.0	12.3	31.5	13.9	10.56
NTOP40	BASE	25Yr	15.6	170.8	175.0	0.0	634663.0	12.4	85.5	15.5	14.47
NTOP50	BASE	25Yr	12.7	170.5	175.0	0.0	52495.0	12.1	20.8	12.7	10.42
NTOP60	BASE	25Yr	13.9	170.6	175.0	0.0	275084.0	12.3	53.5	13.9	12.44
NTOP70	BASE	25Yr	12.7	170.4	175.0	0.0	47469.0	12.1	18.2	12.7	9.23
NTOP80	BASE	25Yr	14.2	170.7	175.0	0.0	327478.0	12.3	58.7	14.2	12.84
OUTBOXA	BASE	25Yr	25.0	82.7	88.0	0.0	154.0	25.0	28.2	25.0	28.18
OUTBOXB	BASE	25Yr	25.0	82.7	88.0	0.0	154.0	25.0	28.2	25.0	28.18
TPRE240	BASE	25Yr	0.0	77.0	77.0	0.0	0.0	13.9	412.3	0.0	0
TPRE380	BASE	25Yr	0.0	76.0	76.0	0.0	1440.0	14.3	193.9	0.0	0
TW	BASE	25Yr	0.0	71.0	71.0	0.0	212.0	12.6	7.9	0.0	0

Post Mass Balance Report

25Yr 24 Hr Storm Event

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	0	0	0	0	0	0
25Yr	0.08	41.5	-223.9	265.4	0	0
25Yr	0.17	178.8	-772.8	951.5	0	0
25Yr	0.25	415.3	-1523	1938.2	0	0
25Yr	0.33	749.2	-2391	3140.3	0	0
25Yr	0.42	1194.2	-3356.9	4551.1	0	0
25Yr	0.5	1750.2	-4389.1	6139.3	0	0
25Yr	0.58	2405.8	-5466.1	7871.9	0	0
25Yr	0.67	3148	-6573.6	9721.7	0	0
25Yr	0.75	3965.1	-7702.8	11667.8	0	0
25Yr	0.83	4846.4	-8859.2	13705.7	0	0
25Yr	0.92	5782.6	-10053.2	15835.9	0	0
25Yr	1	6766.1	-11277.4	18043.6	0	0
25Yr	1.08	7806.7	-12506.8	20313.6	0	0
25Yr	1.17	8915.3	-13699.1	22614.4	0	0
25Yr	1.25	10081.4	-14810.7	24892.1	0	0
25Yr	1.33	11292.4	-15778.1	27070.4	0	0
25Yr	1.42	12540.7	-16538.8	29079.5	0	0
25Yr	1.5	13821	-17053.6	30874.6	0	0
25Yr	1.58	15129.2	-17368	32497.3	0	0
25Yr	1.67	16463.3	-17540.7	34004	0	0
25Yr	1.75	17822	-17612.3	35434.3	0	0
25Yr	1.83	19204	-17613.3	36817.3	0	0
25Yr	1.92	20608.1	-17566	38174.2	0	0
25Yr	2	22032.9	-17484.8	39517.7	0	0
25Yr	2.08	23494	-17378.6	40872.6	0	0
25Yr	2.17	25006.3	-17252.1	42258.3	0	0
25Yr	2.25	26560.4	-17110.1	43670.5	0	0
25Yr	2.33	28144.7	-16955.4	45100.2	0	0
25Yr	2.42	29753.4	-16790.5	46543.9	0	0
25Yr	2.5	31382.6	-16617.1	47999.7	0	0
25Yr	2.58	33028.8	-16436.4	49465.2	0	0
25Yr	2.67	34689.7	-16249.1	50938.8	0	0
25Yr	2.75	36364.2	-16055.7	52419.9	0	0
25Yr	2.83	38051.9	-15855.9	53907.7	0	0
25Yr	2.92	39752.9	-15649.4	55402.3	0	0
25Yr	3	41467.2	-15436	56903.2	0	0
25Yr	3.08	43217.8	-15213.7	58431.5	0	0
25Yr	3.17	45039.9	-14979.3	60019.2	0	0
25Yr	3.25	46951.5	-14731.4	61682.9	0	0
25Yr	3.33	48959.3	-14471.1	63430.4	0	0
25Yr	3.42	51065.6	-14193.5	65259.1	0	0
25Yr	3.5	53272.5	-13889.3	67161.8	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	3.58	55583.4	-13552	69135.4	0	0
25Yr	3.67	58002.9	-13175	71177.9	0	0
25Yr	3.75	60537.2	-12751.6	73288.8	0	0
25Yr	3.83	63193	-12279.5	75472.5	0	0
25Yr	3.92	65976.8	-11748.5	77725.3	0	0
25Yr	4	68894.4	-11152.7	80047	0	0
25Yr	4.08	72016.7	-10484.5	82501.2	0	0
25Yr	4.17	75407.7	-9732.9	85140.5	0	0
25Yr	4.25	79038.7	-8888.7	87927.4	0	0
25Yr	4.33	82881.5	-7945.4	90826.9	0	0
25Yr	4.42	86933.6	-6897	93830.6	0	0
25Yr	4.5	91198.8	-5737.3	96936.1	0	0
25Yr	4.58	95681.8	-4460.6	100142.3	0	0
25Yr	4.67	100388.9	-3061.3	103450.3	0	0
25Yr	4.75	105327.6	-1534.6	106862.2	0	0
25Yr	4.83	110505.8	125.7	110380.1	0	0
25Yr	4.92	115930.7	1926.1	114004.6	0	0
25Yr	5	121608.6	3872.3	117736.4	0	0
25Yr	5.08	127592.7	5969.7	121623	0	0
25Yr	5.17	133927.3	8225.2	125702.1	0	0
25Yr	5.25	140590.7	10645.1	129945.6	0	0
25Yr	5.33	147564.8	13234.2	134330.6	0	0
25Yr	5.42	154849.2	15997	138852.2	0	0
25Yr	5.5	162445.4	18937.3	143508.1	0	0
25Yr	5.58	170354.3	22058.4	148295.9	0	0
25Yr	5.67	178576.8	25363.7	153213.2	0	0
25Yr	5.75	187114.1	28856	158258.1	0	0
25Yr	5.83	195967.5	32537.7	163429.8	0	0
25Yr	5.92	205137.9	36410.3	168727.5	0	0
25Yr	6	214625.8	40474.8	174151	0	0
25Yr	6.08	224606	44732.6	179873.3	0	0
25Yr	6.17	235218	49190	186027.9	0	0
25Yr	6.25	246361.3	53854.9	192506.4	0	0
25Yr	6.33	257961.3	58734.2	199227.1	0	0
25Yr	6.42	270000.6	63831.7	206168.9	0	0
25Yr	6.5	282493.4	69161.9	213331.5	0	0
25Yr	6.58	295408.5	74720.7	220687.8	0	0
25Yr	6.67	308764.9	80524.6	228240.3	0	0
25Yr	6.75	322540.4	86570.4	235970.1	0	0
25Yr	6.83	336737.9	92863.6	243874.4	0	0
25Yr	6.92	351328.4	99395	251933.5	0	0
25Yr	7	366383.3	106199.6	260183.7	0	0
25Yr	7.08	382025.3	113243.1	268782.1	0	0
25Yr	7.17	398442.5	120544	277898.6	0	0
25Yr	7.25	415512.3	128108.8	287403.5	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	7.33	433142.5	135943.6	297198.9	0	0
25Yr	7.42	451319.4	144054.4	307265	0	0
25Yr	7.5	470036.6	152447.9	317588.7	0	0
25Yr	7.58	489284.8	161130.7	328154.1	0	0
25Yr	7.67	509054	170108.7	338945.3	0	0
25Yr	7.75	529335.7	179386.6	349949.1	0	0
25Yr	7.83	550123	188967.7	361155.3	0	0
25Yr	7.92	571408.6	198854.4	372554.2	0	0
25Yr	8	593184.9	209047.7	384137.2	0	0
25Yr	8.08	615752.6	219548.6	396204	0	0
25Yr	8.17	639337.7	230362.6	408975.1	0	0
25Yr	8.25	663750.8	241497	422253.9	0	0
25Yr	8.33	688861.7	252958.4	435903.3	0	0
25Yr	8.42	714653	264754.5	449898.5	0	0
25Yr	8.5	741119.2	276893.9	464225.2	0	0
25Yr	8.58	768571.7	289386.5	479185.1	0	0
25Yr	8.67	797242.5	302246.3	494996.2	0	0
25Yr	8.75	826927.8	315488.1	511439.7	0	0
25Yr	8.83	857486.8	329124.9	528361.9	0	0
25Yr	8.92	888899.3	343169.7	545729.6	0	0
25Yr	9	921152.5	357634.8	563517.7	0	0
25Yr	9.08	954398.7	372532.2	581866.5	0	0
25Yr	9.17	988745.9	387874.5	600871.4	0	0
25Yr	9.25	1024073	403673.2	620399.5	0	0
25Yr	9.33	1060295	419937.8	640357.1	0	0
25Yr	9.42	1097391	436676.9	660713.8	0	0
25Yr	9.5	1135346	453897	681448.6	0	0
25Yr	9.58	1174671	471605.1	703066.3	0	0
25Yr	9.67	1215746	489812.6	725933.1	0	0
25Yr	9.75	1258234	508532.1	749701.3	0	0
25Yr	9.83	1301909	527774.6	774134.1	0	0
25Yr	9.92	1346742	547550.6	799191	0	0
25Yr	10	1392717	567871.7	824845.1	0	0
25Yr	10.08	1440743	588751.5	851991.1	0	0
25Yr	10.17	1491487	610212.2	881274.6	0	0
25Yr	10.25	1544365	632278.3	912086.4	0	0
25Yr	10.33	1598994	654972.2	944022.2	0	0
25Yr	10.42	1655334	678317.1	977016.8	0	0
25Yr	10.5	1713370	702335.4	1011034.9	0	0
25Yr	10.58	1774413	727052.3	1047360.6	0	0
25Yr	10.67	1839421	752502.3	1086919	0	0
25Yr	10.75	1907549	778732.7	1128816.5	0	0
25Yr	10.83	1978239	805805.3	1172433.8	0	0
25Yr	10.92	2051431	833740.2	1217690.3	0	0
25Yr	11	2127084	862545	1264538.7	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	11.08	2205530	892241.2	1313289.2	0	0
25Yr	11.17	2286985	922860	1364125.5	0	0
25Yr	11.25	2371176	954432.1	1416744.3	0	0
25Yr	11.33	2464486	986996.3	1477489.7	0	0
25Yr	11.42	2571742	1020639	1551103.8	0	0
25Yr	11.5	2689325	1055459	1633866.5	0	0
25Yr	11.58	2848348	1091603	1756745	0	0
25Yr	11.67	3074405	1129461	1944944.8	0	0
25Yr	11.75	3348917	1169515	2179402	0	0
25Yr	11.83	3693417	1212280	2481137.4	0	0
25Yr	11.92	4133475	1258487	2874988.5	0	0
25Yr	12	4649972	1308941	3341031.4	0	0
25Yr	12.08	5177649	1364342	3813307.5	0	0
25Yr	12.17	5676752	1425104	4251647.8	0	0
25Yr	12.25	6176758	1491569	4685189.1	0	0
25Yr	12.33	6674349	1564112	5110237.3	0	0
25Yr	12.42	7152637	1643010	5509627	0	0
25Yr	12.5	7620264	1728471	5891793.6	0	0
25Yr	12.58	8076195	1820993	6255201.9	0	0
25Yr	12.67	8514885	1921116	6593769.2	0	0
25Yr	12.75	8939311	2029028	6910282.7	0	0
25Yr	12.83	9349256	2144568	7204687.3	0	0
25Yr	12.92	9743175	2267300	7475874.9	0	0
25Yr	13	10122390	2396598	7725792.1	0	0
25Yr	13.08	10486504	2531756	7954747.7	0	0
25Yr	13.17	10834898	2672036	8162862.4	0	0
25Yr	13.25	11169063	2816725	8352337.2	0	0
25Yr	13.33	11490313	2965162	8525150.7	0	0
25Yr	13.42	11799467	3116732	8682735.1	0	0
25Yr	13.5	12097273	3270883	8826390.1	0	0
25Yr	13.58	12382973	3427113	8955860.3	0	0
25Yr	13.67	12656195	3584972	9071222.5	0	0
25Yr	13.75	12918545	3744054	9174490.9	0	0
25Yr	13.83	13171268	3903998	9267269.5	0	0
25Yr	13.92	13414986	4064489	9350497.5	0	0
25Yr	14	13650236	4225252	9424983.7	0	0
25Yr	14.08	13876810	4386061	9490749	0	0
25Yr	14.17	14094662	4546722	9547940.3	0	0
25Yr	14.25	14304681	4707070	9597610.5	0	0
25Yr	14.33	14507585	4866966	9640619.4	0	0
25Yr	14.42	14703829	5026288	9677541.7	0	0
25Yr	14.5	14893819	5184927	9708891.5	0	0
25Yr	14.58	15077269	5342783	9734486	0	0
25Yr	14.67	15254070	5499758	9754311.7	0	0
25Yr	14.75	15425002	5655763	9769238.8	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	14.83	15590625	5810719	9779906	0	0
25Yr	14.92	15751210	5964562	9786647.2	0	0
25Yr	15	15907008	6117233	9789775.9	0	0
25Yr	15.08	16058053	6268678	9789375	0	0
25Yr	15.17	16204444	6418852	9785591.8	0	0
25Yr	15.25	16346606	6567717	9778888.9	0	0
25Yr	15.33	16484899	6715236	9769663.3	0	0
25Yr	15.42	16619583	6861378	9758205	0	0
25Yr	15.5	16750868	7006114	9744753.5	0	0
25Yr	15.58	16878450	7149421	9729028.8	0	0
25Yr	15.67	17002134	7291273	9710861.3	0	0
25Yr	15.75	17122341	7431650	9690691.2	0	0
25Yr	15.83	17239356	7570535	9668820.9	0	0
25Yr	15.92	17353312	7707916	9645395.8	0	0
25Yr	16	17464348	7843790	9620557.7	0	0
25Yr	16.08	17572374	7978158	9594215.8	0	0
25Yr	16.17	17677403	8111024	9566379.4	0	0
25Yr	16.25	17779800	8242395	9537404.2	0	0
25Yr	16.33	17879861	8372282	9507579.3	0	0
25Yr	16.42	17977755	8500694	9477061.7	0	0
25Yr	16.5	18073616	8627641	9445974.9	0	0
25Yr	16.58	18167346	8753133	9414213.3	0	0
25Yr	16.67	18258898	8877177	9381720.7	0	0
25Yr	16.75	18348530	8999781	9348749.7	0	0
25Yr	16.83	18436447	9120951	9315495.3	0	0
25Yr	16.92	18522751	9240697	9282054.8	0	0
25Yr	17	18607535	9359026	9248509.5	0	0
25Yr	17.08	18690875	9475948	9214926.1	0	0
25Yr	17.17	18772835	9591475	9181360.5	0	0
25Yr	17.25	18853480	9705616	9147864.4	0	0
25Yr	17.33	18932862	9818382	9114479.8	0	0
25Yr	17.42	19011026	9929788	9081238.7	0	0
25Yr	17.5	19088010	10039846	9048164.6	0	0
25Yr	17.58	19163372	10148570	9014802.1	0	0
25Yr	17.67	19236791	10255976	8980815.5	0	0
25Yr	17.75	19308582	10362074	8946507.9	0	0
25Yr	17.83	19378962	10466880	8912082.7	0	0
25Yr	17.92	19447969	10570404	8877565.1	0	0
25Yr	18	19515641	10672661	8842979.1	0	0
25Yr	18.08	19582288	10773665	8808622.7	0	0
25Yr	18.17	19648182	10873431	8774751.5	0	0
25Yr	18.25	19713270	10971976	8741294.1	0	0
25Yr	18.33	19777529	11069317	8708211.6	0	0
25Yr	18.42	19841018	11165472	8675546	0	0
25Yr	18.5	19903792	11260456	8643336	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	18.58	19965411	11354286	8611125.3	0	0
25Yr	18.67	20025560	11446977	8578583.1	0	0
25Yr	18.75	20084558	11538542	8546015.8	0	0
25Yr	18.83	20142604	11628993	8513610.4	0	0
25Yr	18.92	20199722	11718345	8481376.4	0	0
25Yr	19	20255927	11806611	8449316.4	0	0
25Yr	19.08	20311489	11893802	8417687.6	0	0
25Yr	19.17	20366617	11979931	8386685.6	0	0
25Yr	19.25	20421196	12065012	8356183.3	0	0
25Yr	19.33	20475169	12149059	8326110.1	0	0
25Yr	19.42	20528568	12232086	8296482	0	0
25Yr	19.5	20581424	12314109	8267314.2	0	0
25Yr	19.58	20633523	12395147	8238376.1	0	0
25Yr	19.67	20684716	12475218	8209498.6	0	0
25Yr	19.75	20735171	12554342	8180829.4	0	0
25Yr	19.83	20784996	12632540	8152456.4	0	0
25Yr	19.92	20834211	12709833	8124378.2	0	0
25Yr	20	20882828	12786239	8096588.7	0	0
25Yr	20.08	20930622	12861777	8068845.1	0	0
25Yr	20.17	20977445	12936462	8040983.9	0	0
25Yr	20.25	21023477	13010306	8013171	0	0
25Yr	20.33	21068833	13083322	7985510.3	0	0
25Yr	20.42	21113540	13155522	7958017.5	0	0
25Yr	20.5	21157623	13226916	7930707.4	0	0
25Yr	20.58	21201116	13297515	7903600.8	0	0
25Yr	20.67	21244048	13367330	7876718.1	0	0
25Yr	20.75	21286446	13436371	7850075.1	0	0
25Yr	20.83	21328335	13504650	7823685.4	0	0
25Yr	20.92	21369738	13572177	7797560.3	0	0
25Yr	21	21410675	13638965	7771710	0	0
25Yr	21.08	21451165	13705024	7746141.1	0	0
25Yr	21.17	21491224	13770367	7720857	0	0
25Yr	21.25	21530868	13835006	7695862	0	0
25Yr	21.33	21570115	13898954	7671161.1	0	0
25Yr	21.42	21608982	13962225	7646757	0	0
25Yr	21.5	21647486	14024832	7622653.6	0	0
25Yr	21.58	21685652	14086794	7598858.6	0	0
25Yr	21.67	21723509	14148129	7575380.7	0	0
25Yr	21.75	21761083	14208859	7552224.5	0	0
25Yr	21.83	21798395	14269006	7529389.2	0	0
25Yr	21.92	21835461	14328589	7506871.5	0	0
25Yr	22	21872294	14387629	7484665.7	0	0
25Yr	22.08	21908906	14446142	7462764.2	0	0
25Yr	22.17	21945305	14504146	7441158.6	0	0
25Yr	22.25	21981497	14561657	7419840.4	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	22.33	22017491	14618688	7398803.1	0	0
25Yr	22.42	22053294	14675253	7378041.8	0	0
25Yr	22.5	22088916	14731363	7357552.6	0	0
25Yr	22.58	22124132	14787032	7337100.5	0	0
25Yr	22.67	22158790	14842270	7316520.3	0	0
25Yr	22.75	22193049	14897087	7295962.1	0	0
25Yr	22.83	22227007	14951492	7275515.4	0	0
25Yr	22.92	22260674	15005492	7255182.7	0	0
25Yr	23	22294058	15059093	7234964.7	0	0
25Yr	23.08	22327164	15112301	7214863.8	0	0
25Yr	23.17	22360006	15165118	7194887.6	0	0
25Yr	23.25	22392600	15217549	7175050.2	0	0
25Yr	23.33	22424959	15269597	7155362.2	0	0
25Yr	23.42	22457096	15321264	7135832.2	0	0
25Yr	23.5	22489023	15372556	7116466.8	0	0
25Yr	23.58	22520512	15423476	7097035.6	0	0
25Yr	23.67	22551402	15474030	7077372.5	0	0
25Yr	23.75	22581848	15524220	7057628.5	0	0
25Yr	23.83	22611946	15574049	7037897.4	0	0
25Yr	23.92	22641706	15623519	7018186.6	0	0
25Yr	24	22671125	15672634	6998490.1	0	0
25Yr	24.08	22698971	15721393	6977578	0	0
25Yr	24.17	22724372	15769787	6954585.1	0	0
25Yr	24.25	22748085	15817800	6930284.9	0	0
25Yr	24.33	22770573	15865415	6905158.4	0	0
25Yr	24.42	22791874	15912608	6879265.3	0	0
25Yr	24.5	22812002	15959355	6852646.9	0	0
25Yr	24.58	22831002	16005626	6825375.4	0	0
25Yr	24.67	22848928	16051390	6797537.9	0	0
25Yr	24.75	22865836	16096617	6769219.5	0	0
25Yr	24.83	22881775	16141281	6740494.5	0	0
25Yr	24.92	22896794	16185357	6711436.5	0	0
25Yr	25	22910948	16228828	6682120.1	0	0
25Yr	25.08	22924292	16271679	6652612.6	0	0
25Yr	25.17	22936873	16313901	6622972.1	0	0
25Yr	25.25	22948738	16355486	6593252.5	0	0
25Yr	25.33	22959935	16396431	6563504.3	0	0
25Yr	25.42	22970508	16436736	6533772.1	0	0
25Yr	25.5	22980496	16476403	6504093.7	0	0
25Yr	25.58	22989935	16515435	6474499.9	0	0
25Yr	25.67	22998855	16553837	6445018.1	0	0
25Yr	25.75	23007291	16591618	6415673.7	0	0
25Yr	25.83	23015275	16628784	6386490.5	0	0
25Yr	25.92	23022834	16665346	6357487.7	0	0
25Yr	26	23029994	16701314	6328679.9	0	0

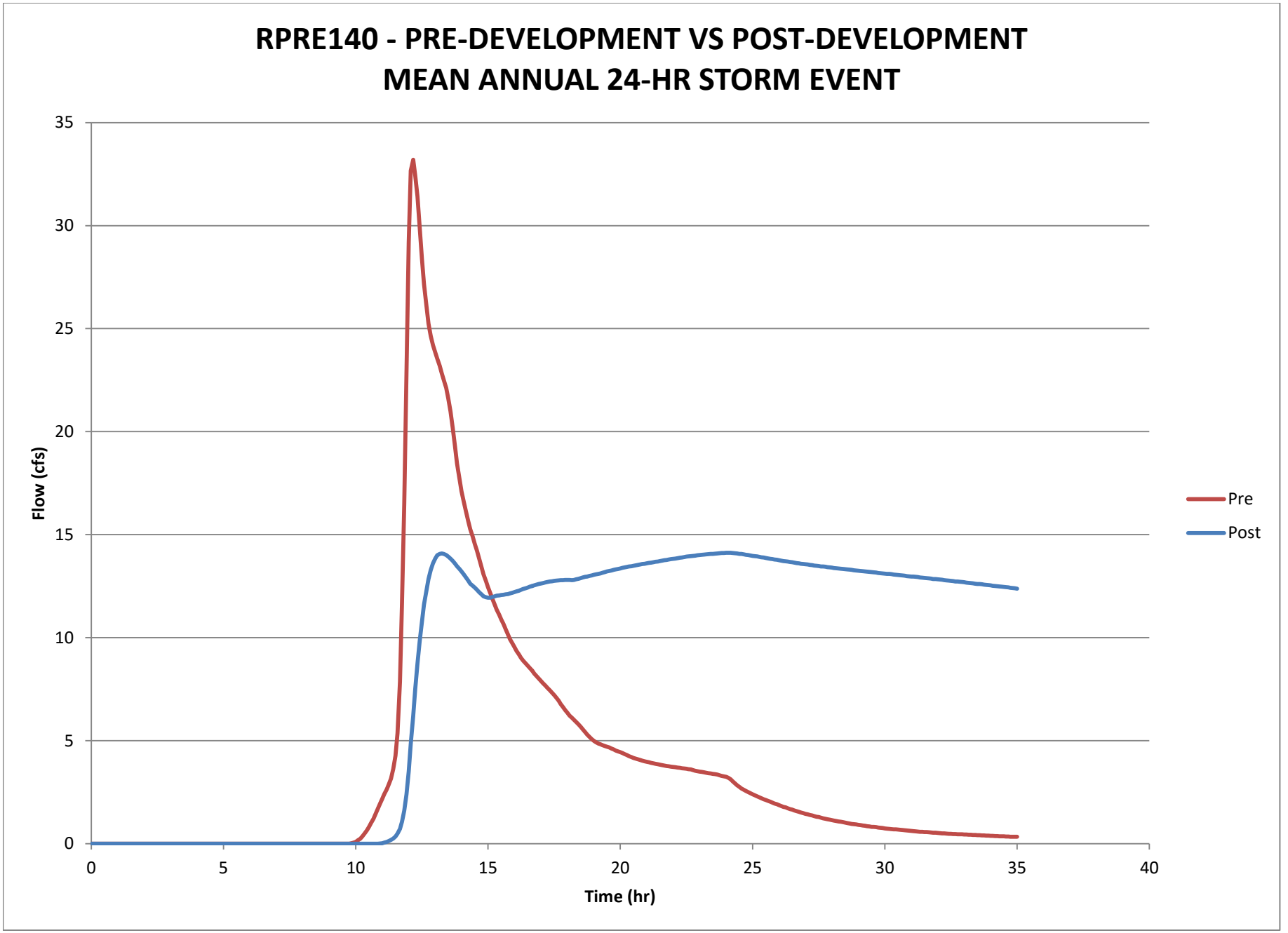
Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	26.08	23036778	16736699	6300079.2	0	0
25Yr	26.17	23043208	16771512	6271695.6	0	0
25Yr	26.25	23049303	16805766	6243537.4	0	0
25Yr	26.33	23055083	16839471	6215611.9	0	0
25Yr	26.42	23060567	16872641	6187925.7	0	0
25Yr	26.5	23065772	16905288	6160483.7	0	0
25Yr	26.58	23070713	16937423	6133289.8	0	0
25Yr	26.67	23075406	16969059	6106346.9	0	0
25Yr	26.75	23079866	17000210	6079656.4	0	0
25Yr	26.83	23084105	17030886	6053218.5	0	0
25Yr	26.92	23088134	17061102	6027031.7	0	0
25Yr	27	23091964	17090870	6001094	0	0
25Yr	27.08	23095605	17120202	5975403	0	0
25Yr	27.17	23099069	17149113	5949956.4	0	0
25Yr	27.25	23102364	17177613	5924751.1	0	0
25Yr	27.33	23105499	17205716	5899783.6	0	0
25Yr	27.42	23108484	17233434	5875049.8	0	0
25Yr	27.5	23111326	17260781	5850544.9	0	0
25Yr	27.58	23114031	17287767	5826263.8	0	0
25Yr	27.67	23116607	17314406	5802200.8	0	0
25Yr	27.75	23119059	17340708	5778350.6	0	0
25Yr	27.83	23121393	17366686	5754707.7	0	0
25Yr	27.92	23123616	17392349	5731266.9	0	0
25Yr	28	23125734	17417711	5708022.8	0	0
25Yr	28.08	23127751	17442781	5684970.3	0	0
25Yr	28.17	23129674	17467570	5662104.5	0	0
25Yr	28.25	23131509	17492088	5639420.8	0	0
25Yr	28.33	23133260	17516345	5616914.7	0	0
25Yr	28.42	23134933	17540352	5594580.4	0	0
25Yr	28.5	23136529	17564117	5572411.9	0	0
25Yr	28.58	23138054	17587650	5550403.5	0	0
25Yr	28.67	23139508	17610958	5528549.9	0	0
25Yr	28.75	23140896	17634050	5506845.8	0	0
25Yr	28.83	23142220	17656933	5485286.4	0	0
25Yr	28.92	23143482	17679615	5463866.7	0	0
25Yr	29	23144685	17702103	5442582.2	0	0
25Yr	29.08	23145832	17724404	5421428	0	0
25Yr	29.17	23146924	17746524	5400399.6	0	0
25Yr	29.25	23147963	17768470	5379492.6	0	0
25Yr	29.33	23148951	17790248	5358703.3	0	0
25Yr	29.42	23149890	17811862	5338028.3	0	0
25Yr	29.5	23150782	17833317	5317464.8	0	0
25Yr	29.58	23151629	17854619	5297010	0	0
25Yr	29.67	23152432	17875770	5276662.2	0	0
25Yr	29.75	23153194	17896774	5256419.3	0	0

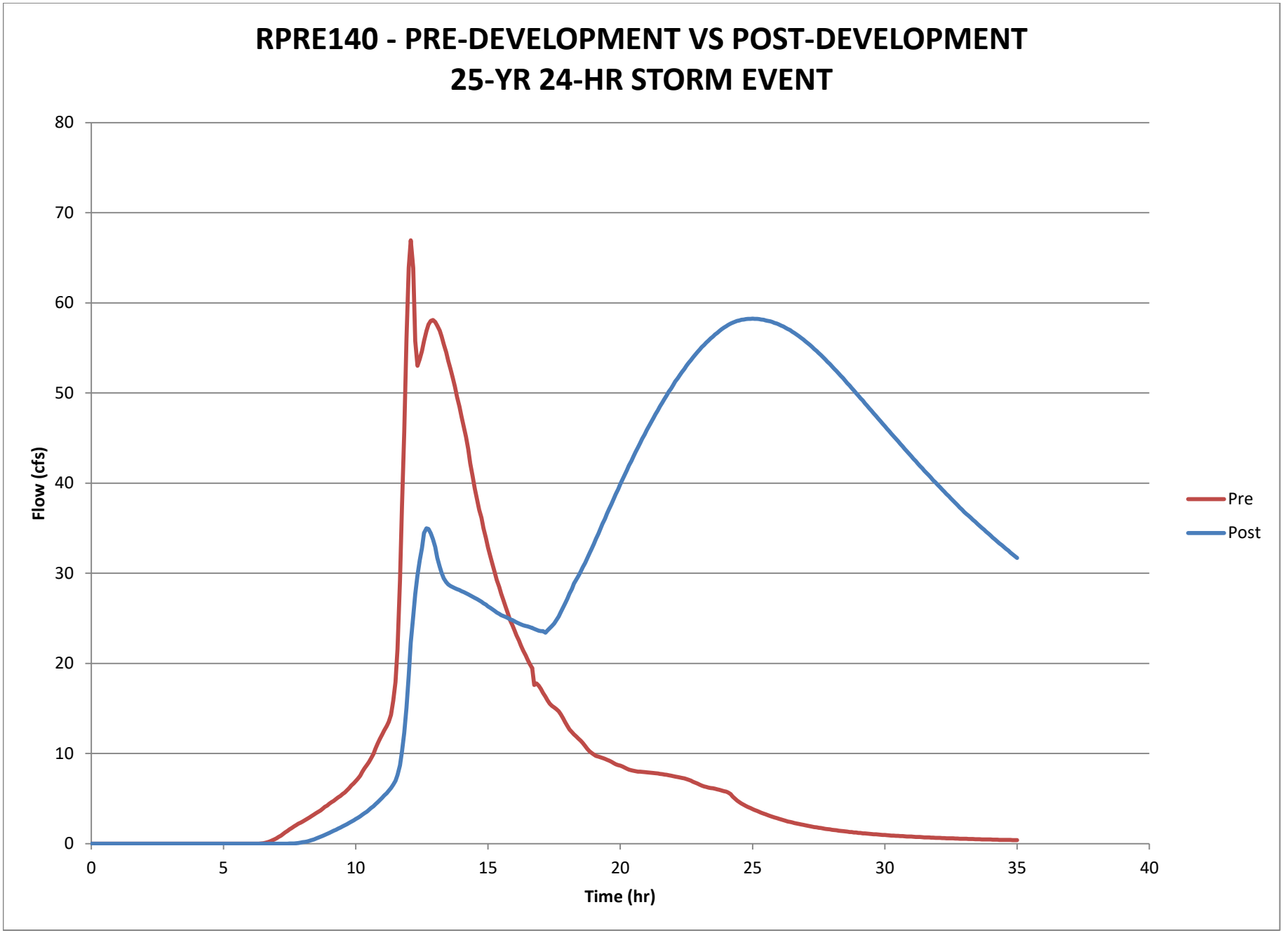
Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	29.83	23153916	17917636	5236279.5	0	0
25Yr	29.92	23154600	17938359	5216240.7	0	0
25Yr	30	23155248	17958947	5196301.3	0	0
25Yr	30.08	23155861	17979401	5176460.4	0	0
25Yr	30.17	23156443	17999724	5156718.2	0	0
25Yr	30.25	23156993	18019919	5137074.9	0	0
25Yr	30.33	23157515	18039985	5117530.6	0	0
25Yr	30.42	23158009	18059924	5098085.8	0	0
25Yr	30.5	23158476	18079735	5078741.2	0	0
25Yr	30.58	23158918	18099420	5059497.9	0	0
25Yr	30.67	23159334	18118977	5040356.8	0	0
25Yr	30.75	23159727	18138407	5021319	0	0
25Yr	30.83	23160096	18157710	5002385.8	0	0
25Yr	30.92	23160444	18176885	4983558.2	0	0
25Yr	31	23160770	18195933	4964837.2	0	0
25Yr	31.08	23161076	18214852	4946224	0	0
25Yr	31.17	23161363	18233643	4927719.7	0	0
25Yr	31.25	23161631	18252306	4909325	0	0
25Yr	31.33	23161882	18270841	4891041	0	0
25Yr	31.42	23162115	18289247	4872868.2	0	0
25Yr	31.5	23162333	18307525	4854807.3	0	0
25Yr	31.58	23162535	18325676	4836859.2	0	0
25Yr	31.67	23162722	18343698	4819024.3	0	0
25Yr	31.75	23162897	18361593	4801303.3	0	0
25Yr	31.83	23163058	18379361	4783696.8	0	0
25Yr	31.92	23163207	18397002	4766204.9	0	0
25Yr	32	23163345	18414517	4748827.7	0	0
25Yr	32.08	23163472	18431906	4731565.6	0	0
25Yr	32.17	23163588	18449170	4714418.6	0	0
25Yr	32.25	23163695	18466308	4697386.9	0	0
25Yr	32.33	23163794	18483323	4680470.5	0	0
25Yr	32.42	23163884	18500215	4663669.1	0	0
25Yr	32.5	23163966	18516984	4646982.4	0	0
25Yr	32.58	23164042	18533631	4630410.2	0	0
25Yr	32.67	23164110	18550158	4613952	0	0
25Yr	32.75	23164172	18566564	4597607.4	0	0
25Yr	32.83	23164227	18582852	4581375.7	0	0
25Yr	32.92	23164277	18599021	4565256.3	0	0
25Yr	33	23164321	18615073	4549248.8	0	0
25Yr	33.08	23164361	18631008	4533352.5	0	0
25Yr	33.17	23164395	18646828	4517567.1	0	0
25Yr	33.25	23164426	18662534	4501891.9	0	0
25Yr	33.33	23164452	18678126	4486326.4	0	0
25Yr	33.42	23164475	18693605	4470870	0	0
25Yr	33.5	23164495	18708973	4455522.2	0	0

Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	33.58	23164512	18724229	4440282.5	0	0
25Yr	33.67	23164526	18739375	4425150.9	0	0
25Yr	33.75	23164538	18754411	4410126.7	0	0
25Yr	33.83	23164548	18769339	4395209.3	0	0
25Yr	33.92	23164557	18784159	4380397.8	0	0
25Yr	34	23164564	18798872	4365691.2	0	0
25Yr	34.08	23164569	18813481	4351088.3	0	0
25Yr	34.17	23164573	18827985	4336588.7	0	0
25Yr	34.25	23164577	18842384	4322192.2	0	0
25Yr	34.33	23164579	18856680	4307898.8	0	0
25Yr	34.42	23164580	18870871	4293709.3	0	0
25Yr	34.5	23164581	18884956	4279624.6	0	0
25Yr	34.58	23164581	18898936	4265645.6	0	0
25Yr	34.67	23164581	18912808	4251773.5	0	0
25Yr	34.75	23164581	18926572	4238009.5	0	0
25Yr	34.83	23164581	18940227	4224354.6	0	0
25Yr	34.92	23164581	18953770	4210810.9	0	0
25Yr	35	23164581	18967200	4197380.9	0	0
25Yr	35.08	23164581	18980514	4184067.6	0	0
25Yr	35.17	23164581	18993707	4170874.1	0	0
25Yr	35.25	23164581	19006778	4157803.4	0	0
25Yr	35.33	23164581	19019723	4144858	0	0
25Yr	35.42	23164581	19032540	4132040.8	0	0
25Yr	35.5	23164581	19045227	4119354.6	0	0
25Yr	35.58	23164581	19057779	4106802.2	0	0
25Yr	35.67	23164581	19070198	4094383.4	0	0
25Yr	35.75	23164581	19082484	4082096.8	0	0
25Yr	35.83	23164581	19094634	4069947	0	0
25Yr	35.92	23164581	19106637	4057944.6	0	0
25Yr	36	23164581	19118474	4046107.2	0	0
25Yr	36.08	23164581	19130094	4034487.3	0	0
25Yr	36.17	23164581	19141266	4023315	0	0
25Yr	36.25	23164581	19151825	4012756.5	0	0
25Yr	36.33	23164581	19161774	4002807.2	0	0
25Yr	36.42	23164581	19171398	3993183.3	0	0
25Yr	36.5	23164581	19180956	3983625	0	0
25Yr	36.58	23164581	19190452	3974129.1	0	0
25Yr	36.67	23164581	19199888	3964693.2	0	0
25Yr	36.75	23164581	19209264	3955316.8	0	0
25Yr	36.83	23164581	19218583	3945998.6	0	0
25Yr	36.92	23164581	19227843	3936737.8	0	0
25Yr	37	23164581	19237048	3927533.4	0	0
25Yr	37.08	23164581	19246197	3918384.1	0	0
25Yr	37.17	23164581	19255292	3909289.7	0	0
25Yr	37.25	23164581	19264332	3900249.7	0	0

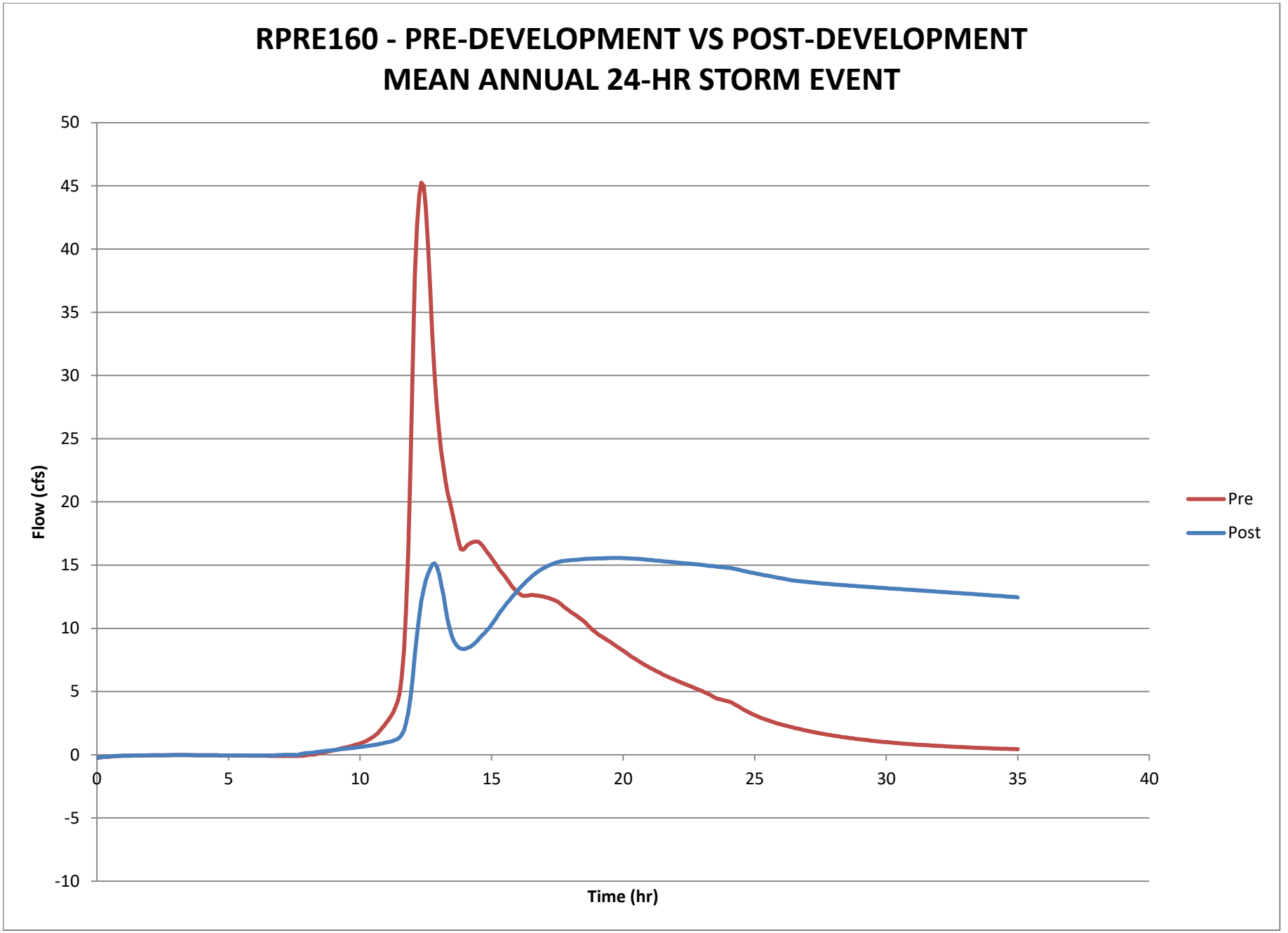
Simulation	Time hrs	Inflow Volume ft3	Outflow Volume ft3	Change in Sys Storage ft3	Difference ft3	Error %
25Yr	37.33	23164581	19273319	3891262.6	0	0
25Yr	37.42	23164581	19282253	3882328	0	0
25Yr	37.5	23164581	19291137	3873444.7	0	0
25Yr	37.58	23164581	19299969	3864612.5	0	0
25Yr	37.67	23164581	19308751	3855830.7	0	0
25Yr	37.75	23164581	19317483	3847098.4	0	0
25Yr	37.83	23164581	19326167	3838414.6	0	0
25Yr	37.92	23164581	19334803	3829778.7	0	0
25Yr	38	23164581	19343392	3821189.5	0	0
25Yr	38.08	23164581	19351934	3812646.9	0	0
25Yr	38.17	23164581	19360432	3804149.5	0	0
25Yr	38.25	23164581	19368885	3795696.4	0	0
25Yr	38.33	23164581	19377295	3787286.3	0	0
25Yr	38.42	23164581	19385662	3778918.9	0	0
25Yr	38.5	23164581	19393989	3770592.1	0	0
25Yr	38.58	23164581	19402277	3762304.6	0	0
25Yr	38.67	23164581	19410527	3754054.7	0	0
25Yr	38.75	23164581	19418741	3745840.1	0	0
25Yr	38.83	23164581	19426924	3737657	0	0
25Yr	38.92	23164581	19435081	3729500.1	0	0
25Yr	39	23164581	19443216	3721365.5	0	0
25Yr	39.08	23164581	19451331	3713250.6	0	0
25Yr	39.17	23164581	19459428	3705153.4	0	0
25Yr	39.25	23164581	19467509	3697072.3	0	0
25Yr	39.33	23164581	19475574	3689006.8	0	0
25Yr	39.42	23164581	19483625	3680956.2	0	0
25Yr	39.5	23164581	19491661	3672920.7	0	0
25Yr	39.58	23164581	19499682	3664899.6	0	0
25Yr	39.67	23164581	19507687	3656894.2	0	0
25Yr	39.75	23164581	19515678	3648903.5	0	0
25Yr	39.83	23164581	19523653	3640928.8	0	0
25Yr	39.92	23164581	19531611	3632970	0	0
25Yr	40	23164581	19539527	3625054.1	0	0

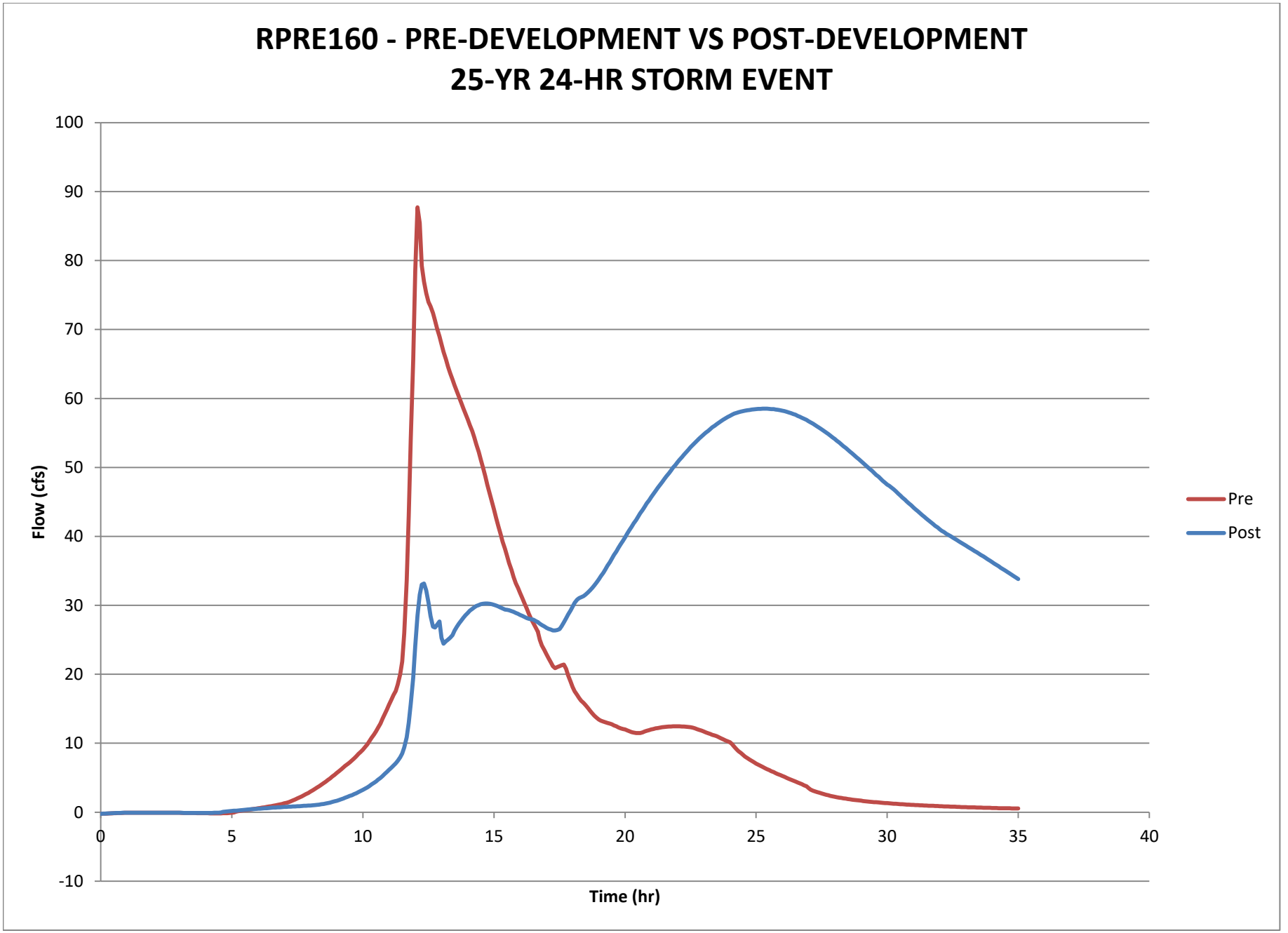
Appendix I: Pre and Post Hydrographs at Reach RPRE140


RPRE140 - PRE-DEVELOPMENT VS POST-DEVELOPMENT
MEAN ANNUAL 24-HR STORM EVENT
Flow (cfs)
Time (hr)
0
5
10
15
20
25
30
35
40
Pre
Post


RPRE140 - PRE-DEVELOPMENT VS POST-DEVELOPMENT
25-YR 24-HR STORM EVENT
Flow (cfs)
80
70
60
50
40
30
20
10
0
0
5
10
15
20
25
30
35
40
Time (hr)
Pre
Post

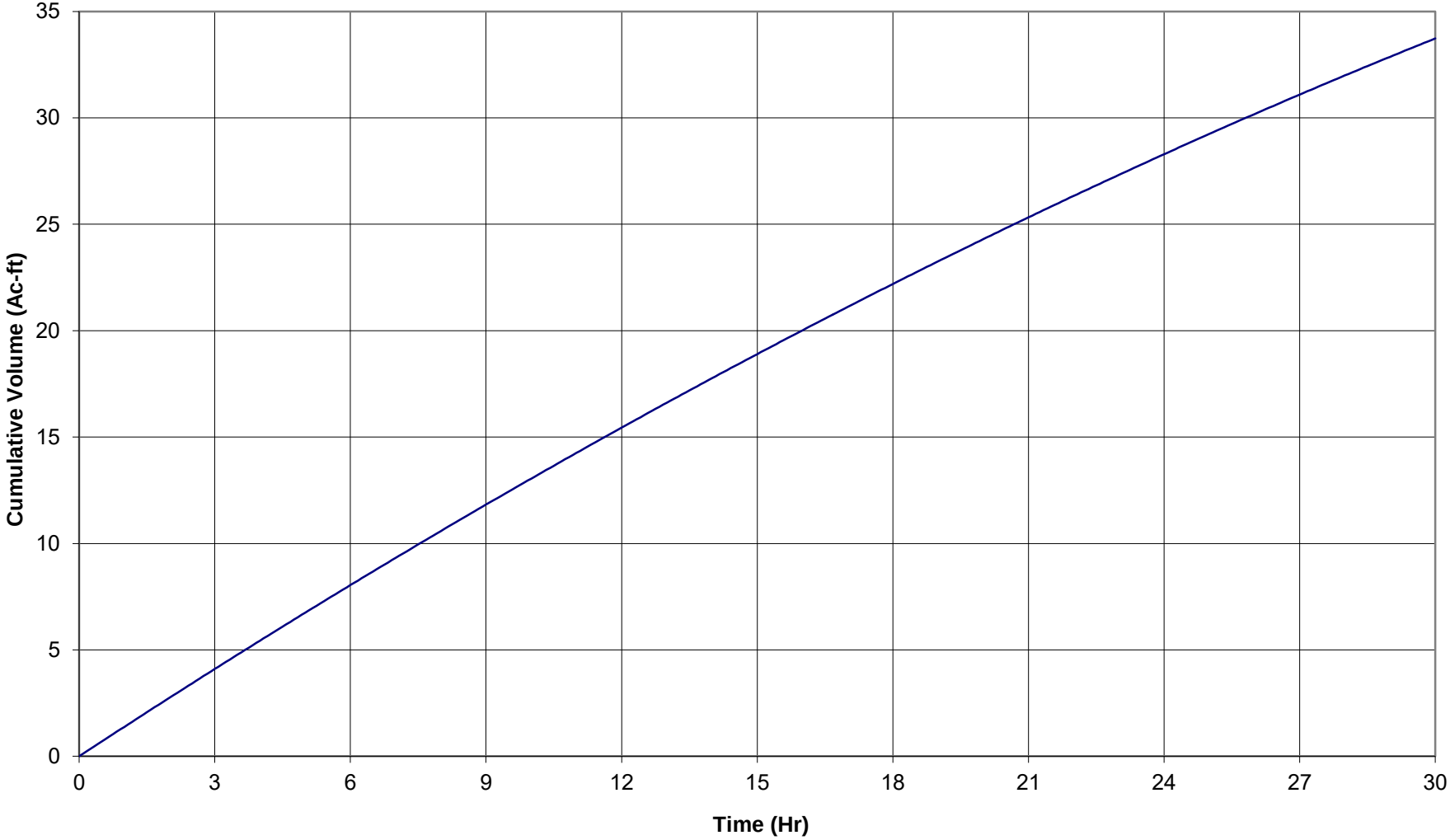
Appendix J: Pre and Post Hydrographs at Reach RPRE160


RPRE160 - PRE-DEVELOPMENT VS POST-DEVELOPMENT
MEAN ANNUAL 24-HR STORM EVENT
Flow (cfs)
50
45
40
35
30
25
20
15
10
5
0
-5
-10
0
5
10
15
20
25
30
35
40
Time (hr)
Pre
Post


RPRE160 - PRE-DEVELOPMENT VS POST-DEVELOPMENT
25-YR 24-HR STORM EVENT
Flow (cfs)
100
90
80
70
60
50
40
30
20
10
0
-10
0
5
10
15
20
25
30
35
40
Time (hr)
Pre
Post

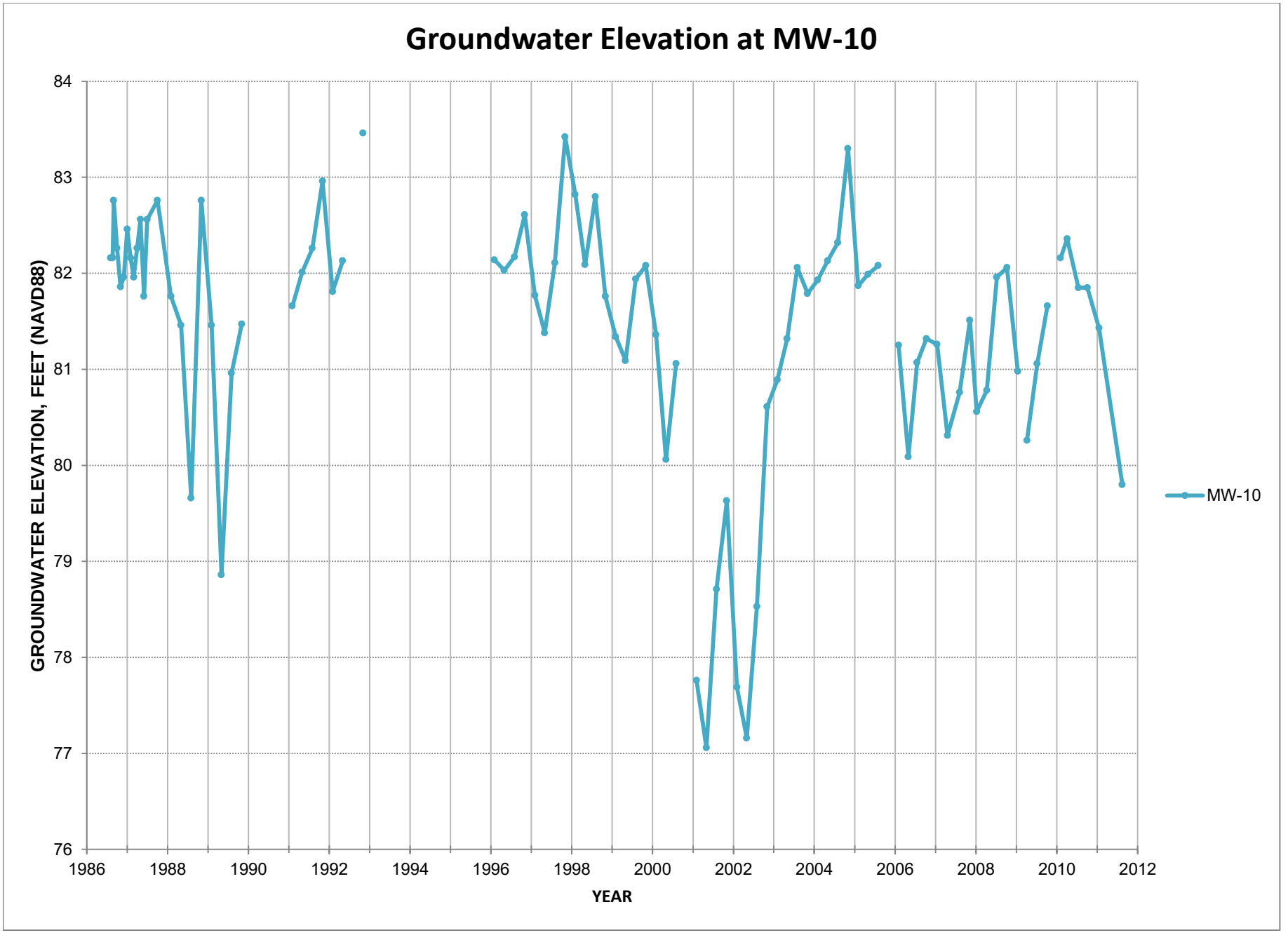
Appendix K: Treatment Volume Recovery Analysis

Computed Cumulative Discharge Volume

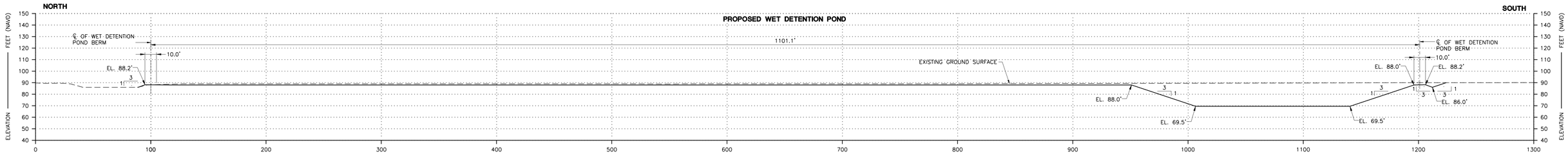


Appendix L: Monitoring Well (MW-10) Groundwater Data and Piezometers

MW-10								
Summary of Groundwater Elevation from 1986 through First Quarter 2011								
MAX	MIN	MEAN	STDEV	MEDIAN	COUNT	SKEW	95th Percentile	SHWT
83.46	77.06	81.43281	1.299264	81.81	89	-1.57821	82.812	82.82

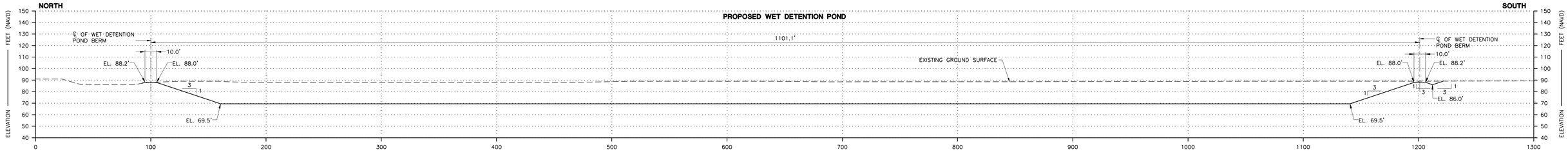

Groundwater Elevation at MW-10
GROUNDWATER ELEVATION, FEET (NAVD88)
84
83
82
81
80
79
78
77
76
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
YEAR
MW-10

Appendix M: Design Drawings



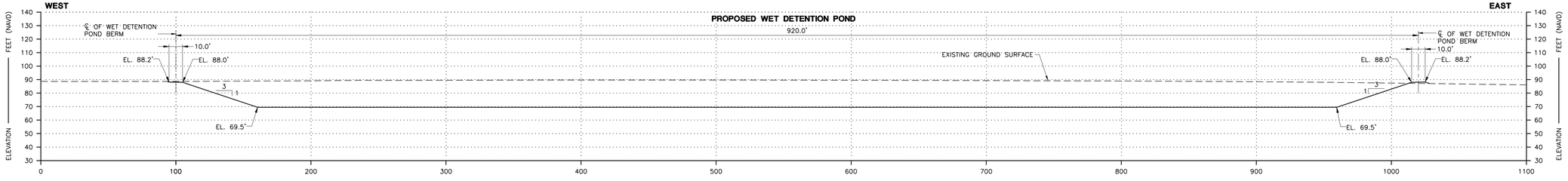
A 15 CROSS SECTION

SCALE: 1" = 40'



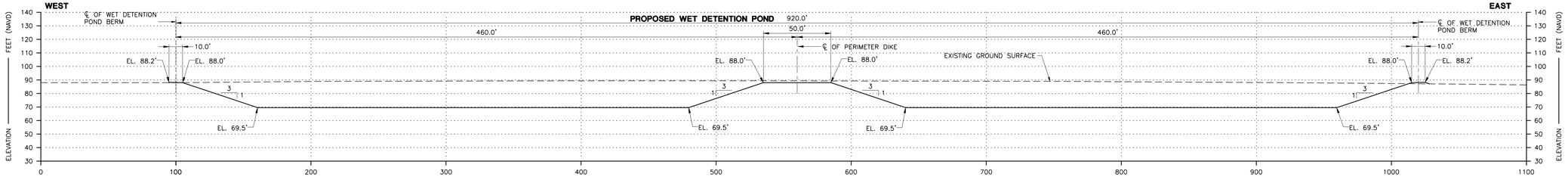
B 15 CROSS SECTION

SCALE: 1" = 40'



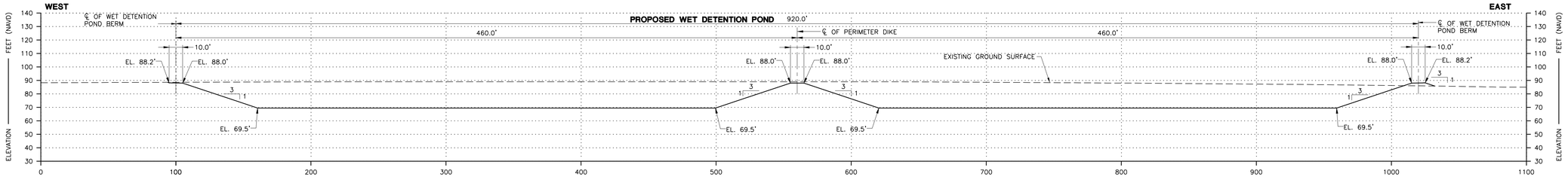
C 15 CROSS SECTION

SCALE: 1" = 40'



D 15 CROSS SECTION

SCALE: 1" = 40'



E 15 CROSS SECTION

SCALE: 1" = 40'

PRELIMINARY
SUBJECT TO CHANGE

REVISION	DATE	DESCRIPTION	APPR'D
P1	10/06/2011	ISSUED FOR CLIENT REVIEW	

	NAME	DATE		NAME	DATE
DESIGNED BY	MH	10/06/2011	CHECKED BY	FKC	10/25/2011
DRAWN BY	AZ	10/06/2011	CHECKED BY	TSI	
FILE NO.: 10-13-0249			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

HORIZONTAL EXPANSION OF COAL COMBUSTION WASTE LANDFILL - CELL 1

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

PROPOSED WET DETENTION POND CROSS SECTIONS

DRAWING NO. 16

T:\corporate\10\10-13-0249\HORIZONTAL EXPANSION OF CWCA - CELL 1\CURRENT SHEET SET\15-16 PROPOSED WET DETENTION POND PLAN AND DETAILS.dwg 11/03/2011 12:02:58 PM dmmed.zraphoul

EXISTING COAL COMBUSTION WASTE LANDFILL

EXISTING STORMWATER DRAINAGE DITCH

(2) 36-INCH SDR 21 HDPE PIPES INV. EL. 75.5'

STA. 0+00

T.O.S. 97.0

97.0

85.0

93.0

93.0

M.E.G. (T.O.S.)

3:1

3:1

3:1

3:1

FABRIFOAM

(2) TYPE "D" FDOT STRUCTURES (SEE DETAIL 32, DWG. NO. 17)

INV. EL. 80.91'

INV. EL. 80.20

EXISTING 18" DIA. RCP

POINT NO. 1
N. 1504172.34
E. 597725.50

FABRIFOAM

STA. 5+00

(2) 36-INCH SDR 21 HDPE PIPES INV. EL. 80.0'

TYP.

TYPE "D" FDOT STRUCTURE (SEE DETAIL 31, DWG. NO. 17)

24.0'

CURVE NO. 4

CURVE NO. 1

PC

PT

PI

PROPOSED WET DETENTION POND

STA. 10+00

STA. 35+00

STA. 30+00

STA. 15+00

STA. 25+00

STA. 20+00

69.5

3:1

88.0

88.5

℄ OF DETENTION POND BERM

POINT NO. 2
N. 1503346.29
E. 597725.50

88

R25.0'

CURVE NO. 3

CURVE NO. 2

86

90

RUNOFF DIVERSION DITCH

INV. EL. 78.31

INV. EL. 77.29

INV. EL. 78.71

INV. EL. 77.54

INV. EL. 77.93

INV. EL. 77.65

EXISTING STORMWATER DRAINAGE DITCH

INV. EL. 77.15

INV. EL. 78.33

4 EXISTING 36" DIA. RCP (TYP.)

E 16

A 16

B 16

D 16

C 16

0 100 200

SCALE: 1"=100'

NOTE:

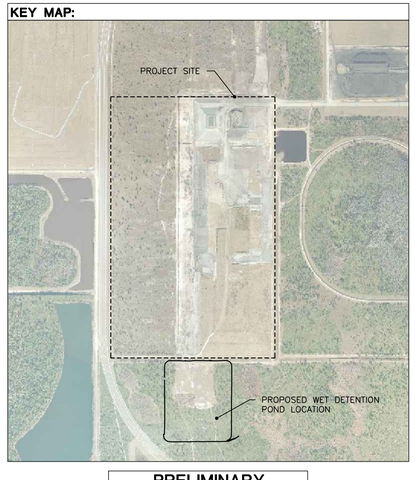
TOPOGRAPHIC SURVEY PERFORMED BY GEOMATIC TECHNOLOGIES, CALIFORNIA. SURVEY DATE: 07/19/2011

TOPOGRAPHIC CONTOUR INTERVAL: 1 FT.

DIKE CREST BASELINE CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 1	68.50'	107.60'	N. 1504172.34	E. 598185.50	STA. 7+83.00	STA. 8+90.60	68.50'	90°00'00"
CURVE NO. 2	68.50'	107.60'	N. 1503071.29	E. 598185.50	STA. 18+54.65	STA. 19+62.25	68.50'	90°00'00"
CURVE NO. 3	68.50'	107.60'	N. 1503071.29	E. 597265.50	STA. 27+45.25	STA. 28+52.85	68.50'	90°00'00"
CURVE NO. 4	68.50'	107.60'	N. 1504172.34	E. 597265.50	STA. 38+16.90	STA. 39+24.50	68.50'	90°00'00"

KEY MAP:



PRELIMINARY
SUBJECT TO CHANGE

REVISION	DATE	DESCRIPTION	APPR'D
P1	10/06/2011	ISSUED FOR CLIENT REVIEW	

	NAME	DATE		NAME	DATE
DESIGNED BY	MH	10/06/2011	CHECKED BY	FKC	10/25/2011
DRAWN BY	AZ	10/06/2011	CHECKED BY	TSI	
FILE NO.: 10-13-0249			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave, Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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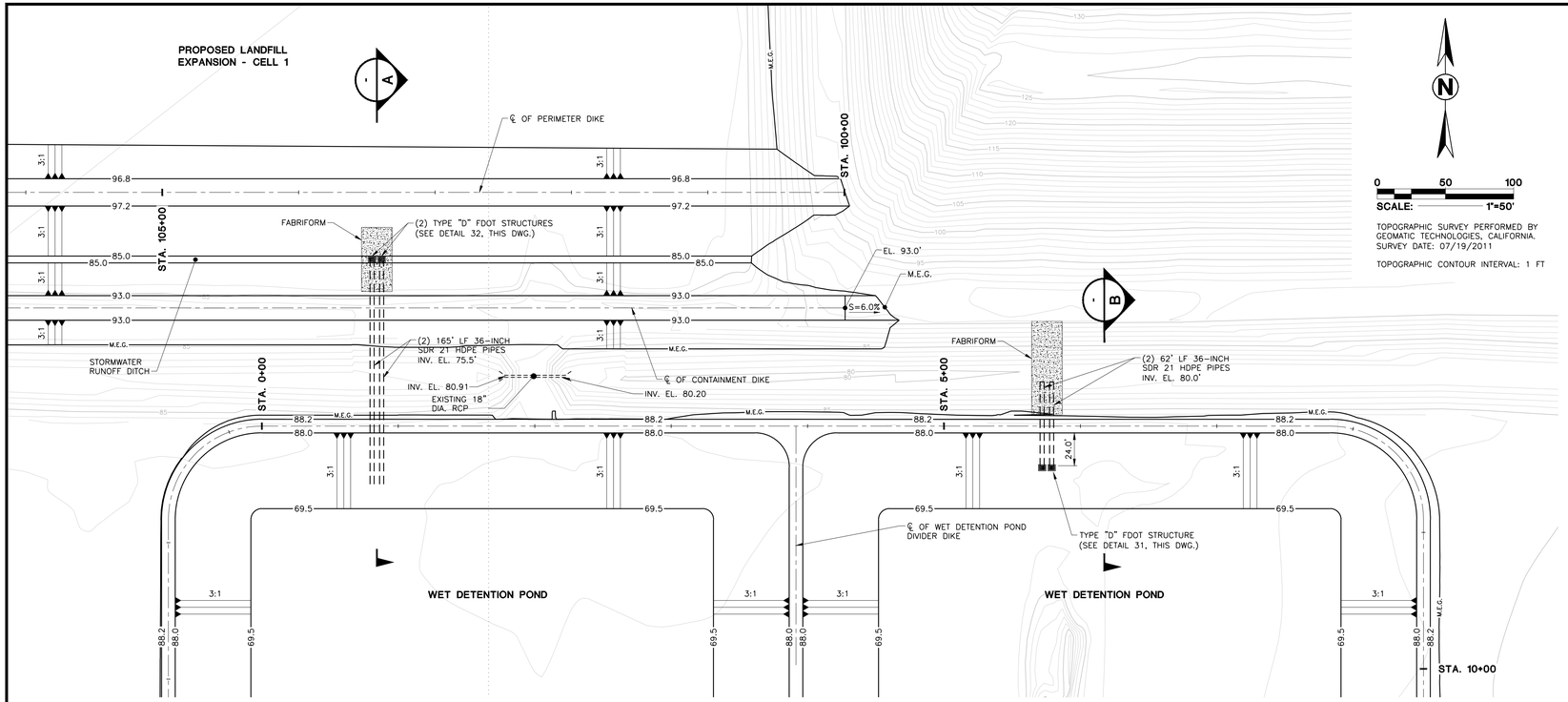
HORIZONTAL EXPANSION OF COAL COMBUSTION WASTE LANDFILL - CELL 1

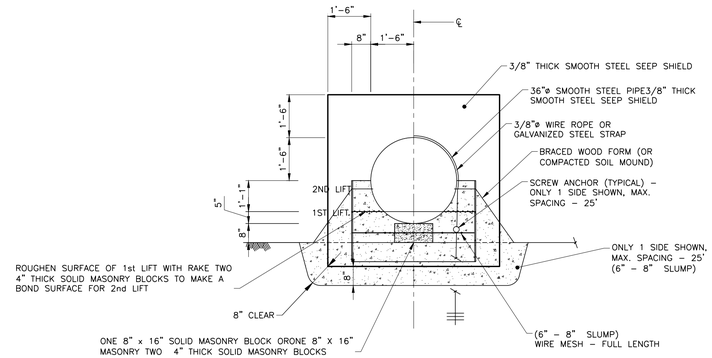
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

PROPOSED WET DETENTION POND PLAN AND DETAILS

DRAWING NO. 15

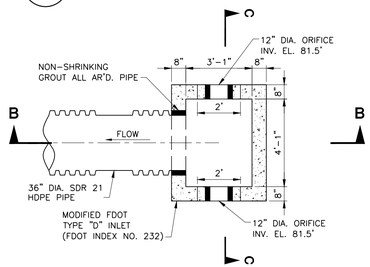
T:\corporate\10-13-0249\HORIZONTAL EXPANSION OF CMSA - CELL 1\CURRENT SHEET SET\15-16 PROPOSED WET DETENTION POND PLAN AND DETAILS.dwg 11/03/2011 12:02:54 PM, ahmed.zaghloul





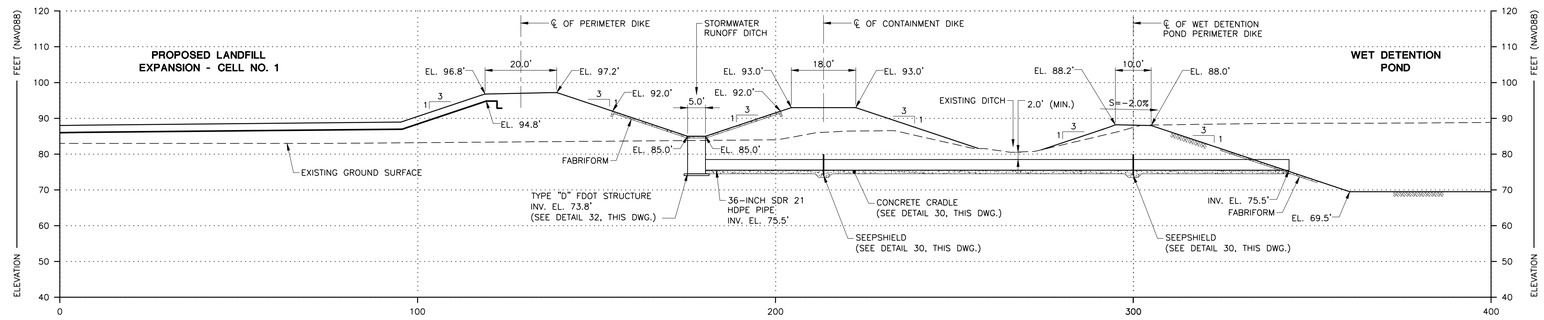
30 - CONCRETE CRADLE AND SEEP SHIELD INSTALLATION DETAIL

SCALE: 1" = 30'



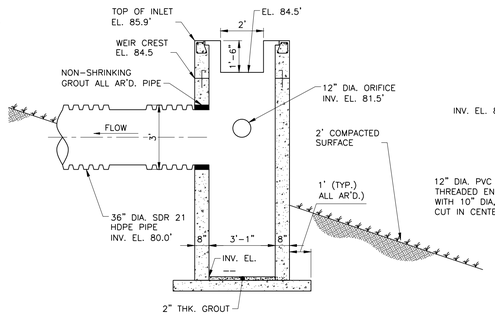
31 - TYPE "D" FDOT STRUCTURE PLAN VIEW

SCALE: 1" = 40'



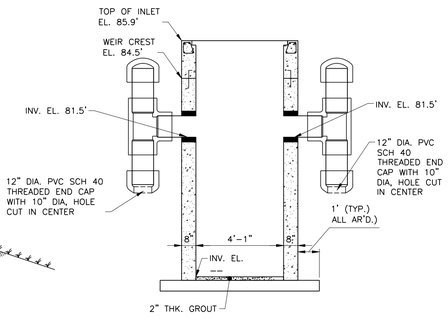
A - CROSS SECTION A

SCALE: 1" = 20'



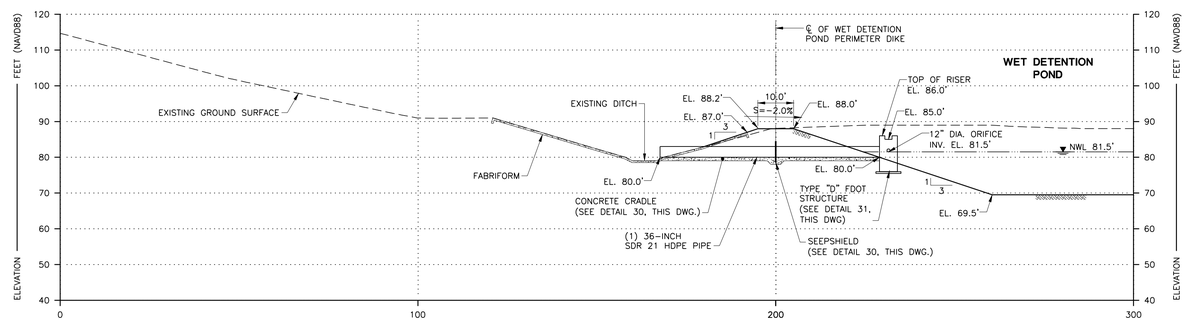
- - CROSS SECTION B-B

SCALE: 1" = 40'



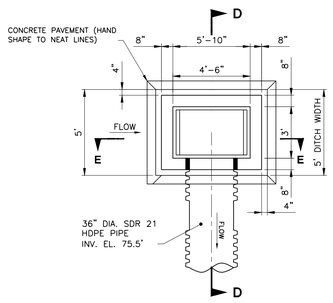
- - CROSS SECTION C-C

SCALE: 1" = 40'



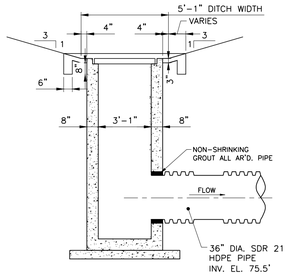
B - CROSS SECTION B

SCALE: 1" = 20'



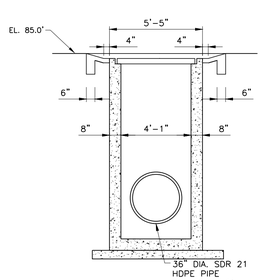
32 - TYPE "D" FDOT STRUCTURE PLAN VIEW

SCALE: 1" = 50'



- - CROSS SECTION D-D

SCALE: 1" = 50'



- - CROSS SECTION E-E

SCALE: 1" = 50'

PRELIMINARY
SUBJECT TO CHANGE

REVISION	DATE	DESCRIPTION	APPR'D	REVISION	DATE	DESCRIPTION	APPR'D
				P1	10/06/2011	ISSUED FOR CLIENT REVIEW	

	NAME	DATE		NAME	DATE
DESIGNED BY	MH	10/06/2011	CHECKED BY	FKC	10/25/2011
DRAWN BY	AZ	10/06/2011	CHECKED BY	TSI	
FILE NO.: 10-13-0249			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
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HORIZONTAL EXPANSION OF COAL COMBUSTION WASTE LANDFILL - CELL 1

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

PROPOSED WET DETENTION POND CULVERT STRUCTURES PLAN AND CROSS SECTIONS

DRAWING NO. 17

T:\corporate\10\10-13-0249\HORIZONTAL EXPANSION OF CMSA - CELL 1\CURRENT SHEET SET\17 PROPOSED WET DETENTION POND.dwg 11/03/2011 12:03:41 PM, ahmed.zoghloul

EXISTING COAL COMBUSTION WASTE AREA RUNOFF POND

PROPOSED DECANT CELL

±1313 LF TYPE III SILT FENCE (SEE DETAIL 1 THIS DWG.)

EXISTING STORMWATER DRAINAGE DITCH

EXISTING COAL COMBUSTION WASTE LANDFILL

EXISTING STORMWATER DRAINAGE DITCH

EXISTING WETLAND

±3910 LF TYPE III SILT FENCE (SEE DETAIL 1 THIS DWG.)

PROPOSED WET DETENTION POND

PROPOSED LANDFILL EXPANSION - CELL 3

PROPOSED LANDFILL EXPANSION - CELL 2

PROPOSED LANDFILL EXPANSION - CELL 1

±4205 LF TYPE III SILT FENCE (SEE DETAIL 1 THIS DWG.)

EXISTING WETLAND

EXISTING STORMWATER DRAINAGE DITCH

INNOVATION WAY

W.E. 80.4'

W.E. 79.8'

ORANGE COUNTY LANDFILL

N. 1508500 N. 1508000 N. 1507500 N. 1507000 N. 1506500 N. 1506000 N. 1505500 N. 1505000 N. 1504500 N. 1504000 N. 1503500

E. 599500 E. 599000 E. 598500 E. 598000 E. 597500 E. 597000 E. 596500 E. 596000 E. 595500

N.W.I.

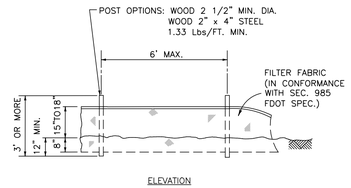
0 200 400

SCALE: 1"=200'

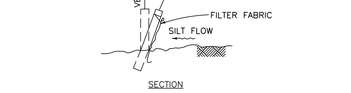
NOTE:

TOPOGRAPHIC SURVEY PERFORMED BY GEOMATIC TECHNOLOGIES, CALIFORNIA.
SURVEY DATE: 07/19/2011
DATUM: NAVD (1988)

TOPOGRAPHIC CONTOUR INTERVAL: 1 FT.



ELEVATION



SECTION

1 TYPE III SILT FENCE DETAIL

NOT TO SCALE

PRELIMINARY SUBJECT TO CHANGE

REVISION	DATE	DESCRIPTION	APPR'D
P1	10/06/2011	ISSUED FOR CLIENT REVIEW	

	NAME	DATE		NAME	DATE
DESIGNED BY	MH	10/06/2011	CHECKED BY	FKC	10/25/2011
DRAWN BY	AZ		CHECKED BY	TSI	
FILE NO.: 10-13-0249			SCALE: AS SHOWN		
APPROVED BY:					

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HORIZONTAL EXPANSION OF COAL COMBUSTION WASTE LANDFILL - CELL 1

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

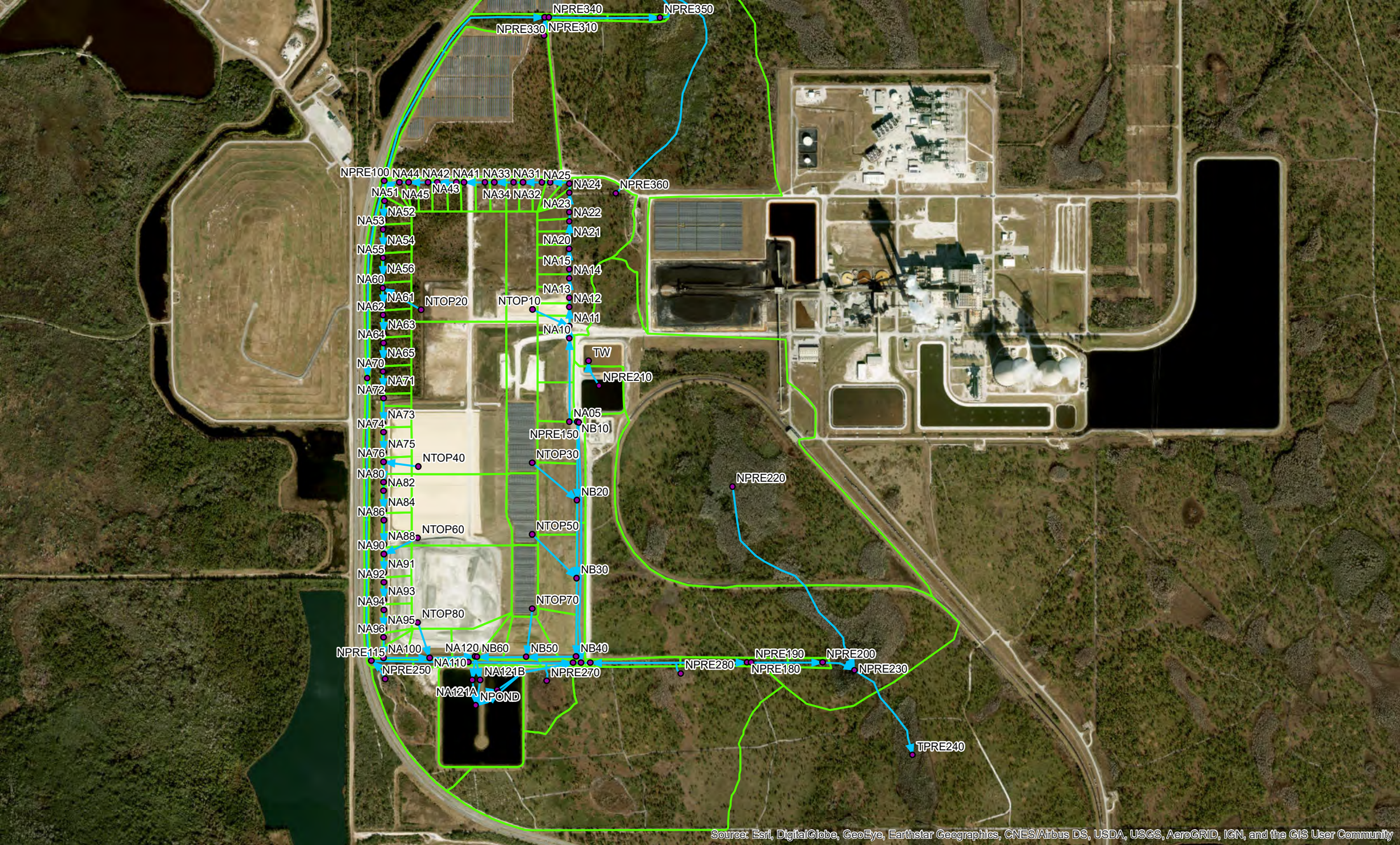
EROSION CONTROL PLAN AND DETAILS

DRAWING NO.

Y:\corporate\10-13-0249\HORIZONTAL EXPANSION OF CWSA - CELL 1\CURRENT SHEET SET\8 EROSION CONTROL PLAN AND DETAILS.dwg 11/03/2011 1:06:20 PM, dmeetzaghoul

Appendix 5

Hydrologic Modeling for Box Culverts West of Cells 1 and 2


NPRE340
NPRE350
NPRE330
NPRE310
NPRE100
NA44
NA42
NA41
NA33
NA31
NA25
NA24
NPRE360
NA51
NA45
NA43
NA34
NA32
NA23
NA52
NA22
NA53
NA21
NA54
NA20
NA55
NA15
NA14
NA56
NA60
NA13
NA61
NTOP20
NTOP10
NA12
NA62
NA11
NA63
NA10
NA64
NA65
TW
NA70
NPRE210
NA71
NA72
NA05
NA73
NB10
NA74
NPRE150
NA75
NA76
NTOP40
NTOP30
NA80
NPRE220
NA82
NB20
NA84
NA86
NTOP60
NTOP50
NA88
NA90
NB30
NA91
NA92
NA93
NA94
NTOP70
NTOP80
NA95
NA96
NPRE115
NA100
NA120
NB60
NB50
NB40
NPRE190
NPRE200
NA110
NPRE280
NPRE180
NPRE230
NPRE250
NA121B
NPRE270
NA121A
NPOND
TPRE240
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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

        Name: A05                    Node: NA05                  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): 6.00
            Area(ac): 3.779                Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: A10                    Node: NA10                  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): 6.00
            Area(ac): 4.853                Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: A100                   Node: NA100                 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): 6.00
            Area(ac): 1.408                Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: A11                    Node: NA11                  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): 6.00
            Area(ac): 1.465                Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: A110                   Node: NA110                 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): 6.00
            Area(ac): 3.471                Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: A12                    Node: NA12                  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): 6.00
            Area(ac): 1.084                Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: A120                   Node: NA120                 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): 6.00
```

Area(ac): 3.489 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A13 Node: NA13 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): 6.00
Area(ac): 1.391 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A14 Node: NA14 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): 6.00
Area(ac): 1.122 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A15 Node: NA15 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): 6.00
Area(ac): 1.420 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A20 Node: NA20 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): 6.00
Area(ac): 1.144 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A21 Node: NA21 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): 6.00
Area(ac): 1.160 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A22 Node: NA22 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): 6.00
Area(ac): 1.025 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A23 Node: NA23 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): 6.00
             Area(ac): 1.047                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A24                     Node: NA24                  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): 6.00
             Area(ac): 0.631                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A25                     Node: NA25                  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): 6.00
             Area(ac): 0.543                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A30                     Node: NA30                  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): 6.00
             Area(ac): 0.911                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A31                     Node: NA31                  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): 6.00
             Area(ac): 0.952                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A32                     Node: NA32                  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): 6.00
             Area(ac): 1.236                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A33                     Node: NA33                  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): 6.00
             Area(ac): 1.196                   Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00
```

```
         Name: A34                     Node: NA34                  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): 6.00
          Area(ac): 1.500                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: A35                     Node: NA35                  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): 6.00
          Area(ac): 1.338                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: A40                     Node: NA40                  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): 6.00
          Area(ac): 1.346                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: A41                     Node: NA41                  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): 6.00
          Area(ac): 1.266                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: A42                     Node: NA42                  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): 6.00
          Area(ac): 1.365                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: A43                     Node: NA43                  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): 6.00
          Area(ac): 1.284                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: A44                     Node: NA44                  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): 6.00
          Area(ac): 0.885                     Time Shift(hrs): 0.00
       Curve Number: 85.00                Max Allowable Q(cfs): 0.000
            DCIA(%): 0.00


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

Name: A45 Node: NA45 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): 6.00
Area(ac): 0.768 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A50 Node: NA50 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): 6.00
Area(ac): 0.779 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A51 Node: NA51 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): 6.00
Area(ac): 0.506 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A52 Node: NA52 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): 6.00
Area(ac): 1.086 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A53 Node: NA53 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): 6.00
Area(ac): 1.126 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A54 Node: NA54 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): 6.00
Area(ac): 1.162 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A55 Node: NA55 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): 6.00
Area(ac): 1.094 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A56 Node: NA56 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): 6.00
Area(ac): 1.254 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A60 Node: NA60 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): 6.00
Area(ac): 1.167 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A61 Node: NA61 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): 6.00
Area(ac): 1.035 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A62 Node: NA62 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): 6.00
Area(ac): 1.002 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A63 Node: NA63 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): 6.00
Area(ac): 1.171 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A64 Node: NA64 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): 6.00
Area(ac): 1.104 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A65 Node: NA65 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): 6.00
Area(ac): 1.157 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A70 Node: NA70 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): 6.00
Area(ac): 1.104 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A71 Node: NA71 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): 6.00
Area(ac): 1.128 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A72 Node: NA72 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): 6.00
Area(ac): 0.995 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A73 Node: NA73 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): 6.00
Area(ac): 1.691 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A74 Node: NA74 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): 6.00
Area(ac): 1.129 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A75 Node: NA75 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): 6.00
Area(ac): 1.293 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A76 Node: NA76 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): 6.00
Area(ac): 1.341 Time Shift(hrs): 0.00

Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A80 Node: NA80 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): 6.00
Area(ac): 0.963 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A82 Node: NA82 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): 6.00
Area(ac): 1.091 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A84 Node: NA84 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): 6.00
Area(ac): 1.058 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A86 Node: NA86 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): 6.00
Area(ac): 1.536 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A88 Node: NA88 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): 6.00
Area(ac): 1.191 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A90 Node: NA90 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): 6.00
Area(ac): 1.181 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A91 Node: NA91 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): 6.00
Area(ac): 1.209 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A92 Node: NA92 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): 6.00
Area(ac): 1.115 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A93 Node: NA93 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): 6.00
Area(ac): 1.036 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A94 Node: NA94 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): 6.00
Area(ac): 1.071 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A95 Node: NA95 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): 6.00
Area(ac): 1.086 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: A96 Node: NA96 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): 6.00
Area(ac): 0.627 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B10 Node: NB10 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): 6.00
Area(ac): 4.469 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B20 Node: NB20 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): 6.00
Area(ac): 7.594 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B30 Node: NB30 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): 6.00
Area(ac): 8.035 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B40 Node: NB40 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): 6.00
Area(ac): 3.837 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B50 Node: NB50 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): 6.00
Area(ac): 4.685 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: B60 Node: NB60 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): 6.00
Area(ac): 1.819 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: POND Node: NPOND 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): 6.00
Area(ac): 23.146 Time Shift(hrs): 0.00
Curve Number: 98.97 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE100 Node: NPRE100 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): 6.00
Area(ac): 1.592 Time Shift(hrs): 0.00
Curve Number: 99.79 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE105 Node: NPRE105 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): 6.00
Area(ac): 3.216 Time Shift(hrs): 0.00
Curve Number: 100.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE115 Node: NPRE115 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): 6.00
Area(ac): 2.717 Time Shift(hrs): 0.00
Curve Number: 100.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE120 Node: NPRE120 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): 6.00
Area(ac): 1.054 Time Shift(hrs): 0.00
Curve Number: 98.93 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE130 Node: NPRE130 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): 6.00
Area(ac): 1.320 Time Shift(hrs): 0.00
Curve Number: 99.69 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE140 Node: NPRE140 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): 6.00
Area(ac): 0.692 Time Shift(hrs): 0.00
Curve Number: 99.99 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE150 Node: NPRE150 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): 6.00
Area(ac): 2.544 Time Shift(hrs): 0.00
Curve Number: 98.46 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE160 Node: NPRE160 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): 6.00
Area(ac): 3.337 Time Shift(hrs): 0.00
Curve Number: 99.72 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE170 Node: NPRE170 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): 6.00
Area(ac): 2.085 Time Shift(hrs): 0.00
Curve Number: 95.42 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE180 Node: NPRE180 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): 6.00
Area(ac): 1.603 Time Shift(hrs): 0.00
Curve Number: 95.93 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE190 Node: NPRE190 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): 6.00
Area(ac): 0.900 Time Shift(hrs): 0.00
Curve Number: 94.51 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE200 Node: NPRE200 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): 6.00
Area(ac): 1.061 Time Shift(hrs): 0.00
Curve Number: 92.30 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE210 Node: NPRE210 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): 6.00
Area(ac): 6.400 Time Shift(hrs): 0.00
Curve Number: 92.70 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE220 Node: NPRE220 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): 43.00
Area(ac): 155.691 Time Shift(hrs): 0.00
Curve Number: 85.88 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE230 Node: NPRE230 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): 97.00
Area(ac): 101.886 Time Shift(hrs): 0.00
Curve Number: 84.17 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

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--------------------------------------------------------------------------------------------------
        Name: PRE250                  Node: NPRE250               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): 31.10
            Area(ac): 15.061             Time Shift(hrs): 0.00
        Curve Number: 85.85           Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE270                  Node: NPRE270               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): 28.66
            Area(ac): 7.873              Time Shift(hrs): 0.00
        Curve Number: 84.36           Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE280                  Node: NPRE280               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): 107.00
            Area(ac): 99.663             Time Shift(hrs): 0.00
        Curve Number: 80.85           Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE300                  Node: NPRE300               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): 6.00
            Area(ac): 2.438              Time Shift(hrs): 0.00
        Curve Number: 97.31           Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE310                  Node: NPRE310               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): 83.00
            Area(ac): 53.635             Time Shift(hrs): 0.00
        Curve Number: 78.73           Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE330                  Node: NPRE330               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): 6.00
            Area(ac): 4.289              Time Shift(hrs): 0.00
        Curve Number: 86.92           Max Allowable Q(cfs): 0.000
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
        Name: PRE340                  Node: NPRE340               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): 6.00
            Area(ac): 1.005              Time Shift(hrs): 0.00
        Curve Number: 99.76           Max Allowable Q(cfs): 0.000
```

DCIA(%): 0.00

Name: PRE350 Node: NPRE350 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): 6.00
Area(ac): 1.126 Time Shift(hrs): 0.00
Curve Number: 100.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE360 Node: NPRE360 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): 31.00
Area(ac): 17.909 Time Shift(hrs): 0.00
Curve Number: 78.69 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: PRE370 Node: NPRE370 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): 62.00
Area(ac): 165.543 Time Shift(hrs): 0.00
Curve Number: 85.01 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP10 Node: NTOP10 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): 24.00
Area(ac): 9.292 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP20 Node: NTOP20 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): 33.00
Area(ac): 28.334 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP30 Node: NTOP30 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): 34.00
Area(ac): 12.769 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP40 Node: NTOP40 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): 42.00

Area(ac): 39.106 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP50 Node: NTOP50 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): 16.00
Area(ac): 5.768 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP60 Node: NTOP60 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): 26.00
Area(ac): 18.674 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP70 Node: NTOP70 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): 16.00
Area(ac): 5.055 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

Name: TOP80 Node: NTOP80 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): 29.00
Area(ac): 21.772 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

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

Name: NA05 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA10 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA100 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft) Area(ac)

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-------------------------------------------------------------------------------------------
      Name: NA11               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NA110              Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NA12               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NA120              Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NA121A             Base Flow(cfs): 0.000          Init Stage(ft): 81.500
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
-------------- ---------------
         76.000          0.0010
         93.000          0.0010

-------------------------------------------------------------------------------------------
      Name: NA121B             Base Flow(cfs): 0.000          Init Stage(ft): 81.500
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
-------------- ---------------
         76.000          0.0010
         93.000          0.0010

-------------------------------------------------------------------------------------------
      Name: NA13               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NA14               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
      Type: Stage/Area


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

-------------------------------------------------------------------------------------------
      Name: NA15               Base Flow(cfs): 0.000          Init Stage(ft): 85.000
     Group: BASE                                             Warn Stage(ft): 93.000
```

Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA20 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA21 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA22 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA23 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA24 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA25 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA30 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA31 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA32 Base Flow(cfs): 0.000 Init Stage(ft): 85.000

Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA33 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA34 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA35 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA40 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA41 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA42 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA43 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA44 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA45 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA50 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA51 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA52 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA53 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA54 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA55 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA56 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA60 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA61 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA62 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA63 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA64 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA65 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA70 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA71 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA72 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA73 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA74 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA75 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA76 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA80 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA82 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA84 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA86 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA88 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA90 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

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Name: NA91 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA92 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA93 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA94 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA95 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA96 Base Flow(cfs): 0.000 Init Stage(ft): 85.000
Group: BASE Warn Stage(ft): 93.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NB10 Base Flow(cfs): 0.000 Init Stage(ft): 90.000
Group: BASE Warn Stage(ft): 95.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NB20 Base Flow(cfs): 0.000 Init Stage(ft): 90.000
Group: BASE Warn Stage(ft): 95.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NB30 Base Flow(cfs): 0.000 Init Stage(ft): 90.000
Group: BASE Warn Stage(ft): 95.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NB40 Base Flow(cfs): 0.000 Init Stage(ft): 90.000
Group: BASE Warn Stage(ft): 95.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NB50 Base Flow(cfs): 0.000 Init Stage(ft): 90.000
Group: BASE Warn Stage(ft): 95.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NB60 Base Flow(cfs): 0.000 Init Stage(ft): 90.000
Group: BASE Warn Stage(ft): 95.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPOND Base Flow(cfs): 0.000 Init Stage(ft): 81.500
Group: BASE Warn Stage(ft): 88.000
Type: Stage/Area

Stage(ft)	Area(ac)
69.500	15.5800
81.500	20.0000
88.000	22.4700

Name: NPRE100 Base Flow(cfs): 0.000 Init Stage(ft): 78.870
Group: BASE Warn Stage(ft): 85.600
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE105 Base Flow(cfs): 0.000 Init Stage(ft): 81.500
Group: BASE Warn Stage(ft): 85.800
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE115 Base Flow(cfs): 0.000 Init Stage(ft): 80.650
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE120 Base Flow(cfs): 0.000 Init Stage(ft): 80.800
Group: BASE Warn Stage(ft): 85.700
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE130 Base Flow(cfs): 0.000 Init Stage(ft): 80.100
Group: BASE Warn Stage(ft): 87.100

Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE140 Base Flow(cfs): 0.000 Init Stage(ft): 77.830
Group: BASE Warn Stage(ft): 85.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE150 Base Flow(cfs): 0.000 Init Stage(ft): 82.600
Group: BASE Warn Stage(ft): 87.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE160 Base Flow(cfs): 0.000 Init Stage(ft): 77.050
Group: BASE Warn Stage(ft): 84.300
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE170 Base Flow(cfs): 0.000 Init Stage(ft): 77.440
Group: BASE Warn Stage(ft): 83.900
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE180 Base Flow(cfs): 0.000 Init Stage(ft): 75.800
Group: BASE Warn Stage(ft): 80.200
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE190 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 79.900
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE200 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 77.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE210 Base Flow(cfs): 0.000 Init Stage(ft): 78.500
Group: BASE Warn Stage(ft): 84.000
Type: Stage/Area

Stage(ft)	Area(ac)
78.480	0.0100
81.580	3.9900
82.000	4.4000

83.000	4.5400
83.500	4.8000
84.000	4.8000

Name: NPRE220 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
75.390	0.0100
76.000	5.2300
77.000	27.9300
78.000	64.2400
79.000	83.2400
80.000	107.7800
81.000	120.5900
82.000	129.3000
83.000	135.4500
84.000	141.7500
85.000	146.0900
86.000	149.3000
87.000	152.0600
88.000	154.5500
89.000	155.6900
90.000	155.7400
91.000	155.7800
92.000	155.8300
93.000	155.8300

Name: NPRE230 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 77.000
Type: Stage/Area

Stage(ft)	Area(ac)
74.170	0.0100
75.000	0.4300
76.000	7.4400
77.000	19.2000
78.000	33.0400
79.000	45.3200
80.000	50.1900
81.000	58.2600
82.000	72.6300
83.000	81.0700
84.000	89.3200
85.000	92.5900
86.000	95.0100
87.000	98.9700
88.000	101.3000
89.000	101.8600
90.000	101.8800
90.510	101.8800

Name: NPRE250 Base Flow(cfs): 0.000 Init Stage(ft): 86.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
86.000	1.2000
87.000	4.7700
88.000	7.7000
89.000	12.3800
90.000	13.7300
90.970	15.0700

Name: NPRE270 Base Flow(cfs): 0.000 Init Stage(ft): 84.800
Group: BASE Warn Stage(ft): 84.800
Type: Stage/Area

Stage(ft)	Area(ac)
84.310	0.0100
85.000	5.6300
86.000	7.1400

87.000	7.8700
88.000	7.8700
89.000	7.8700
90.000	7.8800
91.000	7.8800
92.000	7.8800

Name: NPRE280 Base Flow(cfs): 0.000 Init Stage(ft): 81.400
Group: BASE Warn Stage(ft): 81.400
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0100
81.000	1.8700
82.000	17.8300
83.000	43.9300
84.000	72.9400
85.000	81.6900
86.000	84.5200
87.000	86.9800
88.000	89.0600
89.000	91.7900
90.000	94.6900
90.990	99.7300

Name: NPRE300 Base Flow(cfs): 0.000 Init Stage(ft): 78.810
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE310 Base Flow(cfs): 0.000 Init Stage(ft): 76.590
Group: BASE Warn Stage(ft): 80.900
Type: Stage/Area

Stage(ft)	Area(ac)
76.400	0.0100
77.660	0.0100
78.000	0.0200
79.000	1.2600
80.000	7.4200
81.000	17.3800
82.000	32.7500
83.000	49.2400
84.000	51.3700
85.000	51.8600
86.000	52.3000
87.000	52.6400
88.000	53.0000
89.000	53.4000
90.000	53.6200
91.000	53.6300
92.000	53.6300
93.000	53.6300
94.000	53.6300
94.950	53.6500

Name: NPRE330 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 80.900
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE340 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 79.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE350 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 77.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NPRE360 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 79.600
Type: Stage/Area

Stage(ft)	Area(ac)
75.980	0.0100
77.000	0.0100
78.000	0.1000
79.000	1.0700
80.000	2.8800
81.000	7.0500
82.000	8.9700
83.000	10.6900
84.000	12.3200
85.000	14.5500
86.000	17.3000
87.000	17.5700
88.000	17.7100
89.000	17.7800
90.000	17.8600
91.000	17.9000
92.000	17.9500

Name: NPRE370 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 78.000
Type: Stage/Area

Stage(ft)	Area(ac)
72.000	0.0100
73.000	1.1800
74.000	40.2600
75.000	74.6600
76.000	93.7200
77.000	110.8100
78.000	127.3600
79.000	139.3900
80.000	147.1500
81.000	153.3400
82.000	158.3600
83.000	160.0300
84.000	160.6200
85.000	160.6800
86.000	160.7200
87.000	160.7400
88.000	160.7400
89.000	160.7400
90.000	160.7400

Name: NTOP10 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	1.7200
171.000	3.9700
172.000	5.2100
173.000	6.5300
174.000	7.8900
175.000	9.3000

Name: NTOP20 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	5.2500
171.000	12.1000
172.000	15.8900
173.000	19.9000
174.000	24.0500
175.000	28.3500

Name: NTOP30 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	2.3600
171.000	5.4500
172.000	7.1600
173.000	8.9700
174.000	10.8400
175.000	12.7800

Name: NTOP40 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	7.2400
171.000	16.7000
172.000	21.9300
173.000	27.4600
174.000	33.2000
175.000	39.1300

Name: NTOP50 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	0.7100
171.000	1.7300
172.000	2.4700
173.000	3.1500
174.000	3.8500
175.000	4.5700

Name: NTOP60 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	3.4600
171.000	7.9700
172.000	10.4700
173.000	13.1100
174.000	15.8500
175.000	18.6900

Name: NTOP70 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000

170.000	0.7200
171.000	1.6600
172.000	2.1800
173.000	2.7300
174.000	3.3000
175.000	3.8900

Name: NTOP80 Base Flow(cfs): 0.000 Init Stage(ft): 169.100
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
169.000	0.1000
170.000	4.0300
171.000	9.3000
172.000	12.2100
173.000	15.2900
174.000	18.4800
175.000	21.7900

Name: OUTBOXA Base Flow(cfs): 0.000 Init Stage(ft): 80.000
Group: BASE Warn Stage(ft): 88.000
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0010
88.000	0.0010

Name: OUTBOXB Base Flow(cfs): 0.000 Init Stage(ft): 80.000
Group: BASE Warn Stage(ft): 88.000
Type: Stage/Area

Stage(ft)	Area(ac)
80.000	0.0010
88.000	0.0010

Name: TPRE240 Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 77.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	77.000
999.00	77.000

Name: TPRE380 Base Flow(cfs): 0.000 Init Stage(ft): 76.000
Group: BASE Warn Stage(ft): 76.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	76.000
999.00	76.000

Name: TW Base Flow(cfs): 0.000 Init Stage(ft): 71.000
Group: BASE Warn Stage(ft): 71.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	71.000
999.00	71.000

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Pipes

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Name: OUTPIPEA From Node: OUTBOXA Length(ft): 60.00

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       Group: BASE                To Node: NPRE140              Count: 1
                                                      Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM              Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 32.57          32.57                   Entrance Loss Coef: 0.50
    Rise(in): 32.57          32.57                       Exit Loss Coef: 1.00
   Invert(ft): 80.000        80.000                      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 dn
 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


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        Name: OUTPIPEB           From Node: OUTBOXB          Length(ft): 60.00
       Group: BASE                To Node: NPRE140              Count: 1
                                                      Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM              Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 32.57          32.57                   Entrance Loss Coef: 0.50
    Rise(in): 32.57          32.57                       Exit Loss Coef: 1.00
   Invert(ft): 80.000        80.000                      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 dn
 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


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        Name: RA10               From Node: NA10             Length(ft): 100.00
       Group: BASE                To Node: NA11                 Count: 1
                                                      Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM              Solution Algorithm: Most Restrictive
    Geometry: Rectangular    Rectangular                       Flow: Both
    Span(in): 120.00         120.00                  Entrance Loss Coef: 0.50
    Rise(in): 96.00          96.00                       Exit Loss Coef: 1.00
   Invert(ft): 85.000        85.000                      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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares


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        Name: RA12               From Node: NA12             Length(ft): 100.00
       Group: BASE                To Node: NA13                 Count: 1
                                                      Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM              Solution Algorithm: Most Restrictive
    Geometry: Rectangular    Rectangular                       Flow: Both
    Span(in): 120.00         120.00                  Entrance Loss Coef: 0.50
    Rise(in): 96.00          96.00                       Exit Loss Coef: 1.00
   Invert(ft): 85.000        85.000                      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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares
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        Name: RA121A             From Node: NA121A            Length(ft): 165.00
       Group: BASE                 To Node: NPOND                 Count: 1
                                                       Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 32.57          32.57                  Entrance Loss Coef: 0.50
    Rise(in): 32.57          32.57                      Exit Loss Coef: 1.00
   Invert(ft): 75.500        75.500                     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 dn
 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


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        Name: RA121B             From Node: NA121B            Length(ft): 165.00
       Group: BASE                 To Node: NPOND                 Count: 1
                                                       Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 32.57          32.57                  Entrance Loss Coef: 0.50
    Rise(in): 32.57          32.57                      Exit Loss Coef: 1.00
   Invert(ft): 75.500        75.500                     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 dn
 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


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        Name: RA14               From Node: NA14              Length(ft): 100.00
       Group: BASE                 To Node: NA15                  Count: 1
                                                       Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
    Geometry: Rectangular    Rectangular                       Flow: Both
    Span(in): 120.00         120.00                 Entrance Loss Coef: 0.50
    Rise(in): 96.00          96.00                      Exit Loss Coef: 1.00
   Invert(ft): 85.000        85.000                     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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares


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        Name: RA20               From Node: NA20              Length(ft): 100.00
       Group: BASE                 To Node: NA21                  Count: 1
                                                       Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
    Geometry: Rectangular    Rectangular                       Flow: Both
    Span(in): 120.00         120.00                 Entrance Loss Coef: 0.50
    Rise(in): 96.00          96.00                      Exit Loss Coef: 1.00
   Invert(ft): 85.000        85.000                     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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
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Rectangular Box: 30° to 75° wingwall flares

Name:	RA22	From Node: NA22	Length(ft): 100.00
Group:	BASE	To Node: NA23	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular	Flow: Both
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA24	From Node: NA24	Length(ft): 100.00
Group:	BASE	To Node: NA25	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular	Flow: Both
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA50	From Node: NA50	Length(ft): 100.00
Group:	BASE	To Node: NA51	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular	Flow: Both
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA52	From Node: NA52	Length(ft): 100.00
Group:	BASE	To Node: NA53	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular	Flow: Both
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:

Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name: RA54		From Node: NA54	Length(ft): 100.00	
Group: BASE		To Node: NA55	Count: 1	
			Friction Equation: Automatic	
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive	
Geometry:	Rectangular	Rectangular	Flow: Both	
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50	
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00	
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name: RA56		From Node: NA56	Length(ft): 100.00	
Group: BASE		To Node: NA60	Count: 1	
			Friction Equation: Automatic	
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive	
Geometry:	Rectangular	Rectangular	Flow: Both	
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50	
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00	
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name: RA61		From Node: NA61	Length(ft): 100.00	
Group: BASE		To Node: NA62	Count: 1	
			Friction Equation: Automatic	
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive	
Geometry:	Rectangular	Rectangular	Flow: Both	
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50	
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00	
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name: RA63		From Node: NA63	Length(ft): 100.00	
Group: BASE		To Node: NA64	Count: 1	
			Friction Equation: Automatic	
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive	
Geometry:	Rectangular	Rectangular	Flow: Both	
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50	
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00	
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA65	From Node:	NA65	Length(ft): 100.00
Group:	BASE	To Node:	NA70	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular		Flow: Both
Span(in):	120.00	120.00		Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00		Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000		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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA71	From Node:	NA71	Length(ft): 100.00
Group:	BASE	To Node:	NA72	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular		Flow: Both
Span(in):	120.00	120.00		Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00		Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000		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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA73	From Node:	NA73	Length(ft): 100.00
Group:	BASE	To Node:	NA74	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular		Flow: Both
Span(in):	120.00	120.00		Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00		Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000		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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA75	From Node:	NA75	Length(ft): 100.00
Group:	BASE	To Node:	NA76	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular		Flow: Both
Span(in):	120.00	120.00		Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00		Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000		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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA80	From Node: NA80	Length(ft):	100.00
Group:	BASE	To Node: NA82	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Most Restrictive
Geometry:	Rectangular	Rectangular	Flow:	Both
Span(in):	120.00	120.00	Entrance Loss Coef:	0.50
Rise(in):	96.00	96.00	Exit Loss Coef:	1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA84	From Node: NA84	Length(ft):	100.00
Group:	BASE	To Node: NA86	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Most Restrictive
Geometry:	Rectangular	Rectangular	Flow:	Both
Span(in):	120.00	120.00	Entrance Loss Coef:	0.50
Rise(in):	96.00	96.00	Exit Loss Coef:	1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA88	From Node: NA88	Length(ft):	100.00
Group:	BASE	To Node: NA90	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Most Restrictive
Geometry:	Rectangular	Rectangular	Flow:	Both
Span(in):	120.00	120.00	Entrance Loss Coef:	0.50
Rise(in):	96.00	96.00	Exit Loss Coef:	1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA91	From Node: NA91	Length(ft):	100.00
Group:	BASE	To Node: NA92	Count:	1
			Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Most Restrictive
Geometry:	Rectangular	Rectangular	Flow:	Both
Span(in):	120.00	120.00	Entrance Loss Coef:	0.50

Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA93	From Node: NA93	Length(ft): 100.00
Group:	BASE	To Node: NA94	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular	Flow: Both
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RA95	From Node: NA95	Length(ft): 100.00
Group:	BASE	To Node: NA96	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Most Restrictive
Geometry:	Rectangular	Rectangular	Flow: Both
Span(in):	120.00	120.00	Entrance Loss Coef: 0.50
Rise(in):	96.00	96.00	Exit Loss Coef: 1.00
Invert(ft):	85.000	85.000	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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RPRE100A	From Node: NPRE100	Length(ft): 75.00
Group:	BASE	To Node: NPRE300	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):	78.970	78.970	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 dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Name:	RPRE120	From Node: NPRE120	Length(ft): 42.00
Group:	BASE	To Node: NPRE130	Count: 1
			Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Most Restrictive
Span(in):	18.00	18.00	Flow:	Both
Rise(in):	18.00	18.00	Entrance Loss Coef:	0.50
Invert(ft):	80.910	80.910	Exit Loss Coef:	1.00
Manning's N:	0.012000	0.012000	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Name:	RPRE140	From Node:	NPRE140	Length(ft):	50.00
Group:	BASE	To Node:	NPRE160	Count:	2
				Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM			
Geometry:	Circular	Circular	Solution Algorithm:		Most Restrictive
Span(in):	36.00	36.00	Flow:		Both
Rise(in):	36.00	36.00	Entrance Loss Coef:		0.90
Invert(ft):	78.520	78.520	Exit Loss Coef:		1.00
Manning's N:	0.024000	0.024000	Bend Loss Coef:		0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:		Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:		Use dn
			Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Name:	RPRE160	From Node:	NPRE160	Length(ft):	40.00
Group:	BASE	To Node:	NPRE170	Count:	2
				Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM			
Geometry:	Circular	Circular	Solution Algorithm:		Most Restrictive
Span(in):	36.00	36.00	Flow:		Both
Rise(in):	36.00	36.00	Entrance Loss Coef:		0.90
Invert(ft):	77.220	77.220	Exit Loss Coef:		1.00
Manning's N:	0.024000	0.024000	Bend Loss Coef:		0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:		Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:		Use dn
			Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Name:	RPRE180	From Node:	NPRE180	Length(ft):	16.00
Group:	BASE	To Node:	NPRE190	Count:	1
				Friction Equation:	Automatic
	UPSTREAM	DOWNSTREAM			
Geometry:	Circular	Circular	Solution Algorithm:		Most Restrictive
Span(in):	24.00	24.00	Flow:		Both
Rise(in):	24.00	24.00	Entrance Loss Coef:		0.50
Invert(ft):	75.770	75.770	Exit Loss Coef:		1.00
Manning's N:	0.012000	0.012000	Bend Loss Coef:		0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:		Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:		Use dn
			Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

```
        Name: RPRE210             From Node: NPRE210           Length(ft): 4230.00
       Group: BASE                  To Node: TW                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 24.00          24.00                      Entrance Loss Coef: 0.50
    Rise(in): 24.00          24.00                          Exit Loss Coef: 1.00
   Invert(ft): 78.500        71.000                         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


-------------------------------------------------------------------------------------------------
        Name: RPRE220             From Node: NPRE220           Length(ft): 80.00
       Group: BASE                  To Node: NPRE230               Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
    Geometry: Rectangular    Rectangular                       Flow: Both
    Span(in): 360.00         360.00                     Entrance Loss Coef: 0.50
    Rise(in): 60.00          60.00                          Exit Loss Coef: 1.00
   Invert(ft): 76.000        76.000                         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:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares


-------------------------------------------------------------------------------------------------
        Name: RPRE310             From Node: NPRE310           Length(ft): 80.00
       Group: BASE                  To Node: NPRE330               Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 24.00          24.00                      Entrance Loss Coef: 0.90
    Rise(in): 24.00          24.00                          Exit Loss Coef: 1.00
   Invert(ft): 76.590        76.590                         Bend Loss Coef: 0.00
  Manning's N: 0.024000      0.024000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000         0.000                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000         0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting


-------------------------------------------------------------------------------------------------
        Name: RPRE330             From Node: NPRE330           Length(ft): 25.00
       Group: BASE                  To Node: NPRE340               Count: 2
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 36.00          36.00                      Entrance Loss Coef: 0.90
    Rise(in): 36.00          36.00                          Exit Loss Coef: 1.00
   Invert(ft): 74.780        74.780                         Bend Loss Coef: 0.00
  Manning's N: 0.024000      0.024000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000         0.000                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000         0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting
```

Name:	RPRE360	From Node:	NPRE360
Group:	BASE	To Node:	NPRE370
	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	
Span(in):	24.00	24.00	
Rise(in):	24.00	24.00	
Invert(ft):	75.980	75.980	
Manning's N:	0.012000	0.012000	
Top Clip(in):	0.000	0.000	
Bot Clip(in):	0.000	0.000	

Length(ft):	55.00
Count:	3
Friction Equation:	Automatic
Solution Algorithm:	Most Restrictive
Flow:	Both
Entrance Loss Coef:	0.50
Exit Loss Coef:	1.00
Bend Loss Coef:	0.00
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dn
Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Name:	RPRE370	From Node:	NPRE370
Group:	BASE	To Node:	TPRE380
	UPSTREAM	DOWNSTREAM	
Geometry:	Rectangular	Rectangular	
Span(in):	96.00	96.00	
Rise(in):	36.00	36.00	
Invert(ft):	74.250	74.250	
Manning's N:	0.012000	0.012000	
Top Clip(in):	0.000	0.000	
Bot Clip(in):	0.000	0.000	

Length(ft):	120.00
Count:	3
Friction Equation:	Automatic
Solution Algorithm:	Most Restrictive
Flow:	Both
Entrance Loss Coef:	0.50
Exit Loss Coef:	1.00
Bend Loss Coef:	0.00
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dc
Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Downstream FHWA Inlet Edge Description:
Rectangular Box: 30° to 75° wingwall flares

Name:	RTOP10	From Node:	NTOP10
Group:	BASE	To Node:	NA11
	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	
Span(in):	36.00	36.00	
Rise(in):	36.00	36.00	
Invert(ft):	169.100	168.000	
Manning's N:	0.010000	0.010000	
Top Clip(in):	0.000	0.000	
Bot Clip(in):	0.000	0.000	

Length(ft):	50.00
Count:	1
Friction Equation:	Automatic
Solution Algorithm:	Most Restrictive
Flow:	Both
Entrance Loss Coef:	0.50
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dc
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

Name:	RTOP20	From Node:	NTOP20
Group:	BASE	To Node:	NA60
	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	
Span(in):	36.00	36.00	
Rise(in):	36.00	36.00	
Invert(ft):	169.100	168.000	
Manning's N:	0.010000	0.010000	
Top Clip(in):	0.000	0.000	
Bot Clip(in):	0.000	0.000	

Length(ft):	50.00
Count:	1
Friction Equation:	Automatic
Solution Algorithm:	Most Restrictive
Flow:	Both
Entrance Loss Coef:	0.50
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dc
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

Name:	RTOP30	From Node:	NTOP30	Length(ft): 50.00
Group:	BASE	To Node:	NB20	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: 0.00
Invert(ft):	169.100	168.000		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

Name:	RTOP40	From Node:	NTOP40	Length(ft): 50.00
Group:	BASE	To Node:	NA76	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: 0.00
Invert(ft):	169.100	168.000		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

Name:	RTOP50	From Node:	NTOP50	Length(ft): 50.00
Group:	BASE	To Node:	NB30	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: 0.00
Invert(ft):	169.100	168.000		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

Name:	RTOP60	From Node:	NTOP60	Length(ft): 50.00
Group:	BASE	To Node:	NA90	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: 0.00
Invert(ft):	169.100	168.000		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

```
         Name: RTOP70              From Node: NTOP70            Length(ft): 50.00
        Group: BASE                  To Node: NB50                 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: 0.00
   Invert(ft): 169.100        168.000                       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

```
         Name: RTOP80              From Node: NTOP80            Length(ft): 50.00
        Group: BASE                  To Node: NA110                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: 0.00
   Invert(ft): 169.100        168.000                       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

==========
==== Channels ==========
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```
          Name: RA05               From Node: NA05              Length(ft): 908.00
         Group: BASE                 To Node: NA10                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000        85.000                          Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                  Contraction Coef: 0.000
   Manning's N: 0.035000      0.035000                    Expansion Coef: 0.000
  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 dn
     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
```

```
          Name: RA100              From Node: NA100             Length(ft): 500.00
         Group: BASE                 To Node: NA110                  Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000        85.000                          Flow: Both
 TClpInitZ(ft): 9999.000      9999.000                  Contraction Coef: 0.000
```

Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA11	From Node: NA11	Length(ft):	224.00
Group:	BASE	To Node: NA12	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA110	From Node: NA110	Length(ft):	500.00
Group:	BASE	To Node: NA120	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA13	From Node: NA13	Length(ft):	210.00
Group:	BASE	To Node: NA14	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

```
         Name: RA15               From Node: NA15              Length(ft): 223.00
        Group: BASE                 To Node: NA20                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 85.000         85.000                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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


-------------------------------------------------------------------------------------------------
         Name: RA21               From Node: NA21              Length(ft): 210.00
        Group: BASE                 To Node: NA22                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 85.000         85.000                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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


-------------------------------------------------------------------------------------------------
         Name: RA23               From Node: NA23              Length(ft): 210.00
        Group: BASE                 To Node: NA24                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 85.000         85.000                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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


-------------------------------------------------------------------------------------------------
         Name: RA25               From Node: NA25              Length(ft): 221.00
        Group: BASE                 To Node: NA30                   Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
   Invert(ft): 85.000         85.000                                 Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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

Name:	RA30	From Node: NA30	Length(ft):	100.00
Group:	BASE	To Node: NA31	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RA31	From Node: NA31	Length(ft):	210.00
Group:	BASE	To Node: NA32	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RA32	From Node: NA32	Length(ft):	100.00
Group:	BASE	To Node: NA33	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RA33	From Node: NA33	Length(ft):	210.00
Group:	BASE	To Node: NA34	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
			Exit Loss Coef:	0.000

Main XSec:			Outlet Ctrl Spec:	Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec:	Use dn
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		

Name:	RA34	From Node: NA34	Length(ft):	100.00
Group:	BASE	To Node: NA35	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA35	From Node: NA35	Length(ft):	210.00
Group:	BASE	To Node: NA40	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA40	From Node: NA40	Length(ft):	100.00
Group:	BASE	To Node: NA41	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA41	From Node: NA41	Length(ft):	210.00
Group:	BASE	To Node: NA42	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RA42 From Node: NA42 Length(ft): 100.00
Group: BASE To Node: NA43 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RA43 From Node: NA43 Length(ft): 210.00
Group: BASE To Node: NA44 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RA44 From Node: NA44 Length(ft): 100.00
Group: BASE To Node: NA45 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

```
          Name: RA45                From Node: NA45               Length(ft): 220.00
         Group: BASE                  To Node: NA50                    Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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
```

```
          Name: RA51                From Node: NA51               Length(ft): 210.00
         Group: BASE                  To Node: NA52                    Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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
```

```
          Name: RA53                From Node: NA53               Length(ft): 210.00
         Group: BASE                  To Node: NA54                    Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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
```

```
          Name: RA55                From Node: NA55               Length(ft): 225.00
         Group: BASE                  To Node: NA56                    Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 85.000         85.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000       0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA60                From Node: NA60               Length(ft): 195.00
         Group: BASE                  To Node: NA61                    Count: 1

                UPSTREAM        DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal     Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000          85.000                               Flow: Both
 TClpInitZ(ft): 9999.000        9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000        0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA62                From Node: NA62               Length(ft): 200.00
         Group: BASE                  To Node: NA63                    Count: 1

                UPSTREAM        DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal     Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000          85.000                               Flow: Both
 TClpInitZ(ft): 9999.000        9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000        0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA64                From Node: NA64               Length(ft): 202.00
         Group: BASE                  To Node: NA65                    Count: 1

                UPSTREAM        DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal     Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000          85.000                               Flow: Both
 TClpInitZ(ft): 9999.000        9999.000                   Contraction Coef: 0.000
   Manning's N: 0.035000        0.035000                     Expansion Coef: 0.000
  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 dn
     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


-------------------------------------------------------------------------------------------------
          Name: RA70                From Node: NA70               Length(ft): 194.00
         Group: BASE                  To Node: NA71                    Count: 1

                UPSTREAM        DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal     Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 85.000          85.000                               Flow: Both
```

TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA72	From Node: NA72	Length(ft):	271.00
Group:	BASE	To Node: NA73	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA74	From Node: NA74	Length(ft):	217.00
Group:	BASE	To Node: NA75	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name:	RA76	From Node: NA76	Length(ft):	223.00
Group:	BASE	To Node: NA80	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm:	Automatic
Invert(ft):	85.000	85.000	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.000
Manning's N:	0.035000	0.035000	Expansion Coef:	0.000
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 dn
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		

Name: RA82 From Node: NA82 Length(ft): 215.00
Group: BASE To Node: NA84 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RA86 From Node: NA86 Length(ft): 266.00
Group: BASE To Node: NA88 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RA90 From Node: NA90 Length(ft): 209.00
Group: BASE To Node: NA91 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RA92 From Node: NA92 Length(ft): 202.00
Group: BASE To Node: NA93 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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

Name:	RA94	From Node: NA94	Length(ft):	186.00
Group:	BASE	To Node: NA95	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RA96	From Node: NA96	Length(ft):	221.00
Group:	BASE	To Node: NA100	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	85.000	85.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RB10	From Node: NB10	Length(ft):	850.00
Group:	BASE	To Node: NB20	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	90.000	90.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	1.50	1.50		
RtSdSlp(h/v):	1.50	1.50		

Name:	RB20	From Node: NB20	Length(ft):	850.00
Group:	BASE	To Node: NB30	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	90.000	90.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	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 dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(ft):				
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	1.50	1.50		
RtSdSlp(h/v):	1.50	1.50		

Name:	RB30	From Node: NB30	Length(ft):	850.00
Group:	BASE	To Node: NB40	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	90.000	90.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	1.50	1.50		
RtSdSlp(h/v):	1.50	1.50		

Name:	RB40	From Node: NB40	Length(ft):	540.00
Group:	BASE	To Node: NB50	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	90.000	90.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	1.50	1.50		
RtSdSlp(h/v):	1.50	1.50		

Name:	RB50	From Node: NB50	Length(ft):	552.00
Group:	BASE	To Node: NB60	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	90.000	90.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	1.50	1.50		
RtSdSlp(h/v):	1.50	1.50		

Name:	RPRE100	From Node: NPRE100	Length(ft):	2161.00
Group:	BASE	To Node: NPRE105	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	78.870	81.500	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RPRE105	From Node:	NPRE105	Length(ft):	3076.00
Group:	BASE	To Node:	NPRE115	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	81.500	80.650	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RPRE115	From Node:	NPRE115	Length(ft):	935.00
Group:	BASE	To Node:	NPRE120	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	80.650	80.800	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
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		

Name:	RPRE130	From Node:	NPRE130	Length(ft):	1134.00
Group:	BASE	To Node:	NPRE140	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	80.100	77.830	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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

Name: RPRE150 From Node: NPRE150 Length(ft): 2615.00
Group: BASE To Node: NPRE160 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	82.600	77.050	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RPRE170 From Node: NPRE170 Length(ft): 1705.00
Group: BASE To Node: NPRE180 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	77.440	75.600	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RPRE190 From Node: NPRE190 Length(ft): 774.00
Group: BASE To Node: NPRE200 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	75.100	75.900	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):			Stabilizer Option:	None
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		

Name: RPRE300 From Node: NPRE300 Length(ft): 805.00
Group: BASE To Node: NPRE330 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	78.810	74.510	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
			Inlet Ctrl Spec:	Use dn

```
    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


-------------------------------------------------------------------------------------------------
         Name: RPRE340             From Node: NPRE340           Length(ft): 1206.00
        Group: BASE                  To Node: NPRE350                Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 75.000        73.900                                Flow: Both
TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.000
  Manning's N: 0.035000       0.035000                   Expansion Coef: 0.000
 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 dn
    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


=================================================================================================
==== Weirs ======================================================================================
=================================================================================================

        Name: ORIF_A              From Node: NPOND
       Group: BASE                  To Node: OUTBOXA
        Flow: Both                    Count: 2
        Type: Vertical: Mavis      Geometry: Circular

                  Span(in): 10.00
                  Rise(in): 10.00
                Invert(ft): 81.500
      Control Elevation(ft): 81.500
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
        Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
        Name: ORIF_B              From Node: NPOND
       Group: BASE                  To Node: OUTBOXB
        Flow: Both                    Count: 2
        Type: Vertical: Mavis      Geometry: Circular

                  Span(in): 10.00
                  Rise(in): 10.00
                Invert(ft): 81.500
      Control Elevation(ft): 81.500
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
        Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
        Name: RA120A              From Node: NA120
       Group: BASE                  To Node: NA121A
        Flow: Both                    Count: 1
        Type: Horizontal           Geometry: Rectangular

                  Span(in): 24.00
                  Rise(in): 36.00
                Invert(ft): 85.000
      Control Elevation(ft): 85.000
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
        Weir Discharge Coef: 3.000
     Orifice Discharge Coef: 0.600
```

```
--------------------------------------------------------------------------------------------------
        Name: RA120B              From Node: NA120
       Group: BASE                  To Node: NA121B
        Flow: Both                    Count: 1
        Type: Horizontal          Geometry: Rectangular

                  Span(in): 24.00
                  Rise(in): 36.00
                Invert(ft): 85.000
     Control Elevation(ft): 85.000
                                          TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
      Weir Discharge Coef: 3.000
    Orifice Discharge Coef: 0.600


--------------------------------------------------------------------------------------------------
        Name: RB10W               From Node: NB10
       Group: BASE                  To Node: NA05
        Flow: Both                    Count: 1
        Type: Vertical: Mavis     Geometry: Trapezoidal

           Bottom Width(ft): 0.10
     Left Side Slope(h/v): 1.50
    Right Side Slope(h/v): 1.50
                Invert(ft): 90.000
     Control Elevation(ft): 90.000
    Struct Opening Dim(ft): 9999.00
                                          TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
      Weir Discharge Coef: 2.500
    Orifice Discharge Coef: 0.600


--------------------------------------------------------------------------------------------------
        Name: RB60                From Node: NB60
       Group: BASE                  To Node: NA120
        Flow: Both                    Count: 1
        Type: Vertical: Mavis     Geometry: Trapezoidal

           Bottom Width(ft): 0.10
     Left Side Slope(h/v): 1.50
    Right Side Slope(h/v): 1.50
                Invert(ft): 90.000
     Control Elevation(ft): 90.000
    Struct Opening Dim(ft): 9999.00
                                          TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
      Weir Discharge Coef: 2.500
    Orifice Discharge Coef: 0.600


--------------------------------------------------------------------------------------------------
        Name: RPONDA              From Node: NPOND
       Group: BASE                  To Node: OUTBOXA
        Flow: Both                    Count: 1
        Type: Vertical: Mavis     Geometry: Trapezoidal

           Bottom Width(ft): 4.00
     Left Side Slope(h/v): 0.00
    Right Side Slope(h/v): 0.00
                Invert(ft): 84.500
     Control Elevation(ft): 84.500
    Struct Opening Dim(ft): 9999.00
                                          TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
      Weir Discharge Coef: 3.000
    Orifice Discharge Coef: 0.600


--------------------------------------------------------------------------------------------------
        Name: RPONDB              From Node: NPOND
       Group: BASE                  To Node: OUTBOXB
        Flow: Both                    Count: 1
        Type: Vertical: Mavis     Geometry: Trapezoidal

           Bottom Width(ft): 4.00
     Left Side Slope(h/v): 0.00
```

```
       Right Side Slope(h/v): 0.00
                  Invert(ft): 84.500
       Control Elevation(ft): 84.500
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
        Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600



------------------------------------------------------------------------------------------------------
         Name: RPRE200             From Node: NPRE200
        Group: BASE                  To Node: NPRE230
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 55.00
        Left Side Slope(h/v): 11.00
       Right Side Slope(h/v): 11.00
                  Invert(ft): 76.000
       Control Elevation(ft): 76.000
      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: RPRE230             From Node: NPRE230
        Group: BASE                  To Node: TPRE240
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 55.00
        Left Side Slope(h/v): 280.00
       Right Side Slope(h/v): 280.00
                  Invert(ft): 76.500
       Control Elevation(ft): 76.500
      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



------------------------------------------------------------------------------------------------------
         Name: RPRE250             From Node: NPRE250
        Group: BASE                  To Node: NPRE115
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
        Left Side Slope(h/v): 0.00
       Right Side Slope(h/v): 0.00
                  Invert(ft): 86.000
       Control Elevation(ft): 86.000
      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: RPRE270             From Node: NPRE270
        Group: BASE                  To Node: NPRE140
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
        Left Side Slope(h/v): 0.00
       Right Side Slope(h/v): 0.00
                  Invert(ft): 84.800
       Control Elevation(ft): 84.800
      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: RPRE280             From Node: NPRE280
        Group: BASE                  To Node: NPRE170
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 100.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                  Invert(ft): 81.400
       Control Elevation(ft): 81.400
     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: RPRE350             From Node: NPRE350
        Group: BASE                  To Node: NPRE370
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 20.00
       Left Side Slope(h/v): 5.00
      Right Side Slope(h/v): 5.00
                  Invert(ft): 74.000
       Control Elevation(ft): 74.000
     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: WPRE180             From Node: NPRE180
        Group: BASE                  To Node: NPRE190
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 60.00
       Left Side Slope(h/v): 0.00
      Right Side Slope(h/v): 0.00
                  Invert(ft): 79.700
       Control Elevation(ft): 79.700
     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



================================================================================
==== Hydrology Simulations =====================================================
================================================================================

         Name: 100Yr
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111102_POST_CULVERTS\100Yr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 11.40

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

--------------------------------------------------------------------------------------------------
         Name: 25Yr
     Filename: W:\Projects\2010\10-0249\ICPR\POST\20111102_POST_CULVERTS\25Yr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.80

Time(hrs)       Print Inc(min)
```

30.000	5.00

Name: MeanAnnual
Filename: W:\Projects\2010\10-0249\ICPR\POST\20111102_POST_CULVERTS\MeanAnnual.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 4.40

Time(hrs)	Print Inc(min)
30.000	5.00

==========
==== Routing Simulations ==========
==========

Name: 100Yr Hydrology Sim: 100Yr
Filename: W:\Projects\2010\10-0249\ICPR\POST\20111102_POST_CULVERTS\100Yr.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): 40.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25Yr Hydrology Sim: 25Yr
Filename: W:\Projects\2010\10-0249\ICPR\POST\20111102_POST_CULVERTS\25Yr.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): 40.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 10.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: MeanAnnual Hydrology Sim: MeanAnnual
Filename: W:\Projects\2010\10-0249\ICPR\POST\20111102_POST_CULVERTS\MeanAnnual.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): 40.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 10.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
ORIF_A	BASE	25Yr	18.06	8.95	0.002	25.24	85.87	25.21	83.27
ORIF_B	BASE	25Yr	18.06	8.95	0.002	25.24	85.87	25.21	83.27
OUTPIPEA	BASE	25Yr	25.25	27.63	-0.027	25.21	83.27	25.27	81.77
OUTPIPEB	BASE	25Yr	25.25	27.63	-0.027	25.21	83.27	25.27	81.77
RA05	BASE	25Yr	12.06	79.59	5.647	14.57	91.22	14.58	91.22
RA10	BASE	25Yr	12.08	78.81	17.861	14.58	91.22	14.58	91.21
RA100	BASE	25Yr	15.17	83.20	0.050	14.65	90.68	14.65	90.65
RA11	BASE	25Yr	12.09	83.70	37.029	14.58	91.21	14.58	91.21
RA110	BASE	25Yr	14.91	96.73	0.058	14.65	90.65	14.64	90.61
RA12	BASE	25Yr	12.10	82.82	26.228	14.58	91.21	14.58	91.20
RA120A	BASE	25Yr	12.60	57.62	0.061	14.64	90.61	19.34	87.37
RA120B	BASE	25Yr	12.60	57.62	0.061	14.64	90.61	19.34	87.37
RA121A	BASE	25Yr	12.60	57.60	2.153	19.34	87.37	25.24	85.87
RA121B	BASE	25Yr	12.60	57.60	2.153	19.34	87.37	25.24	85.87
RA13	BASE	25Yr	12.10	83.31	42.794	14.58	91.20	14.59	91.21
RA14	BASE	25Yr	12.11	82.84	22.813	14.59	91.21	14.59	91.20
RA15	BASE	25Yr	12.11	83.14	41.101	14.59	91.20	14.59	91.20
RA20	BASE	25Yr	12.12	82.46	22.720	14.59	91.20	14.60	91.19
RA21	BASE	25Yr	12.12	82.02	44.608	14.60	91.19	14.60	91.19
RA22	BASE	25Yr	12.13	81.13	21.811	14.60	91.19	14.61	91.18
RA23	BASE	25Yr	12.13	80.25	43.857	14.61	91.18	14.61	91.18
RA24	BASE	25Yr	12.14	78.05	23.139	14.61	91.18	14.62	91.17
RA25	BASE	25Yr	12.15	75.39	-87.378	14.62	91.17	14.62	91.17
RA30	BASE	25Yr	14.55	188.23	72.488	14.62	91.17	14.62	91.16
RA31	BASE	25Yr	12.54	77.26	-105.124	14.62	91.16	14.62	91.17
RA32	BASE	25Yr	14.56	195.72	75.712	14.62	91.17	14.62	91.15
RA33	BASE	25Yr	12.54	83.31	-93.144	14.62	91.15	14.63	91.16
RA34	BASE	25Yr	14.56	195.49	75.745	14.63	91.16	14.63	91.15
RA35	BASE	25Yr	12.54	85.26	-89.572	14.63	91.15	14.63	91.15
RA40	BASE	25Yr	14.57	194.96	-90.457	14.63	91.15	14.63	91.14
RA41	BASE	25Yr	12.26	87.31	-112.302	14.63	91.14	14.64	91.14
RA42	BASE	25Yr	14.58	194.14	-115.920	14.64	91.14	14.64	91.13
RA43	BASE	25Yr	12.26	97.57	-126.823	14.64	91.13	14.64	91.13
RA44	BASE	25Yr	14.60	185.70	-110.083	14.64	91.13	14.64	91.12
RA45	BASE	25Yr	12.26	75.49	-94.775	14.64	91.12	14.64	91.12
RA50	BASE	25Yr	12.43	53.46	12.424	14.64	91.12	14.64	91.11
RA51	BASE	25Yr	12.37	51.10	15.607	14.64	91.11	14.65	91.11
RA52	BASE	25Yr	12.37	50.20	11.831	14.65	91.11	14.65	91.10
RA53	BASE	25Yr	12.37	49.40	14.543	14.65	91.10	14.65	91.10
RA54	BASE	25Yr	12.38	48.74	11.701	14.65	91.10	14.65	91.09
RA55	BASE	25Yr	12.38	47.94	-8.025	14.65	91.09	14.65	91.09
RA56	BASE	25Yr	12.38	47.41	10.300	14.65	91.09	14.65	91.08
RA60	BASE	25Yr	12.45	54.48	4.711	14.65	91.08	14.65	91.08
RA61	BASE	25Yr	12.48	54.09	7.499	14.65	91.08	14.66	91.07
RA62	BASE	25Yr	12.48	53.71	-2.086	14.66	91.07	14.66	91.06
RA63	BASE	25Yr	12.48	53.56	6.774	14.66	91.06	14.66	91.05
RA64	BASE	25Yr	12.52	53.36	-1.803	14.66	91.05	14.66	91.05
RA65	BASE	25Yr	12.53	53.27	-5.205	14.66	91.05	14.67	91.03
RA70	BASE	25Yr	12.53	53.20	1.449	14.67	91.03	14.67	91.03
RA71	BASE	25Yr	12.90	53.34	-5.262	14.67	91.03	14.68	91.01
RA72	BASE	25Yr	12.95	53.28	-0.215	14.68	91.01	14.68	91.01
RA73	BASE	25Yr	12.98	53.63	-0.500	14.68	91.01	14.68	90.99
RA74	BASE	25Yr	13.00	53.77	-0.125	14.68	90.99	14.68	90.99
RA75	BASE	25Yr	13.01	54.00	-0.068	14.68	90.99	14.69	90.97
RA76	BASE	25Yr	15.00	66.98	0.038	14.69	90.97	14.69	90.96
RA80	BASE	25Yr	15.04	67.28	-0.045	14.69	90.96	14.68	90.93
RA82	BASE	25Yr	15.10	67.62	0.037	14.68	90.93	14.68	90.93
RA84	BASE	25Yr	15.18	67.96	-0.048	14.68	90.93	14.67	90.89
RA86	BASE	25Yr	15.27	68.45	0.039	14.67	90.89	14.67	90.89
RA88	BASE	25Yr	15.33	68.85	-0.045	14.67	90.89	14.66	90.85
RA90	BASE	25Yr	14.85	80.81	0.040	14.66	90.85	14.66	90.85
RA91	BASE	25Yr	14.87	81.17	0.041	14.66	90.85	14.66	90.80
RA92	BASE	25Yr	14.90	81.50	0.042	14.66	90.80	14.66	90.79
RA93	BASE	25Yr	14.93	81.81	0.044	14.66	90.79	14.66	90.74
RA94	BASE	25Yr	14.95	82.13	0.047	14.66	90.74	14.66	90.74
RA95	BASE	25Yr	14.97	82.46	0.049	14.66	90.74	14.65	90.68
RA96	BASE	25Yr	14.99	82.67	0.049	14.65	90.68	14.65	90.68
RB10	BASE	25Yr	0.00	0.00	-0.061	12.03	93.80	12.05	94.84
RB10W	BASE	25Yr	12.03	85.36	0.086	12.03	93.80	14.57	91.22
RB20	BASE	25Yr	16.42	0.72	-0.072	12.05	94.84	12.05	94.91
RB30	BASE	25Yr	12.01	23.52	0.026	12.05	94.91	12.05	94.83
RB40	BASE	25Yr	12.06	40.60	0.041	12.05	94.83	12.05	94.66
RB50	BASE	25Yr	12.05	68.02	0.066	12.05	94.66	12.05	93.64
RB60	BASE	25Yr	12.05	76.70	0.075	12.05	93.64	14.64	90.61
RPONDA	BASE	25Yr	25.24	19.17	-0.001	25.24	85.87	25.21	83.27
RPONDB	BASE	25Yr	25.24	19.17	-0.001	25.24	85.87	25.21	83.27
RPRE100	BASE	25Yr	18.17	0.68	25.459	13.99	82.63	13.97	82.64
RPRE100A	BASE	25Yr	13.99	12.81	0.010	13.99	82.63	13.76	80.31
RPRE105	BASE	25Yr	7.65	0.07	-0.092	13.97	82.64	12.86	82.79
RPRE115	BASE	25Yr	12.36	6.25	-0.083	12.86	82.79	12.86	82.79
RPRE120	BASE	25Yr	12.86	6.29	-0.017	12.86	82.79	12.81	81.88
RPRE130	BASE	25Yr	12.32	41.62	-38.462	25.27	81.77	25.27	81.77
RPRE140	BASE	25Yr	25.32	54.18	0.034	25.27	81.77	14.22	80.83
RPRE150	BASE	25Yr	12.09	12.58	0.011	12.09	82.93	14.22	80.83
RPRE160	BASE	25Yr	25.76	54.44	-0.209	14.22	80.83	14.14	80.64
RPRE170	BASE	25Yr	14.11	129.03	-11.383	14.14	80.64	14.17	80.45

OUC - ICPR Model Link Output Report

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
RPRE180	BASE	25Yr	12.86	30.21	-4.184	14.17	80.45	14.19	78.26
RPRE190	BASE	25Yr	14.20	129.85	-2.076	14.19	78.26	14.07	77.45
RPRE200	BASE	25Yr	14.20	130.27	-0.733	14.07	77.45	13.92	77.32
RPRE210	BASE	25Yr	12.58	7.92	0.005	12.58	80.09	12.58	72.00
RPRE220	BASE	25Yr	14.08	142.50	0.664	14.04	77.69	13.92	77.32
RPRE230	BASE	25Yr	13.92	381.17	0.059	13.92	77.32	0.00	77.00
RPRE250	BASE	25Yr	12.43	40.62	0.029	12.43	86.29	12.86	82.79
RPRE270	BASE	25Yr	12.65	17.36	0.010	12.65	84.96	25.27	81.77
RPRE280	BASE	25Yr	14.00	99.86	0.014	14.00	81.93	14.14	80.64
RPRE300	BASE	25Yr	12.04	19.41	0.017	12.04	79.25	12.13	77.51
RPRE310	BASE	25Yr	18.38	15.50	-0.023	18.38	80.77	17.92	78.01
RPRE330	BASE	25Yr	12.14	45.17	-0.189	12.13	77.51	14.96	76.53
RPRE340	BASE	25Yr	12.17	48.50	0.478	14.96	76.53	14.98	76.43
RPRE350	BASE	25Yr	12.15	52.23	-0.049	14.98	76.43	14.98	76.40
RPRE360	BASE	25Yr	12.50	41.32	0.047	12.50	78.57	12.45	77.32
RPRE370	BASE	25Yr	14.98	152.68	0.784	14.98	76.40	0.00	76.00
RTOP10	BASE	25Yr	13.29	9.89	0.008	13.32	170.44	13.29	168.56
RTOP20	BASE	25Yr	14.67	13.62	0.008	14.68	170.72	14.67	168.66
RTOP30	BASE	25Yr	13.91	10.56	0.008	13.94	170.49	13.91	168.58
RTOP40	BASE	25Yr	15.57	14.47	0.008	15.61	170.77	15.57	168.68
RTOP50	BASE	25Yr	12.68	10.44	-0.008	12.68	170.49	12.68	168.58
RTOP60	BASE	25Yr	13.87	12.42	0.008	13.91	170.63	13.87	168.63
RTOP70	BASE	25Yr	12.66	9.25	-0.008	12.67	170.39	12.66	168.54
RTOP80	BASE	25Yr	14.16	12.85	0.008	14.20	170.66	14.16	168.64
WPRE180	BASE	25Yr	14.17	100.71	0.030	14.17	80.45	14.19	78.26

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
NA05	BASE	25Yr	14.57	91.22	93.00	0.0026	21585	12.01	106.38	12.06	79.59
NA10	BASE	25Yr	14.58	91.22	93.00	0.0027	22084	12.01	104.71	12.08	78.81
NA100	BASE	25Yr	14.65	90.68	93.00	0.0028	14736	14.99	83.06	15.17	83.20
NA11	BASE	25Yr	14.58	91.21	93.00	-0.0034	5968	12.07	89.23	12.09	83.70
NA110	BASE	25Yr	14.65	90.65	93.00	0.0030	19618	14.86	96.61	14.91	96.73
NA12	BASE	25Yr	14.58	91.21	93.00	0.0038	5907	12.07	87.96	12.10	82.82
NA120	BASE	25Yr	14.64	90.61	93.00	0.0039	9791	12.00	122.83	12.60	115.25
NA121A	BASE	25Yr	19.34	87.37	93.00	-0.0062	124	12.60	57.62	12.60	57.60
NA121B	BASE	25Yr	19.34	87.37	93.00	-0.0062	124	12.60	57.62	12.60	57.60
NA13	BASE	25Yr	14.58	91.20	93.00	-0.0041	5572	12.08	88.06	12.10	83.31
NA14	BASE	25Yr	14.59	91.21	93.00	-0.0040	5572	12.09	87.46	12.11	82.84
NA15	BASE	25Yr	14.59	91.20	93.00	-0.0031	5874	12.10	87.99	12.11	83.14
NA20	BASE	25Yr	14.59	91.20	93.00	-0.0027	5874	12.10	87.21	12.12	82.46
NA21	BASE	25Yr	14.60	91.19	93.00	-0.0027	5562	12.11	86.49	12.12	82.02
NA22	BASE	25Yr	14.60	91.19	93.00	-0.0030	5562	12.11	85.53	12.13	81.13
NA23	BASE	25Yr	14.61	91.18	93.00	-0.0028	5557	12.12	84.64	12.13	80.25
NA24	BASE	25Yr	14.61	91.18	93.00	-0.0028	5557	12.12	82.31	12.14	78.05
NA25	BASE	25Yr	14.62	91.17	93.00	0.0038	5810	12.13	79.75	12.15	75.39
NA30	BASE	25Yr	14.62	91.17	93.00	0.0050	7662	12.14	78.17	14.55	188.23
NA31	BASE	25Yr	14.62	91.16	93.00	-0.0054	7396	14.54	188.52	12.54	77.26
NA32	BASE	25Yr	14.62	91.17	93.00	0.0057	7397	12.54	78.54	14.56	195.72
NA33	BASE	25Yr	14.62	91.15	93.00	-0.0057	7388	14.54	196.08	12.54	83.31
NA34	BASE	25Yr	14.63	91.16	93.00	0.0047	7389	12.54	84.87	14.56	195.49
NA35	BASE	25Yr	14.63	91.15	93.00	0.0041	7381	14.55	195.89	12.54	85.26
NA40	BASE	25Yr	14.63	91.15	93.00	0.0041	7381	12.54	86.65	14.57	194.96
NA41	BASE	25Yr	14.63	91.14	93.00	0.0044	7373	14.56	195.34	12.26	87.31
NA42	BASE	25Yr	14.64	91.14	93.00	0.0048	7374	12.26	90.75	14.58	194.14
NA43	BASE	25Yr	14.64	91.13	93.00	0.0063	7365	14.57	194.52	12.26	97.57
NA44	BASE	25Yr	14.64	91.13	93.00	-0.0058	7366	12.26	99.80	14.60	185.70
NA45	BASE	25Yr	14.64	91.12	93.00	0.0053	7591	14.59	185.92	12.26	75.49
NA50	BASE	25Yr	14.64	91.12	93.00	0.0027	5754	12.26	77.45	12.43	53.46
NA51	BASE	25Yr	14.64	91.11	93.00	0.0039	5514	12.43	54.09	12.37	51.10
NA52	BASE	25Yr	14.65	91.11	93.00	0.0047	5514	12.26	52.96	12.37	50.20
NA53	BASE	25Yr	14.65	91.10	93.00	0.0049	5508	12.28	51.90	12.37	49.40
NA54	BASE	25Yr	14.65	91.10	93.00	0.0048	5508	12.28	51.32	12.38	48.74
NA55	BASE	25Yr	14.65	91.09	93.00	0.0049	5851	12.28	50.61	12.38	47.94
NA56	BASE	25Yr	14.65	91.09	93.00	0.0049	5851	12.28	50.06	12.38	47.41
NA60	BASE	25Yr	14.65	91.08	93.00	0.0042	5212	12.38	56.29	12.45	54.48
NA61	BASE	25Yr	14.65	91.08	93.00	0.0031	5147	12.38	55.75	12.48	54.09
NA62	BASE	25Yr	14.66	91.07	93.00	-0.0024	5253	12.45	55.30	12.48	53.71
NA63	BASE	25Yr	14.66	91.06	93.00	0.0023	5252	12.48	55.11	12.48	53.56
NA64	BASE	25Yr	14.66	91.05	93.00	0.0023	5288	12.48	54.87	12.52	53.36
NA65	BASE	25Yr	14.66	91.05	93.00	0.0023	5287	12.48	54.71	12.53	53.27
NA70	BASE	25Yr	14.67	91.03	93.00	0.0023	5091	12.52	54.49	12.53	53.20
NA71	BASE	25Yr	14.67	91.03	93.00	0.0023	5091	12.52	54.42	12.90	53.34
NA72	BASE	25Yr	14.68	91.01	93.00	0.0023	6852	12.53	54.21	12.95	53.28
NA73	BASE	25Yr	14.68	91.01	93.00	0.0023	6851	12.53	54.33	12.98	53.63
NA74	BASE	25Yr	14.68	90.99	93.00	0.0023	5595	12.97	54.28	13.00	53.77
NA75	BASE	25Yr	14.68	90.99	93.00	0.0023	5595	12.99	54.51	13.01	54.00
NA76	BASE	25Yr	14.69	90.97	93.00	0.0023	5784	14.97	66.94	15.00	66.98
NA80	BASE	25Yr	14.69	90.96	93.00	0.0024	5717	15.00	67.24	15.04	67.28
NA82	BASE	25Yr	14.68	90.93	93.00	0.0024	5512	15.00	67.58	15.10	67.62
NA84	BASE	25Yr	14.68	90.93	93.00	0.0024	5511	15.03	67.90	15.18	67.96
NA86	BASE	25Yr	14.67	90.89	93.00	0.0024	6644	15.04	68.36	15.27	68.45
NA88	BASE	25Yr	14.67	90.89	93.00	0.0024	6642	15.27	68.75	15.33	68.85
NA90	BASE	25Yr	14.66	90.85	93.00	0.0025	5391	14.50	80.80	14.85	80.81
NA91	BASE	25Yr	14.66	90.85	93.00	0.0025	5325	14.85	81.14	14.87	81.17
NA92	BASE	25Yr	14.66	90.80	93.00	0.0026	5136	14.87	81.47	14.90	81.50
NA93	BASE	25Yr	14.66	90.79	93.00	0.0026	5134	14.90	81.78	14.93	81.81
NA94	BASE	25Yr	14.66	90.74	93.00	0.0027	4746	14.93	82.10	14.95	82.13
NA95	BASE	25Yr	14.66	90.74	93.00	0.0027	4744	14.95	82.43	14.97	82.46
NA96	BASE	25Yr	14.65	90.68	93.00	0.0028	5485	14.97	82.63	14.99	82.67
NB10	BASE	25Yr	12.03	93.80	95.00	0.0031	5327	12.00	27.21	12.01	23.66
NB20	BASE	25Yr	12.05	94.84	95.00	0.0029	12277	11.61	6.93	16.42	0.72
NB30	BASE	25Yr	12.05	94.91	95.00	0.0029	12723	11.92	35.45	12.01	23.52
NB40	BASE	25Yr	12.05	94.83	95.00	0.0028	10251	12.00	46.74	12.06	40.60
NB50	BASE	25Yr	12.05	94.66	95.00	0.0027	7686	12.00	71.18	12.05	68.02
NB60	BASE	25Yr	12.05	93.64	95.00	0.0024	3364	12.03	77.11	12.05	76.70
NPOND	BASE	25Yr	25.24	85.87	88.00	0.0004	943502	12.00	248.57	25.24	55.26
NPRE100	BASE	25Yr	13.99	82.63	85.60	0.0012	41847	12.00	9.67	18.17	11.01
NPRE105	BASE	25Yr	13.97	82.64	85.80	0.0003	76698	11.86	2.92	7.65	0.07
NPRE115	BASE	25Yr	12.86	82.79	86.00	0.0006	62920	12.00	25.95	12.36	6.25
NPRE120	BASE	25Yr	12.86	82.79	85.70	0.0006	15152	12.25	9.38	12.86	6.29
NPRE130	BASE	25Yr	25.27	81.77	87.10	-0.0020	19093	12.00	11.56	12.32	41.62
NPRE140	BASE	25Yr	25.27	81.77	85.00	0.0015	23079	12.32	66.00	25.32	54.18
NPRE150	BASE	25Yr	12.09	82.93	87.50	0.0002	32676	12.00	15.44	12.09	12.58
NPRE160	BASE	25Yr	14.22	80.83	84.30	0.0011	48768	25.26	54.24	25.76	54.44
NPRE170	BASE	25Yr	14.14	80.64	83.90	-0.0015	35658	14.04	129.26	14.11	129.03
NPRE180	BASE	25Yr	14.17	80.45	80.20	0.0029	39855	14.11	129.62	14.16	129.54
NPRE190	BASE	25Yr	14.19	78.26	79.90	-0.0014	14262	14.16	129.86	14.20	129.85
NPRE200	BASE	25Yr	14.07	77.45	77.00	-0.0006	12390	14.19	130.22	14.20	130.27
NPRE210	BASE	25Yr	12.58	80.09	84.00	0.0006	94194	12.00	37.92	12.58	7.92
NPRE220	BASE	25Yr	14.04	77.69	86.00	0.0002	2312384	12.42	368.60	14.08	142.50
NPRE230	BASE	25Yr	13.92	77.32	77.00	0.0001	1027942	13.64	384.86	13.92	381.17
NPRE250	BASE	25Yr	12.43	86.29	86.00	0.0002	97383	12.25	42.72	12.43	40.62
NPRE270	BASE	25Yr	12.65	84.96	84.80	0.0001	232684	12.25	22.84	12.65	17.36
NPRE280	BASE	25Yr	14.00	81.93	81.40	0.0001	726874	13.17	118.03	14.00	99.86
NPRE300	BASE	25Yr	12.04	79.25	86.00	0.0003	10762	12.00	20.15	12.04	19.41
NPRE310	BASE	25Yr	18.38	80.77	80.90	-0.0044	656359	12.92	73.45	18.38	15.50
NPRE330	BASE	25Yr	12.13	77.51	80.90	0.0012	13964	12.00	51.14	12.14	45.17
NPRE340	BASE	25Yr	14.96	76.53	79.50	0.0004	18682	12.11	49.78	12.17	48.50
NPRE350	BASE	25Yr	14.98	76.43	77.00	0.0001	20432	12.14	53.17	12.15	52.23
NPRE360	BASE	25Yr	12.50	78.57	79.60	0.0015	28370	12.25	45.33	12.50	41.32
NPRE370	BASE	25Yr	14.98	76.40	78.00	0.0001	4381333	12.58	383.44	14.98	152.68
NTOP10	BASE	25Yr	13.32	170.44	175.00	0.0004	118490	12.17	27.68	13.29	9.89
NTOP20	BASE	25Yr	14.68	170.72	175.00	0.0004	442473	12.33	71.00	14.67	13.62
NTOP30	BASE	25Yr	13.94	170.49	175.00	0.0004	169487	12.33	31.49	13.91	10.56
NTOP40	BASE	25Yr	15.61	170.77	175.00	0.0003	634658	12.42	85.49	15.57	14.47
NTOP50	BASE	25Yr	12.68	170.49	175.00	0.0006	52582	12.08	20.90	12.68	10.44
NTOP60	BASE	25Yr	13.91	170.63	175.00	0.0004	274855	12.25	53.23	13.87	12.42
NTOP70	BASE	25Yr	12.67	170.39	175.00	0.0006	47546	12.08	18.31	12.66	9.25
NTOP80	BASE	25Yr	14.20	170.66	175.00	0.0004	327496	12.25	58.73	14.16	12.85

OUC - ICPR Model Node Output Report

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
OUTBOXA	BASE	25Yr	25.21	83.27	88.00	0.0004	135	25.24	27.63	25.25	27.63
OUTBOXB	BASE	25Yr	25.21	83.27	88.00	0.0004	135	25.24	27.63	25.25	27.63
TPRE240	BASE	25Yr	0.00	77.00	77.00	0.0000	0	13.92	381.17	0.00	0.00
TPRE380	BASE	25Yr	0.00	76.00	76.00	0.0000	1440	14.98	152.68	0.00	0.00
TW	BASE	25Yr	0.00	71.00	71.00	0.0000	212	12.58	7.92	0.00	0.00

Appendix 6

Selected Construction Drawings for Cell 1 Closure

ORIGINAL COMBUSTION WASTE STORAGE AREA

HORIZONTAL EXPANSION OF CWSA - CELL 1

HORIZONTAL EXPANSION OF CWSA - CELL 2 (ACTIVE)

WET DETENTION POND

WETLAND

STORMWATER DRAINAGE DITCH

SOIL STOCKPILE

INNOVATION WAY

STA. 0+00

STA. 5+00

STA. 10+00

STA. 15+00

STA. 18+24

EL. 175.00'
N. 1505368.44
E. 598049.18

EL. 97.3'
N. 1505601.08
E. 597737.39

EL. 175.00'
N. 1505367.84
E. 597010.98

EL. 175.00'
N. 1505367.84
E. 596990.98

EL. 140.00'
N. 1505472.85
E. 596886.15
(HIGH POINT)

EL. 142.00'
N. 1505466.84
E. 596865.98

EL. 94.92'
N. 1505600.97
E. 596731.88

EL. 94.92'
N. 1505624.71
E. 596731.88

EL. 94.92'
N. 1504743.96
E. 598049.15

EL. 94.92'
N. 1504722.64
E. 598049.15

EL. 175.00'
N. 1504613.67
E. 597856.30

EL. 140.12'
N. 1504509.02
E. 597861.11
(HIGH POINT)

EL. 142.00'
N. 1504488.67
E. 597795.33

EL. 97.30'
N. 1504354.57
E. 597760.60

EL. 175.00'
N. 1504633.67
E. 597848.86

EL. 140.04'
N. 1504508.79
E. 597343.71
(HIGH POINT)

EL. 171.00'
N. 1504645.67
E. 597022.98

EL. 175.00'
N. 1504633.67
E. 597010.98

EL. 175.00'
N. 1504613.67
E. 596990.98

EL. 140.07'
N. 1504508.89
E. 596950.80
(HIGH POINT)

EL. 140.05'
N. 1504508.83
E. 596886.14

EL. 142.00'
N. 1504488.67
E. 596865.98

EL. 140.09'
N. 1504982.93
E. 596886.24
(HIGH POINT)

2.0' THK. (MIN.) PROTECTIVE SOIL COVER

CONTAINMENT DIKE

PERIMETER DIKE

℄ OF TOP DIKE

REVERSE BENCH

CONCRETE FLUME NO. 1 (SEE DETAIL 3, DWG. NO. CS-5)

CONCRETE FLUME NO. 2 (SEE DETAIL 4, DWG. NO. CS-5)

CONCRETE FLUME NO. 3 (SEE DETAIL 5, DWG. NO. CS-6)

CONCRETE FLUME NO. 4 (SEE DETAIL 6, DWG. NO. CS-6)

6" DIA. HDPE DR17 OUTLET PIPE

8" DIA. HDPE DR17 OUTLET PIPE

S=0.6%

3:1

K CS-11

G CS-7

L CS-11

H CS-8

M CS-12

J CS-10

I CS-9

P CS-13

O CS-13

N CS-12

N

0 100 200

SCALE: 1"=100'

WOOD
DATED APRIL 30, 2021

AND

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

TOP DIKE CENTERLINE

STATION	NORTHING	EASTING
0+00	1505367.84	597000.98
1+00	1505267.84	597000.98
2+00	1505167.84	597000.98
3+00	1505067.84	597000.98
4+00	1504967.84	597000.98
5+00	1504867.84	597000.98
6+00	1504767.84	597000.98
7+00	1504667.84	597000.98
7+44	1504623.67	597000.98
8+00	1504623.67	597056.80
9+00	1504623.67	597156.80
10+00	1504623.67	597256.80
11+00	1504623.67	597356.80
12+00	1504623.67	597456.80
13+00	1504623.67	597556.80
14+00	1504623.67	597656.80
15+00	1504623.67	597756.80
15+96	1504623.67	597852.58
16+00	1504626.43	597855.78
16+94	1504688.34	597927.49
17+00	1504690.16	597932.43
18+00	1504724.83	598026.23
18+24	1504733.30	598049.15

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REVISION	DATE	DESCRIPTION	APPR'D
P2	02/02/23	ISSUED FOR BID	JM
P1	01/23/23	ISSUED FOR REGULATORY REVIEW	JM
P0	03/03/22	ISSUED FOR OWNER'S REVIEW	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	03/01/21	CHECKED BY	AP	09/23/21
DRAWN BY	MAM	03/01/21	CHECKED BY	FKC	
FILE NO.: 20-13-0033			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
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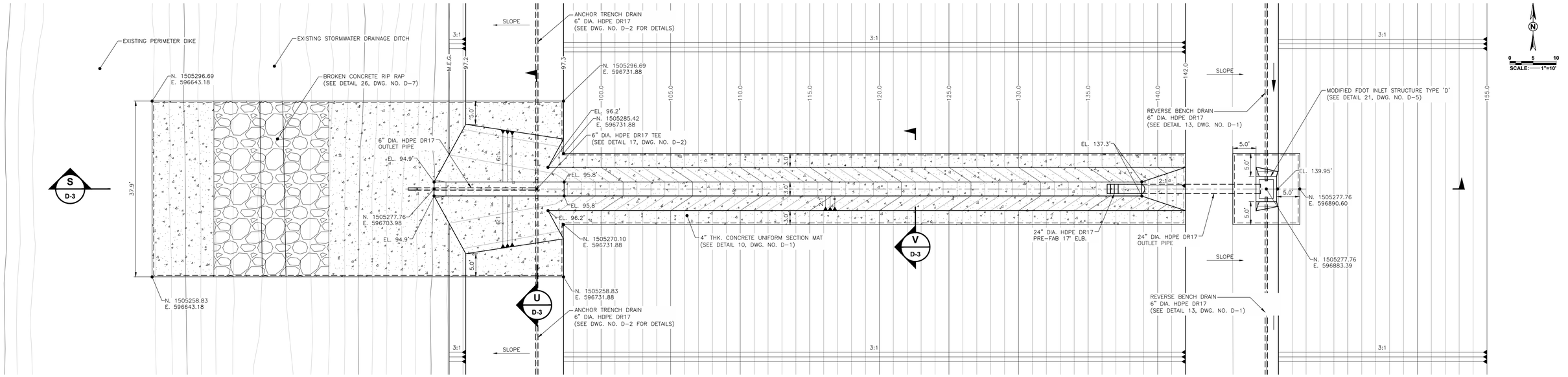
CLOSURE OF CELL 1 COMBUSTION WASTE STORAGE AREA

**OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA**

FINAL GRADING PLAN

DRAWING NO.
CS-4

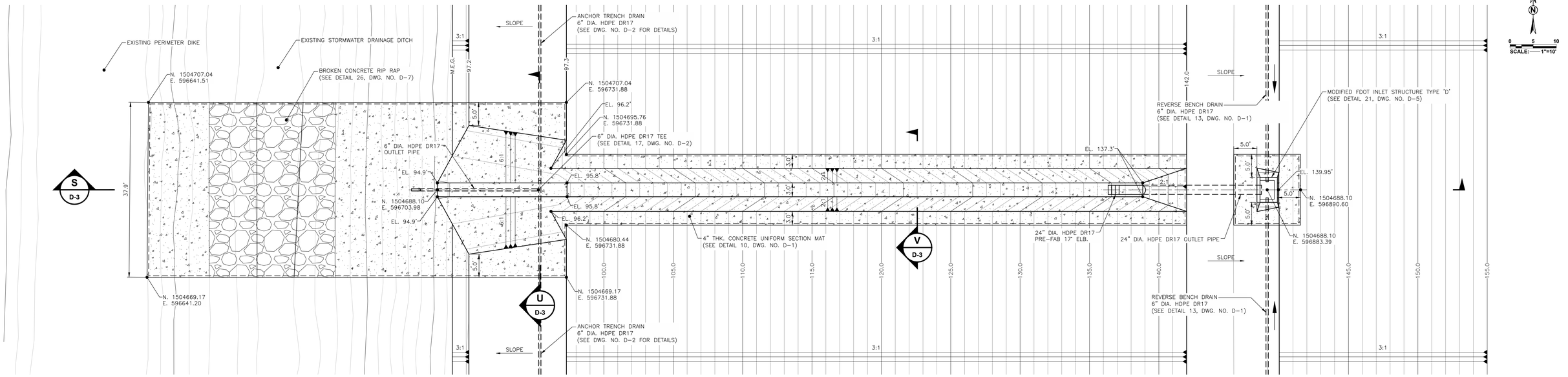
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3 CONCRETE FLUME NO. 1 PLAN VIEW

SCALE: 1" = 10'

G-12 | CS-1 | CS-2 | CS-3 | CS-4



4 CONCRETE FLUME NO. 2 PLAN VIEW

SCALE: 1" = 10'

G-12 | CS-1 | CS-2 | CS-3 | CS-4

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P0	03/03/22	ISSUED FOR OWNER'S REVIEW	JM

	NAME	DATE		NAME	DATE
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DRAWN BY	MAM		CHECKED BY	FKC	
FILE NO: 20-13-0033			SCALE: AS SHOWN		
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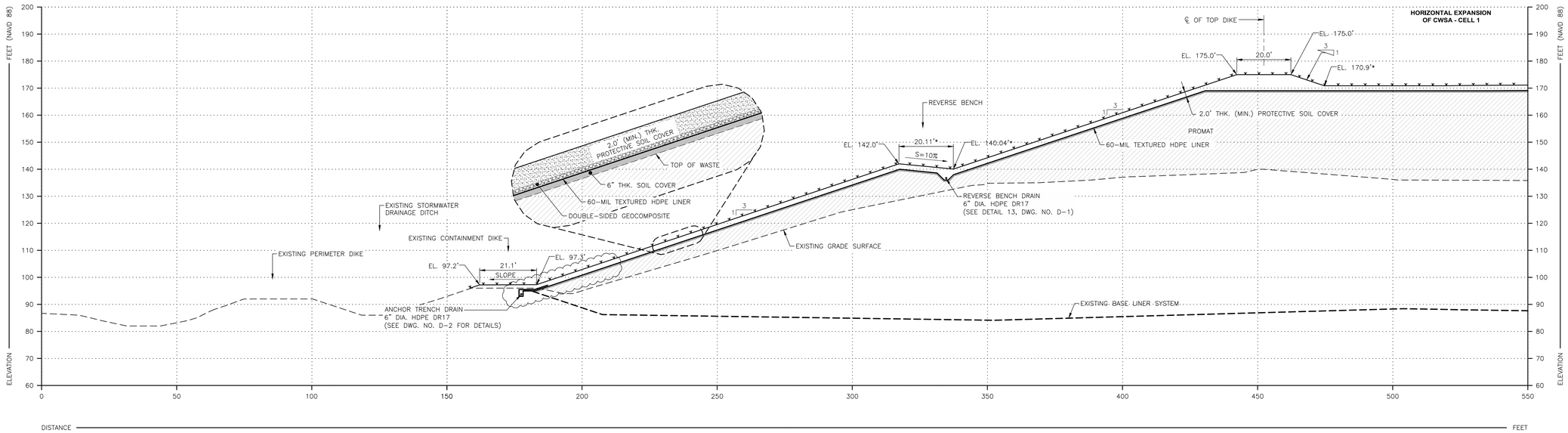
CLOSURE OF CELL 1 COMBUSTION WASTE STORAGE AREA

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

CONCRETE FLUMES 1 AND 2 PLAN VIEWS

DRAWING NO. CS-5

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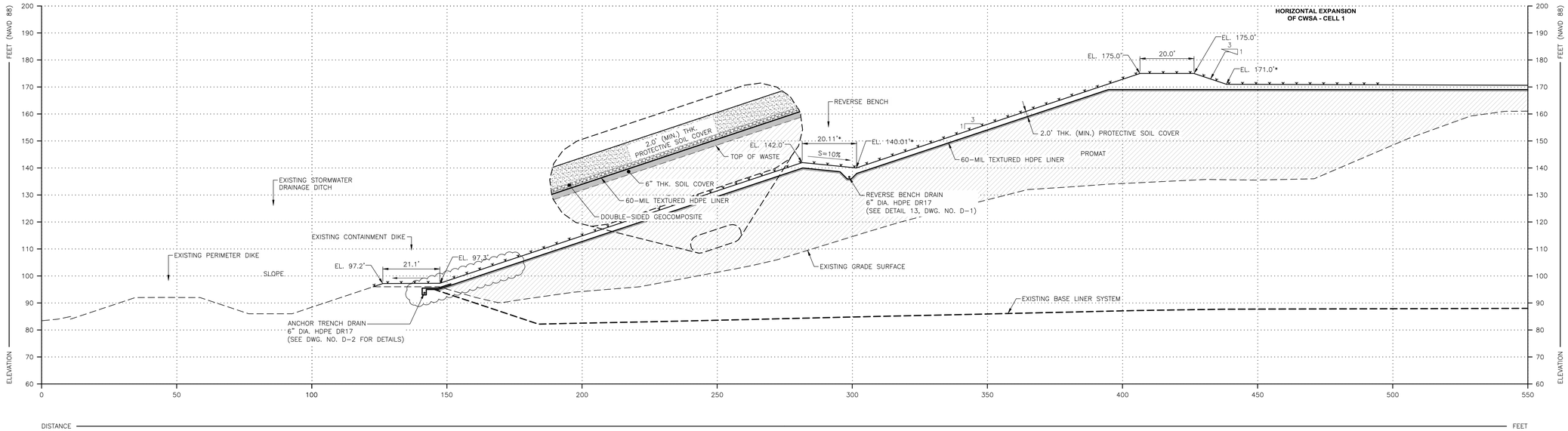
LEGEND

PROMAT TO BE PLACED BY OUC PRIOR TO CLOSURE

M / CS-4 CROSS SECTION

SCALE: 1" = 20'

*APPLIES TO THIS CROSS SECTION ONLY



N / CS-4 CROSS SECTION

SCALE: 1" = 20'

*APPLIES TO THIS CROSS SECTION ONLY

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	NAME	DATE		NAME	DATE
DESIGNED BY	JM	03/01/21	CHECKED BY	AP	09/23/21
DRAWN BY	MAM	03/01/21	CHECKED BY	FKC	
FILE NO.: 20-13-0033			SCALE: AS SHOWN		
APPROVED BY:					

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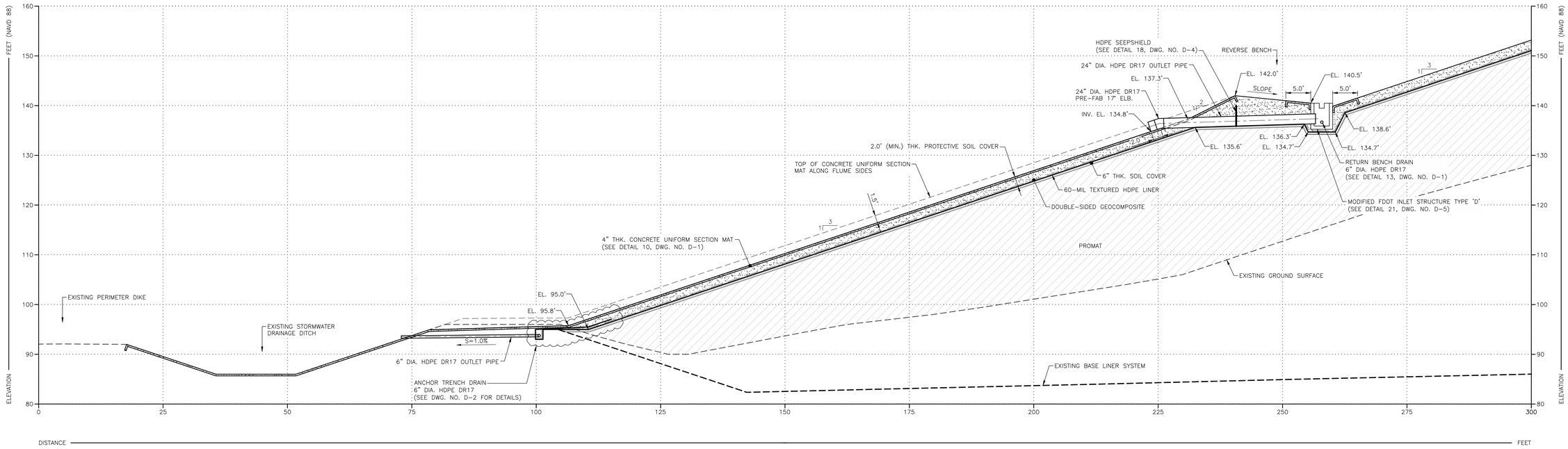
CLOSURE OF CELL 1 COMBUSTION WASTE STORAGE AREA

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

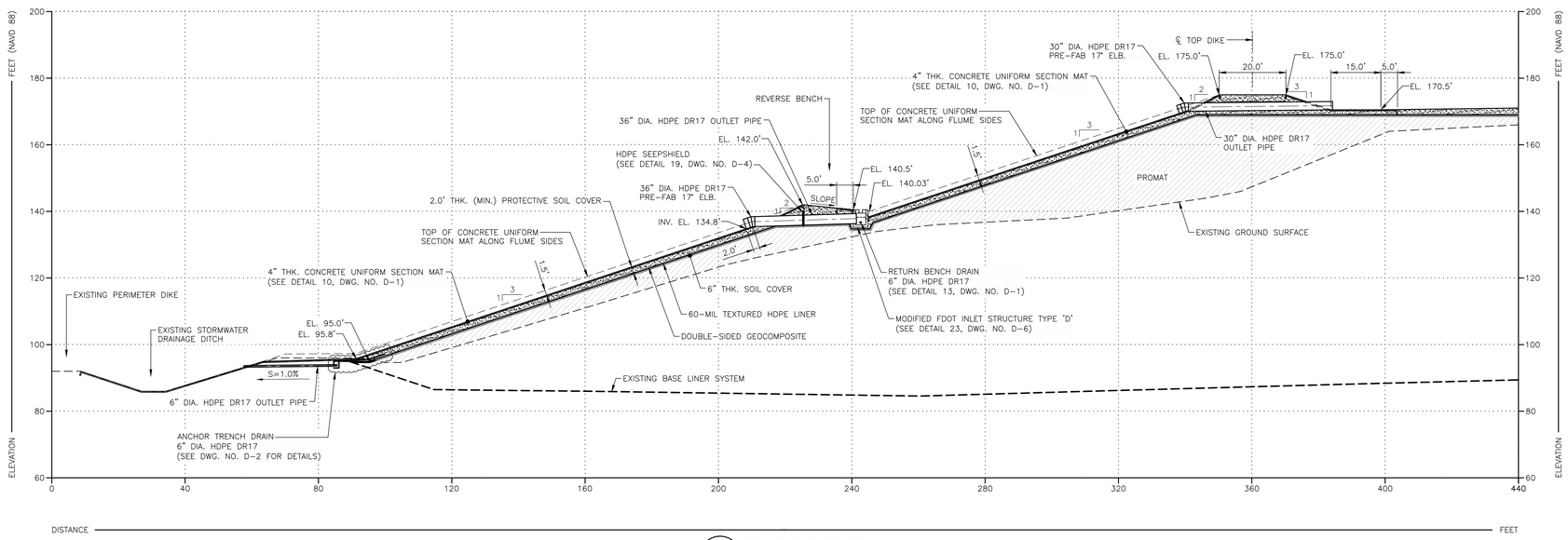
CROSS SECTIONS M AND N

DRAWING NO. **CS-12**

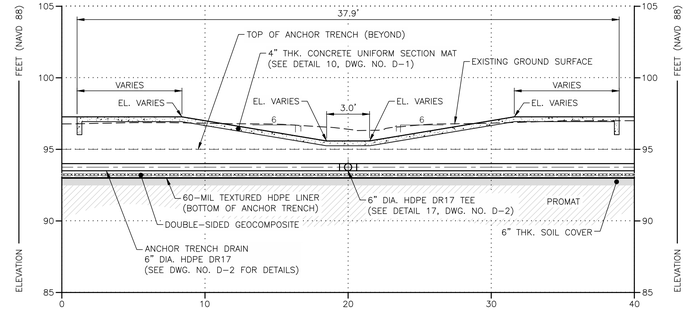
R:\Corporate\20\20-13-0033\CLOSURE OF HORIZONTAL EXPANSION OF CWSA - CELL 1_Current Sheet Set\CS-7 CROSS SECTION G.dwg 2023/02/02 10:55 AM, McLendon, Paula



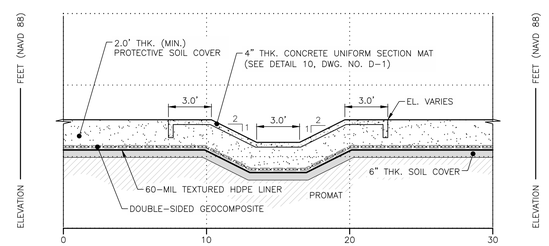
S CROSS SECTION
CS-5 / CS-6
SCALE: 1" =10'



T CROSS SECTION
CS-6
SCALE: 1" = 20'



U FLUME CROSS SECTION AT CONTAINMENT DIKE
CS-5 / CS-6
SCALE: 1" = 5'



V FLUME ON SIDE SLOPE
CS-5 / CS-6
SCALE: 1" = 5'

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DESIGNED BY	JM	03/01/21	CHECKED BY	AP	09/23/21
DRAWN BY	MAM	03/01/21	CHECKED BY	FKC	
FILE NO: 20-13-0033			SCALE: AS SHOWN		
APPROVED BY:					

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CLOSURE OF CELL 1 COMBUSTION WASTE STORAGE AREA
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

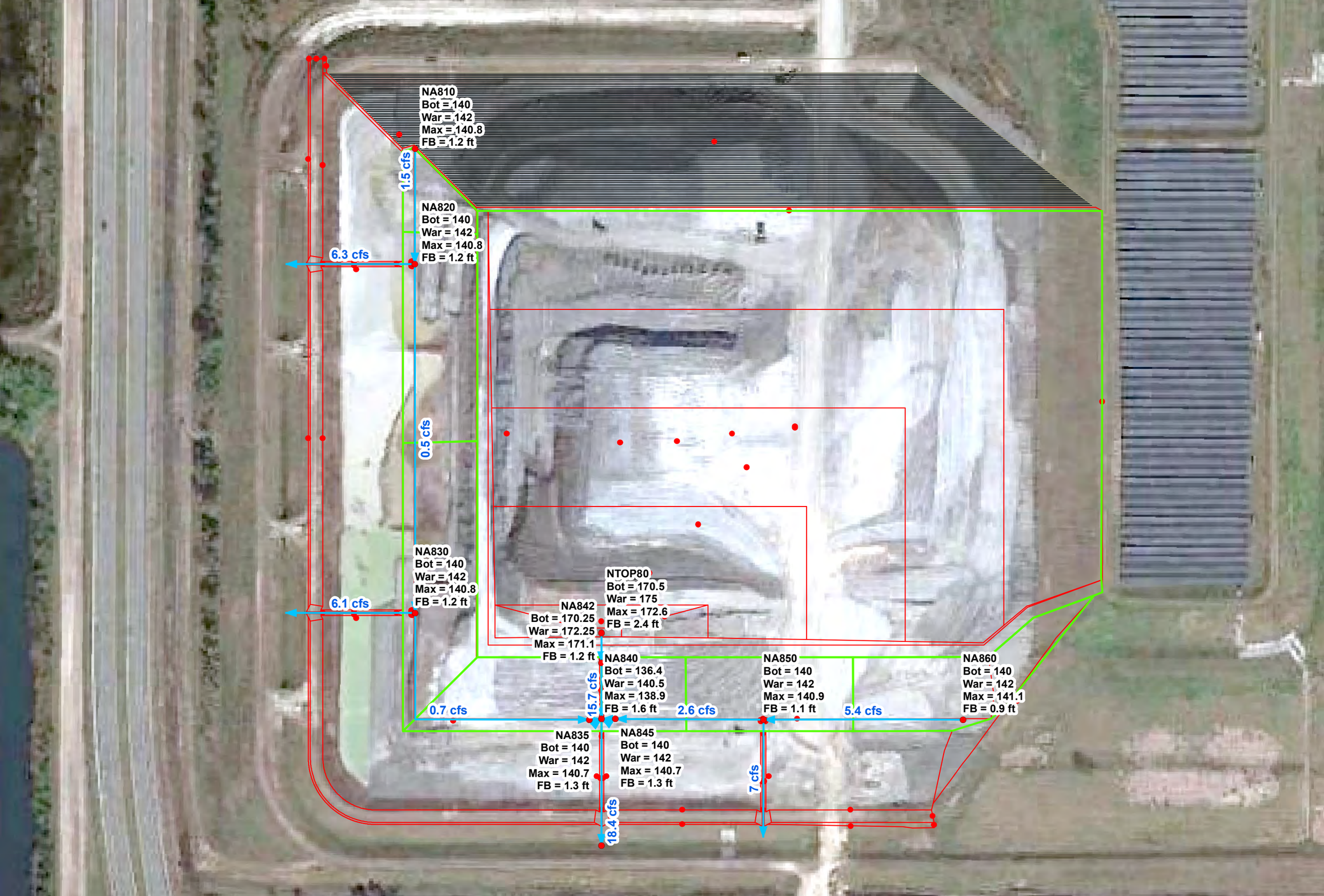
TYPICAL FLUME CROSS SECTIONS

DRAWING NO. D-3

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Appendix 7

Hydrologic and Hydraulic Calculations for Cell 1 Closure


NA810
Bot = 140
War = 142
Max = 140.8
FB = 1.2 ft
1.5 cfs
NA820
Bot = 140
War = 142
Max = 140.8
FB = 1.2 ft
6.3 cfs
0.5 cfs
NA830
Bot = 140
War = 142
Max = 140.8
FB = 1.2 ft
6.1 cfs
NTOP80
Bot = 170.5
War = 175
Max = 172.6
FB = 2.4 ft
NA842
Bot = 170.25
War = 172.25
Max = 171.1
FB = 1.2 ft
NA840
Bot = 136.4
War = 140.5
Max = 138.9
FB = 1.6 ft
15.7 cfs
0.7 cfs
2.6 cfs
NA850
Bot = 140
War = 142
Max = 140.9
FB = 1.1 ft
5.4 cfs
NA860
Bot = 140
War = 142
Max = 141.1
FB = 0.9 ft
NA835
Bot = 140
War = 142
Max = 140.7
FB = 1.3 ft
NA845
Bot = 140
War = 142
Max = 140.7
FB = 1.3 ft
7 cfs
18.4 cfs

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

        Name: A810                    Node: NA810                 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): 6.00
            Area(ac): 0.283               Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
        Name: A820                    Node: NA820                 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): 6.00
            Area(ac): 1.014               Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
        Name: A830                    Node: NA830                 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): 6.00
            Area(ac): 1.225               Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
        Name: A835                    Node: NA835                 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): 6.00
            Area(ac): 0.782               Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
        Name: A845                    Node: NA845                 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): 6.00
            Area(ac): 0.410               Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
        Name: A850                    Node: NA850                 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): 6.00
            Area(ac): 0.810               Time Shift(hrs): 0.00
        Curve Number: 85.00            Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------
        Name: A860                    Node: NA860                 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): 6.00
```

Area(ac): 0.931 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: TOP80 Node: NTOP80 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): 29.00
Area(ac): 18.007 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

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

Name: NA810 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA820 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA830 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA835 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)
139.500	0.0001
142.000	0.0001

Name: NA840 Base Flow(cfs): 0.000 Init Stage(ft): 136.400
Group: BASE Warn Stage(ft): 140.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA842 Base Flow(cfs): 0.000 Init Stage(ft): 170.250
Group: BASE Warn Stage(ft): 172.250
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA845 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)
139.500	0.0001
142.000	0.0001

Name: NA850 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NA860 Base Flow(cfs): 0.000 Init Stage(ft): 140.000
Group: BASE Warn Stage(ft): 142.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: NTOP80 Base Flow(cfs): 0.000 Init Stage(ft): 170.500
Group: BASE Warn Stage(ft): 175.000
Type: Stage/Area

Stage(ft)	Area(ac)
170.500	0.0230
171.000	0.4500
172.000	2.6900
173.000	6.2400
174.000	11.0500
175.000	17.1500

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

Time(hrs)	Stage(ft)
0.00	0.000
999.00	0.000

==== Pipes ====

Name: RA820A From Node: NA820 Length(ft): 29.30
Group: BASE To Node: TW Count: 1
Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Solution Algorithm: Most Restrictive
Span(in):	21.17	21.17	Flow: Both
Rise(in):	21.17	21.17	Entrance Loss Coef: 0.50
Invert(ft):	139.500	137.250	Exit Loss Coef: 1.00
Manning's N:	0.010000	0.010000	Bend Loss Coef: 0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
			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

24-inch DR-17 HDPE Pipe

Name: RA830A From Node: NA830 Length(ft): 29.30
Group: BASE To Node: TW Count: 1
Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Solution Algorithm: Most Restrictive
Span(in):	21.17	21.17	Flow: Both
Rise(in):	21.17	21.17	Entrance Loss Coef: 0.50
			Exit Loss Coef: 1.00

```
   Invert(ft): 139.500       137.250                    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

24-inch DR-17 HDPE Pipe

-------------------------------------------------------------------------------------------------
         Name: RA840              From Node: NA840             Length(ft): 25.40
        Group: BASE                 To Node: TW                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM      DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular      Circular                          Flow: Both
     Span(in): 31.76         31.76                     Entrance Loss Coef: 0.50
     Rise(in): 31.76         31.76                         Exit Loss Coef: 1.00
   Invert(ft): 136.400       136.400                       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

36-inch DR-17 HDPE PIPE

-------------------------------------------------------------------------------------------------
         Name: RA850A             From Node: NA850             Length(ft): 29.30
        Group: BASE                 To Node: TW                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM      DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular      Circular                          Flow: Both
     Span(in): 21.17         21.17                     Entrance Loss Coef: 0.50
     Rise(in): 21.17         21.17                         Exit Loss Coef: 1.00
   Invert(ft): 139.500       137.250                       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

24-inch DR-17 HDPE Pipe

-------------------------------------------------------------------------------------------------
         Name: RTOP80             From Node: NTOP80            Length(ft): 30.00
        Group: BASE                 To Node: NA842                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM      DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular      Circular                          Flow: Both
     Span(in): 26.47         26.47                     Entrance Loss Coef: 0.50
     Rise(in): 26.47         26.47                         Exit Loss Coef: 0.00
   Invert(ft): 170.500       170.250                       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

30-inch DR17 HDPE PIPE

=================================================================================================
==== Channels ===================================================================================
=================================================================================================

          Name: RA810              From Node: NA810             Length(ft): 195.00
```

Group: BASE To Node: NA820 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	140.000	140.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.100
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.300
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	10.00	10.00		
RtSdSlp(h/v):	3.00	3.00		

Name: RA820 From Node: NA820 Length(ft): 590.00
Group: BASE To Node: NA830 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	140.000	140.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.100
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.300
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	10.00	10.00		
RtSdSlp(h/v):	3.00	3.00		

Name: RA830 From Node: NA830 Length(ft): 475.00
Group: BASE To Node: NA835 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	140.000	140.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.035000	0.035000	Contraction Coef:	0.100
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.300
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	0.100	0.100		
LtSdSlp(h/v):	10.00	10.00		
RtSdSlp(h/v):	3.00	3.00		

Name: RA842 From Node: NA842 Length(ft): 95.00
Group: BASE To Node: NA840 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Automatic
Invert(ft):	170.250	139.500	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.025000	0.025000	Contraction Coef:	0.100
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.300
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Main XSec:			Exit Loss Coef:	0.000
AuxElev1(ft):			Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):			Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	3.000	3.000		

```
  LtSdSlp(h/v): 1.50           1.50
  RtSdSlp(h/v): 1.50           1.50


-------------------------------------------------------------------------------------------------------
          Name: RA850               From Node: NA850             Length(ft): 251.00
         Group: BASE                  To Node: NA845                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 140.000        140.000                             Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.100
   Manning's N: 0.035000       0.035000                   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): 0.100          0.100
  LtSdSlp(h/v): 10.00          10.00
  RtSdSlp(h/v): 3.00           3.00


-------------------------------------------------------------------------------------------------------
          Name: RA860               From Node: NA860             Length(ft): 337.00
         Group: BASE                  To Node: NA850                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal              Solution Algorithm: Automatic
    Invert(ft): 140.000        140.000                             Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                 Contraction Coef: 0.100
   Manning's N: 0.035000       0.035000                   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): 0.100          0.100
  LtSdSlp(h/v): 10.00          10.00
  RtSdSlp(h/v): 3.00           3.00


===============================================================================================
==== Weirs ====================================================================================
===============================================================================================

         Name: RA835A              From Node: NA835
        Group: BASE                  To Node: NA840
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 12.00
                   Rise(in): 999.00
                 Invert(ft): 139.500
       Control Elevation(ft): 139.500
                                         TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

1-foot wide slot

-------------------------------------------------------------------------------------------------------
         Name: RA835B              From Node: NA835
        Group: BASE                  To Node: NA840
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 24.00
                   Rise(in): 999.00
                 Invert(ft): 140.500
       Control Elevation(ft): 140.500
                                         TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600
```

Top of the box (3 ft - 1 ft)

```
         Name: RA845A              From Node: NA845
        Group: BASE                  To Node: NA840
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 12.00
                    Rise(in): 999.00
                  Invert(ft): 139.500
       Control Elevation(ft): 139.500
                                        TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
           Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600
```

1-foot wide slot

```
         Name: RA845B              From Node: NA845
        Group: BASE                  To Node: NA840
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 24.00
                    Rise(in): 999.00
                  Invert(ft): 140.500
       Control Elevation(ft): 140.500
                                        TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
           Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600
```

Top of the Box (3 ft - 1 ft)

==========

==== Hydrology Simulations ==========

==========

```
         Name: 25YR-24HR
     Filename: W:\Projects\2020\20-13-0033_OUC\ICPR\20220105_Model\With_30-inch_Pipe_Recommended\25YR-24HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.80
```

Time(hrs)	Print Inc(min)
30.000	5.00

==========

==== Routing Simulations ==========

==========

```
         Name: 25YR-24HR           Hydrology Sim: 25YR-24HR
     Filename: W:\Projects\2020\20-13-0033_OUC\ICPR\20220105_Model\With_30-inch_Pipe_Recommended\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): 48.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 5.0000
        Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

ICPR Model Output - Link Output Report - 25-year, 24-hr Storm Event

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
RA810	BASE	25YR-24HR	12.01	1.50	0.005	12.03	140.83	12.03	140.78
RA820	BASE	25YR-24HR	12.02	0.49	0.003	12.03	140.78	12.04	140.77
RA820A	BASE	25YR-24HR	12.03	6.26	1.361	12.03	140.78	12.03	137.64
RA830	BASE	25YR-24HR	12.07	0.69	0.005	12.04	140.77	12.03	140.74
RA830A	BASE	25YR-24HR	12.03	6.14	1.361	12.04	140.77	12.03	137.64
RA835A	BASE	25YR-24HR	12.03	4.14	1.061	12.03	140.74	12.07	138.92
RA835B	BASE	25YR-24HR	12.03	0.70	-0.007	12.03	140.74	12.07	138.92
RA840	BASE	25YR-24HR	12.07	18.44	0.059	12.07	138.92	12.07	137.83
RA842	BASE	25YR-24HR	13.02	15.68	0.024	13.02	171.07	12.99	139.82
RA845A	BASE	25YR-24HR	12.03	4.11	1.061	12.03	140.73	12.07	138.92
RA845B	BASE	25YR-24HR	12.03	0.67	-0.008	12.03	140.73	12.07	138.92
RA850	BASE	25YR-24HR	12.03	2.60	-0.014	12.03	140.89	12.03	140.73
RA850A	BASE	25YR-24HR	12.03	7.03	1.361	12.03	140.89	12.03	137.66
RA860	BASE	25YR-24HR	12.01	5.36	-0.023	12.01	141.14	12.03	140.89
RTOP80	BASE	25YR-24HR	12.99	15.68	0.025	13.00	172.64	12.99	171.29

ICPR Model Output - Node Output Report - 25-year, 24-hr Storm Event

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
NA810	BASE	25YR-24HR	12.03	140.83	142.00	-0.0019	1158	12.00	1.72	12.01
NA820	BASE	25YR-24HR	12.03	140.78	142.00	-0.0050	4171	12.00	7.66	12.03
NA830	BASE	25YR-24HR	12.04	140.77	142.00	-0.0049	5490	12.00	7.92	12.05
NA835	BASE	25YR-24HR	12.03	140.74	142.00	-0.0046	2440	12.00	5.28	12.03
NA840	BASE	25YR-24HR	12.07	138.92	140.50	0.0087	321	12.07	18.45	12.07
NA842	BASE	25YR-24HR	13.02	171.07	172.25	0.0009	382	12.99	15.68	13.02
NA845	BASE	25YR-24HR	12.03	140.73	142.00	-0.0047	1385	12.00	5.02	12.03
NA850	BASE	25YR-24HR	12.03	140.89	142.00	-0.0050	3634	12.00	10.27	12.03
NA860	BASE	25YR-24HR	12.01	141.14	142.00	0.0022	2492	12.00	5.67	12.01
NTOP80	BASE	25YR-24HR	13.00	172.64	175.00	0.0024	216201	12.17	73.86	12.99
TW	BASE	25YR-24HR	0.00	0.00	0.00	0.0000	55	12.05	37.67	0.00