ALEXANDER ROSS REGULATED DRAIN
TIPPECANOE COUNTY, INDIANA

2016 MASTER PLAN REPORT

Prepared for:

City of Lafayette
20 North Sixth Street
Lafayette, Indiana 47901

and

Tippecanoe County Drainage Board
20 North Third Street
Lafayette, Indiana 47901

November 2016

Prepared by:

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CBBEL Project Nos. 19.R14-0041.00000 and 19.R14-0041.00001

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1.0 Introduction

The Alexander Ross Regulated Drain watershed is located on the east side of Lafayette, Tippecanoe County, Indiana. The approximately 1 square mile watershed drains from southwest to northeast and is tributary to the South Fork of Wildcat Creek (see Exhibit 1.1). This Master Plan report specifically addresses the approximately 340-acre portion of the watershed located west of Interstate 65.

1.1 History of the Watershed

In 1993, the Alexander Ross Regulated Drain watershed was beginning to experience heavy development pressure. However, there was no positive stormwater drainage outlet for this watershed. The Tippecanoe County Surveyor's Office and the Tippecanoe County Drainage Board hired Christopher B. Burke Engineering, LLC (CBBEL) to complete an overall stormwater drainage masterplan for this watershed. The resultant plan included a positive stormwater drainage outlet for the watershed and two regional stormwater detention ponds to be used by future development in the watershed. At this time, one of the originally planned regional stormwater detention ponds has been constructed, with the second pond partially constructed. The exact location and shape of the second pond, to be generally located immediately upstream of Interstate 65, was not determined as part of the overall stormwater drainage masterplan.

1.2 Alexander Ross Regulated Drain Master Plan

This Master Plan report details the anticipated location and shape of the stormwater detention necessary upstream of Interstate 65 and replaces the originally planned second pond with a series of five regional stormwater detention ponds. Other sections of this report detail the hydrologic and hydraulic analysis and wetland assessment completed, and summarize the various master plan elements. A set of preliminary design plans that include preliminary grading and details for various master plan elements are provided under separate cover as Appendix 3.

2.0 Hydrologic & Hydraulic Analysis

The hydrologic and hydraulic analysis included an assessment of the entire contributing watershed area for the Alexander Ross Regulated Drain. A hydrologic and hydraulic model was developed using XP Solutions Storm Water Management Model (xpswmm) and was used to determine the response of the watershed during the Proposed Condition. The following paragraphs provide an overview of the hydrologic and hydraulic analysis.

2.1 Hydrologic Methodology

The following paragraphs describe each component of the hydrologic analysis.

2.11 Watershed Delineation

The 2013 IndianaMap LiDAR Digital Elevation Model (DEM) was used to delineate the watershed for the fully-developed (Proposed Condition), which included a total of 25 subbasins. The local topography and drainage basin delineation for the Proposed Condition analysis is shown in Exhibit 2.1. The drainage areas for the basins used in this analysis are shown in Table 1.

2.12 Infiltration

The SCS Curve Number method was used to calculate the amount of rainfall that can be expected to be intercepted by the tree canopy, infiltrated into the soil, or stored in surface depressions.

Curve numbers were calculated using GIS tools that intersect soil information from the Soil Survey Geographic (SSURGO) dataset and National Land Cover Database (NLCD 2011). Land use parameters for the Proposed Condition were defined for currently undeveloped areas based on the Perry and Fairfield Zoning Maps and the development standards in the Tippecanoe County Unified Zoning Ordinance. The various combinations of hydrologic soil group and land use type were converted to curve numbers using values published in the National Resource Conservation Service's (NRCS, formerly SCS) TR-55 publication. Exhibits 2.2 and 2.3 show the land cover characteristics and soil types, with curve number computation sheets for each subbasin provided in Appendix 1.

2.13 Runoff Transform

The SCS Dimensionless Unit Hydrograph was used to transform the excess rainfall into runoff.

The time of concentration (T_c) for each subbasin was calculated using TR-55 methodologies. The Proposed Condition analysis made use of the 2013 IndianaMap Orthophotography and the 2013 IndianaMap DEM, as well as the preliminary grading plan for the Alexander Ross drainage area.

The 2-year, 24-hour rainfall depth for the computations was taken from the NOAA Atlas 14 publication. Computation sheets for each subbasin are provided in Appendix 1, with the flow paths depicted on Exhibit 2.4.

Table 1: Hydrologic Parameters by Subbasin

Basin Name	Area (ac)	Future CN (-)	Future T_C (min)
AR4	53.7	89	40
AR6	36.9	88	21
CASN	8.2	77	19
CASO	24.6	78	41
CNEa	18.2	85	41
EASa	7.1	89	35
MJR	69.2	89	19
NCWa	13.2	88	28
NE1a	28.6	87	38
NEC	15.4	87	18
NW1	25.0	86	25
NW1a	33.7	87	43
OUT2	8.2	77	24
P1	40.8	85	48
P1a	21.5	84	10
P2	28.8	84	8
P3	23.1	86	18
PRKE	6.8	86	11
PRKW	7.1	85	9
SCWa	16.1	88	23
SW	21.5	84	24
SWN	13.1	84	26
USM	57.8	83	32
WESN	10.8	88	54
WESS	8.9	87	20

2.14 Rainfall Parameters

The analysis considered the 6-, 12- and 24-hour storm events. The rainfall was applied evenly over the contributing drainage area, using the Huff 6-, 12- and 24-hour 50-percent exceedance rainfall hyetographs to distribute the rain temporally.

2.2 Hydraulic Model Components

Hydrologic routing of flow through channel segments was performed automatically, as the flow was routed through an unsteady-state hydraulic model. Runoff hydrographs were applied to the hydraulic model at the end-point of the time of concentration flowpaths. Several different types of flow conveyance and storage components were used to produce a representative hydraulic system, including culverts, open channels, and detention ponds. Schematics depicting the Proposed Condition hydraulic model components are provided in Exhibit 2.5.

2.21 Culverts

Proposed culvert locations and dimensions were based on an assumed road network for development in the watershed and the necessary capacity to meet quality and quantity standards. Existing pipe locations and information were taken from survey data provided by the Tippecanoe County Surveyor's Office.

2.22 Open Channels

Open channel geometry information used in the Proposed Condition model was determined based off of the 2011 IndianaMap DEM and visual observation of the 2011 IndianaMap Orthophotography.

2.23 Detention Ponds

Several regional detention facilities were included in the Proposed Condition analysis. Ponds that were constructed prior to 2013 were modeled using the apparent storage capacities derived from the 2013 IndianaMap DEM. All future ponds in the Alexander Ross drainage area were modeled using proposed grading information.

2.3 Existing Condition Summary

In 1993 an analysis was performed to determine the size of two regional ponds to offset proposed development plans. As the watershed developed, elements of the 1993 design were constructed including the "Meijer" and "Walmart" ponds. Upstream of I-65, the predeveloped topography included a Y shaped depression leading up to the I-65 roadway embankment. When the "Walmart" pond was constructed, instead of constructing the downstream most portion of the storage area, one of the branches of the Y was converted into the detention pond. When this was constructed, it effectively eliminated outflow from the majority of the watershed upstream of I-65. As the existing conditions model would drastically understate the "predeveloped" flow rates, the 1993 predevelopment rates were used as a target for the new proposed conditions outflow.

2.4 Proposed Condition Analysis Summary

The Proposed Condition analysis was used to determine the infrastructure needs for the Alexander Ross Regulated Drain when the watershed becomes fully-developed. The hydraulic components were proposed in accordance with the Tippecanoe County Stormwater Technical Standards and were subsequently adjusted and optimized until the following project requirements were met:

- The flow rate at State Road 26 must not increase
- No roadways may flood during the 100-year storm event
- Detention ponds must provide the required storage within defined banks

The following tables provide a summary of the model results that demonstrate the effectiveness of the proposed infrastructure to meet the stated requirements:

Table 2: Peak Flow Rates at Key Locations

Drainage Area	1993 Peak Flow Rate (cfs)	Proposed Peak Flow Rate (cfs)
I-65	24	68.1
SR 26	99	83.3

Table 3: Detention Pond Maximum Water Surface Elevation Summary

Pond Name	100yr, 6hr Maximum WSE (ft, NAVD88)	100yr, 12hr Maximum WSE (ft, NAVD88)	Minimum Bank Elevation (ft, NAVD88)	Minimum Road Elevation (ft, NAVD88)
Pond NE	653.3	653.4	655.4	656.5
Pond C	653.3	653.4	655.4	656.5
Pond S	654.7	654.7	656.7	657.0
Pond W	653.3	653.4	655.4	656.3
Pond NW	653.6	653.5	655.6	656.4

2.5 Post Construction Stormwater Quality

The stormwater infrastructure planned for the Alexander Ross drainage area was designed in such a way that the components would qualify for Post Construction Stormwater Quality BMPs. The drainage swales between development sites have been designed to function as vegetated swales and the detention ponds have been designed to function as wet ponds / retention ponds, as described in Appendix D of the Tippecanoe County Stormwater Technical Standards.

The vegetated swales for the sites have been sized to have flow velocities below 2 feet-per-second during the 100-year event to promote sediment removal and pollutant uptake by the vegetation. These swales will serve as sediment removal measures for the stormwater runoff prior to the flow entering the detention ponds.

The detention ponds designed for the Alexander Ross drainage area provide for detention of the runoff from a 1-inch rainfall (Water Quality Volume) and peak flow control of the runoff from the 100-year storm event (Wet Pond / Retention Basin BMP), allowing the structures to serve as the second Post Construction Stormwater Quality BMP for each of the development sites supported by the ponds. Each of the five ponds in the Alexander Ross drainage area retains approximately 60-percent of the peak detention storage for 12 hours after the time of the peak storage; 36 hours after the time of the peak detention storage, 90-percent of the storage volume is available for subsequent stormwater runoff storage.

Documentation of the effectiveness of the designed Post Construction Stormwater BMPs is provided in Appendix 1.

3.0 Wetland Assessment

Christopher B. Burke Engineering, LLC (CBBEL) staff conducted an onsite field investigation of the Alexander Ross Masterplan project area, Tippecanoe County, Indiana. Field work was conducted on May 22nd and 27th, 2014 during which time (8) wetlands and three unnamed tributaries were identified and delineated (Exhibit 3.1).

Wetland delineations were conducted using methods identified in the Regional Supplement to the Corps of Engineers Delineation Manual: Midwest Region (Version 2.0) (August 2010), and wetland boundaries were mapped using current aerial photography (c. 2005) and a sub-meter accurate GPS unit.

The majority of the project area is being actively farmed. No wetlands were identified in these areas. Four (4) wetland areas (Wetlands 1 - 4) were delineated within a wood lot in the southeastern portion of the site. Wetland 5 is a constructed pond in the northern portion of the site. Wetlands 6 – 8 are located in the northwest portion of the site, west of Wetland 5. The complete wetland/"waters" delineation report can be found in Appendix 2.

Impacts to the delineated wetlands and "waters" should be avoided and/or minimized to the greatest extent possible. If there are no impacts to these aquatic resources, permitting through the U.S. Army Corps of Engineers (USACE) and the Indiana Department of Environmental Management (IDEM) will not be required.

4.0 Master Plan

4.1 Master Plan Goals

The following goals guided the development of this master plan:

- Plan a regional detention facility that is consistent with the 1993 master plan for the entire Alexander Ross Watershed drainage area
- Incorporate post-construction stormwater quality measures at the regional scale so that future development does not have to address it on each individual lot
- Plan for stormwater collection system, roads, sanitary sewer, and water
- Utilize low impact development principles and green infrastructure practices to manage stormwater

Exhibit 4.1 illustrates the Alexander Ross Regulated Drain Master Plan. The following sections summarize various Master Plan elements.

4.2 Stormwater Management

A goal of this master plan is to manage stormwater using low impact development (LID) principles and green infrastructure practices. LID is defined as an approach to land development that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product.

There are many green infrastructure practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a regional scale, LID can maintain or restore a watershed's hydrologic and ecological functions.

LID principles were integrated into the site design by conserving the existing natural and topographical features of the site. Woodlands and wetlands were identified and preserved as well.

Stormwater runoff from the roads will be directed to vegetated swales on either side of the road then on to the ponds. Strategic curb breaks in the edge of the road will direct runoff to the vegetated stormwater conveyance (see typical road sections in Appendix 3). Stormwater pollutants carried by the road runoff will be filtered and trapped by the vegetation in the swales.

Each development site will be graded to drain into one or more of the vegetated stormwater conveyances that eventually discharge into the ponds. The regional ponds and network of vegetated conveyance system have been designed to meet the water quality and water quantity requirements of the shown development and no additional on-site stormwater measures are needed. However, if the density of development is greater than what is anticipated, this may require individual on-site measures to manage the additional stormwater runoff and pollutant loading. Section 4.3 includes a discussion on the anticipated land use.

Additional water quality treatment is provided by the proposed regional stormwater detention ponds. Sediments carried by stormwater that are not trapped in the vegetated stormwater conveyances will be treated by the proposed ponds. Preliminary grading and typical details for the vegetated stormwater conveyances are included in the preliminary design plan set (Appendix 3).

4.3 Land Use

The anticipated land use for this master plan area is a combination of the existing zoning and modifications made by the project team based on existing adjoining development and anticipated needs. Exhibit 4.1 illustrates the anticipated land uses. Overall there are 336 acres of previously undevelopable land that are now slated for 237 acres of general business. Of the remaining 99 acres of the site, there are 41 acres for the ponds, 9 acres for an open space or park, and 49 acres for road right-of-way and setbacks.

4.4 Transportation Plan

The transportation plan is based on the complete street policy adopted in the Area Plan Commission's 2040 Metropolitan Transportation Plan. The intent is to promote a multimodal transportation system to accommodate all types of users safely and comfortably. To achieve this, all streets have been designed to accommodate vehicular, bicycle, and pedestrian traffic. CBBEL expanded the complete street concept to include the efficient movement of stormwater as well. As discussed in Section 4.2, vegetated stormwater conveyances line either side of the roads to filter and trap pollutants carried by stormwater runoff and to move the volume of stormwater to the ponds to be stored.

There are four types of streets as shown in the preliminary design plan set (Appendix 3). All streets include two lanes of vehicular traffic, designated bike lanes, and a combination of sidewalks and/or multi-use paths that are separated from the street by trees and a vegetated swale.

The south entrance off McCarty Lane is aligned with the entrance to the Upper Berlowitz Master Plan site. It is recommended that a traffic light be installed at this location to promote efficient and safe traffic movement into and out of both sites. The design of the south entrance mirrors the vegetated stormwater median used in the Upper Berlowitz Master Plan site. This creates a better alignment for vehicular traffic and a formal entrance to the site.

The west entrance off Park East Boulevard does not include a center median. A traffic light is recommended at this intersection as well.

The interior street network includes a center shared turn lane to facilitate left turns without restricting the flow of through traffic.

To facilitate the safe passage of stormwater runoff during extreme rainfall events, emergency road overtopping has been included at key locations. The preliminary design plan set details the location, extent, and elevations of these critical areas. Safe building pad elevations throughout the proposed development area should be based on an elevation of 658.5, or two (2) feet higher than these road overtopping elevations, whichever is higher.

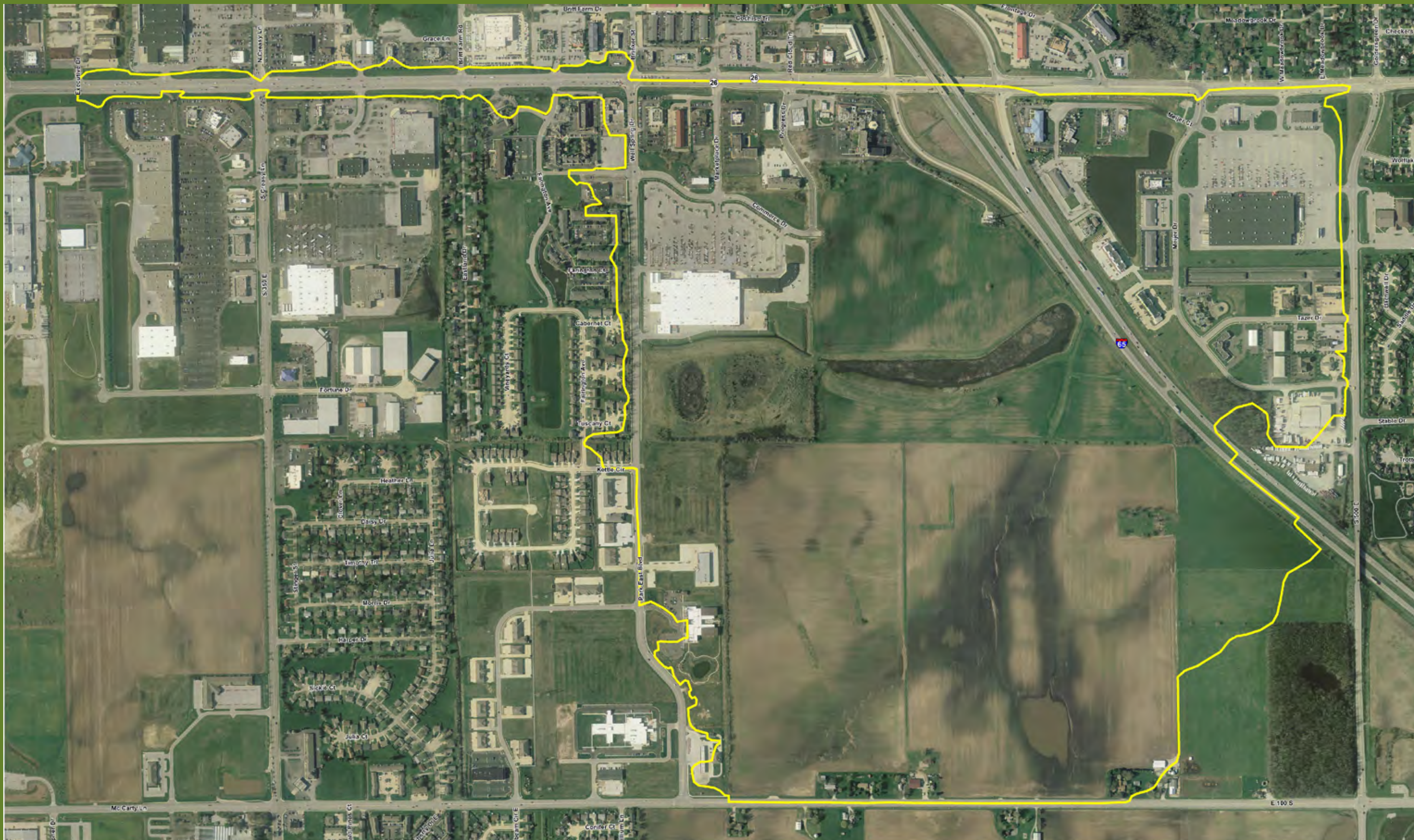
A multi-use trail network has been incorporated into the street layout to connect to the Upper Berlowitz Master Plan site, Park East Boulevard, the dedicated park area to the southwest, and the trails that loop four of the five regional stormwater ponds (see Exhibit 4.1). Safe crossings for multi-use trail users are located at street intersections only. The trail network is consistent with the City of Lafayette Trail Master Plan.

4.5 Utility Plan

The layout of utilities of both sanitary and water were taken into account in the Alexander Ross Master Plan. Both the sanitary sewers and the water lines are to be located within the right-of-way of each of the street sections. These are typically located outside the main roadway near the location of the multi-use trails or the sidewalks. The sanitary sewer layout is detailed in the preliminary design plan set, and shows that there are three main trunk lines to convey sanitary sewer flows off-site. Lots on the north side of the site, northwest of Pond NE, adjacent to Pond NW, and the two lots on the northwest side of Pond C, are drained by a sanitary sewer trunk line that connects to an existing sanitary sewer located along Park East Boulevard. Lots on the southwest portion of the site, west of the entrance to the Master Plan area from McCarty Lane, drain south to the existing sanitary sewer north of the existing homes adjacent to Pond W. Lots to the south of Pond NE and east of Pond C and S drain to the existing sanitary sewer north of McCarty Lane.

In regards to water connections, the site has developed areas to the northwest including the development on the southeast corner of Highway 26 and Park East Boulevard. The remaining properties would tie into the existing 20-inch water main located to the south of McCarty Lane. The site is surrounded by potable water connections and a layout of the routing of the water utility that complies with existing City Standards and attempts to reduce the amount of disturbance to existing roads is provided in the preliminary plans, Appendix 3.

Exhibits



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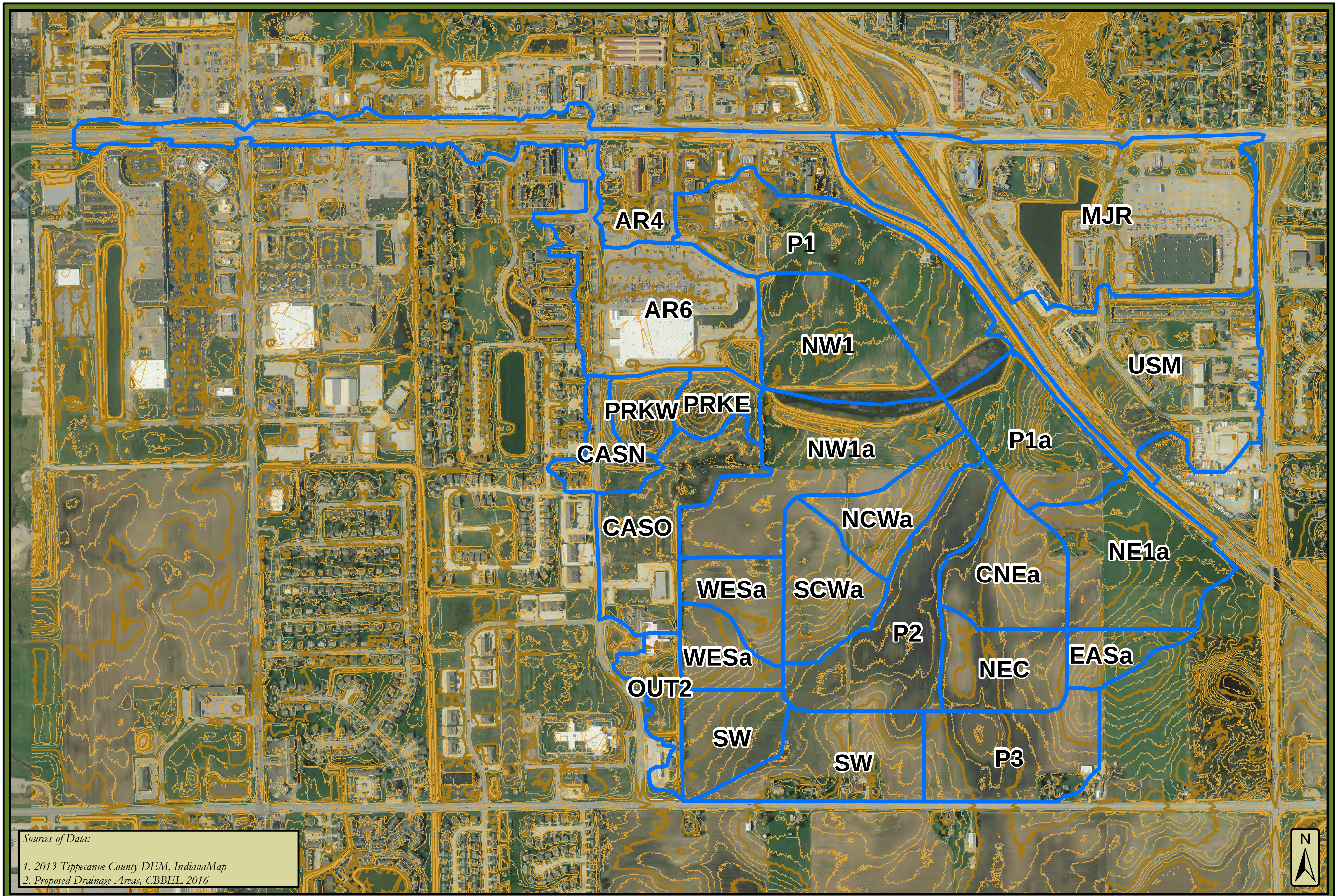
PROJECT: Alexander Ross Watershed Masterplan		PROJECT NO. 14-0041	APPROX. SCALE Not to Scale
			DATE: 10/2016
TITLE: Watershed			EXHIBIT 1.1



Sources of Data:

1. 2013 Tippecanoe County DEM, IndianaMap
2. Proposed Drainage Areas, CBBEL 2016

Legend

Proposed Basins

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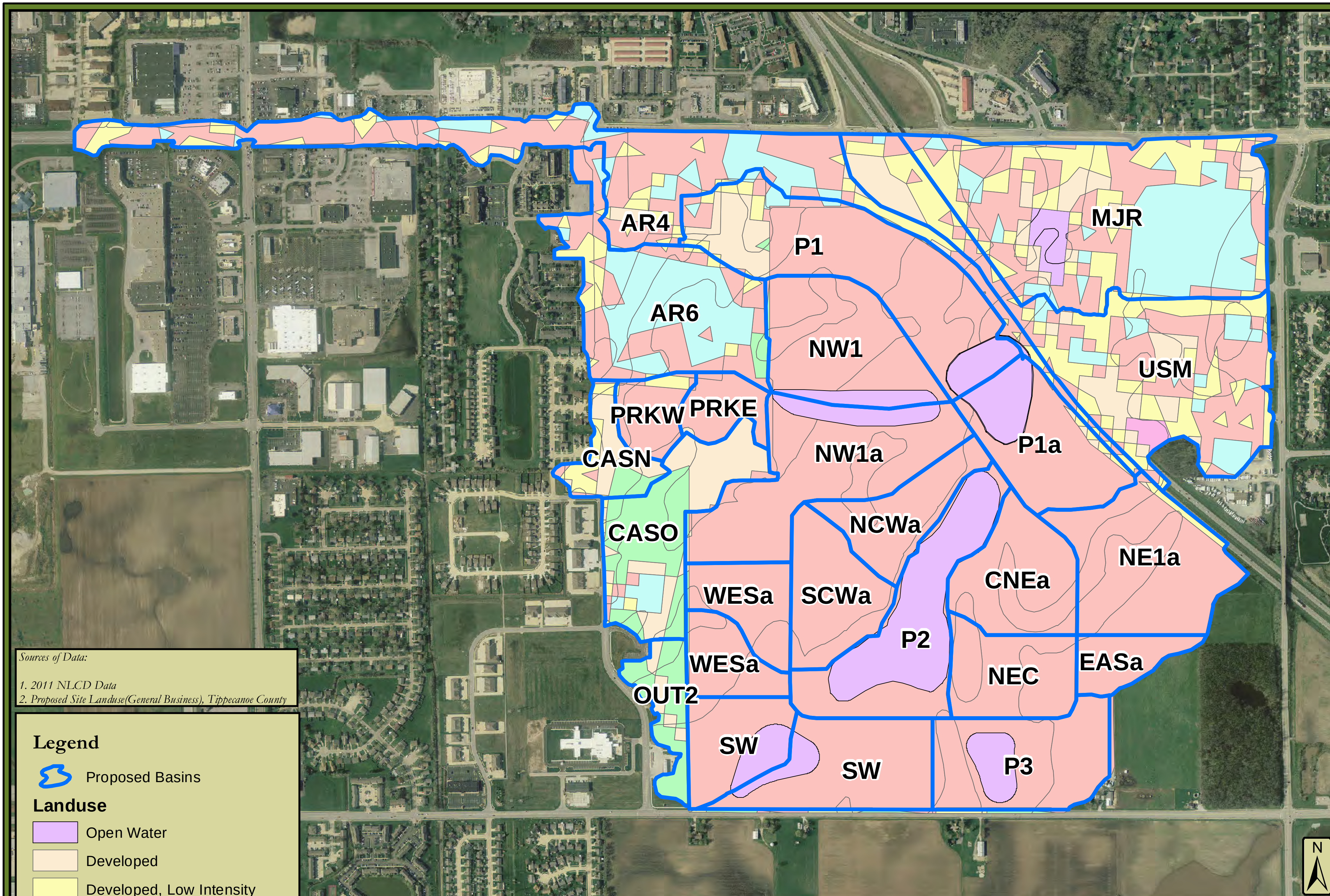
PROJECT:	PROJECT NO.	APPROX. SCALE
Alexander Ross Watershed Masterplan	14-0041	1"=1,000'
TITLE: Proposed Drainage Areas		DATE: 10/2016
		EXHIBIT 2.1



Sources of Data:

1. 2011 NLCD Data
2. Proposed Site Landuse(General Business), Tippecanoe County

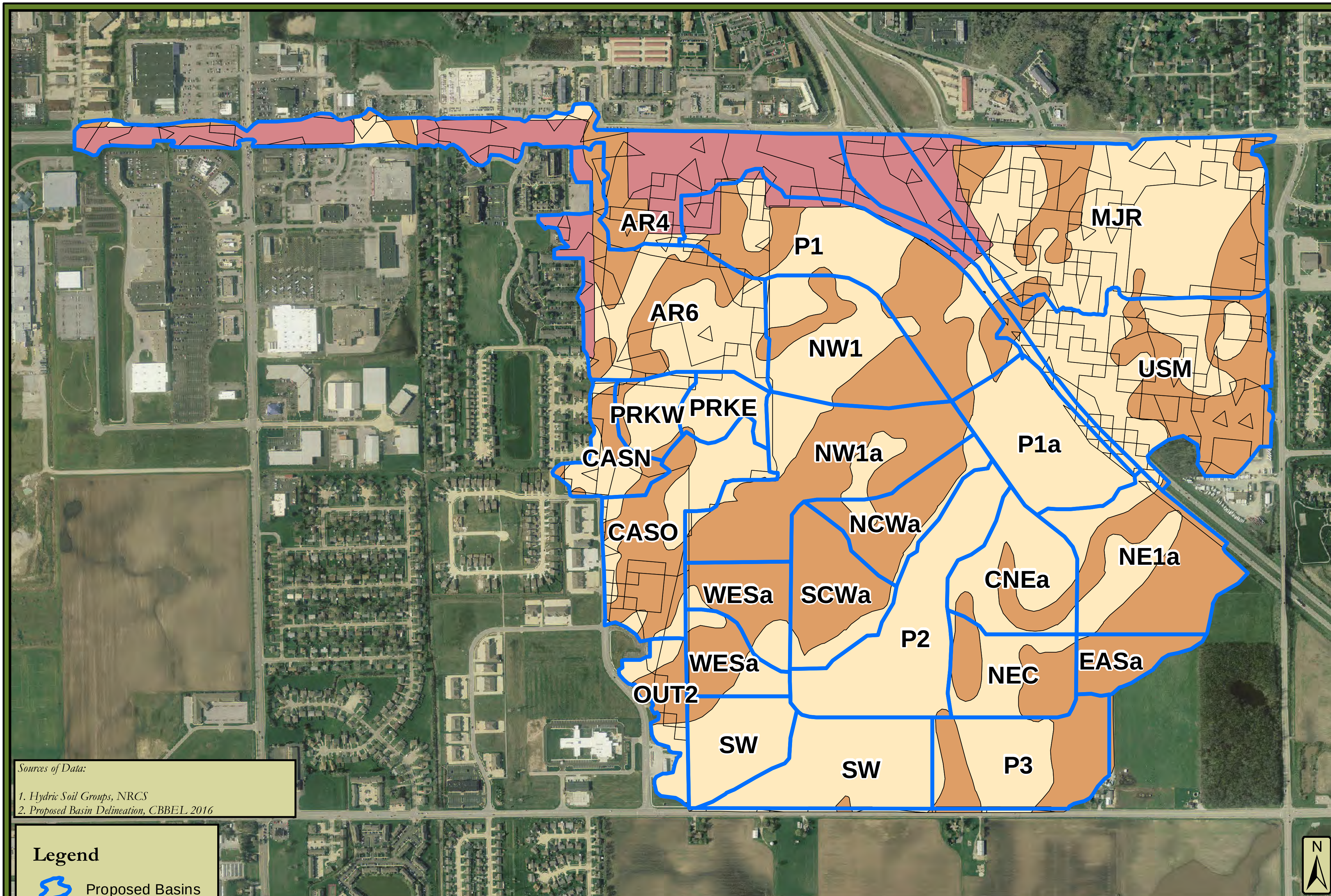
Legend

Proposed Basins

Landuse

- Open Water
- Developed
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Forest
- Cultivated Crops

Christopher B. Burke Engineering, LLC PNC Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 (t) 317.266.8000 (f) 317.632.3306	PROJECT: Alexander Ross Watershed Masterplan	PROJECT NO. 14-0041	APPROX. SCALE 1"=1,000'
			DATE: 10/2016
	TITLE: Proposed Landuse		EXHIBIT 2.2



Sources of Data:

1. Hydric Soil Groups, NRCS
2. Proposed Basin Delineation, CBBEL 2016

Legend

Proposed Basins

Hydric Soil Group

- B
- C
- D

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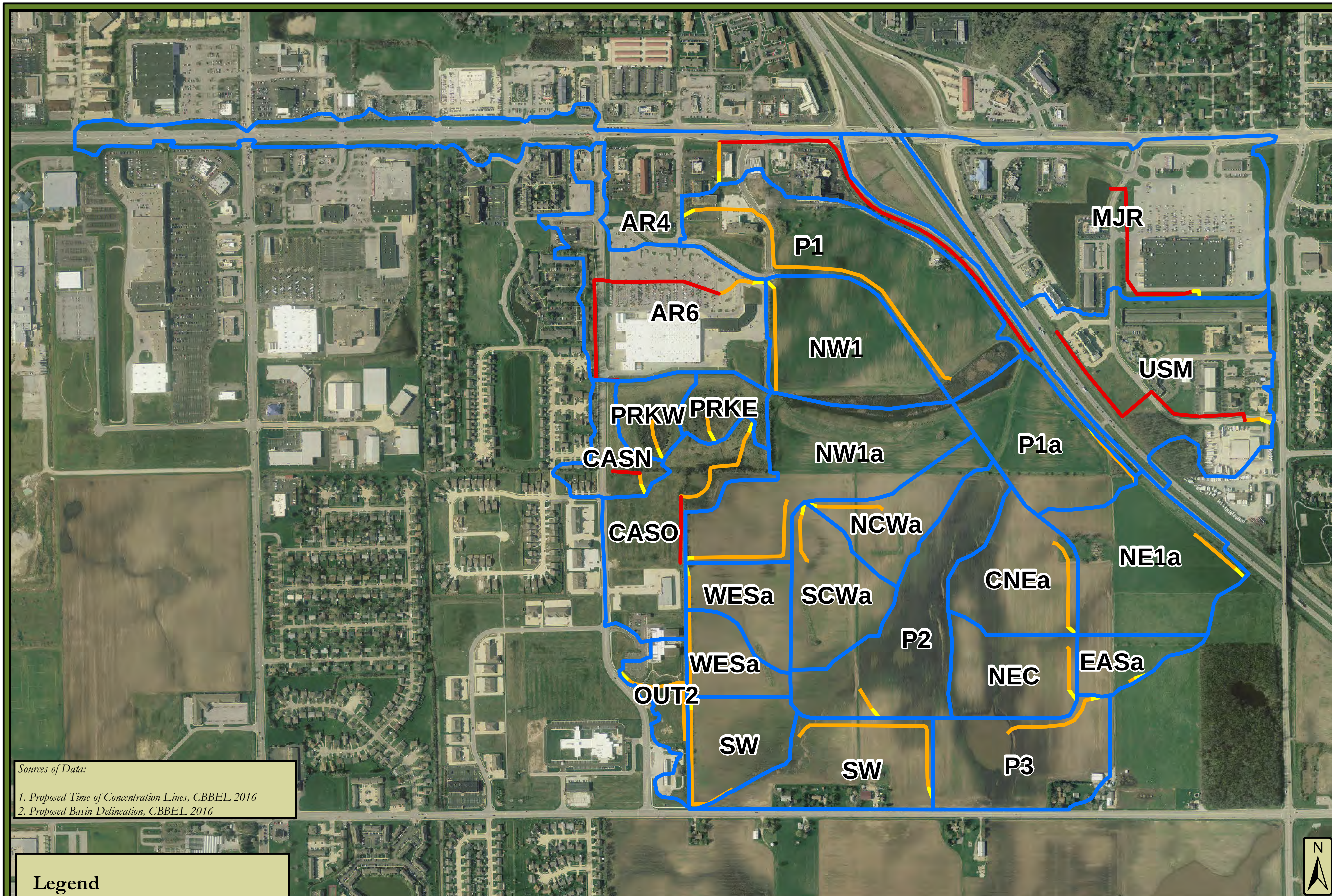
PROJECT:	PROJECT NO.	APPROX. SCALE
Alexander Ross Watershed Masterplan	14-0041	1"=1,000'
TITLE: Soils Map		DATE: 10/2016
		EXHIBIT 2.3



Sources of Data:

1. Proposed Time of Concentration Lines, CBBEL 2016
2. Proposed Basin Delineation, CBBEL 2016

Legend

- Proposed Basins
- Sheet Flow
- Shallow Concentrated Flow
- Channel Flow

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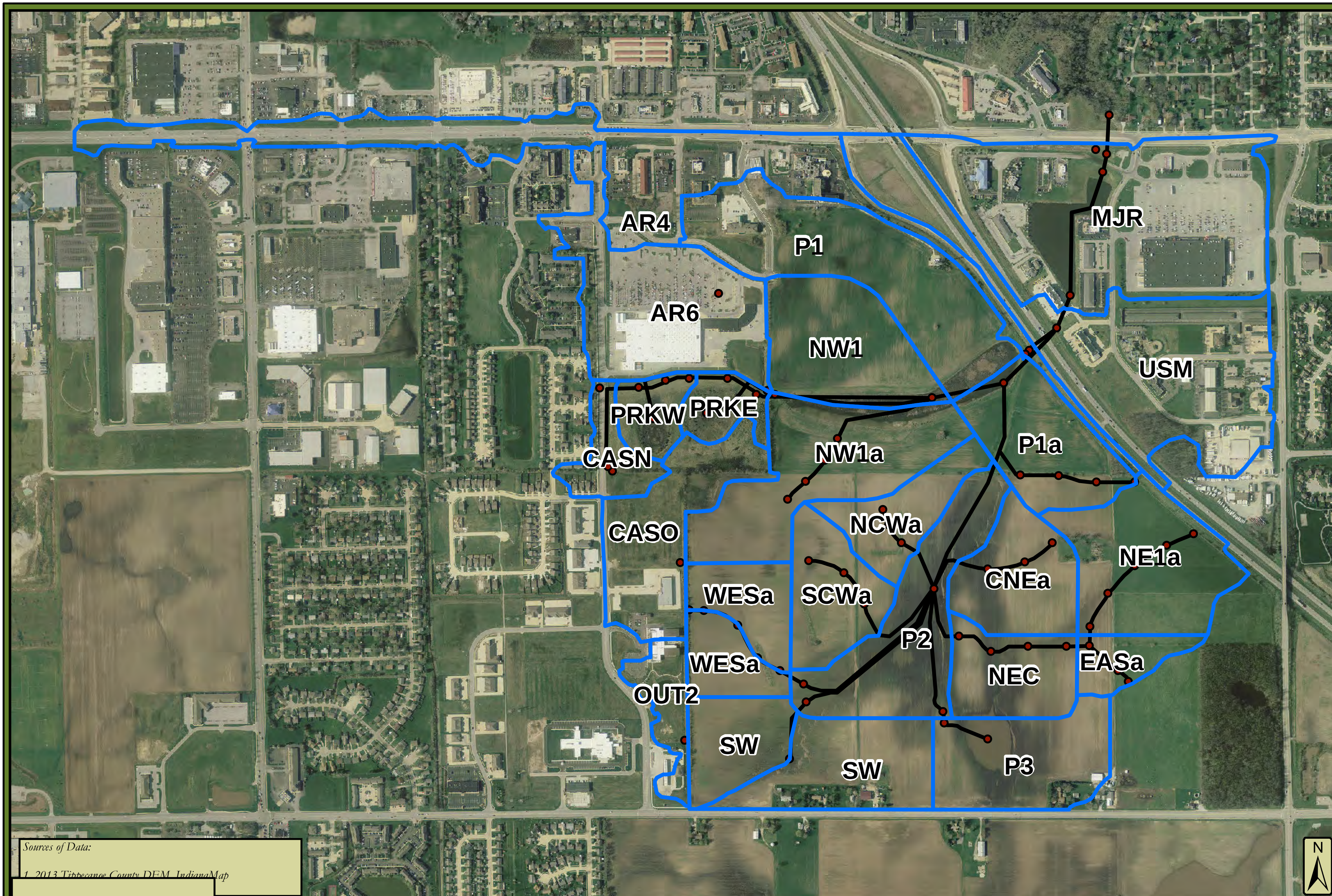
PROJECT: Alexander Ross Watershed Masterplan	PROJECT NO. 14-0041	APPROX. SCALE 1"=1,000'
		DATE: 10/2016
TITLE: Time of Concentration Map		EXHIBIT 2.4



Sources of Data:

1. 2013 Tippecanoe County DEM, IndianaMap

Legend

- Proposed Basins
- Nodes_Jan2016
- LinkExp

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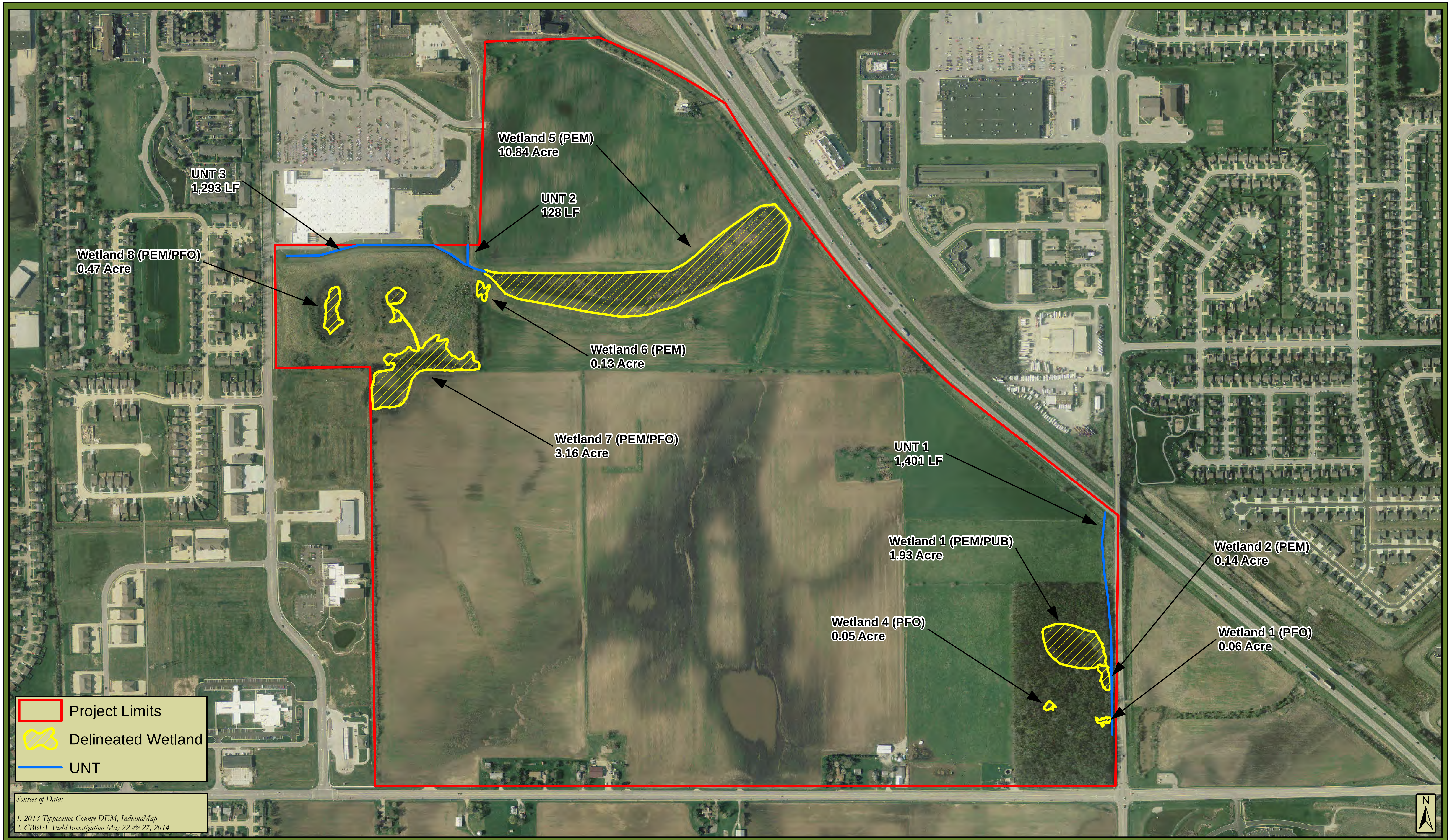
PROJECT: Alexander Ross Watershed Masterplan	PROJECT NO. 14-0041	APPROX. SCALE 1"=1,000'
		DATE: 10/2016
TITLE: Proposed Model Schematic		EXHIBIT 2.5



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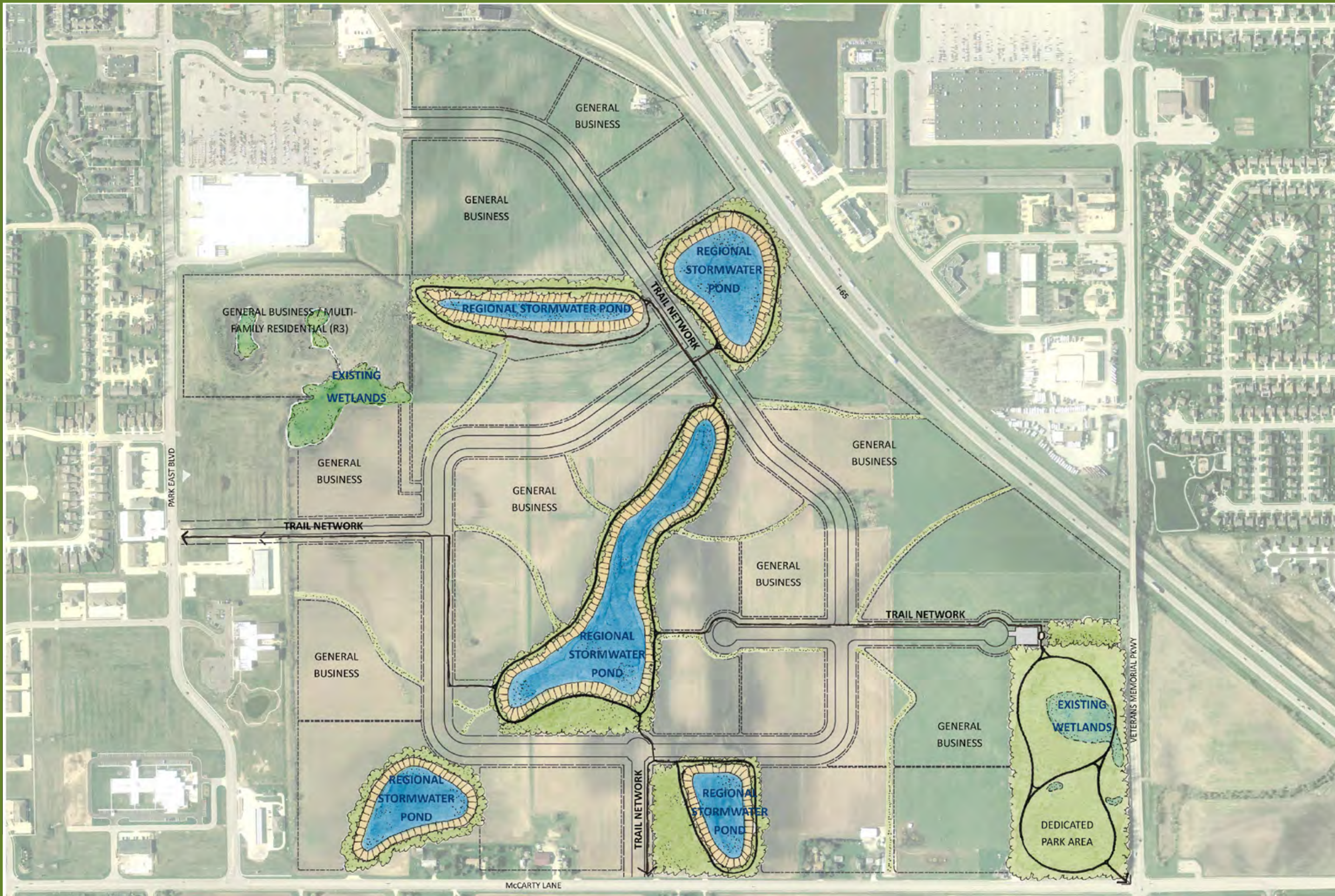
PROJECT: Alexander Ross Watershed Masterplan	PROJECT NO. 14-0041	APPROX. SCALE 1"=550'	
TITLE: Delineated Wetlands/"Waters"		DATE: 10/2016	EXHIBIT 3.1



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PROJECT: Alexander Ross Watershed Masteplan		PROJECT NO. 14-0041	APPROX. SCALE Not to Scale
TITLE: Masterplan			DATE: 10/2016
			EXHIBIT 4.1

Appendix 1
(Hydrologic and Hydraulic Analysis)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: AR4

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
50	665.02	664.76	0.0052	2.84	0.15	0.17
50	664.76	664.5	0.0052	2.84	0.011	0.02

TOTAL T_t (hr): 0.19

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
232	664.5	659.6	0.0211	y	y =	20.33	20.328	2.95	0.02
					n =	16.13			

TOTAL T_t (hr): 0.02

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)
3234	2	0.45

TOTAL T_t (hr): 0.45

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.66 hours = 40 minutes **T_{lag} = 0.40 hours = 23.9 minutes**

Adjusted Indiana-Specific T_c = 1.10 hours = 66 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: USPD

SHEET FLOW

$Tt(hr) = (0.007(n\ L)^{0.8})/(P2^{0.5}\ s^{0.4})$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	667.03	665.66	0.0137	2.84	0.011

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.02

TOTAL T_t (hr): 0.02

SHALLOW CONCENTRATED FLOW

$Tt(hr) = L/(3600\ V)$

$V(paved) = 20.3282\ S^{0.5}$

$V(unpaved) = 16.1345\ S^{0.5}$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
299	665.66	663.98	0.0056	y	y =	20.33	20.328	1.52
					n =	16.13		

Tt (hr): 0.05

TOTAL T_t (hr): 0.05

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

$Tt(hr) = L/(3600\ V)$

Length (ft)	Velocity (ft/s)
1949	2

Tt (hr): 0.27

TOTAL T_t (hr): 0.27

(w/o assuming a velocity)

$Tt(hr) = L/(3600\ V)$

$V(ft/s) = (1.49\ R^{2/3}\ S^{1/2})/n$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.35 hours = 21 minutes **T_{lag} = 0.21 hours = 12.6 minutes**

Adjusted Indiana-Specific T_c = 0.58 hours = 35 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: CASN

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	664.08	663.44	0.0064	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.27

TOTAL T_t (hr) 0.27

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)
V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
87	663.44	660.61	0.0325	n	y =	20.33	16.135	2.91
					n =	16.13		

Tt (hr): 0.01

TOTAL T_t (hr) 0.01

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)
210	2

Tt (hr): 0.03

TOTAL T_t (hr) 0.03

(w/o assuming a velocity)

Tt(hr) = L/(3600 V) V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.31 hours = 19 minutes **T_{lag} = 0.19 hours = 11.2 minutes**

Adjusted Indiana-Specific T_c = 0.52 hours = 31 minutes (If applicable)

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Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: CASO

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	663.63	662.99	0.0064	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.27

TOTAL T_t (hr): 0.27

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
868	662.99	661.35	0.0019	n	y =	20.33	16.135	0.70
					n =	16.13		

Tt (hr): 0.34

TOTAL T_t (hr): 0.34

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)
516	2

Tt (hr): 0.07

TOTAL T_t (hr): 0.07

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.69 hours = 41 minutes

T_{lag} = 0.41 hours = 24.8 minutes

Adjusted Indiana-Specific T_c = 1.15 hours = 69 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: CNEa

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	662.82	662.08	0.0074	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.26

TOTAL T_t (hr): 0.26

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
713	662.08	661.47	0.0009	n	y =	20.33	16.135	0.47
					n =	16.13		

Tt (hr): 0.42

TOTAL T_t (hr): 0.42

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr):

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.68 hours = 41 minutes

T_{lag} = 0.41 hours = 24.4 minutes

Adjusted Indiana-Specific T_c = 1.13 hours = 68 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: EASa

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	669.1	669	0.001	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr)
0.57

TOTAL T_t (hr) 0.57

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
59	669	664.5	0.0763	n	y =	20.33	16.135	4.46
					n =	16.13		

Tt (hr)
0.00

TOTAL T_t (hr) 0.00

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.58 hours = 35 minutes **T_{lag} = 0.35 hours = 20.8 minutes**

Adjusted Indiana-Specific T_c = 0.96 hours = 58 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 4/7/2016
Check By: Date:

Time of Concentration

Basin: MJR

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	671.59	667.1	0.0449	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr)
0.13

TOTAL T_t (hr) 0.13

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
				n	y =	20.33	16.135	
					n =	16.13		

Tt (hr)

TOTAL T_t (hr) 0.00

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)
1405	2

Tt (hr)
0.20

TOTAL T_t (hr) 0.20

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.32 hours = 19 minutes **T_{lag} = 0.19 hours = 11.5 minutes**

Adjusted Indiana-Specific T_c = 0.53 hours = 32 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: NCWa

SHEET FLOW

$Tt(hr) = (0.007(n L)^{0.8})/(P2^{0.5} s^{0.4})$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	663.61	662.91	0.007	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr)
0.26

TOTAL T_t (hr) 0.26

SHALLOW CONCENTRATED FLOW

$Tt(hr) = L/(3600 V)$

$V(paved) = 20.3282 S^{0.5}$
$V(unpaved) = 16.1345 S^{0.5}$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
529	662.91	661.8	0.0021	n	y =	20.33	16.135	0.74
					n =	16.13		

Tt (hr)
0.20

TOTAL T_t (hr) 0.20

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

$Tt(hr) = L/(3600 V)$

Length (ft)	Velocity (ft/s)

Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

$Tt(hr) = L/(3600 V)$

$V(ft/s) = (1.49 R^{2/3} S^{1/2})/n$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.46 hours = 28 minutes

T_{lag} = 0.28 hours = 16.7 minutes

Adjusted Indiana-Specific T_c = 0.77 hours = 46 minutes (If applicable)

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Project No.: 14-041
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Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: NE1a

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	667.3	667.2	0.001	2.84	0.15	0.57

TOTAL T_t (hr) 0.57

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
428	667.2	661.7	0.0129	n	y =	20.33	16.135	1.83	0.07
					n =	16.13			

TOTAL T_t (hr) 0.07

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.64 hours = 38 minutes

T_{lag} = 0.38 hours = 23 minutes

Adjusted Indiana-Specific T_c = 1.07 hours = 64 minutes (If applicable)

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Check By: Date:

Time of Concentration

Basin: NEC

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	661.1	659.9	0.012	2.84	0.15	0.21

TOTAL T_t (hr) 0.21

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
347	659.9	658.1	0.0052	n	y =	20.33	16.135	1.16	0.08
					n =	16.13			

TOTAL T_t (hr) 0.08

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.30 hours = 18 minutes   **T_{lag} = 0.18 hours = 10.6 minutes**

Adjusted Indiana-Specific T_c = 0.49 hours = 30 minutes (If applicable)

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Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: NW1

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	668.5	662.2	0.063	2.84	0.15	0.11
					TOTAL T_t (hr)	0.11

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
821	662.2	660.4	0.0022	n	y =	20.33	16.135	0.76	0.30
					n =	16.13			
								TOTAL T_t (hr)	0.30

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)
	TOTAL T_t (hr)	0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)
											TOTAL T_t (hr)	0.00

Total T_c = 0.41 hours = 25 minutes **T_{lag} = 0.25 hours = 14.8 minutes**

Adjusted Indiana-Specific T_c = 0.69 hours = 41 minutes (If applicable)

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Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: NW1a

SHEET FLOW

$Tt(hr) = (0.007(n L)^{0.8})/(P2^{0.5} s^{0.4})$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	668.61	668.41	0.002	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.44

TOTAL T_t (hr): 0.44

SHALLOW CONCENTRATED FLOW

$Tt(hr) = L/(3600 V)$

$V(paved) = 20.3282 S^{0.5}$

$V(unpaved) = 16.1345 S^{0.5}$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
1142	668.41	662.7	0.005	n	y =	20.33	16.135	1.14
					n =	16.13		

Tt (hr): 0.28

TOTAL T_t (hr): 0.28

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

$Tt(hr) = L/(3600 V)$

Length (ft)	Velocity (ft/s)

Tt (hr):

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

$Tt(hr) = L/(3600 V)$

$V(ft/s) = (1.49 R^{2/3} S^{1/2})/n$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.71 hours = 43 minutes **T_{lag} = 0.43 hours = 25.7 minutes**

Adjusted Indiana-Specific T_c = 1.19 hours = 71 minutes (If applicable)

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Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: OUT2

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	661.01	660.08	0.0093	2.84	0.15	0.24

TOTAL T_t (hr) 0.24

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
901	660.08	651.28	0.0098	n	y =	20.33	16.135	1.59	0.16
					n =	16.13			

TOTAL T_t (hr) 0.16

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.39 hours = 24 minutes **T_{lag} = 0.24 hours = 14.1 minutes**

Adjusted Indiana-Specific T_c = 0.65 hours = 39 minutes (If applicable)

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Basin: P1

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	665.48	664.62	0.0086	2.84	0.011

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.03

TOTAL T_t (hr): 0.03

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
2754	664.62	654.26	0.0038	n	y =	20.33	16.135	0.99
					n =	16.13		

Tt (hr): 0.77

TOTAL T_t (hr): 0.77

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr):

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel: Bottom (ft)	Open Channel: SS (ft)	Pipe: DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.80 hours = 48 minutes

T_{lag} = 0.48 hours = 28.9 minutes

Adjusted Indiana-Specific T_c = 1.34 hours = 80 minutes (If applicable)

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Basin: P1a

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	666.94	666.76	0.0018	2.84	0.011

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.06

TOTAL T_t (hr): 0.06

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V) V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
494	666.76	663.8	0.006	n	y =	20.33	16.135	1.25
					n =	16.13		

Tt (hr): 0.11

TOTAL T_t (hr): 0.11

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr):

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V) V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.17 hours = 10 minutes T_{lag} = 0.10 hours = 5.98 minutes

Adjusted Indiana-Specific T_c = 0.28 hours = 17 minutes (If applicable)

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Time of Concentration

Basin: P2

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
50	656.62	655.53	0.0218	2.84	0.011	0.01
50	655.53	654.45	0.0216	2.84	0.15	0.10

TOTAL T_t (hr) 0.11

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)   V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
185	654.45	650.01	0.024	n	y =	20.33	16.135	2.50	0.02
					n =	16.13			

TOTAL T_t (hr) 0.02

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)   V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.13 hours = 8 minutes T_{lag} = 0.08 hours = 4.64 minutes

Adjusted Indiana-Specific T_c = 0.21 hours = 13 minutes (If applicable)

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Basin: P3

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	665.37	663.7	0.0167	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.19

TOTAL T_t (hr): 0.19

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
776	663.7	653.69	0.0129	n	y =	20.33	16.135	1.83
					n =	16.13		

Tt (hr): 0.12

TOTAL T_t (hr): 0.12

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr)

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.30 hours = 18 minutes

T_{lag} = 0.18 hours = 10.9 minutes

Adjusted Indiana-Specific T_c = 0.51 hours = 30 minutes (If applicable)

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Check By: Date:

Time of Concentration

Basin: PRKE

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	662.51	660.67	0.0184	2.84	0.13

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr)
0.16

TOTAL T_t (hr) 0.16

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
144	660.67	657.6	0.0213	n	y =	20.33	16.135	2.36
					n =	16.13		

Tt (hr)
0.02

TOTAL T_t (hr) 0.02

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.18 hours = 11 minutes **T_{lag} = 0.11 hours = 6.37 minutes**

Adjusted Indiana-Specific T_c = 0.29 hours = 18 minutes (If applicable)

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Time of Concentration

Basin: PRKW

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	664.4	660.67	0.0373	2.84	0.13	0.12

TOTAL T_t (hr) 0.12

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
252	660.67	656.63	0.016	n	y =	20.33	16.135	2.04	0.03
					n =	16.13			

TOTAL T_t (hr) 0.03

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.15 hours = 9 minutes

T_{lag} = 0.09 hours = 5.57 minutes

Adjusted Indiana-Specific T_c = 0.26 hours = 15 minutes (If applicable)

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Check By: Date:

Time of Concentration

Basin: SCWa

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	664.3	663.8	0.005	2.84	0.15	0.30

TOTAL T_t (hr) 0.30

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
390	663.8	661.3	0.0064	n	y =	20.33	16.135	1.29	0.08
					n =	16.13			

TOTAL T_t (hr) 0.08

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.39 hours = 23 minutes **T_{lag} = 0.23 hours = 13.9 minutes**

Adjusted Indiana-Specific T_c = 0.64 hours = 39 minutes (If applicable)

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Basin: SW(sub1)

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	659.25	658.4	0.0085	2.84	0.011	0.03

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

TOTAL T_t (hr) 0.03

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V) V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
1521	658.4	651.8	0.0043	n	y =	20.33	16.135	1.06	0.40
					n =	16.13			

TOTAL T_t (hr) 0.40

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V) V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.43 hours = 26 minutes T_{lag} = 0.26 hours = 15.4 minutes

Adjusted Indiana-Specific T_c = 0.71 hours = 43 minutes (If applicable)

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Basin: SW(sub2)

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n	Tt (hr)
100	660.91	658.53	0.0238	2.84	0.15	0.16

TOTAL T_t (hr) 0.16

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity	Tt (hr)
1096	658.53	651.8	0.0061	n	y =	20.33	16.135	1.26	0.24
					n =	16.13			

TOTAL T_t (hr) 0.24

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)	Tt (hr)

TOTAL T_t (hr) 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr) 0.00

Total T_c = 0.40 hours = 24 minutes T_{lag} = 0.24 hours = 14.5 minutes

Adjusted Indiana-Specific T_c = 0.67 hours = 40 minutes (If applicable)

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Time of Concentration

Basin: USM

SHEET FLOW

$Tt(hr) = (0.007(n\ L)^{0.8})/(P2^{0.5}\ s^{0.4})$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	663.73	662.8	0.0093	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.24

TOTAL T_t (hr): 0.24

SHALLOW CONCENTRATED FLOW

$Tt(hr) = L/(3600\ V)$

$V(paved) = 20.3282\ S^{0.5}$

$V(unpaved) = 16.1345\ S^{0.5}$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
120	662.8	662.02	0.0065	y	y =	20.33	20.328	1.64
					n =	16.13		

Tt (hr): 0.02

TOTAL T_t (hr): 0.02

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

$Tt(hr) = L/(3600\ V)$

Length (ft)	Velocity (ft/s)
1980	2

Tt (hr): 0.28

TOTAL T_t (hr): 0.28

(w/o assuming a velocity)

$Tt(hr) = L/(3600\ V)$

$V(ft/s) = (1.49\ R^{2/3}\ S^{1/2})/n$

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.53 hours = 32 minutes **T_{lag} = 0.32 hours = 19.1 minutes**

Adjusted Indiana-Specific T_c = 0.88 hours = 53 minutes (If applicable)

Christopher B. Burke Engineering, LLC
115 W. Washington St., Suite 1368 S
Indianapolis, IN 46204
(317) 266-8000

Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: WESa(Sub2)

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	663	662.27	0.0073	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.26

TOTAL T_t (hr): 0.26

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
266	662.27	661.3	0.0036	n	y =	20.33	16.135	0.97
					n =	16.13		

Tt (hr): 0.08

TOTAL T_t (hr): 0.08

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr)

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.34 hours = 20 minutes **T_{lag} = 0.20 hours = 12.1 minutes**

Adjusted Indiana-Specific T_c = 0.56 hours = 34 minutes (If applicable)

Christopher B. Burke Engineering, LLC
115 W. Washington St., Suite 1368 S
Indianapolis, IN 46204
(317) 266-8000

Project No.: 14-041
Project Name: Aross Masterplan
Calcs. By: MWM Date: 1/20/2016
Check By: Date:

Time of Concentration

Basin: WESa(Sub1)

SHEET FLOW

Tt(hr) = (0.007(n L)^0.8)/(P2^0.5 s^0.4)

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	P2 (in)	n
100	661.77	661.6	0.0017	2.84	0.15

Surface Description	n-value
Smooth surfaces	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover<20%	0.06
Residue cover>20%	0.17
Average	0.15
Grass:	
Short grass	0.15
Lawn grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.4
Dense underbrush	0.8

Tt (hr): 0.46

TOTAL T_t (hr): 0.46

SHALLOW CONCENTRATED FLOW

Tt(hr) = L/(3600 V)

V(paved) = 20.3282 S^0.5
V(unpaved) = 16.1345 S^0.5

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	Pave(y/n)			Coef.	Velocity
581	661.6	661.3	0.0005	n	y =	20.33	16.135	0.37
					n =	16.13		

Tt (hr): 0.44

TOTAL T_t (hr): 0.44

OPEN CHANNEL/PIPE FLOW

(assuming a velocity)

Tt(hr) = L/(3600 V)

Length (ft)	Velocity (ft/s)

Tt (hr):

TOTAL T_t (hr): 0.00

(w/o assuming a velocity)

Tt(hr) = L/(3600 V)

V(ft/s) = (1.49 R^2/3 S^1/2)/n

Length (ft)	U/S Elev (ft)	D/S Elev (ft)	Slope	n-value	Open Channel Bottom (ft)	Open Channel SS (ft)	Pipe DIA (ft)	Depth (ft)	Area	R	Velocity	Tt (hr)

TOTAL T_t (hr): 0.00

Total T_c = 0.90 hours = 54 minutes

T_{lag} = 0.54 hours = 32.6 minutes

Adjusted Indiana-Specific T_c = 1.51 hours = 90 minutes (If applicable)

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM
Date			
CBBEL Project Name	Aross Masterplan	Check By	
Date			
Basin Name	**CNEa**		

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	77.2	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	77.2	6481.5
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	22.8	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	22.8	2032.7
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8514.2
					CN =	85.1
					Use CN	**85**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**EASa**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	1.0	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	1.0	83.5
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	99.0	Open Water	100			
		Developed, Open Space	79	0	0.0	2.5
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	99.0	8808.7
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8894.7
					CN =	88.9
					Use CN	**89**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**MJR**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	66.6	Open Water	100	3	1.8	183.2
		Developed, Open Space	68	6	3.9	262.6
		Developed, Low Intensity	75	22	14.7	1099.7
		Developed, Medium Intensity	84	34	22.4	1882.2
		Developed, High Intensity	92	36	23.9	2195.5
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	26.5	Open Water	100	10	2.7	268.6
		Developed, Open Space	79	13	3.3	263.9
		Developed, Low Intensity	83	22	5.8	479.6
		Developed, Medium Intensity	89	29	7.6	675.6
		Developed, High Intensity	94	27	7.1	663.2
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D	6.9	Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87	57	3.9	340.4
		Developed, Medium Intensity	91	37	2.5	230.7
		Developed, High Intensity	95	7	0.5	44.8
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =	100		
Water		Open Water	100			
Totals	100				100	8590.2
					CN =	85.9
					Use CN	**86**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**NCWa**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	23.6	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	23.6	1983.4
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	76.4	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	76.4	6798.5
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8781.9
					CN =	87.8
					Use CN	**88**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041		Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan		Check By		Date	
Basin Name	**NE1a**					

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	39.5	Open Water	100			
		Developed, Open Space	68	0	0.2	11.2
		Developed, Low Intensity	75	1	0.4	30.8
		Developed, Medium Intensity	84	99	38.9	3268.1
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	60.5	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83	5	2.8	229.4
		Developed, Medium Intensity	89	95	57.8	5140.4
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8679.7
					CN =	86.8
					Use CN	**87**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**NEC**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	46.5	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	46.5	3902.9
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	53.5	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	53.5	4764.8
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8667.7
					CN =	86.7
					Use CN	**87**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**NW1**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	59.3	Open Water	100			
		Developed, Open Space	68	1	0.8	52.2
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	97	57.7	4847.8
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	1	0.8	59.5
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	40.7	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	99	40.5	3602.8
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	1	0.2	20.3
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8582.5
					CN =	85.8
					Use CN	**86**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**NW1a**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	24.2	Open Water	100			
		Developed, Open Space	68	9	2.1	140.4
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	90	21.7	1827.0
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	2	0.4	32.6
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	75.8	Open Water	100			
		Developed, Open Space	79	1	0.5	37.6
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	99	75.2	6696.9
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	0	0.0	2.4
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8736.8
					CN =	87.4
					Use CN	**87**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM
		Date	
CBBEL Project Name	Aross Masterplan	Check By	
		Date	
Basin Name	**OUT2**		

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	57.1	Open Water	100			
		Developed, Open Space	68	16	9.4	637.7
		Developed, Low Intensity	75	0	0.2	13.5
		Developed, Medium Intensity	84			
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	83	47.5	3563.4
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	42.9	Open Water	100			
		Developed, Open Space	79	24	10.4	822.9
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89			
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	76	32.5	2666.0
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	7703.6
					CN =	77.0
					Use CN	**77**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**P1**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	43.3	Open Water	100			
		Developed, Open Space	68	8	3.5	240.7
		Developed, Low Intensity	75	5	2.3	170.0
		Developed, Medium Intensity	84	86	37.0	3110.4
		Developed, High Intensity	92	0	0.2	19.4
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	1	0.3	19.3
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	46.8	Open Water	100			
		Developed, Open Space	79	19	8.9	702.5
		Developed, Low Intensity	83	2	1.2	96.3
		Developed, Medium Intensity	89	78	36.7	3265.1
		Developed, High Intensity	94	0	0.0	0.0
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	0	0.1	7.8
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D	9.9	Open Water	100			
		Developed, Open Space	84	19	1.9	159.7
		Developed, Low Intensity	87	9	0.8	73.7
		Developed, Medium Intensity	91	46	4.6	414.9
		Developed, High Intensity	95	26	2.6	242.7
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =	100		
Water		Open Water	100			
Totals	100				100	8522.5
					CN =	85.2
					Use CN	**85**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**P1a**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	96.7	Open Water	100			
		Developed, Open Space	68	1	1.4	93.3
		Developed, Low Intensity	75	3	3.0	222.1
		Developed, Medium Intensity	84	96	92.4	7760.9
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	3.3	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	3.3	291.5
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8367.8
					CN =	83.7
					Use CN	**84**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**P2**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	99.5	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	99.5	8356.7
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	0.5	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	0.5	45.9
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8402.6
					CN =	84.0
					Use CN	**84**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**P3**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	48.6	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75	1	0.5	36.6
		Developed, Medium Intensity	84	96	46.8	3935.2
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	3	1.2	91.8
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	51.4	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83	4	1.9	159.5
		Developed, Medium Intensity	89	96	49.3	4389.6
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	0	0.2	16.2
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8628.9
					CN =	86.3
					Use CN	**86**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date
CBBEL Project Name	Aross Masterplan	Check By		Date
Basin Name	**PRKE**			

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	98.3	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	100.0	8400.0
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	1.7	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	1.7	151.3
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8551.3
					CN =	85.5
					Use CN	**86**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041		Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan		Check By		Date	
Basin Name	**PRKW**					

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	81.4	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	81.4	6837.6
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	18.6	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	18.6	1655.4
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8493.0
					CN =	84.9
					Use CN	**85**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**SCWa**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	20.4	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	100	20.4	1714.0
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	79.6	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	100	79.6	7084.0
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8798.0
					CN =	88.0
					Use CN	**88**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM
CBBEL Project Name	Aross Masterplan	Check By	
Basin Name	**SW(sub2)**		

Date:

Date:

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	98.9	Open Water	100			
		Developed, Open Space	68	0	0.2	11.5
		Developed, Low Intensity	75	2	2.1	159.0
		Developed, Medium Intensity	84	95	94.2	7916.5
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	2	2.3	174.1
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	1.1	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83	41	0.5	39.3
		Developed, Medium Intensity	89	59	0.7	59.8
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8360.2
					CN =	83.6
					Use CN	**84**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**SW(sub1)**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	93.8	Open Water	100			
		Developed, Open Space	68	0	0.2	12.7
		Developed, Low Intensity	75	0	0.3	19.3
		Developed, Medium Intensity	84	99	92.7	7789.7
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	1	0.6	42.9
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	6.2	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	92	5.7	510.9
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	8	0.5	41.7
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8417.2
					CN =	84.2
					Use CN	**84**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**USM**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	44.1	Open Water	100			
		Developed, Open Space	68	15	6.5	443.1
		Developed, Low Intensity	75	36	15.9	1193.9
		Developed, Medium Intensity	84	34	15.2	1276.8
		Developed, High Intensity	92	10	4.3	398.0
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55	5	2.1	116.9
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75			
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	38.9	Open Water	100			
		Developed, Open Space	79	10	4.1	322.3
		Developed, Low Intensity	83	26	10.1	841.1
		Developed, Medium Intensity	89	50	19.4	1728.5
		Developed, High Intensity	94	13	5.1	477.2
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70	0	0.2	11.7
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82			
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D	17.0	Open Water	100			
		Developed, Open Space	84	36	6.2	516.6
		Developed, Low Intensity	87	43	7.3	634.0
		Developed, Medium Intensity	91	19	3.3	300.8
		Developed, High Intensity	95	2	0.3	27.8
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =	100		
Water		Open Water	100			
Totals	100				100	8288.7
					CN =	82.9
					Use CN	**83**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**WESa(sub2)**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	24.7	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	96	23.7	1992.5
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	4	1.0	72.8
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	75.3	Open Water	100			
		Developed, Open Space	79	1	0.4	32.6
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	98	74.1	6590.6
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	1	0.8	69.2
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8757.8
					CN =	87.6
					Use CN	**88**

Composite Curve Number Calculation Worksheet

CBBEL Project No.	14-041	Calcs. By	MWM	Date	
CBBEL Project Name	Aross Masterplan	Check By		Date	
Basin Name	**WESa(sub1)**				

Soil Name and Hydrologic Group	% Area for Each Soil Type	Cover Description	CN	% Land Use Area per Soil Type	% Total Area	CN X % Total Area
A		Open Water	100			
		Developed, Open Space	51			
		Developed, Low Intensity	61			
		Developed, Medium Intensity	75			
		Developed, High Intensity	89			
		Barren Land (Rock / Sand / Clay)	77			
		Deciduous Forest	25			
		Evergreen Forest	25			
		Mixed Forest	25			
		Shrub / Scrub	39			
		Grasslands / Herbaceous	30			
		Pasture / Hay	39			
		Cultivated Crops	64			
		Small Grains	39			
		Urban/Recreational Grasses	39			
		Woody Wetlands	30			
		Emergent Herbaceous Wetlands	49			
			Total =			
B	39.6	Open Water	100			
		Developed, Open Space	68			
		Developed, Low Intensity	75			
		Developed, Medium Intensity	84	97	38.4	3228.5
		Developed, High Intensity	92			
		Barren Land (Rock / Sand / Clay)	86			
		Deciduous Forest	55			
		Evergreen Forest	55			
		Mixed Forest	55			
		Shrub / Scrub	61			
		Grasslands / Herbaceous	58			
		Pasture / Hay	61			
		Cultivated Crops	75	3	1.2	90.8
		Small Grains	61			
		Urban/Recreational Grasses	61			
		Woody Wetlands	55			
		Emergent Herbaceous Wetlands	69			
			Total =	100		
C	60.4	Open Water	100			
		Developed, Open Space	79			
		Developed, Low Intensity	83			
		Developed, Medium Intensity	89	96	57.7	5133.6
		Developed, High Intensity	94			
		Barren Land (Rock / Sand / Clay)	91			
		Deciduous Forest	70			
		Evergreen Forest	70			
		Mixed Forest	70			
		Shrub / Scrub	74			
		Grasslands / Herbaceous	71			
		Pasture / Hay	74			
		Cultivated Crops	82	4	2.7	219.2
		Small Grains	74			
		Urban/Recreational Grasses	74			
		Woody Wetlands	70			
		Emergent Herbaceous Wetlands	79			
			Total =	100		
D		Open Water	100			
		Developed, Open Space	84			
		Developed, Low Intensity	87			
		Developed, Medium Intensity	91			
		Developed, High Intensity	95			
		Barren Land (Rock / Sand / Clay)	94			
		Deciduous Forest	77			
		Evergreen Forest	77			
		Mixed Forest	77			
		Shrub / Scrub	80			
		Grasslands / Herbaceous	78			
		Pasture / Hay	80			
		Cultivated Crops	85			
		Small Grains	80			
		Urban/Recreational Grasses	80			
		Woody Wetlands	77			
		Emergent Herbaceous Wetlands	84			
			Total =			
Water		Open Water	100			
Totals	100				100	8672.2
					CN =	86.7
					Use CN	**87**

```
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 Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\engine64\SWMMEN~2.EXE




 Input File : ls\XPModel\Proposed\April2016\Twin42SteelPipes_100yr 12hr Huff.XP

          *================================================*
          |                     xpswmm                     |
          |      Storm and Wastewater Management Model     |
          |          Developed by XP Solutions Inc.        |
          |================================================|
          |                                                |
          | Last Update      : Jan., 2013                  |
          | Interface Version: 2012                        |
          | Engine Version   : 12.0                        |
          | Data File Version: 12.6                        |
          |                                                |
          |                                                |
          *================================================*

Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\engine64\SWMMEN~2.EXE




*=====================================================*
|       Input and Output file names by Layer          |
*=====================================================*

 Input File  to Layer #     1 JOT.US


 Output File to Layer #     1 JOT.US


 Input File  to Layer #     2 JOT.US


 Output File to Layer #     2 JOT.US



*============================================================*
|   Special command line arguments in XP-SWMM2000. This      |
|   now includes program defaults. $Keywords are the program|
|   defaults.  Other Keywords are from the SWMMCOM.CFG file.|
|   or the command line or any cfg file on the command line.|
|   Examples include these in the file xpswm.bat under the  |
|   section :solve or in the windows version XPSWMM32 in the|
|   file solve.bat                                          |
|                                                           |
|   Note: the cfg file should be in the subdirectory swmxp  |
|         or defined by the set variable in the xpswm.bat   |
|         file.  Some examples of the command lines possible|
```

```
|         are shown below:                                     |
|                                                              |
|   swmmd swmmcom.cfg                                          |
|   swmmd my.cfg                                               |
|   swmmd nokeys nconv5 perv extranwq                          |
*==============================================================*
```

$powerstation	0.0000	1	2
$perv	0.0000	0	4
$oldegg	0.0000	0	7
$as	0.0000	0	11
$noflat	0.0000	0	21
$oldomega	0.0000	0	24
$oldvol	0.0000	1	28
$implicit	0.0000	1	29
$oldhot	0.0000	1	31
$oldscs	0.0000	0	33
$flood	0.0000	1	40
$nokeys	0.0000	0	42
$pzero	0.0000	0	55
$oldvol2	0.0000	2	59
$storage2	0.0000	3	62
$oldhot1	0.0000	1	63
$pumpwt	0.0000	1	70
WSLOT3	0.0000	3	71
$ecloss	0.0000	1	77
$exout	0.0000	0	97
$spatial = 0.90	0.9000	5	124
$djref = -1.0	-0.1000	3	143
$weirlen = 50	50.0000	1	153
$oldbnd	0.0000	1	154
$nogrelev	0.0000	1	161
$ncmid	0.0000	0	164
$new_nl_97	0.0000	2	290
SCSIADEPTH=ON	0.0000	1	293
$best97	0.0000	1	294
$newbound	0.0000	1	295
$q_tol = 0.01	0.0001	1	316
$new_storage	0.0000	1	322
$old_iteration	0.0000	1	333
MINLEN=20	20.0000	1	346
$review_elevation	0.0000	1	383
$use_half_volume	0.0000	1	385
VERT_WALLS=ON	0.0000	1	389
$min_ts = 1.0	1.0000	1	407
$design_restart = on	0.0000	1	412
$zero_value=1.e-05	0.0000	1	415
SUBCATCHMENT_RES=ON	0.0000	1	419
$relax_depth = on	0.0000	1	427
$saveallpts = on	0.0000	1	434
$channel_geometry=1	0.0000	1	456

```
*=============================================================*
| Parameter Values on the Tapes Common Block.These are the |
| values read from the data file and dynamically allocated |
| by the model for this simulation.                         |
*=============================================================*
```

Number of Subcatchments in the Runoff Block (NW)....	25
Number of Channel/Pipes in the Runoff Block (NG)....	0
Runoff Water quality constituents (NRQ)............	0
Runoff Land Uses per Subcatchment (NLU)............	0
Number of Elements in the Transport Block (NET).....	0

```
 Number of Storage Junctions in Transport (NTSE).....     0
 Number of Input Hydrographs in Transport (NTH)......     0
 Number of Elements in the Extran Block (NEE)........    69
 Number of Groundwater Subcatchments in Runoff (NGW).     0
 Number of Interface locations for all Blocks (NIE)..    69
 Number of Pumps in Extran (NEP)....................     0
 Number of Orifices in Extran (NEO)..................     0
 Number of Tide Gates/Free Outfalls in Extran (NTG)..     1
 Number of Extran Weirs (NEW).......................     0
 Number of scs hydrograph points....................  5921
 Number of Extran printout locations (NPO)...........     0
 Number of Tide elements in Extran (NTE).............     1
 Number of Natural channels (NNC)....................     0
 Number of Storage junctions in Extran (NVSE)........     9
 Number of Time history data points in Extran(NTVAL).     0
 Number of Variable storage elements in Extran (NVST)     9
 Number of Input Hydrographs in Extran (NEH).........     0
 Number of Particle sizes in Transport Block (NPS)...     0
 Number of User defined conduits (NHW)...............    25
 Number of Connecting conduits in Extran (NECC)......    20
 Number of Upstream elements in Transport (NTCC).....    10
 Number of Storage/treatment plants (NSTU)...........     1
 Number of Values for R1 lines in Transport (NR1)....     0
 Number of Nodes to be allowed for (NNOD)............    69
 Number of Plugs in a Storage Treatment Unit.........     1

 #######################################################
 #    Entry made to the Runoff Layer(Block) of SWMM    #
 #    Last Updated Jan., 2013 by XP Solutions          #

 *===========================================================*
 |          RUNOFF TABLES IN THE OUTPUT FILE.                |
 |  These are the more important tables in the output file. |
 |  You can use your editor to find the table numbers,      |
 |  for example: search for Table R3 to check continuity.   |
 |  This output file can be imported into a Word Processor  |
 |  and printed on US letter or A4 paper using portrait     |
 |  mode, courier font, a size of 8 pt. and margins of 0.75 |
 |                                                           |
 | Table R1  - Physical Hydrology Data                       |
 | Table R2  - Infiltration data                             |
 | Table R3  - Raingage and Infiltration Database Names      |
 | Table R4  - Groundwater Data                              |
 | Table R5  - Continuity Check for Surface Water            |
 | Table R6  - Continuity Check for Channels/Pipes           |
 | Table R7  - Continuity Check for Subsurface Water         |
 | Table R8  - Infiltration/Inflow Continuity Check          |
 | Table R9  - Summary Statistics for Subcatchments          |
 | Table R10 - Sensitivity anlysis for Subcatchments         |
 *===========================================================*

                  A1


###########################################
#             RUNOFF JOB CONTROL          #
###########################################

 Snowmelt parameter - ISNOW.......................           0
 Number of rain gages - NRGAG.....................           1
 Quality is not simulated - KWALTY................           0
```

```
Default evaporation rate used - IVAP............            0
Hour of day at start of storm - NHR.............            0
Minute of hour at start of storm - NMN..........            0
Time TZERO at start of storm (hours)............        0.000
Use U.S. Customary units for most I/O - METRIC...           0
Runoff input print control...                               0
Runoff graph plot control....                               0
Runoff output print control..                               0
Limit number of groundwater convergence messages to     10000

Print headers every 50 lines - NOHEAD (0=yes, 1=no)         0

Print land use load percentages -LANDUPR (0=no, 1=yes)      0
Month, day, year of start of storm is:                1/ 1/2014
Wet time step length (seconds).......                    60.0
Dry time step length (seconds).......                 86400.0
Wet/Dry time step length (seconds)...                    60.0
Simulation length is......                               96.0 Hours

If Horton infiltration model is being used
A mixture of infiltration options may be used in
XP-SWMM2000 as a watershed specific option.
Rate for regeneration of infiltration = REGEN * DECAY
Decay is read in for each subcatchment
REGEN = ............................................  0.01000


Raingage #..............................           1
KTYPE  - Rainfall input type.............          0
NHISTO - Total number of rainfall values..        21
KINC   - Rainfall values(pairs) per line..        10
KPRINT - Print rainfall(0-Yes,1-No).......         0
KTIME  - Precipitation time units
0 --> Minutes  1 --> Hours...............          0
KPREP  - Precipitation unit type
0 --> Intensity  1 --> Volume............          1
KTHIS - Variable rainfall intervals
0 --> No, > 1 --> Yes....................          0
THISTO - Rainfall time interval...........     36.00
TZRAIN - Starting time(KTIME units).......      0.00


######################################
# Rainfall input summary from Runoff #
######################################

Total rainfall for gage #     1 is    5.5100 inches

  #############################
  #        Data Group F1      #
  # Evaporation Rate (in/day) #
  #############################

 JAN.  FEB.  MAR.  APR.  MAY   JUN.  JUL.  AUG.  SEP.  OCT.  NOV  DEC.
 ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ---- ----
0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100


 ###################################################
 #  Table R1.  S U B C A T C H M E N T  D A T A    #
 #             Physical Hydrology Data             #
 ###################################################
```

Subcatchment Number	Name	Channel or inlet	Width (ft)	Area (ac)	Per-cent Imperv	Slope ft/ft	"n" Imprv	"n" Perv	Deprs-sion Storge Imprv	Deprs-sion Strge Perv	Prcnt Zero Deten-tion
1	AR4#1	AR4	1.0000	53.674	0.00	1.000	0.020	0.020	0.000	0.000	0.00
2	PRKE#1	PRKE	1.0000	6.8030	0.00	1.000	0.020	0.020	0.000	0.000	0.00
3	PRKW#1	PRKW	1.0000	7.0820	0.00	1.000	0.020	0.020	0.000	0.000	0.00
4	USPD#1	USPD	1.0000	36.855	0.00	1.000	0.020	0.020	0.000	0.000	0.00
5	NW1a#1	NW1a	1.0000	33.692	0.00	1.000	0.020	0.020	0.000	0.000	0.00
6	CASN#1	CASN	1.0000	8.1760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
7	NW1#1	NW1	1.0000	25.045	0.00	1.000	0.020	0.020	0.000	0.000	0.00
8	NE1a#1	NE1a	1.0000	28.648	0.00	1.000	0.020	0.020	0.000	0.000	0.00
9	EASa#1	EASa	1.0000	7.0540	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	NEC#1	NEC	1.0000	15.403	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	P3#1	P3	1.0000	23.076	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	SW#1	SW	1.0000	13.115	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	SW#2	SW	1.0000	21.467	0.00	1.000	0.020	0.020	0.000	0.000	0.00
14	WESa#1	WESa	1.0000	8.8980	0.00	1.000	0.020	0.020	0.000	0.000	0.00
15	WESa#2	WESa	1.0000	10.843	0.00	1.000	0.020	0.020	0.000	0.000	0.00
16	CNEa#1	CNEa	1.0000	18.240	0.00	1.000	0.020	0.020	0.000	0.000	0.00
17	SCWa#1	SCWa	1.0000	16.105	0.00	1.000	0.020	0.020	0.000	0.000	0.00
18	NCWa#1	NCWa	1.0000	13.160	0.00	1.000	0.020	0.020	0.000	0.000	0.00
19	P2#1	P2	1.0000	28.809	0.00	1.000	0.020	0.020	0.000	0.000	0.00
20	P1a#1	P1a	1.0000	21.506	0.00	1.000	0.020	0.020	0.000	0.000	0.00
21	P1#1	P1	1.0000	40.753	0.00	1.000	0.020	0.020	0.000	0.000	0.00
22	USM#1	USM	1.0000	57.763	0.00	1.000	0.020	0.020	0.000	0.000	0.00
23	MJR#1	MJR	1.0000	69.217	0.00	1.000	0.020	0.020	0.000	0.000	0.00
24	OUT2#1	OUT2	1.0000	8.2490	0.00	1.000	0.020	0.020	0.000	0.000	0.00
25	CASO#1	CASO	1.0000	24.572	0.00	1.000	0.020	0.020	0.000	0.000	0.00

##

```
###################
#          Table R2.  SUBCATCHMENT  DATA
                 #
#                     Infiltration or Time of Concentration Data
                 #
#
                 #
# Infiltration Type      Infl #1(#5)       Infl #2(#6)          Infl #3(#7)
    Infl #4(#8)  #
# SCS                  ->   Comp CN          Time Conc         Shape Factor
Depth or Fraction  #
# SBUH                 ->   Comp CN          Time Conc                  N/A
            N/A  #
# Green Ampt           ->   Suction          Hydr Cond           Initial MD
            N/A  #
# Horton               ->  Max Rate           Min Rate   Decay Rate (1/sec)
Max. Infilt. Volume  #
# Proportional         ->  Constant                N/A                  N/A
            N/A  #
# Initial/Cont Loss    ->   Initial         Continuing                  N/A
            N/A  #
# Initial/Proportional ->   Initial           Constant                  N/A
            N/A  #
# Laurenson Parameters ->   B Value       Pervious "n"      Impervious Cont
       Exponent  #
# Rational Formula     -> Tc Method   Flow Path Length      Flow Path Slope
Roughness or Retardance  #
#                                (#1 - #4 is Impervious Data / #5 - #8 is Pervious
Data)               #
#                      Rational Formula Tc Method: 1 = Constant
                 #
#                                                  2 = Friend's Equation
                 #
#                                                  3 = Kinematic Wave
                 #
#                                                  4 = Alameda Method
                 #
#                                                  5 = Izzard's Formula
                 #
#                                                  6 = Kerby's Equation
                 #
#                                                  7 = Kirpich's Equation
                 #
#                                                  8 = Bransby Williams Equation
                 #
#                                                  9 = Federal Aviation Authority
Equation            #
####################################################################################
###################

     Subcatchment           Infl      Infl      Infl      Infl      Infl      Infl
   Infl      Infl
  Number     Name            # 1       # 2       # 3       # 4       # 5       # 6
    # 7       # 8
  ===============       ========= ========= ========= ========= ========= =========
========= =========
    1            AR4#1    89.0000    0.6667  484.0000    0.2000

    2           PRKE#1    85.0000    0.1833  484.0000    0.2000

    3           PRKW#1    85.0000    0.1500  484.0000    0.2000

    4           USPD#1    88.0000    0.3500  484.0000    0.2000
```

5	NW1a#1	87.0000	0.7167	484.0000	0.2000
6	CASN#1	77.0000	0.3167	484.0000	0.2000
7	NW1#1	86.0000	0.4167	484.0000	0.2000
8	NE1a#1	87.0000	0.6333	484.0000	0.2000
9	EASa#1	89.0000	0.5833	484.0000	0.2000
10	NEC#1	87.0000	0.3000	484.0000	0.2000
11	P3#1	86.0000	0.3000	484.0000	0.2000
12	SW#1	84.0000	0.4000	484.0000	0.2000
13	SW#2	84.0000	0.4333	484.0000	0.2000
14	WESa#1	87.0000	0.9000	484.0000	0.2000
15	WESa#2	88.0000	0.3333	484.0000	0.2000
16	CNEa#1	85.0000	0.6833	484.0000	0.2000
17	SCWa#1	88.0000	0.3833	484.0000	0.2000
18	NCWa#1	88.0000	0.4667	484.0000	0.2000
19	P2#1	84.0000	0.1333	484.0000	0.2000
20	P1a#1	84.0000	0.1667	484.0000	0.2000
21	P1#1	85.0000	0.8000	484.0000	0.2000
22	USM#1	89.0000	0.5333	484.0000	0.2000
23	MJR#1	89.0000	0.3167	484.0000	0.2000
24	OUT2#1	77.0000	0.4000	484.0000	0.2000
25	CASO#1	78.0000	0.6833	484.0000	0.2000

```
#############################################################
#     Table R3.  SUBCATCHMENT  DATA                         #
#                Rainfall and Infiltration Database Names  #
#############################################################
```

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	AR4#1	1	SCS Method	SCS curvilinear
2	PRKE#1	1	SCS Method	SCS curvilinear
3	PRKW#1	1	SCS Method	SCS curvilinear
4	USPD#1	1	SCS Method	SCS curvilinear
5	NW1a#1	1	SCS Method	SCS curvilinear
6	CASN#1	1	SCS Method	SCS curvilinear
7	NW1#1	1	SCS Method	SCS curvilinear
8	NE1a#1	1	SCS Method	SCS curvilinear
9	EASa#1	1	SCS Method	SCS curvilinear
10	NEC#1	1	SCS Method	SCS curvilinear

```
    11             P3#1      1   SCS Method       SCS curvilinear
    12             SW#1      1   SCS Method       SCS curvilinear
    13             SW#2      1   SCS Method       SCS curvilinear
    14            WESa#1     1   SCS Method       SCS curvilinear
    15            WESa#2     1   SCS Method       SCS curvilinear
    16            CNEa#1     1   SCS Method       SCS curvilinear
    17            SCWa#1     1   SCS Method       SCS curvilinear
    18            NCWa#1     1   SCS Method       SCS curvilinear
    19             P2#1      1   SCS Method       SCS curvilinear
    20            P1a#1      1   SCS Method       SCS curvilinear
    21             P1#1      1   SCS Method       SCS curvilinear
    22            USM#1      1   SCS Method       SCS curvilinear
    23            MJR#1      1   SCS Method       SCS curvilinear
    24            OUT2#1     1   SCS Method       SCS curvilinear
    25            CASO#1     1   SCS Method       SCS curvilinear

 Total Number of Subcatchments...           25
 Total Tributary Area (acres)....       598.21
 Impervious Area (acres).........         0.00
 Pervious Area (acres)...........       598.21
 Total Width (feet)..............        25.00
 Impervious Area (%).............         0.00


  ###################################################
  #          S U B C A T C H M E N T   D A T A      #
  #   Default, Ratio values for subcatchment data   #
  #   Used with the calibrate node in the runoff.   #
  # 1 - width     2 - area      3 - impervious %    #
  # 4 - slope     5 - imp "n"   6 - perv "n"        #
  # 7 - imp ds    8 - perv ds   9 - 1st infil       #
  #10 - 2nd infil              11 - 3rd infil       #
  ###################################################

 Column           1         2         3         4         5         6         7
   8         9        10        11
 Default     0.0000    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000
0.0000    0.0000    0.0000    0.0000
 Ratio       1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000
1.0000    1.0000    1.0000    1.0000

 *********************************************************
 *     Arrangement of Subcatchments and Channel/Pipes    *
 *********************************************************


     Inlet
 AR4            No Tributary Channel/Pipes
                Tributary Subareas........ AR4#1
 PRKE           No Tributary Channel/Pipes
                Tributary Subareas........ PRKE#1
 PRKW           No Tributary Channel/Pipes
                Tributary Subareas........ PRKW#1
 USPD           No Tributary Channel/Pipes
                Tributary Subareas........ USPD#1
 NW1a           No Tributary Channel/Pipes
                Tributary Subareas........ NW1a#1
 CASN           No Tributary Channel/Pipes
                Tributary Subareas........ CASN#1
 NW1            No Tributary Channel/Pipes
                Tributary Subareas........ NW1#1
 NE1a           No Tributary Channel/Pipes
                Tributary Subareas........ NE1a#1
```

```
EASa            No Tributary Channel/Pipes
                Tributary Subareas........ EASa#1
NEC             No Tributary Channel/Pipes
                Tributary Subareas........ NEC#1
P3              No Tributary Channel/Pipes
                Tributary Subareas........ P3#1
SW              No Tributary Channel/Pipes
                Tributary Subareas........ SW#1       SW#2
WESa            No Tributary Channel/Pipes
                Tributary Subareas........ WESa#1     WESa#2
CNEa            No Tributary Channel/Pipes
                Tributary Subareas........ CNEa#1
SCWa            No Tributary Channel/Pipes
                Tributary Subareas........ SCWa#1
NCWa            No Tributary Channel/Pipes
                Tributary Subareas........ NCWa#1
P2              No Tributary Channel/Pipes
                Tributary Subareas........ P2#1
P1a             No Tributary Channel/Pipes
                Tributary Subareas........ P1a#1
P1              No Tributary Channel/Pipes
                Tributary Subareas........ P1#1
USM             No Tributary Channel/Pipes
                Tributary Subareas........ USM#1
MJR             No Tributary Channel/Pipes
                Tributary Subareas........ MJR#1
OUT2            No Tributary Channel/Pipes
                Tributary Subareas........ OUT2#1
CASO            No Tributary Channel/Pipes
                Tributary Subareas........ CASO#1


***********************************************************
* Hydrographs will be stored for the following  23 INLETS *
***********************************************************
AR4       PRKE      PRKW      USPD      NW1a      CASN
NW1       NE1a      EASa      NEC       P3        SW
WESa      CNEa      SCWa      NCWa      P2        P1a
P1        USM       MJR       OUT2      CASO


************************************************
*  Quality Simulation not included in this run *
************************************************




***************************************************
*  Precipitation Interface File Summary           *
*  Number of precipitation station....        1   *
***************************************************

Location Station Number
-------- -------------
      1.            1

XXX End of Header Section XXX

#######################################################
#    Entry made to the HYDRAULIC Layer of XP-SWMM     #
#    Last Updated in Jan., 2013 by XP Solutions       #
```

```
#######################################################
#    Entry made to the Runoff Layer(Block) of SWMM    #
#    Last Updated Jan., 2013 by XP Solutions          #

*===========================================================*
|          RUNOFF TABLES IN THE OUTPUT FILE.                |
|   These are the more important tables in the output file. |
|   You can use your editor to find the table numbers,      |
|   for example: search for Table R3 to check continuity.   |
|   This output file can be imported into a Word Processor  |
|   and printed on US letter or A4 paper using portrait     |
|   mode, courier font, a size of 8 pt. and margins of 0.75 |
|                                                           |
| Table R1  - Physical Hydrology Data                       |
| Table R2  - Infiltration data                             |
| Table R3  - Raingage and Infiltration Database Names      |
| Table R4  - Groundwater Data                              |
| Table R5  - Continuity Check for Surface Water            |
| Table R6  - Continuity Check for Channels/Pipes           |
| Table R7  - Continuity Check for Subsurface Water         |
| Table R8  - Infiltration/Inflow Continuity Check          |
| Table R9  - Summary Statistics for Subcatchments          |
| Table R10 - Sensitivity anlysis for Subcatchments         |
*===========================================================*

                     A1


###########################################
#             RUNOFF JOB CONTROL          #
###########################################

 Snowmelt parameter - ISNOW.......................           0
 Number of rain gages - NRGAG.....................           1
 Quality is not simulated - KWALTY................           0
 Default evaporation rate used - IVAP.............           0
 Hour of day at start of storm - NHR..............           0
 Minute of hour at start of storm - NMN...........           0
 Time TZERO at start of storm (hours).............       0.000
 Use U.S. Customary units for most I/O - METRIC...           0
 Runoff input print control...                               0
 Runoff graph plot control....                               0
 Runoff output print control..                               0
 Limit number of groundwater convergence messages to     10000

 Print headers every 50 lines - NOHEAD (0=yes, 1=no)         0

 Print land use load percentages -LANDUPR (0=no, 1=yes)      0
 Month, day, year of start of storm is:              1/ 1/2014
 Wet time step length (seconds).......                    60.0
 Dry time step length (seconds).......                 86400.0
 Wet/Dry time step length (seconds)...                    60.0
 Simulation length is......                               96.0 Hours

 If Horton infiltration model is being used
 A mixture of infiltration options may be used in
 XP-SWMM2000 as a watershed specific option.
 Rate for regeneration of infiltration = REGEN * DECAY
 Decay is read in for each subcatchment
 REGEN = ...........................................  0.01000
```

```
 Raingage #...............................         1
 KTYPE  - Rainfall input type.............         0
 NHISTO - Total number of rainfall values..       21
 KINC   - Rainfall values(pairs) per line..       10
 KPRINT - Print rainfall(0-Yes,1-No).......        0
 KTIME  - Precipitation time units
 0 --> Minutes  1 --> Hours................        0
 KPREP  - Precipitation unit type
 0 --> Intensity  1 --> Volume.............        1
 KTHIS - Variable rainfall intervals
 0 --> No, > 1 --> Yes.....................        0
 THISTO - Rainfall time interval...........    36.00
 TZRAIN - Starting time(KTIME units).......     0.00


######################################
# Rainfall input summary from Runoff #
######################################

 Total rainfall for gage #     1 is    5.5100 inches

   ##############################
   #        Data Group F1       #
   # Evaporation Rate (in/day) #
   ##############################

  JAN.  FEB.  MAR.  APR.  MAY   JUN.  JUL.  AUG.  SEP.  OCT.  NOV  DEC.
  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ---- ----
 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100


  ###################################################
  #  Table R1.  S U B C A T C H M E N T  D A T A    #
  #             Physical Hydrology Data             #
  ###################################################


   Deprs Deprs Prcnt
                                                                Per-
  -sion -sion  Zero
       Subcatchment            Channel      Width    Area      cent  Slope  "n"
"n"  Storge Strge Deten
  Number          Name         or inlet      (ft)    (ac)     Imperv ft/ft Imprv
Perv Imprv  Perv -tion
  ====== ============== ================ ======== ========   ====== ===== =====
===== ===== ===== =====
      1            AR4#1             AR4 1.0000    53.674      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      2           PRKE#1            PRKE 1.0000    6.8030      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      3           PRKW#1            PRKW 1.0000    7.0820      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      4           USPD#1            USPD 1.0000    36.855      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      5           NW1a#1            NW1a 1.0000    33.692      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      6           CASN#1            CASN 1.0000    8.1760      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      7            NW1#1             NW1 1.0000    25.045      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      8           NE1a#1            NE1a 1.0000    28.648      0.00 1.000 0.020
0.020 0.000 0.000  0.00
      9           EASa#1            EASa 1.0000    7.0540      0.00 1.000 0.020
```

```
0.020 0.000 0.000  0.00
     10            NEC#1              NEC 1.0000    15.403      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     11             P3#1               P3 1.0000    23.076      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     12             SW#1               SW 1.0000    13.115      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     13             SW#2               SW 1.0000    21.467      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     14           WESa#1             WESa 1.0000    8.8980      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     15           WESa#2             WESa 1.0000    10.843      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     16           CNEa#1             CNEa 1.0000    18.240      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     17           SCWa#1             SCWa 1.0000    16.105      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     18           NCWa#1             NCWa 1.0000    13.160      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     19             P2#1               P2 1.0000    28.809      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     20            P1a#1              P1a 1.0000    21.506      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     21             P1#1               P1 1.0000    40.753      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     22            USM#1              USM 1.0000    57.763      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     23            MJR#1              MJR 1.0000    69.217      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     24           OUT2#1             OUT2 1.0000    8.2490      0.00 1.000 0.020
0.020 0.000 0.000  0.00
     25           CASO#1             CASO 1.0000    24.572      0.00 1.000 0.020
0.020 0.000 0.000  0.00


####################################################################################
###################
#          Table R2.  SUBCATCHMENT  DATA
                 #
#                    Infiltration or Time of Concentration Data
                 #
#
                 #
# Infiltration Type      Infl #1(#5)       Infl #2(#6)          Infl #3(#7)
    Infl #4(#8)  #
# SCS                  ->   Comp CN          Time Conc         Shape Factor
Depth or Fraction  #
# SBUH                 ->   Comp CN          Time Conc                  N/A
            N/A  #
# Green Ampt           ->   Suction          Hydr Cond           Initial MD
            N/A  #
# Horton               ->  Max Rate           Min Rate   Decay Rate (1/sec)
Max. Infilt. Volume  #
# Proportional         ->  Constant                N/A                  N/A
            N/A  #
# Initial/Cont Loss    ->   Initial         Continuing                  N/A
            N/A  #
# Initial/Proportional ->   Initial           Constant                  N/A
            N/A  #
# Laurenson Parameters ->   B Value       Pervious "n"      Impervious Cont
       Exponent  #
# Rational Formula     -> Tc Method   Flow Path Length      Flow Path Slope
Roughness or Retardance  #
```

```
#                               (#1 - #4 is Impervious Data / #5 - #8 is Pervious
Data)                #
#                       Rational Formula Tc Method: 1 = Constant
                #
#                                                   2 = Friend's Equation
                #
#                                                   3 = Kinematic Wave
                #
#                                                   4 = Alameda Method
                #
#                                                   5 = Izzard's Formula
                #
#                                                   6 = Kerby's Equation
                #
#                                                   7 = Kirpich's Equation
                #
#                                                   8 = Bransby Williams Equation
                #
#                                                   9 = Federal Aviation Authority
Equation             #
####################################################################################
###################
```

Subcatchment Number	Name	Infl # 1	Infl # 2	Infl # 3	Infl # 4	Infl # 5	Infl # 6	Infl # 7	Infl # 8
1	AR4#1	89.0000	0.6667	484.0000	0.2000				
2	PRKE#1	85.0000	0.1833	484.0000	0.2000				
3	PRKW#1	85.0000	0.1500	484.0000	0.2000				
4	USPD#1	88.0000	0.3500	484.0000	0.2000				
5	NW1a#1	87.0000	0.7167	484.0000	0.2000				
6	CASN#1	77.0000	0.3167	484.0000	0.2000				
7	NW1#1	86.0000	0.4167	484.0000	0.2000				
8	NE1a#1	87.0000	0.6333	484.0000	0.2000				
9	EASa#1	89.0000	0.5833	484.0000	0.2000				
10	NEC#1	87.0000	0.3000	484.0000	0.2000				
11	P3#1	86.0000	0.3000	484.0000	0.2000				
12	SW#1	84.0000	0.4000	484.0000	0.2000				
13	SW#2	84.0000	0.4333	484.0000	0.2000				
14	WESa#1	87.0000	0.9000	484.0000	0.2000				
15	WESa#2	88.0000	0.3333	484.0000	0.2000				
16	CNEa#1	85.0000	0.6833	484.0000	0.2000				
17	SCWa#1	88.0000	0.3833	484.0000	0.2000				

18	NCWa#1	88.0000	0.4667	484.0000	0.2000
19	P2#1	84.0000	0.1333	484.0000	0.2000
20	P1a#1	84.0000	0.1667	484.0000	0.2000
21	P1#1	85.0000	0.8000	484.0000	0.2000
22	USM#1	89.0000	0.5333	484.0000	0.2000
23	MJR#1	89.0000	0.3167	484.0000	0.2000
24	OUT2#1	77.0000	0.4000	484.0000	0.2000
25	CASO#1	78.0000	0.6833	484.0000	0.2000

##
Table R3. SUBCATCHMENT DATA
Rainfall and Infiltration Database Names
##

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	AR4#1	1	SCS Method	SCS curvilinear
2	PRKE#1	1	SCS Method	SCS curvilinear
3	PRKW#1	1	SCS Method	SCS curvilinear
4	USPD#1	1	SCS Method	SCS curvilinear
5	NW1a#1	1	SCS Method	SCS curvilinear
6	CASN#1	1	SCS Method	SCS curvilinear
7	NW1#1	1	SCS Method	SCS curvilinear
8	NE1a#1	1	SCS Method	SCS curvilinear
9	EASa#1	1	SCS Method	SCS curvilinear
10	NEC#1	1	SCS Method	SCS curvilinear
11	P3#1	1	SCS Method	SCS curvilinear
12	SW#1	1	SCS Method	SCS curvilinear
13	SW#2	1	SCS Method	SCS curvilinear
14	WESa#1	1	SCS Method	SCS curvilinear
15	WESa#2	1	SCS Method	SCS curvilinear
16	CNEa#1	1	SCS Method	SCS curvilinear
17	SCWa#1	1	SCS Method	SCS curvilinear
18	NCWa#1	1	SCS Method	SCS curvilinear
19	P2#1	1	SCS Method	SCS curvilinear
20	P1a#1	1	SCS Method	SCS curvilinear
21	P1#1	1	SCS Method	SCS curvilinear
22	USM#1	1	SCS Method	SCS curvilinear
23	MJR#1	1	SCS Method	SCS curvilinear
24	OUT2#1	1	SCS Method	SCS curvilinear
25	CASO#1	1	SCS Method	SCS curvilinear

Total Number of Subcatchments...	25
Total Tributary Area (acres)....	598.21
Impervious Area (acres).........	0.00
Pervious Area (acres)...........	598.21
Total Width (feet)..............	25.00
Impervious Area (%).............	0.00

##
S U B C A T C H M E N T D A T A
Default, Ratio values for subcatchment data

```
 #   Used with the calibrate node in the runoff.   #
 # 1 - width     2 - area      3 - impervious %   #
 # 4 - slope     5 - imp "n"    6 - perv "n"       #
 # 7 - imp ds    8 - perv ds    9 - 1st infil      #
 #10 - 2nd infil               11 - 3rd infil      #
 ###################################################

Column           1         2         3         4         5         6         7
  8         9        10        11
Default     0.0000    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000
0.0000    0.0000    0.0000    0.0000
Ratio       1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000
1.0000    1.0000    1.0000    1.0000

*********************************************************
*     Arrangement of Subcatchments and Channel/Pipes    *
*********************************************************


    Inlet
AR4            No Tributary Channel/Pipes
               Tributary Subareas........ AR4#1
PRKE           No Tributary Channel/Pipes
               Tributary Subareas........ PRKE#1
PRKW           No Tributary Channel/Pipes
               Tributary Subareas........ PRKW#1
USPD           No Tributary Channel/Pipes
               Tributary Subareas........ USPD#1
NW1a           No Tributary Channel/Pipes
               Tributary Subareas........ NW1a#1
CASN           No Tributary Channel/Pipes
               Tributary Subareas........ CASN#1
NW1            No Tributary Channel/Pipes
               Tributary Subareas........ NW1#1
NE1a           No Tributary Channel/Pipes
               Tributary Subareas........ NE1a#1
EASa           No Tributary Channel/Pipes
               Tributary Subareas........ EASa#1
NEC            No Tributary Channel/Pipes
               Tributary Subareas........ NEC#1
P3             No Tributary Channel/Pipes
               Tributary Subareas........ P3#1
SW             No Tributary Channel/Pipes
               Tributary Subareas........ SW#1       SW#2
WESa           No Tributary Channel/Pipes
               Tributary Subareas........ WESa#1     WESa#2
CNEa           No Tributary Channel/Pipes
               Tributary Subareas........ CNEa#1
SCWa           No Tributary Channel/Pipes
               Tributary Subareas........ SCWa#1
NCWa           No Tributary Channel/Pipes
               Tributary Subareas........ NCWa#1
P2             No Tributary Channel/Pipes
               Tributary Subareas........ P2#1
P1a            No Tributary Channel/Pipes
               Tributary Subareas........ P1a#1
P1             No Tributary Channel/Pipes
               Tributary Subareas........ P1#1
USM            No Tributary Channel/Pipes
               Tributary Subareas........ USM#1
MJR            No Tributary Channel/Pipes
               Tributary Subareas........ MJR#1
OUT2           No Tributary Channel/Pipes
```

```
               Tributary Subareas........ OUT2#1
CASO           No Tributary Channel/Pipes
               Tributary Subareas........ CASO#1


************************************************************
* Hydrographs will be stored for the following  23 INLETS *
************************************************************
AR4       PRKE      PRKW      USPD      NW1a      CASN
NW1       NE1a      EASa      NEC       P3        SW
WESa      CNEa      SCWa      NCWa      P2        P1a
P1        USM       MJR       OUT2      CASO


************************************************
*  Quality Simulation not included in this run *
************************************************




***************************************************
*  Precipitation Interface File Summary           *
*  Number of precipitation station....        1   *
***************************************************

Location Station Number
-------- --------------
       1.             1


    A1




*============================================================*
|         HYDRAULICS TABLES IN THE OUTPUT FILE                |
|  These are the more important tables in the output file.   |
|  You can use your editor to find the table numbers,        |
|  for example: search for Table E20 to check continuity.    |
|  This output file can be imported into a Word Processor    |
|  and printed on US letter or A4 paper using portrait       |
|  mode, courier font, a size of 8 pt. and margins of 0.75   |
|                                                            |
| Table E1   - Basic Conduit Data                            |
| Table E2   - Conduit Factor Data                           |
| Table E3a  - Junction Data                                 |
| Table E3b  - Junction Data                                 |
| Table E4   - Conduit Connectivity Data                     |
| Table E4a  - Dry Weather Flow Data                         |
| Table E4b  - Real Time Control Data                        |
| Table E5   - Junction Time Step Limitation Summary         |
| Table E5a  - Conduit Explicit Condition Summary            |
| Table E6   - Final Model Condition                         |
| Table E7   - Iteration Summary                             |
| Table E8   - Junction Time Step Limitation Summary         |
| Table E9   - Junction  Summary  Statistics                 |
| Table E10  - Conduit   Summary  Statistics                 |
| Table E11  - Area assumptions used in the analysis         |
| Table E12  - Mean conduit information                      |
| Table E13  - Channel losses(H) and culvert info            |
```

```
| Table E13a - Culvert Analysis Classification                 |
| Table E14  - Natural Channel Overbank Flow Information       |
| Table E14a - Natural Channel Encroachment Information        |
| Table E14b - Floodplain Mapping                              |
| Table E15  - Spreadsheet Info List                           |
| Table E15a - Spreadsheet Reach List                          |
| Table E16  - New Conduit Output Section                      |
| Table E17  - Pump Operation                                  |
| Table E18  - Junction Continuity Error                       |
| Table E19  - Junction Inflow & Outflow Listing               |
| Table E20  - Junction Flooding and Volume List               |
| Table E21  - Continuity balance at simulation end            |
| Table E22  - Model Judgement Section                         |
*============================================================*

Time Control from Hydraulics Job Control
Year.........    2014 Month.......       1
Day..........       1 Hour........       0
Minute.......       0 Second......       0


Control information for simulation
----------------------------------

Integration cycles.................      69120
Length of integration step is......       5.00 seconds
Simulation length..................      96.00 hours
Do not create equiv. pipes(NEQUAL).          0
Use U.S. customary units for I/O...          0
Printing starts in cycle...........          1
Intermediate printout intervals of.        500 cycles
Intermediate printout intervals of.      41.67 minutes
Summary printout intervals of......        500 cycles
Summary printout time interval of..      41.67 minutes
Hot start file parameter (REDO)....          0
Initial time.......................       0.00 hours

Iteration variables: Flow Tolerance.   0.00010
                     Head Tolerance.   0.00050
    Minimum depth (m or ft).........   0.00001
    Underrelaxation parameter.......   0.85000
    Time weighting parameter........   0.85000
    Conduit roughness factor........   1.00000
    Flow adjustment factor..........   1.00000
    Initial Condition Smoothing.....         0
    Courant Time Step Factor........   1.00000
    Default Expansion/Contraction K.   0.00000
    Default Entrance/Exit K.........   0.00000
    Routing Method..................   Dynamic Wave
Default surface area of junctions...     12.57 square feet.
Minimum Junction/Conduit Depth......   0.00001 feet.
Ponding Area Coefficient............   5000.00
Ponding Area Exponent...............    1.0000
Minimum Orifice Length..............   1000.00 feet.
NJSW input hydrograph junctions.....     0
     or user defined hydrographs....

*====================================================*
|          Table E1 - Conduit Data                   |
*====================================================*


  Trapezoid   Hazen
```

Inp Num	Conduit Name	Length (ft)	Conduit Class	Area (ft^2)	Manning Coef.	Max Width (ft)	Depth (ft)	Side Slopes	Williams c-factor
1	NE1toEAS	130.0000	Rectangle	9.0000	0.0130	3.0000	3.0000		
2	EAStoNEC	160.0000	Rectangle	12.0000	0.0130	4.0000	3.0000		
3	NW1toP1	180.0000	Rectangle	18.0000	0.0130	6.0000	3.0000		
4	USPDtoNW1	74.0000	Trapezoid	259.0000	0.0270	16.0000	7.0000	3.0000	3.0000
5	P2toP1	300.0000	Rectangle	32.0000	0.0130	8.0000	4.0000		
6	S4a	300.0000	Trapezoid	45.0000	0.0400	6.0000	3.0000	3.0000	3.0000
7	S4b	300.0000	Trapezoid	45.0000	0.0400	6.0000	3.0000	3.0000	3.0000
8	S4c	300.0000	Trapezoid	45.0000	0.0400	6.0000	3.0000	3.0000	3.0000
9	S4d	112.3000	Trapezoid	45.0000	0.0400	6.0000	3.0000	3.0000	3.0000
10	P3toSE	195.0000	Trapezoid	33.0000	0.0400	2.0000	3.0000	3.0000	3.0000
11	SEtoSEC	120.0000	Rectangle	18.0000	0.0130	6.0000	3.0000		
12	SECtoP2	145.0000	Trapezoid	36.0000	0.0400	3.0000	3.0000	3.0000	3.0000
13	SWtoSWC	180.0000	Rectangle	18.0000	0.0130	6.0000	3.0000		
14	S8	275.4000	Trapezoid	33.0000	0.0400	2.0000	3.0000	3.0000	3.0000
15	S9	209.5000	Trapezoid	51.0000	0.0130	8.0000	3.0000	3.0000	3.0000
16	WEStoSESC	212.0000	Rectangle	18.0000	0.0130	6.0000	3.0000		
17	SR26toOUT	275.0000	Rectangle	27.5000	0.0130	5.5000	5.0000		
18	S3d	300.0000	Trapezoid	39.0000	0.0400	4.0000	3.0000	3.0000	3.0000
19	S3c	300.0000	Trapezoid	39.0000	0.0400	4.0000	3.0000	3.0000	3.0000
20	S3b	300.0000	Trapezoid	39.0000	0.0400	4.0000	3.0000	3.0000	3.0000
21	S3a	281.2000	Trapezoid	39.0000	0.0400	4.0000	3.0000	3.0000	3.0000
22	S1a	300.0000	Trapezoid	45.0000	0.0400	6.0000	3.0000	3.0000	3.0000
23	S1b	300.0000	Trapezoid	45.0000	0.0400	6.0000	3.0000	3.0000	3.0000
24	S1c	300.0000	Trapezoid	51.0000	0.0400	8.0000	3.0000	3.0000	3.0000
25	S1d	300.0000	Trapezoid	51.0000	0.0400	8.0000	3.0000	3.0000	3.0000
26	S2a	263.8000	Trapezoid	33.0000	0.0400	2.0000	3.0000	3.0000	3.0000
27	S2b	300.0000	Trapezoid	33.0000	0.0400	2.0000	3.0000	3.0000	3.0000
28	S2c	300.0000	Trapezoid	33.0000	0.0400	2.0000	3.0000	3.0000	3.0000
29	S5b	300.0000	Trapezoid	48.0000	0.0400	7.0000			

```
3.0000     3.0000     3.0000
  30              S5a   129.0000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  31             S10d   200.0000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  32             S10c   300.0000  Trapezoid   42.0000     0.0400     5.0000
3.0000     3.0000     3.0000
  33             S10b   300.0000  Trapezoid   39.0000     0.0400     4.0000
3.0000     3.0000     3.0000
  34             S10a   117.0000  Trapezoid   39.0000     0.0400     4.0000
3.0000     3.0000     3.0000
  35             S11a   298.0000  Trapezoid   48.0000     0.0400     7.0000
3.0000     3.0000     3.0000
  36             S11b   300.0000  Trapezoid   48.0000     0.0400     7.0000
3.0000     3.0000     3.0000
  37             S11c   280.0000  Trapezoid   48.0000     0.0400     7.0000
3.0000     3.0000     3.0000
  38             S12a   130.4000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  39             S12b   175.0000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  40             S12c   175.0000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  41             S13a   200.0000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  42             S13b   223.2000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  43             S13c   200.0000  Trapezoid   45.0000     0.0400     6.0000
3.0000     3.0000     3.0000
  44             S13d   160.0000  Trapezoid   48.0000     0.0400     7.0000
3.0000     3.0000     3.0000
  45         US65toUSM   214.0000  Rectangle   32.0000     0.0130     8.0000
4.0000
  46          CASNatob    50.1000   Circular    1.7671     0.0130     1.5000
1.5000
  47          CASNbtoc   146.6000   Circular   12.5664     0.0130     4.0000
4.0000
  48          CASNctod   486.6000   Circular   15.9043     0.0130     4.5000
4.5000
  49          CASNdtoe   305.6000   Circular   15.9043     0.0130     4.5000
4.5000
  50          CASNetof   219.0000   Circular   15.9043     0.0130     4.5000
4.5000
  51          CASNftog   184.4000   Circular   15.9043     0.0130     4.5000
4.5000
  52          CASNgtoH   300.0000   Circular   15.9043     0.0130     4.5000
4.5000
  53          CASNhtoi   258.5000   Circular   15.9043     0.0130     4.5000
4.5000
  54         CASNitoNW   141.2000   Circular    0.7854     0.0130     1.0000
1.0000
  55              Weir   300.0000  Trapezoid   64.0000     0.0400     4.0000
4.0000     3.0000     3.0000
  56           MJRLeft   260.0000   Circular   19.6350     0.0130     5.0000
5.0000
  57          MJRRight   266.0000   Circular   19.6350     0.0130     5.0000
5.0000
  58          MJRExist   108.0000   Circular    7.0686     0.0130     3.0000
3.0000
  59            MjrNew   108.0000   Circular    1.7671     0.0130     1.5000
1.5000
  60         DSmjrExis   160.0000   Circular    7.0686     0.0130     3.0000
3.0000
```

```
   61         DSmjrNew   160.0000   Circular    1.7671     0.0130     1.5000
1.5000
   62          PRKWout   300.0000  Trapezoid   64.0000     0.0400     4.0000
4.0000     3.0000     3.0000
   63          18exist   300.0000   Circular    1.7671     0.0130     1.5000
1.5000
   64           42in 1   300.0000   Circular    9.6211     0.0120     3.5000
3.5000
   65           42in 2   300.0000   Circular    9.6211     0.0120     3.5000
3.5000
   66         18inchDS    50.0000   Circular    1.7671     0.0130     1.5000
1.5000
   67            3x6DS    50.0000   Circular    9.6211     0.0120     3.5000
3.5000
   68             3ft3    50.0000   Circular    9.6211     0.0120     3.5000
3.5000
 Total length of all conduits ....     15218.8000 feet

 *=====================================================*
 |      Table E2 -  Conduit Factor Data                 |
 *=====================================================*

                                                             Time     Low Flow  Depth
at
         Conduit     Number  Entrance      Exit Exp/Contc Weighting Roughness
Which  Sediment    Flow
            Name of Barrels Loss Coef Loss Coef Coefficnt Parameter    Factor n
Changes     Depth Routing
 --------------- ---------- --------- --------- --------- --------- ---------
--------- --------- -------
        NE1toEAS     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
        EAStoNEC     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         NW1toP1     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
       USPDtoNW1     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
          P2toP1     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
             S4a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
             S4b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
             S4c     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
             S4d     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
          P3toSE     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         SEtoSEC     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         SECtoP2     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         SWtoSWC     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
              S8     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
              S9     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
       WEStoSESC     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
       SR26toOUT     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
```

```
0.0000     0.0000 Standard - Dynamic Wave
              S3d     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S3c     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S3b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S3a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S1a     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S1b     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S1c     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S1d     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S2a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S2b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S2c     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S5b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
              S5a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S10d     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S10c     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S10b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S10a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S11a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S11b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S11c     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S12a     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S12b     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S12c     1.0000    0.0000    0.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S13a     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S13b     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S13c     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
             S13d     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
         US65toUSM    1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
          CASNatob    1.0000    0.5000    0.5000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
          CASNbtoc    1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
          CASNctod    1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000     0.0000 Standard - Dynamic Wave
```

```
         CASNdtoe     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         CASNetof     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         CASNftog     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         CASNgtoH     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         CASNhtoi     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
        CASNitoNW     1.0000    1.0000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
             Weir     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
          MJRLeft     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         MJRRight     1.0000    0.5000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         MJRExist     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
           MjrNew     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
        DSmjrExis     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         DSmjrNew     1.0000    1.0000    0.5000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
          PRKWout     1.0000    0.2000    0.4000    0.0000    0.6500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
          18exist     1.0000    0.5000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
           42in 1     1.0000    0.5000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
           42in 2     1.0000    0.5000    0.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
         18inchDS     1.0000    0.0000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
            3x6DS     1.0000    0.0000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave
             3ft3     1.0000    0.0000    1.0000    0.0000    0.8500    1.0000
0.0000    0.0000 Standard - Dynamic Wave

 *=====================================================*
 | If there are messages about (sqrt(g*d)*dt/dx), or   |
 | the sqrt(wave celerity)*time step/conduit length   |
 | in the output file all it means is that the         |
 | program will lower the internal time step to        |
 | satisfy this condition (explicit condition).        |
 | You control the actual internal time step by        |
 | using the minimum courant time step factor in the |
 | HYDRAULICS job control.  The message put in words |
 | states that the smallest conduit with the fastest |
 | velocity will control the time step selection.      |
 | You have further control by using the modify        |
 | conduit option in the HYDRAULICS Job Control.       |
 *=====================================================*


          Conduit      Courant
             Name        Ratio
 ---------------   ---------
         NE1toEAS         0.38
         EAStoNEC         0.31
          NW1toP1         0.27
```

USPDtoNW1	0.81
P2toP1	0.19
S4a	0.13
S4b	0.13
S4c	0.13
S4d	0.35
P3toSE	0.19
SEtoSEC	0.41
SECtoP2	0.26
SWtoSWC	0.27
S8	0.13
S9	0.19
WEStoSESC	0.23
SR26toOUT	0.23
S3d	0.13
S3c	0.13
S3b	0.13
S3a	0.13
S1a	0.13
S1b	0.13
S1c	0.13
S1d	0.13
S2a	0.14
S2b	0.12
S2c	0.12
S5b	0.13
S5a	0.30
S10d	0.19
S10c	0.13
S10b	0.13
S10a	0.32
S11a	0.13
S11b	0.13
S11c	0.14
S12a	0.30
S12b	0.22
S12c	0.22
S13a	0.19
S13b	0.17
S13c	0.19
S13d	0.25
US65toUSM	0.27
CASNatob	0.69
CASNbtoc	0.39
CASNctod	0.12
CASNdtoe	0.20
CASNetof	0.27
CASNftog	0.33
CASNgtoH	0.20
CASNhtoi	0.23
CASNitoNW	0.20
Weir	0.14
MJRLeft	0.24
MJRRight	0.24
MJRExist	0.46
MjrNew	0.32
DSmjrExis	0.31
DSmjrNew	0.22
PRKWout	0.14
18exist	0.12
42in 1	0.18
42in 2	0.18
18inchDS	0.69

```
           3x6DS        1.06  ===> Warning ! (sqrt(wave celerity)*time step/conduit
length)
            3ft3        1.06  ===> Warning ! (sqrt(wave celerity)*time step/conduit
length)
```

```
 *===================*
 |  Conduit Volume   |
 *===================*
```

Full pipe or full open conduit volume
Input full depth volume............   5.1382E+05 cubic feet

```
 *=====================================================*
 |           Table E3a - Junction Data                 |
 *=====================================================*
```

Inp Num	Junction Name	Ground Elevation	Crown Elevation	Invert Elevation	Qinst cfs	Initial Depth-ft	Interface Flow (%)
1	AR4	658.1600	657.6000	653.1600	0.0000	0.0000	100.0000
2	NW1	660.0000	658.4000	651.4000	0.0000	0.0000	100.0000
3	MJR	655.0000	652.3700	647.2100	0.0000	0.0000	100.0000
4	USPD	662.0000	660.7500	653.7500	0.0000	0.0000	100.0000
5	USM	659.0000	657.6000	647.3700	0.0000	0.0000	100.0000
6	OUT	630.0000	626.0600	621.0600	0.0000	0.0000	100.0000
7	DSMR	657.4900	649.6200	640.0000	0.0000	0.0000	100.0000
8	SR26	653.8900	643.4700	637.5800	0.0000	0.0000	100.0000
9	NE1	659.6500	658.6500	655.6500	0.0000	0.0000	100.0000
10	P1	657.0000	654.0100	650.0100	0.0000	0.0000	100.0000
11	SWC	655.4100	654.4100	651.4100	0.0000	0.0000	100.0000
12	P3	657.6900	656.6900	653.6900	0.0000	0.0000	100.0000
13	P2	654.0100	654.0100	650.0100	0.0000	0.0000	100.0000
14	SEC	655.1700	654.1700	651.1700	0.0000	0.0000	100.0000
15	NEC	659.0700	658.0700	655.0700	0.0000	0.0000	100.0000
16	OUT2	654.1700	650.1700	650.1700	0.0000	0.0000	100.0000
17	EAS	659.3900	658.3900	655.3900	0.0000	0.0000	100.0000
18	SE	656.1300	655.1300	652.1300	0.0000	0.0000	100.0000
19	SW	655.8000	654.8000	651.8000	0.0000	0.0000	100.0000
20	WES	655.5400	654.5400	651.5400	0.0000	0.0000	100.0000
21	SESC	655.1200	654.5400	651.1200	0.0000	0.0000	100.0000
22	NECa	657.5700	656.5700	653.5700	0.0000	0.0000	100.0000

23	NECb	656.0700	655.0700	652.0700	0.0000	0.0000	100.0000
24	NECc	654.5700	653.5700	650.5700	0.0000	0.0000	100.0000
25	NE1d	661.1800	660.1800	657.1800	0.0000	0.0000	100.0000
26	NE1c	662.7100	661.7100	658.7100	0.0000	0.0000	100.0000
27	NE1b	664.2400	663.2400	660.2400	0.0000	0.0000	100.0000
28	NE1a	665.6800	664.6800	661.6800	0.0000	0.0000	100.0000
29	P1b	663.1900	662.1900	659.1900	0.0000	0.0000	100.0000
30	P1c	660.2500	659.2500	656.2500	0.0000	0.0000	100.0000
31	P1d	657.3100	656.3100	653.3100	0.0000	0.0000	100.0000
32	P1a	666.1300	665.1300	662.1300	0.0000	0.0000	100.0000
33	CNEb	659.5300	658.5300	655.5300	0.0000	0.0000	100.0000
34	CNEa	661.9600	660.9600	657.9600	0.0000	0.0000	100.0000
35	CNEc	656.7700	655.7700	652.7700	0.0000	0.0000	100.0000
36	EASa	668.4900	667.4800	664.4800	0.0000	0.0000	100.0000
37	EASb	665.7500	664.7500	661.7500	0.0000	0.0000	100.0000
38	WESa	664.1400	663.1400	660.1400	0.0000	0.0000	100.0000
39	WESb	663.1400	662.1400	659.1400	0.0000	0.0000	100.0000
40	WESc	660.5900	659.5900	656.5900	0.0000	0.0000	100.0000
41	WESd	658.0400	657.0400	654.0400	0.0000	0.0000	100.0000
42	SCWa	665.3600	664.3500	661.3500	0.0000	0.0000	100.0000
43	SCWb	662.2600	661.2600	658.2600	0.0000	0.0000	100.0000
44	SCWc	656.1700	655.1700	652.1700	0.0000	0.0000	100.0000
45	NCWa	665.8100	664.8100	661.8100	0.0000	0.0000	100.0000
46	NCWb	664.5100	663.5100	660.5100	0.0000	0.0000	100.0000
47	NCWc	659.2600	658.2600	655.2600	0.0000	0.0000	100.0000
48	NW1a	666.6800	665.6900	662.6800	0.0000	0.0000	100.0000
49	NW1b	665.6100	664.6000	661.6000	0.0000	0.0000	100.0000
50	NW1c	664.4000	663.4000	660.4000	0.0000	0.0000	100.0000
51	NW1d	661.0000	660.0000	657.0000	0.0000	0.0000	100.0000
52	CASO	661.5300	657.5300	657.5300	0.0000	0.0000	100.0000
53	CASN	662.8200	659.7000	658.2000	0.0000	0.0000	100.0000

54	PRKW	660.5600	660.5600	656.5600	0.0000	0.0000	100.0000
55	PRKE	661.4000	661.4000	657.4000	0.0000	0.0000	100.0000
56	I65	657.0000	651.6700	648.1700	0.0000	0.0000	100.0000
57	CASNb	663.0000	659.0300	653.2000	0.0000	0.0000	100.0000
58	CASNc	663.7500	657.6900	653.1900	0.0000	0.0000	100.0000
59	CASNd	664.4300	657.1500	652.6000	0.0000	0.0000	100.0000
60	CASNe	662.2000	656.7500	652.2500	0.0000	0.0000	100.0000
61	CASNf	664.7300	656.5600	651.9300	0.0000	0.0000	100.0000
62	CASNg	663.0000	656.4115	651.9115	0.0000	0.0000	100.0000
63	CASNh	661.4600	656.3500	651.8000	0.0000	0.0000	100.0000
64	CASNi	661.9300	656.1000	651.5900	0.0000	0.0000	100.0000

==
| Table E3b - Junction Data |
==

Inp Num	Junction Name	X Coord.	Y Coord.	Type of Manhole	Type of Inlet	Maximum Capacity	Pavement Shape	Slope
1	AR4	0.0000	0.0000	F	Normal		0	0.0000
2	NW1	0.0000	0.0000	F	Normal		0	0.0000
3	MJR	0.0000	0.0000	F	Normal		0	0.0000
4	USPD	0.0000	0.0000	F	Normal		0	0.0000
5	USM	0.0000	0.0000	F	Normal		0	0.0000
6	OUT	0.0000	0.0000	F	Normal		0	0.0000
7	DSMR	0.0000	0.0000	F	Normal		0	0.0000
8	SR26	0.0000	0.0000	F	Normal		0	0.0000
9	NE1	0.0000	0.0000	F	Normal		0	0.0000
10	P1	0.0000	0.0000	F	Normal		0	0.0000
11	SWC	0.0000	0.0000	F	Normal		0	0.0000
12	P3	0.0000	0.0000	F	Normal		0	0.0000
13	P2	0.0000	0.0000	F	Normal		0	0.0000
14	SEC	0.0000	0.0000	F	Normal		0	0.0000
15	NEC	0.0000	0.0000	F	Normal			

```
     0   0.0000
16             OUT2         0.0000        0.0000          F       Normal
     0   0.0000
17              EAS         0.0000        0.0000          F       Normal
     0   0.0000
18               SE         0.0000        0.0000          F       Normal
     0   0.0000
19               SW         0.0000        0.0000          F       Normal
     0   0.0000
20              WES         0.0000        0.0000          F       Normal
     0   0.0000
21             SESC         0.0000        0.0000          F       Normal
     0   0.0000
22             NECa         0.0000        0.0000          F       Normal
     0   0.0000
23             NECb         0.0000        0.0000          F       Normal
     0   0.0000
24             NECc         0.0000        0.0000          F       Normal
     0   0.0000
25             NE1d         0.0000        0.0000          F       Normal
     0   0.0000
26             NE1c         0.0000        0.0000          F       Normal
     0   0.0000
27             NE1b         0.0000        0.0000          F       Normal
     0   0.0000
28             NE1a         0.0000        0.0000          F       Normal
     0   0.0000
29              P1b         0.0000        0.0000          F       Normal
     0   0.0000
30              P1c         0.0000        0.0000          F       Normal
     0   0.0000
31              P1d         0.0000        0.0000          F       Normal
     0   0.0000
32              P1a         0.0000        0.0000          F       Normal
     0   0.0000
33             CNEb         0.0000        0.0000          F       Normal
     0   0.0000
34             CNEa         0.0000        0.0000          F       Normal
     0   0.0000
35             CNEc         0.0000        0.0000          F       Normal
     0   0.0000
36             EASa         0.0000        0.0000          F       Normal
     0   0.0000
37             EASb         0.0000        0.0000          F       Normal
     0   0.0000
38             WESa         0.0000        0.0000          F       Normal
     0   0.0000
39             WESb         0.0000        0.0000          F       Normal
     0   0.0000
40             WESc         0.0000        0.0000          F       Normal
     0   0.0000
41             WESd         0.0000        0.0000          F       Normal
     0   0.0000
42             SCWa         0.0000        0.0000          F       Normal
     0   0.0000
43             SCWb         0.0000        0.0000          F       Normal
     0   0.0000
44             SCWc         0.0000        0.0000          F       Normal
     0   0.0000
45             NCWa         0.0000        0.0000          F       Normal
     0   0.0000
46             NCWb         0.0000        0.0000          F       Normal
     0   0.0000
```

47	NCWc	0.0000	0.0000	F	Normal	0	0.0000
48	NW1a	0.0000	0.0000	F	Normal	0	0.0000
49	NW1b	0.0000	0.0000	F	Normal	0	0.0000
50	NW1c	0.0000	0.0000	F	Normal	0	0.0000
51	NW1d	0.0000	0.0000	F	Normal	0	0.0000
52	CASO	0.0000	0.0000	F	Normal	0	0.0000
53	CASN	0.0000	0.0000	F	Normal	0	0.0000
54	PRKW	0.0000	0.0000	F	Normal	0	0.0000
55	PRKE	0.0000	0.0000	F	Normal	0	0.0000
56	I65	0.0000	0.0000	F	Normal	0	0.0000
57	CASNb	0.0000	0.0000	F	Normal	0	0.0000
58	CASNc	0.0000	0.0000	F	Normal	0	0.0000
59	CASNd	0.0000	0.0000	F	Normal	0	0.0000
60	CASNe	0.0000	0.0000	F	Normal	0	0.0000
61	CASNf	0.0000	0.0000	F	Normal	0	0.0000
62	CASNg	0.0000	0.0000	F	Normal	0	0.0000
63	CASNh	0.0000	0.0000	F	Normal	0	0.0000
64	CASNi	0.0000	0.0000	F	Normal	0	0.0000

```
*=====================================================*
|          Table E4 - Conduit Connectivity            |
*=====================================================*
```

Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation	
1	NE1toEAS	NE1	EAS	655.6500	655.3900	No Design
2	EAStoNEC	EAS	NEC	655.3900	655.0700	No Design
3	NW1toP1	NW1	P1	651.4000	650.0100	No Design
4	USPDtoNW1	USPD	NW1	653.7500	651.4000	No Design
5	P2toP1	P2	P1	650.0100	650.0100	No Design
6	S4a	NEC	NECa	655.0700	653.5700	No Design
7	S4b	NECa	NECb	653.5700	652.0700	No Design
8	S4c	NECb	NECc	652.0700	650.5700	No Design
9	S4d	NECc	P2	650.5700	650.0100	No Design

10	P3toSE	P3	SE	653.6900	652.1300	No Design
11	SEtoSEC	SE	SEC	652.1300	651.1700	No Design
12	SECtoP2	SEC	P2	651.1700	650.0100	No Design
13	SWtoSWC	SW	SWC	651.8000	651.4100	No Design
14	S8	SWC	P2	651.4100	650.0100	No Design
15	S9	SESC	P2	651.5400	650.0100	No Design
16	WEStoSESC	WES	SESC	651.5400	651.1200	No Design
17	SR26toOUT	SR26	OUT	638.4700	621.0600	No Design
18	S3d	NE1d	NE1	657.1800	655.6500	No Design
19	S3c	NE1c	NE1d	658.7100	657.1800	No Design
20	S3b	NE1b	NE1c	660.2400	658.7100	No Design
21	S3a	NE1a	NE1b	661.6800	660.2400	No Design
22	S1a	P1a	P1b	662.1300	659.1900	No Design
23	S1b	P1b	P1c	659.1900	656.2500	No Design
24	S1c	P1c	P1d	656.2500	653.3100	No Design
25	S1d	P1d	P1	653.3100	650.0100	No Design
26	S2a	CNEa	CNEb	657.9600	655.5300	No Design
27	S2b	CNEb	CNEc	655.5300	652.7700	No Design
28	S2c	CNEc	P2	652.7700	650.0100	No Design
29	S5b	EASb	EAS	661.7500	655.3900	No Design
30	S5a	EASa	EASb	664.4800	661.7500	No Design
31	S10d	WESd	WES	654.0400	651.5400	No Design
32	S10c	WESc	WESd	656.5900	654.0400	No Design
33	S10b	WESb	WESc	659.1400	656.5900	No Design
34	S10a	WESa	WESb	660.1400	659.1400	No Design
35	S11a	SCWa	SCWb	661.3500	658.2600	No Design
36	S11b	SCWb	SCWc	658.2600	652.1700	No Design
37	S11c	SCWc	P2	652.1700	650.0100	No Design
38	S12a	NCWa	NCWb	661.8100	660.5100	No Design
39	S12b	NCWb	NCWc	660.5100	655.2600	No Design
40	S12c	NCWc	P2	655.2600	650.0100	No Design
41	S13a	NW1a	NW1b	662.6900	661.6000	

```
No Design
    42          S13b          NW1b          NW1c     661.6000    660.4000
No Design
    43          S13c          NW1c          NW1d     660.4000    657.0000
No Design
    44          S13d          NW1d           NW1     657.0000    651.4000
No Design
    45     US65toUSM           AR4           USM     653.6000    653.6000
No Design
    46      CASNatob          CASN         CASNb     658.2000    657.5300
No Design
    47      CASNbtoc         CASNb         CASNc     653.2000    653.1900
No Design
    48      CASNctod         CASNc         CASNd     653.1900    652.6500
No Design
    49      CASNdtoe         CASNd         CASNe     652.6000    652.2500
No Design
    50      CASNetof         CASNe         CASNf     652.2500    652.0600
No Design
    51      CASNftog         CASNf         CASNg     651.9300    651.9115
No Design
    52      CASNgtoH         CASNg         CASNh     651.9115    651.8500
No Design
    53      CASNhtoi         CASNh         CASNi     651.8000    651.6000
No Design
    54     CASNitoNW         CASNi           NW1     651.5900    651.4700
No Design
    55          Weir          PRKE          USPD     657.4000    653.7500
No Design
    56       MJRLeft           USM           MJR     647.9800    647.3700
No Design
    57      MJRRight           USM           MJR     647.7200    647.2100
No Design
    58      MJRExist           MJR          DSMR     648.2200    646.6200
No Design
    59        MjrNew           MJR          DSMR     648.2200    647.1400
No Design
    60     DSmjrExis          DSMR          SR26     646.5600    638.4700
No Design
    61      DSmjrNew          DSMR          SR26     640.0700    638.4700
No Design
    62       PRKWout          PRKW          USPD     656.5600    653.7500
No Design
    63       18exist            P1           I65     650.0100    648.1700
No Design
    64        42in 1            P1           I65     650.0100    648.1700
No Design
    65        42in 2            P1           I65     650.0100    648.1700
No Design
    66      18inchDS           I65           USM     648.1700    647.8600
No Design
    67         3x6DS           I65           USM     648.1700    647.8600
No Design
    68          3ft3           I65           USM     648.1700    647.8600
No Design


 *===========================================*
 |          Storage Junction Data            |
 *===========================================*

                               MAXIMUM OR         PEAK OR       CROWN      DEPTH
 STORAGE JUNCTION   JUNCTION  CONSTANT SURFACE  CONSTANT VOLUME  ELEVATION   STARTS
```

NUMBER OR NAME	TYPE	AREA (FT2)	(CUBIC FEET)	(FT)	FROM
AR4	Stage/Area	2.208361E+06	32.395173E+06	658.1600	Node Invert
NW1	Stage/Area	307969.2000	2.495264E+06	660.0000	Node Invert
MJR	Stage/Area	325741.6800	3.510604E+06	655.0000	Node Invert
USPD	Stage/Area	208608.8400	989593.4611	662.0000	Node Invert
USM	Stage/Area	117568.4400	450801.1262	659.0000	Node Invert
P1	Stage/Area	396831.6000	2.576637E+06	657.0000	Node Invert
P3	Stage/Area	161607.6000	602585.0885	657.6900	Node Invert
P2	Stage/Area	849855.6000	3.819358E+06	654.0100	Node Invert
SW	Stage/Area	242193.6000	888547.3700	655.8000	Node Invert

==================================
| Variable storage data for node | AR4
==================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	653.1600	0.0000	43.5600	0.0000	0.0010	0.0000
2	654.9600	1.8000	16335.0000	10333.1541	0.3750	0.2372
3	660.1600	7.0000	180861.1200	446349.1467	4.1520	10.2468
4	663.1600	10.0000	419961.9600	1.322762E+06	9.6410	30.3664
5	665.4600	12.3000	1179256.320	3.088342E+06	27.0720	70.8986
6	666.4600	13.3000	1422930.960	4.387517E+06	32.6660	100.7235
7	668.4600	15.3000	1647090.720	7.454777E+06	37.8120	171.1381
8	670.4600	17.3000	1813359.240	10.913860E+06	41.6290	250.5477
9	681.1600	28.0000	2208361.320	32.395173E+06	50.6970	743.6908

==================================
| Variable storage data for node | NW1
==================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	651.4000	0.0000	221720.4000	0.0000	5.0900	0.0000
2	653.0000	1.6000	247856.4000	375463.5757	5.6900	8.6195

3	653.1000	1.7000	275299.2000	401609.0897	6.3200	9.2197
4	654.0000	2.6000	290545.2000	656205.7093	6.6700	15.0644
5	655.0000	3.6000	307969.2000	955417.6374	7.0700	21.9334
6	660.0000	8.6000	307969.2000	2.495264E+06	7.0700	57.2834

```
*=================================*
|   Variable storage data for node | MJR
*=================================*
```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
=====	=========	======	===========	============	===========	============
1	647.2100	0.0000	197544.6000	0.0000	4.5350	0.0000
2	648.9100	1.7000	205341.8400	342428.6697	4.7140	7.8611
3	650.6100	3.4000	214140.9600	698959.3339	4.9160	16.0459
4	653.5100	6.3000	241191.7200	1.358796E+06	5.5370	31.1937
5	654.5100	7.3000	254346.8400	1.606534E+06	5.8390	36.8809
6	655.5100	8.3000	274732.9200	1.871006E+06	6.3070	42.9524
7	656.3100	9.1000	296992.0800	2.099636E+06	6.8180	48.2010
8	659.1100	11.9000	319338.3600	2.962301E+06	7.3310	68.0051
9	660.8100	13.6000	325741.6800	3.510604E+06	7.4780	80.5924

```
*=================================*
|   Variable storage data for node | USPD
*=================================*
```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
=====	=========	======	===========	============	===========	============
1	653.7500	0.0000	43.5600	0.0000	0.0010	0.0000
2	654.1500	0.4000	1132.5600	186.4292	0.0260	0.0043
3	654.9500	1.2000	40859.2800	13198.1541	0.9380	0.3030
4	656.5500	2.8000	63946.0800	96355.0960	1.4680	2.2120
5	657.9500	4.2000	80673.1200	197361.0516	1.8520	4.5308
6	659.3500	5.6000	98619.8400	322654.7612	2.2640	7.4071
7	660.7500	7.0000	141177.9600	489623.3176	3.2410	11.2402
8	662.1500	8.4000	182821.3200	715793.5063	4.1970	16.4324
9	663.5500	9.8000	208608.8400	989593.4611	4.7890	

22.7179

===================================
| Variable storage data for node | USM
===================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
=====	=========	======	===========	============	===========	============
1	647.3700	0.0000	43.5600	0.0000	0.0010	0.0000
2	651.6700	4.3000	1785.9600	3022.0672	0.0410	0.0694
3	652.1700	4.8000	2918.5200	4186.6455	0.0670	0.0961
4	652.7700	5.4000	4791.6000	6476.5605	0.1100	0.1487
5	653.1700	5.8000	7884.3600	8986.1885	0.1810	0.2063
6	653.6700	6.3000	17859.6000	15254.5196	0.4100	0.3502
7	654.9700	7.6000	60940.4400	63696.5946	1.3990	1.4623
8	656.3700	9.0000	86423.0400	166332.0062	1.9840	3.8185
9	659.1700	11.8000	117568.4400	450801.1262	2.6990	10.3490

===================================
| Variable storage data for node | P1
===================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
=====	=========	======	===========	============	===========	============
1	650.0100	0.0000	307098.0000	0.0000	7.0500	0.0000
2	651.0100	1.0000	320166.0000	313606.1739	7.3500	7.1994
3	651.1100	1.1000	342381.6000	346727.0135	7.8600	7.9598
4	652.0100	2.0000	354578.4000	660339.8678	8.1400	15.1593
5	653.0100	3.0000	368517.6000	1.021862E+06	8.4600	23.4587
6	654.0100	4.0000	382456.8000	1.397324E+06	8.7800	32.0781
7	655.0100	5.0000	396831.6000	1.786942E+06	9.1100	41.0225
8	657.0000	6.9900	396831.6000	2.576637E+06	9.1100	59.1514

===================================
| Variable storage data for node | P3
===================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft

1	653.6900	0.0000	126759.6000	0.0000	2.9100	0.0000
2	655.0000	1.3100	138085.2000	173418.7142	3.1700	3.9811
3	655.1000	1.4100	152895.6000	187961.3228	3.5100	4.3150
4	656.0000	2.3100	161607.6000	329468.2445	3.7100	7.5636
5	657.6900	4.0000	161607.6000	602585.0885	3.7100	13.8335

==================================
| Variable storage data for node | P2
==================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	650.0100	0.0000	652528.8000	0.0000	14.9800	0.0000
2	651.0100	1.0000	681714.0000	667061.5232	15.6500	15.3136
3	651.1100	1.1000	731372.4000	737700.5900	16.7900	16.9353
4	652.0100	2.0000	758379.6000	1.408046E+06	17.4100	32.3243
5	653.0100	3.0000	788436.0000	2.181397E+06	18.1000	50.0780
6	654.0100	4.0000	818928.0000	2.985023E+06	18.8000	68.5267
7	655.0100	5.0000	849855.6000	3.819358E+06	19.5100	87.6804

==================================
| Variable storage data for node | SW
==================================

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	651.8000	0.0000	188614.8000	0.0000	4.3300	0.0000
2	653.0000	1.2000	201682.8000	234132.4519	4.6300	5.3749
3	653.1000	1.3000	220413.6000	255230.1309	5.0600	5.8593
4	654.0000	2.2000	230868.0000	458286.6539	5.3000	10.5208
5	655.0000	3.2000	242193.6000	694792.4900	5.5600	15.9502
6	655.8000	4.0000	242193.6000	888547.3700	5.5600	20.3982

==
| FREE OUTFALL DATA (DATA GROUP I1) |
| BOUNDARY CONDITION ON DATA GROUP J1 |

```
*=================================================*

Outfall at Junction....OUT              has boundary condition number...         1


*=================================================*
|        INTERNAL CONNECTIVITY INFORMATION        |
*=================================================*

         CONDUIT         JUNCTION         JUNCTION
---------------- ---------------- ----------------
        FREE # 1              OUT         BOUNDARY

*====================================================*
|        Boundary Condition Information              |
|                 Data Groups J1-J4                  |
*====================================================*


BC NUMBER..          1 has no control water surface.

===> WARNING ! Junction OUT2             is not associated with any conduit.

===> WARNING ! Junction CASO             is not associated with any conduit.

*====================================================*
|             XP Note Field Summary                  |
*====================================================*



*==================================*
|   Conduit Convergence Criteria   |
*==================================*

         Conduit         Full     Conduit
            Name         Flow       Slope
-----------------  ----------  ----------
        NE1toEAS      37.9787      0.0020

        EAStoNEC      55.3529      0.0020

         NW1toP1     180.8086      0.0077

       USPDtoNW1    6714.2301      0.0318

          P2toP1      14.0126      0.0000

             S4a     175.0424      0.0050

             S4b     175.0424      0.0050

             S4c     175.0424      0.0050

             S4d     174.8084      0.0050

          P3toSE     148.3352      0.0080

         SEtoSEC     184.0318      0.0080

         SECtoP2     166.2416      0.0080
```

SWtoSWC	95.7732	0.0022
S8	118.2446	0.0051
S9	761.7623	0.0073
WEStoSESC	91.5809	0.0020
SR26toOUT	946.7096	0.0633
S3d	147.2419	0.0051
S3c	147.2419	0.0051
S3b	147.2419	0.0051
S3a	147.5434	0.0051
S1a	245.0593	0.0098
S1b	245.0593	0.0098
S1c	286.7888	0.0098
S1d	303.8404	0.0110
S2a	159.1714	0.0092
S2b	159.0718	0.0092
S2c	159.0718	0.0092
S5b	390.9969	0.0212
S5a	360.1178	0.0212
S10d	276.7663	0.0125
S10c	209.0551	0.0085
S10b	190.0885	0.0085
S10a	190.6134	0.0085
S11a	273.4491	0.0104
S11b	382.6074	0.0203
S11c	235.8594	0.0077
S12a	247.1673	0.0100
S12b	428.7645	0.0300
S12c	428.7645	0.0300
S13a	182.7496	0.0054
S13b	181.5105	0.0054
S13c	322.7622	0.0170
S13d	502.3882	0.0350

US65toUSM	14.0126	0.0000
CASNatob	12.1475	0.0134
CASNbtoc	11.8637	0.0001
CASNctod	65.5093	0.0011
CASNdtoe	66.5502	0.0011
CASNetof	57.9224	0.0009
CASNftog	19.6969	0.0001
CASNgtoH	28.1559	0.0002
CASNhtoi	54.6987	0.0008
CASNitoNW	1.0386	0.0008
Weir	441.5200	0.0122
MJRLeft	126.1509	0.0023
MJRRight	114.0398	0.0019
MJRExist	81.1827	0.0148
MjrNew	10.5043	0.0100
DSmjrExis	149.9787	0.0506
DSmjrNew	10.5043	0.0100
PRKWout	387.3978	0.0094
18exist	8.2265	0.0061
42in 1	85.3592	0.0061
42in 2	85.3592	0.0061
18inchDS	8.2711	0.0062
3x6DS	85.8219	0.0062
3ft3	85.8219	0.0062

```
 *==================================*
 |     Initial Model Condition      |
 | Initial Time =      0.00 hours   |
 *==================================*

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.00 /   653.16             NW1/   0.00 /   651.40
MJR/   0.00 /   647.21
            USPD/   0.00 /   653.75             USM/   0.00 /   647.37
OUT/   0.00 /   621.06
            DSMR/   0.00 /   640.00            SR26/   0.00 /   637.58
NE1/   0.00 /   655.65
              P1/   0.00 /   650.01             SWC/   0.00 /   651.41
```

```
 P3/   0.00 /   653.69
              P2/   0.00 /   650.01              SEC/   0.00 /   651.17
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.00 /   652.13
              SW/   0.00 /   651.80              WES/   0.00 /   651.54
SESC/   0.00 /   651.12
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.00 /   662.68
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.00 /   648.17
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

          Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/       0.00         EAStoNEC/       0.00            NW1toP1/
0.00
        USPDtoNW1/       0.00           P2toP1/       0.00                S4a/
0.00
              S4b/       0.00              S4c/       0.00                S4d/
0.00
           P3toSE/       0.00          SEtoSEC/       0.00            SECtoP2/
0.00
          SWtoSWC/       0.00               S8/       0.00                 S9/
0.00
        WEStoSESC/       0.00        SR26toOUT/       0.00                S3d/
0.00
              S3c/       0.00              S3b/       0.00                S3a/
0.00
              S1a/       0.00              S1b/       0.00                S1c/
0.00
              S1d/       0.00              S2a/       0.00                S2b/
0.00
              S2c/       0.00              S5b/       0.00                S5a/
0.00
             S10d/       0.00             S10c/       0.00               S10b/
0.00
             S10a/       0.00             S11a/       0.00               S11b/
0.00
             S11c/       0.00             S12a/       0.00               S12b/
```

```
0.00
          S12c/       0.00            S13a/       0.00             S13b/
0.00
          S13c/       0.00            S13d/       0.00        US65toUSM/
0.00
      CASNatob/       0.00        CASNbtoc/       0.00         CASNctod/
0.00
      CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00
      CASNgtoH/       0.00        CASNhtoi/       0.00        CASNitoNW/
0.00
          Weir/       0.00         MJRLeft/       0.00         MJRRight/
0.00
      MJRExist/       0.00          MjrNew/       0.00        DSmjrExis/
0.00
      DSmjrNew/       0.00         PRKWout/       0.00          18exist/
0.00
        42in 1/       0.00          42in 2/       0.00         18inchDS/
0.00
         3x6DS/       0.00            3ft3/       0.00         FREE # 1/
0.00

       Conduit/   Velocity
      NE1toEAS/       0.00        EAStoNEC/       0.00          NW1toP1/
0.00
     USPDtoNW1/       0.00          P2toP1/       0.00              S4a/
0.00
           S4b/       0.00             S4c/       0.00              S4d/
0.00
        P3toSE/       0.00         SEtoSEC/       0.00          SECtoP2/
0.00
       SWtoSWC/       0.00              S8/       0.00               S9/
0.00
     WEStoSESC/       0.00       SR26toOUT/       0.00              S3d/
0.00
           S3c/       0.00             S3b/       0.00              S3a/
0.00
           S1a/       0.00             S1b/       0.00              S1c/
0.00
           S1d/       0.00             S2a/       0.00              S2b/
0.00
           S2c/       0.00             S5b/       0.00              S5a/
0.00
          S10d/       0.00            S10c/       0.00             S10b/
0.00
          S10a/       0.00            S11a/       0.00             S11b/
0.00
          S11c/       0.00            S12a/       0.00             S12b/
0.00
          S12c/       0.00            S13a/       0.00             S13b/
0.00
          S13c/       0.00            S13d/       0.00        US65toUSM/
0.00
      CASNatob/       0.00        CASNbtoc/       0.00         CASNctod/
0.00
      CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00
      CASNgtoH/       0.00        CASNhtoi/       0.00        CASNitoNW/
0.00
          Weir/       0.00         MJRLeft/       0.00         MJRRight/
0.00
      MJRExist/       0.00          MjrNew/       0.00        DSmjrExis/
0.00
```

```
        DSmjrNew/         0.00           PRKWout/         0.00           18exist/
0.00
         42in 1/          0.00            42in 2/         0.00          18inchDS/
0.00
          3x6DS/          0.00              3ft3/         0.00

        Conduit/ Cross Sectional Area
        NE1toEAS/         0.00          EAStoNEC/         0.00           NW1toP1/
0.00
       USPDtoNW1/         0.00            P2toP1/         0.00               S4a/
0.00
             S4b/         0.00               S4c/         0.00               S4d/
0.00
          P3toSE/         0.00           SEtoSEC/         0.00           SECtoP2/
0.00
         SWtoSWC/         0.00                S8/         0.00                S9/
0.00
       WEStoSESC/         0.00         SR26toOUT/         0.00               S3d/
0.00
             S3c/         0.00               S3b/         0.00               S3a/
0.00
             S1a/         0.00               S1b/         0.00               S1c/
0.00
             S1d/         0.00               S2a/         0.00               S2b/
0.00
             S2c/         0.00               S5b/         0.00               S5a/
0.00
            S10d/         0.00              S10c/         0.00              S10b/
0.00
            S10a/         0.00              S11a/         0.00              S11b/
0.00
            S11c/         0.00              S12a/         0.00              S12b/
0.00
            S12c/         0.00              S13a/         0.00              S13b/
0.00
            S13c/         0.00              S13d/         0.00          US65toUSM/
0.00
        CASNatob/         0.00          CASNbtoc/         0.00          CASNctod/
0.00
        CASNdtoe/         0.00          CASNetof/         0.00          CASNftog/
0.00
        CASNgtoH/         0.00          CASNhtoi/         0.00          CASNitoNW/
0.00
            Weir/         0.00           MJRLeft/         0.00          MJRRight/
0.00
        MJRExist/         0.00            MjrNew/         0.00          DSmjrExis/
0.00
        DSmjrNew/         0.00           PRKWout/         0.00           18exist/
0.00
         42in 1/          0.00            42in 2/         0.00          18inchDS/
0.00
          3x6DS/          0.00              3ft3/         0.00

        Conduit/ Hydraulic Radius
        NE1toEAS/         0.00          EAStoNEC/         0.00           NW1toP1/
0.00
       USPDtoNW1/         0.00            P2toP1/         0.00               S4a/
0.00
             S4b/         0.00               S4c/         0.00               S4d/
0.00
          P3toSE/         0.00           SEtoSEC/         0.00           SECtoP2/
0.00
         SWtoSWC/         0.00                S8/         0.00                S9/
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```
0.00
      WEStoSESC/        0.00         SR26toOUT/        0.00              S3d/
0.00
            S3c/        0.00               S3b/        0.00              S3a/
0.00
            S1a/        0.00               S1b/        0.00              S1c/
0.00
            S1d/        0.00               S2a/        0.00              S2b/
0.00
            S2c/        0.00               S5b/        0.00              S5a/
0.00
           S10d/        0.00              S10c/        0.00             S10b/
0.00
           S10a/        0.00              S11a/        0.00             S11b/
0.00
           S11c/        0.00              S12a/        0.00             S12b/
0.00
           S12c/        0.00              S13a/        0.00             S13b/
0.00
           S13c/        0.00              S13d/        0.00         US65toUSM/
0.00
       CASNatob/        0.00          CASNbtoc/        0.00          CASNctod/
0.00
       CASNdtoe/        0.00          CASNetof/        0.00          CASNftog/
0.00
       CASNgtoH/        0.00          CASNhtoi/        0.00         CASNitoNW/
0.00
           Weir/        0.00           MJRLeft/        0.00          MJRRight/
0.00
       MJRExist/        0.00            MjrNew/        0.00         DSmjrExis/
0.00
       DSmjrNew/        0.00           PRKWout/        0.00           18exist/
0.00
         42in 1/        0.00            42in 2/        0.00          18inchDS/
0.00
          3x6DS/        0.00              3ft3/        0.00

        Conduit/ Upstream/ Downstream Elevation
       NE1toEAS/   655.39/   655.39        EAStoNEC/   655.07/   655.07
NW1toP1/   650.01/   650.01
      USPDtoNW1/   651.40/   651.40          P2toP1/   650.01/   650.01
S4a/   653.57/   653.57
            S4b/   652.07/   652.07             S4c/   650.57/   650.57
S4d/   650.01/   650.01
         P3toSE/   652.13/   652.13         SEtoSEC/   651.17/   651.17
SECtoP2/   650.01/   650.01
        SWtoSWC/   651.41/   651.41              S8/   650.01/   650.01
 S9/   650.01/   650.01
      WEStoSESC/   651.12/   651.12       SR26toOUT/   621.06/   621.06
S3d/   655.65/   655.65
            S3c/   657.18/   657.18             S3b/   658.71/   658.71
S3a/   660.24/   660.24
            S1a/   659.19/   659.19             S1b/   656.25/   656.25
S1c/   653.31/   653.31
            S1d/   650.01/   650.01             S2a/   655.53/   655.53
S2b/   652.77/   652.77
            S2c/   650.01/   650.01             S5b/   655.39/   655.39
S5a/   661.75/   661.75
           S10d/   651.54/   651.54            S10c/   654.04/   654.04
S10b/   656.59/   656.59
           S10a/   659.14/   659.14            S11a/   658.26/   658.26
S11b/   652.17/   652.17
           S11c/   650.01/   650.01            S12a/   660.51/   660.51
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S12b/   655.26/   655.26
            S12c/   650.01/   650.01            S13a/   661.60/   661.60
S13b/   660.40/   660.40
            S13c/   657.00/   657.00            S13d/   651.40/   651.40
US65toUSM/   647.37/   647.37
        CASNatob/   653.20/   653.20        CASNbtoc/   653.19/   653.19
CASNctod/   652.60/   652.60
        CASNdtoe/   652.25/   652.25        CASNetof/   651.93/   651.93
CASNftog/   651.91/   651.91
        CASNgtoH/   651.80/   651.80        CASNhtoi/   651.59/   651.59
CASNitoNW/   651.40/   651.40
            Weir/   653.75/   653.75         MJRLeft/   647.21/   647.21
MJRRight/   647.21/   647.21
        MJRExist/   640.00/   640.00          MjrNew/   640.00/   640.00
DSmjrExis/   637.58/   637.58
        DSmjrNew/   637.58/   637.58         PRKWout/   653.75/   653.75
18exist/   648.17/   648.17
          42in 1/   648.17/   648.17          42in 2/   648.17/   648.17
18inchDS/   647.37/   647.37
           3x6DS/   647.37/   647.37            3ft3/   647.37/   647.37

 Cycle        500      Time          0 Hrs - 41.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.00 /   653.16              NW1/   0.00 /   651.40
MJR/   0.00 /   647.21
            USPD/   0.00 /   653.75              USM/   0.00 /   647.37
OUT/   0.00 /   621.06
            DSMR/   0.00 /   640.00             SR26/   0.00 /   637.58
NE1/   0.00 /   655.65
              P1/   0.00 /   650.01              SWC/   0.00 /   651.41
 P3/   0.00 /   653.69
              P2/   0.00 /   650.01              SEC/   0.00 /   651.17
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.00 /   652.13
              SW/   0.00 /   651.80              WES/   0.00 /   651.54
SESC/   0.00 /   651.12
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.00 /   662.68
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.00 /   648.17
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00           NW1toP1/
0.00         USPDtoNW1/      0.00
          P2toP1/       0.00              S4a/       0.00               S4b/
0.00               S4c/      0.00
             S4d/       0.00           P3toSE/       0.00           SEtoSEC/
0.00           SECtoP2/      0.00
         SWtoSWC/       0.00               S8/       0.00                S9/
0.00         WEStoSESC/      0.00
       SR26toOUT/       0.00              S3d/       0.00               S3c/
0.00               S3b/      0.00
             S3a/       0.00              S1a/       0.00               S1b/
0.00               S1c/      0.00
             S1d/       0.00              S2a/       0.00               S2b/
0.00               S2c/      0.00
             S5b/       0.00              S5a/       0.00              S10d/
0.00              S10c/      0.00
            S10b/       0.00             S10a/       0.00              S11a/
0.00              S11b/      0.00
            S11c/       0.00             S12a/       0.00              S12b/
0.00              S12c/      0.00
            S13a/       0.00             S13b/       0.00              S13c/
0.00              S13d/      0.00
       US65toUSM/       0.00         CASNatob/       0.00          CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00         CASNetof/       0.00          CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00              Weir/
0.00           MJRLeft/      0.00
        MJRRight/       0.00         MJRExist/       0.00            MjrNew/
0.00         DSmjrExis/      0.00
        DSmjrNew/       0.00          PRKWout/       0.00           18exist/
0.00            42in 1/      0.00
          42in 2/       0.00         18inchDS/       0.00             3x6DS/
0.00              3ft3/      0.00
        FREE # 1/       0.00

 Cycle       1000      Time          1 Hrs - 23.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.00 /   653.16              NW1/   0.00 /   651.40
MJR/   0.00 /   647.21
            USPD/   0.00 /   653.75              USM/   0.00 /   647.37
OUT/   0.00 /   621.06
            DSMR/   0.00 /   640.00             SR26/   0.00 /   637.58
NE1/   0.00 /   655.65
              P1/   0.00 /   650.01              SWC/   0.00 /   651.41
 P3/   0.00 /   653.69
              P2/   0.00 /   650.01              SEC/   0.00 /   651.17
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.00 /   652.13
              SW/   0.00 /   651.80              WES/   0.00 /   651.54
SESC/   0.00 /   651.12
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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          NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.00 /   662.68
          NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40            I65/   0.00 /   648.17
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
         CASNf/   0.00 /   651.93          CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
         CASNi/   0.00 /   651.59

        Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00         NW1toP1/
0.00        USPDtoNW1/       0.00
          P2toP1/       0.00             S4a/       0.00             S4b/
0.00               S4c/       0.00
             S4d/       0.00          P3toSE/       0.00         SEtoSEC/
0.00           SECtoP2/       0.00
         SWtoSWC/       0.00              S8/       0.00              S9/
0.00         WEStoSESC/       0.00
       SR26toOUT/       0.00             S3d/       0.00             S3c/
0.00               S3b/       0.00
             S3a/       0.00             S1a/       0.00             S1b/
0.00               S1c/       0.00
             S1d/       0.00             S2a/       0.00             S2b/
0.00               S2c/       0.00
             S5b/       0.00             S5a/       0.00            S10d/
0.00              S10c/       0.00
            S10b/       0.00            S10a/       0.00            S11a/
0.00              S11b/       0.00
            S11c/       0.00            S12a/       0.00            S12b/
0.00              S12c/       0.00
            S13a/       0.00            S13b/       0.00            S13c/
0.00              S13d/       0.00
       US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00          CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00          CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00           MJRLeft/       0.00
        MJRRight/       0.00        MJRExist/       0.00          MjrNew/
0.00         DSmjrExis/       0.00
        DSmjrNew/       0.00         PRKWout/       0.00         18exist/
0.00            42in 1/       0.00
          42in 2/       0.00        18inchDS/       0.00           3x6DS/
0.00              3ft3/       0.00
        FREE # 1/       0.00
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 Cycle       1500      Time          2 Hrs -  5.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.63 /   653.79              NW1/   0.01 /   651.41
MJR/   0.03 /   647.24
            USPD/   0.13 /   653.88              USM/   1.01 /   648.38
OUT/   0.00 /   621.06
            DSMR/   0.00 /   640.00             SR26/   0.00 /   637.58
NE1/   0.00 /   655.65
              P1/   0.00 /   650.01              SWC/   0.00 /   651.41
 P3/   0.00 /   653.69
              P2/   0.00 /   650.01              SEC/   0.00 /   651.17
NEC/   0.20 /   655.27
            OUT2/   0.00 /   650.17              EAS/   0.07 /   655.46
 SE/   0.00 /   652.13
              SW/   0.00 /   651.80              WES/   0.08 /   651.62
SESC/   0.37 /   651.49
            NECa/   0.18 /   653.75             NECb/   0.14 /   652.21
NECc/   0.13 /   650.70
            NE1d/   0.01 /   657.19             NE1c/   0.06 /   658.77
NE1b/   0.11 /   660.35
            NE1a/   0.15 /   661.83              P1b/   0.13 /   659.32
P1c/   0.06 /   656.31
             P1d/   0.02 /   653.33              P1a/   0.15 /   662.28
CNEb/   0.02 /   655.55
            CNEa/   0.05 /   658.01             CNEc/   0.00 /   652.77
EASa/   0.06 /   664.54
            EASb/   0.05 /   661.80             WESa/   0.18 /   660.32
WESb/   0.18 /   659.32
            WESc/   0.14 /   656.73             WESd/   0.11 /   654.15
SCWa/   0.14 /   661.49
            SCWb/   0.10 /   658.36             SCWc/   0.14 /   652.31
NCWa/   0.13 /   661.94
            NCWb/   0.08 /   660.59             NCWc/   0.09 /   655.35
NW1a/   0.12 /   662.80
            NW1b/   0.09 /   661.69             NW1c/   0.05 /   660.45
NW1d/   0.02 /   657.02
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.11 /   656.67
            PRKE/   0.10 /   657.50              I65/   0.21 /   648.38
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00*       EAStoNEC/       0.22*         NW1toP1/
0.01        USPDtoNW1/       3.25
          P2toP1/       0.00              S4a/       1.03              S4b/
0.81             S4c/       0.57
             S4d/       0.40         P3toSE/       0.00         SEtoSEC/
0.00          SECtoP2/       0.00*
         SWtoSWC/       0.00               S8/       0.00               S9/
0.00        WEStoSESC/       0.45
       SR26toOUT/       0.00              S3d/       0.00              S3c/
0.06             S3b/       0.22
             S3a/       0.40              S1a/       0.87              S1b/
0.60             S1c/       0.21
             S1d/       0.02              S2a/       0.04              S2b/
0.01             S2c/       0.00
             S5b/       0.25*             S5a/       0.29             S10d/
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0.52             S10c/        0.59
            S10b/        0.71             S10a/        0.82             S11a/
0.89             S11b/        0.79*
            S11c/        0.62             S12a/        0.58             S12b/
0.54*            S12c/        0.49
            S13a/        0.36             S13b/        0.22             S13c/
0.13             S13d/        0.05
       US65toUSM/        0.86         CASNatob/        0.00         CASNbtoc/
0.00          CASNctod/       0.00
        CASNdtoe/        0.00         CASNetof/        0.00         CASNftog/
0.00          CASNgtoH/       0.00
        CASNhtoi/        0.00        CASNitoNW/        0.00             Weir/
0.34*           MJRLeft/      1.31
        MJRRight/        1.89         MJRExist/        0.00           MjrNew/
0.00            DSmjrExis/    0.00
        DSmjrNew/        0.00          PRKWout/        0.40*         18exist/
0.00             42in 1/      0.00
          42in 2/        0.00         18inchDS/       -0.02            3x6DS/
-0.04              3ft3/     -0.04
        FREE # 1/        0.00

 Cycle       2000      Time          2 Hrs - 46.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.10 /   654.26              NW1/   0.14 /   651.54
MJR/   0.35 /   647.56
            USPD/   0.24 /   653.99              USM/   1.67 /   649.04
OUT/   0.00 /   621.06
            DSMR/   0.00 /   640.00             SR26/   0.00 /   637.58
NE1/   0.56 /   656.21
              P1/   0.03 /   650.04              SWC/   0.08 /   651.49
 P3/   0.06 /   653.75
              P2/   0.05 /   650.06              SEC/   0.03 /   651.20
NEC/   0.62 /   655.69
            OUT2/   0.00 /   650.17              EAS/   0.56 /   655.95
 SE/   0.01 /   652.14
              SW/   0.03 /   651.83              WES/   0.33 /   651.87
SESC/   0.59 /   651.71
            NECa/   0.61 /   654.18             NECb/   0.60 /   652.67
NECc/   0.61 /   651.18
            NE1d/   0.49 /   657.67             NE1c/   0.51 /   659.22
NE1b/   0.52 /   660.76
            NE1a/   0.53 /   662.21              P1b/   0.35 /   659.54
P1c/   0.27 /   656.52
             P1d/   0.33 /   653.64              P1a/   0.33 /   662.46
CNEb/   0.38 /   655.91
            CNEa/   0.40 /   658.36             CNEc/   0.44 /   653.21
EASa/   0.16 /   664.64
            EASb/   0.14 /   661.89             WESa/   0.40 /   660.54
WESb/   0.40 /   659.54
            WESc/   0.38 /   656.97             WESd/   0.28 /   654.32
SCWa/   0.31 /   661.66
            SCWb/   0.23 /   658.49             SCWc/   0.37 /   652.54
NCWa/   0.30 /   662.11
            NCWb/   0.20 /   660.71             NCWc/   0.24 /   655.50
NW1a/   0.45 /   663.13
            NW1b/   0.47 /   662.07             NW1c/   0.33 /   660.73
NW1d/   0.26 /   657.26
            CASO/   0.00 /   657.53             CASN/   0.20 /   658.40
PRKW/   0.23 /   656.79
            PRKE/   0.21 /   657.61              I65/   0.87 /   649.04
CASNb/   0.31 /   653.51
           CASNc/   0.17 /   653.36            CASNd/   0.11 /   652.71
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CASNe/   0.03 /   652.28
          CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
          CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       3.63         EAStoNEC/       4.91           NW1toP1/
1.40         USPDtoNW1/      10.84
          P2toP1/       0.04              S4a/       7.93               S4b/
7.68              S4c/       7.41
             S4d/       7.27           P3toSE/       0.04           SEtoSEC/
0.04*          SECtoP2/      0.03*
         SWtoSWC/       0.10*              S8/       0.06                S9/
3.05         WEStoSESC/      3.09
       SR26toOUT/       0.00              S3d/       3.75*              S3c/
3.92              S3b/       4.08
             S3a/       4.23              S1a/       3.67*              S1b/
3.60              S1c/       3.53*
             S1d/       3.45              S2a/       1.89               S2b/
1.81*             S2c/       1.72
             S5b/       1.39*             S5a/       1.42              S10d/
3.14*            S10c/       3.19
            S10b/       3.27             S10a/       3.34*             S11a/
3.46             S11b/       3.42*
            S11c/       3.35             S12a/       2.65              S12b/
2.63*            S12c/       2.61
            S13a/       4.49             S13b/       4.34              S13c/
4.25             S13d/       4.20
       US65toUSM/       8.93         CASNatob/       0.39          CASNbtoc/
0.37          CASNctod/      0.14
        CASNdtoe/       0.06         CASNetof/       0.01          CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00              Weir/
1.27*          MJRLeft/      9.54
        MJRRight/      11.35         MJRExist/       0.00            MjrNew/
0.00         DSmjrExis/      0.00
        DSmjrNew/       0.00          PRKWout/       1.35           18exist/
0.01*           42in 1/      0.02*
          42in 2/       0.02*        18inchDS/      -0.01             3x6DS/
-0.02             3ft3/     -0.02
        FREE # 1/       0.00

 Cycle       2500      Time          3 Hrs - 28.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.37 /   654.53              NW1/   0.40 /   651.80
MJR/   0.99 /   648.20
            USPD/   0.30 /   654.05              USM/   2.05 /   649.42
OUT/   0.00 /   621.06
            DSMR/   0.00 /   640.00             SR26/   0.00 /   637.58
NE1/   0.97 /   656.62
              P1/   0.15 /   650.16              SWC/   0.31 /   651.72
 P3/   0.18 /   653.87
              P2/   0.18 /   650.19              SEC/   0.11 /   651.28
NEC/   0.91 /   655.98
            OUT2/   0.00 /   650.17              EAS/   0.92 /   656.31
 SE/   0.04 /   652.17
              SW/   0.12 /   651.92              WES/   0.50 /   652.04
SESC/   0.65 /   651.77
            NECa/   0.90 /   654.47             NECb/   0.88 /   652.95
NECc/   0.87 /   651.44
            NE1d/   0.73 /   657.91             NE1c/   0.74 /   659.45
NE1b/   0.75 /   660.99
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            NE1a/   0.77 /   662.45              P1b/   0.54 /   659.73
P1c/   0.44 /   656.69
             P1d/   0.50 /   653.81              P1a/   0.51 /   662.64
CNEb/   0.60 /   656.13
            CNEa/   0.61 /   658.57             CNEc/   0.68 /   653.45
EASa/   0.22 /   664.70
            EASb/   0.19 /   661.94             WESa/   0.59 /   660.73
WESb/   0.59 /   659.73
            WESc/   0.56 /   657.15             WESd/   0.42 /   654.46
SCWa/   0.45 /   661.80
            SCWb/   0.34 /   658.60             SCWc/   0.52 /   652.69
NCWa/   0.43 /   662.24
            NCWb/   0.28 /   660.79             NCWc/   0.32 /   655.58
NW1a/   0.67 /   663.35
            NW1b/   0.69 /   662.29             NW1c/   0.52 /   660.92
NW1d/   0.35 /   657.35
            CASO/   0.00 /   657.53             CASN/   0.42 /   658.62
PRKW/   0.38 /   656.94
            PRKE/   0.33 /   657.73              I65/   1.25 /   649.42
CASNb/   0.63 /   653.83
           CASNc/   0.49 /   653.68            CASNd/   0.47 /   653.07
CASNe/   0.49 /   652.74
           CASNf/   0.60 /   652.53            CASNg/   0.53 /   652.44
CASNh/   0.48 /   652.28
           CASNi/   0.59 /   652.18

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       7.45        EAStoNEC/       9.76          NW1toP1/
7.65       USPDtoNW1/       20.95
          P2toP1/       0.43             S4a/      15.84              S4b/
15.51             S4c/      15.18
             S4d/      14.99          P3toSE/       0.30          SEtoSEC/
0.29*          SECtoP2/      0.28*
         SWtoSWC/       0.83              S8/       0.74               S9/
6.32       WEStoSESC/       6.35
       SR26toOUT/       0.00             S3d/       7.72              S3c/
7.98              S3b/      8.23
             S3a/       8.48             S1a/       7.93              S1b/
7.86              S1c/      7.79*
             S1d/       7.72             S2a/       4.42              S2b/
4.31*             S2c/      4.19
             S5b/       2.48*            S5a/       2.53             S10d/
6.41*            S10c/      6.48
            S10b/       6.59            S10a/       6.68             S11a/
6.54             S11b/      6.46*
            S11c/       6.35            S12a/       4.97             S12b/
4.93*            S12c/      4.90
            S13a/       9.27            S13b/       9.06             S13c/
8.93             S13d/      8.88*
       US65toUSM/      16.34        CASNatob/       1.60         CASNbtoc/
1.58          CASNctod/      1.50
        CASNdtoe/       1.40        CASNetof/       1.30         CASNftog/
1.19          CASNgtoH/      1.06
        CASNhtoi/       0.88       CASNitoNW/       0.72             Weir/
2.66           MJRLeft/     16.82
        MJRRight/      21.45        MJRExist/       0.00           MjrNew/
0.00         DSmjrExis/      0.00
        DSmjrNew/       0.00         PRKWout/       2.79          18exist/
0.18*           42in 1/      0.31*
          42in 2/       0.31*       18inchDS/       0.10            3x6DS/
0.23             3ft3/      0.23
        FREE # 1/       0.00
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 Cycle       3000      Time          4 Hrs - 10.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.67 /   654.83              NW1/   0.77 /   652.17
MJR/   1.98 /   649.19
            USPD/   0.34 /   654.09              USM/   2.59 /   649.96
OUT/   0.18 /   621.24
            DSMR/   1.68 /   641.68             SR26/   1.10 /   638.68
NE1/   1.43 /   657.08
              P1/   0.42 /   650.43              SWC/   0.53 /   651.94
 P3/   0.37 /   654.06
              P2/   0.41 /   650.42              SEC/   0.25 /   651.42
NEC/   1.13 /   656.20
            OUT2/   0.00 /   650.17              EAS/   1.30 /   656.69
 SE/   0.09 /   652.22
              SW/   0.27 /   652.07              WES/   0.62 /   652.16
SESC/   0.69 /   651.81
            NECa/   1.13 /   654.70             NECb/   1.12 /   653.19
NECc/   1.10 /   651.67
            NE1d/   0.98 /   658.16             NE1c/   0.96 /   659.67
NE1b/   0.96 /   661.20
            NE1a/   0.97 /   662.65              P1b/   0.62 /   659.81
P1c/   0.50 /   656.75
             P1d/   0.52 /   653.83              P1a/   0.58 /   662.71
CNEb/   0.78 /   656.31
            CNEa/   0.79 /   658.75             CNEc/   0.88 /   653.65
EASa/   0.27 /   664.75
            EASb/   0.24 /   661.99             WESa/   0.71 /   660.85
WESb/   0.71 /   659.85
            WESc/   0.68 /   657.27             WESd/   0.52 /   654.56
SCWa/   0.52 /   661.87
            SCWb/   0.40 /   658.66             SCWc/   0.57 /   652.74
NCWa/   0.51 /   662.32
            NCWb/   0.34 /   660.85             NCWc/   0.34 /   655.60
NW1a/   0.89 /   663.57
            NW1b/   0.91 /   662.51             NW1c/   0.70 /   661.10
NW1d/   0.47 /   657.47
            CASO/   0.00 /   657.53             CASN/   0.56 /   658.76
PRKW/   0.42 /   656.98
            PRKE/   0.37 /   657.77              I65/   1.79 /   649.96
CASNb/   0.79 /   653.99
           CASNc/   0.63 /   653.82            CASNd/   0.66 /   653.26
CASNe/   0.75 /   653.00
           CASNf/   0.95 /   652.88            CASNg/   0.92 /   652.83
CASNh/   0.97 /   652.77
           CASNi/   1.15 /   652.74

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/     12.81          EAStoNEC/      16.37          NW1toP1/
21.17        USPDtoNW1/      26.18*
          P2toP1/      0.01                S4a/      24.15              S4b/
23.97              S4c/      23.78
             S4d/     23.66            P3toSE/       1.15          SEtoSEC/
1.14*         SECtoP2/       1.11*
         SWtoSWC/      2.33                 S8/       2.24               S9/
9.24*       WEStoSESC/       9.26
       SR26toOUT/      9.59                S3d/      13.02              S3c/
13.17              S3b/      13.28
             S3a/     13.39                S1a/       9.99              S1b/
9.95              S1c/       9.91
             S1d/      9.96                S2a/       7.57              S2b/
7.52*             S2c/       7.46
             S5b/      3.65*               S5a/       3.67             S10d/
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9.30*            S10c/       9.33
          S10b/       9.39             S10a/       9.43             S11a/
8.44             S11b/       8.42*
          S11c/       8.44             S12a/       6.77             S12b/
6.76             S12c/       6.75*
          S13a/      15.25             S13b/      15.15             S13c/
15.08             S13d/      15.05*
     US65toUSM/      26.17         CASNatob/       2.59         CASNbtoc/
2.58          CASNctod/       2.55
      CASNdtoe/       2.46         CASNetof/       2.37         CASNftog/
2.27          CASNgtoH/       2.12
      CASNhtoi/       1.93        CASNitoNW/       1.83             Weir/
3.30           MJRLeft/      28.81
      MJRRight/      33.58         MJRExist/       6.52           MjrNew/
3.32         DSmjrExis/       0.00
      DSmjrNew/       9.64          PRKWout/       3.44          18exist/
1.28           42in 1/       2.59*
       42in 2/       2.59*        18inchDS/       0.58            3x6DS/
2.79             3ft3/       2.79
      FREE # 1/       9.59

 Cycle       3500      Time          4 Hrs - 51.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   1.83 /   654.99              NW1/   1.21 /   652.61
MJR/   3.10 /   650.31
           USPD/   0.39 /   654.14              USM/   3.35 /   650.72
OUT/   0.39 /   621.45
           DSMR/   7.26 /   647.26             SR26/   1.35 /   638.93
NE1/   1.69 /   657.34
             P1/   0.72 /   650.73              SWC/   0.71 /   652.12
 P3/   0.58 /   654.27
             P2/   0.73 /   650.74              SEC/   0.43 /   651.60
NEC/   1.27 /   656.34
           OUT2/   0.00 /   650.17              EAS/   1.51 /   656.90
 SE/   0.16 /   652.29
             SW/   0.45 /   652.25              WES/   0.72 /   652.26
SESC/   0.73 /   651.85
           NECa/   1.27 /   654.84             NECb/   1.27 /   653.34
NECc/   1.24 /   651.81
           NE1d/   1.12 /   658.30             NE1c/   1.08 /   659.79
NE1b/   1.08 /   661.32
           NE1a/   1.09 /   662.77              P1b/   0.71 /   659.90
P1c/   0.59 /   656.84
            P1d/   0.56 /   653.87              P1a/   0.67 /   662.80
CNEb/   0.89 /   656.42
           CNEa/   0.89 /   658.85             CNEc/   0.94 /   653.71
EASa/   0.31 /   664.79
           EASb/   0.27 /   662.02             WESa/   0.80 /   660.94
WESb/   0.81 /   659.95
           WESc/   0.77 /   657.36             WESd/   0.60 /   654.64
SCWa/   0.59 /   661.94
           SCWb/   0.45 /   658.71             SCWc/   0.59 /   652.76
NCWa/   0.57 /   662.38
           NCWb/   0.38 /   660.89             NCWc/   0.38 /   655.64
NW1a/   1.01 /   663.69
           NW1b/   1.03 /   662.63             NW1c/   0.79 /   661.19
NW1d/   0.54 /   657.54
           CASO/   0.00 /   657.53             CASN/   0.70 /   658.90
PRKW/   0.48 /   657.04
           PRKE/   0.42 /   657.82              I65/   2.55 /   650.72
CASNb/   0.94 /   654.14
          CASNc/   0.78 /   653.97            CASNd/   0.93 /   653.53
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CASNe/   1.17 /   653.42
          CASNf/   1.45 /   653.38            CASNg/   1.45 /   653.37
CASNh/   1.55 /   653.35
          CASNi/   1.75 /   653.34

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/      16.10        EAStoNEC/      20.47           NW1toP1/
21.81        USPDtoNW1/      32.69*
          P2toP1/       0.43             S4a/      30.24               S4b/
30.03              S4c/      29.82
            S4d/      29.69          P3toSE/       2.90           SEtoSEC/
2.88            SECtoP2/      2.84*
         SWtoSWC/       4.63              S8/       4.52                S9/
11.75*       WEStoSESC/      11.77
       SR26toOUT/      31.19             S3d/      16.39               S3c/
16.59              S3b/      16.74
            S3a/      16.88             S1a/      12.91               S1b/
12.88              S1c/      12.84
            S1d/      12.81*            S2a/       9.86               S2b/
9.79*             S2c/       9.76
            S5b/       4.49*            S5a/       4.51              S10d/
11.81*            S10c/      11.84
           S10b/      11.89            S10a/      11.94              S11a/
10.45             S11b/      10.42*
           S11c/      10.40*           S12a/       8.39              S12b/
8.37             S12c/       8.36*
           S13a/      19.31            S13b/      19.19              S13c/
19.11             S13d/      19.07*
       US65toUSM/      32.20       CASNatob/       3.70          CASNbtoc/
3.68         CASNctod/       3.61
        CASNdtoe/       3.36       CASNetof/       3.12          CASNftog/
2.91         CASNgtoH/       2.64
        CASNhtoi/       2.31      CASNitoNW/       2.15              Weir/
4.17          MJRLeft/      38.54
        MJRRight/      42.05        MJRExist/      21.09            MjrNew/
10.30        DSmjrExis/      13.04
        DSmjrNew/      18.22         PRKWout/       4.37           18exist/
0.83           42in 1/       5.67
          42in 2/       5.67        18inchDS/       0.85             3x6DS/
5.46             3ft3/       5.46
        FREE # 1/      31.19

 Cycle       4000      Time          5 Hrs - 33.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   1.95 /   655.11              NW1/   1.66 /   653.06
MJR/   3.99 /   651.20
           USPD/   0.39 /   654.14              USM/   3.94 /   651.31
OUT/   0.50 /   621.56
           DSMR/   7.66 /   647.66             SR26/   1.51 /   639.09
NE1/   1.87 /   657.52
             P1/   1.22 /   651.23              SWC/   0.89 /   652.30
 P3/   0.78 /   654.47
             P2/   1.11 /   651.12              SEC/   0.62 /   651.79
NEC/   1.35 /   656.42
           OUT2/   0.00 /   650.17              EAS/   1.67 /   657.06
 SE/   0.27 /   652.40
             SW/   0.64 /   652.44              WES/   0.78 /   652.32
SESC/   0.76 /   651.88
           NECa/   1.35 /   654.92             NECb/   1.35 /   653.42
NECc/   1.33 /   651.90
           NE1d/   1.22 /   658.40             NE1c/   1.15 /   659.86
NE1b/   1.15 /   661.39
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            NE1a/   1.15 /   662.83             P1b/   0.72 /   659.91
P1c/   0.60 /   656.85
             P1d/   0.58 /   653.89             P1a/   0.68 /   662.81
CNEb/   0.95 /   656.48
            CNEa/   0.95 /   658.91            CNEc/   0.95 /   653.72
EASa/   0.33 /   664.81
            EASb/   0.29 /   662.04            WESa/   0.84 /   660.98
WESb/   0.85 /   659.99
            WESc/   0.82 /   657.41            WESd/   0.64 /   654.68
SCWa/   0.61 /   661.96
            SCWb/   0.47 /   658.73            SCWc/   0.61 /   652.78
NCWa/   0.59 /   662.40
            NCWb/   0.40 /   660.91            NCWc/   0.40 /   655.66
NW1a/   1.08 /   663.76
            NW1b/   1.11 /   662.71            NW1c/   0.86 /   661.26
NW1d/   0.59 /   657.59
            CASO/   0.00 /   657.53            CASN/   0.76 /   658.96
PRKW/   0.48 /   657.04
            PRKE/   0.43 /   657.83             I65/   3.13 /   651.30
CASNb/   1.11 /   654.31
           CASNc/   1.01 /   654.20           CASNd/   1.45 /   654.05
CASNe/   1.77 /   654.02
           CASNf/   2.08 /   654.01           CASNg/   2.09 /   654.01
CASNh/   2.20 /   654.00
           CASNi/   2.41 /   654.00

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/      18.71       EAStoNEC/      23.60           NW1toP1/
35.09        USPDtoNW1/      34.10*
          P2toP1/     -13.19            S4a/      33.98               S4b/
33.94              S4c/      33.88
             S4d/      33.82         P3toSE/       5.56           SEtoSEC/
5.54           SECtoP2/      5.47
         SWtoSWC/       7.36             S8/       7.23                S9/
13.17*       WEStoSESC/      13.18
       SR26toOUT/      46.78            S3d/      18.83               S3c/
18.92              S3b/      18.97
             S3a/      19.02            S1a/      13.02               S1b/
13.18              S1c/      13.34
             S1d/      13.47*           S2a/      11.44               S2b/
11.41              S2c/      11.38*
             S5b/       4.93*           S5a/       4.93              S10d/
13.19*            S10c/      13.19
            S10b/      13.20           S10a/      13.19              S11a/
11.12             S11b/      11.13*
            S11c/      11.13*          S12a/       9.05              S12b/
9.04             S12c/      9.04*
            S13a/      22.13           S13b/      22.08              S13c/
22.05             S13d/      22.04*
       US65toUSM/      36.82       CASNatob/       4.23          CASNbtoc/
4.21         CASNctod/      4.04
        CASNdtoe/       3.65       CASNetof/       3.35          CASNftog/
3.13         CASNgtoH/      2.88
        CASNhtoi/       2.56      CASNitoNW/       2.41              Weir/
4.26          MJRLeft/     28.69
        MJRRight/      30.14       MJRExist/      34.35            MjrNew/
12.54        DSmjrExis/      28.10
        DSmjrNew/      18.72        PRKWout/       4.36           18exist/
-1.44           42in 1/      -8.08
          42in 2/      -8.08       18inchDS/      -1.29             3x6DS/
-8.27             3ft3/      -8.27
        FREE # 1/      46.78
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 Cycle       4500      Time          6 Hrs - 15.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.91 /   655.07               NW1/   1.94 /   653.34
MJR/   4.53 /   651.74
            USPD/   0.38 /   654.13               USM/   4.45 /   651.82
OUT/   0.56 /   621.62
            DSMR/   7.89 /   647.89              SR26/   1.60 /   639.18
NE1/   1.83 /   657.48
              P1/   1.75 /   651.76               SWC/   1.04 /   652.45
 P3/   0.92 /   654.61
              P2/   1.55 /   651.56               SEC/   0.81 /   651.98
NEC/   1.31 /   656.38
            OUT2/   0.00 /   650.17               EAS/   1.62 /   657.01
 SE/   0.36 /   652.49
              SW/   0.80 /   652.60               WES/   0.75 /   652.29
SESC/   0.75 /   651.87
            NECa/   1.32 /   654.89              NECb/   1.32 /   653.39
NECc/   1.39 /   651.96
            NE1d/   1.19 /   658.37              NE1c/   1.12 /   659.83
NE1b/   1.12 /   661.36
            NE1a/   1.12 /   662.80               P1b/   0.70 /   659.89
P1c/   0.59 /   656.84
             P1d/   0.56 /   653.87               P1a/   0.67 /   662.80
CNEb/   0.94 /   656.47
            CNEa/   0.93 /   658.89              CNEc/   0.94 /   653.71
EASa/   0.31 /   664.79
            EASb/   0.27 /   662.02              WESa/   0.82 /   660.96
WESb/   0.83 /   659.97
            WESc/   0.79 /   657.38              WESd/   0.62 /   654.66
SCWa/   0.58 /   661.93
            SCWb/   0.44 /   658.70              SCWc/   0.58 /   652.75
NCWa/   0.57 /   662.38
            NCWb/   0.38 /   660.89              NCWc/   0.38 /   655.64
NW1a/   1.06 /   663.74
            NW1b/   1.08 /   662.68              NW1c/   0.84 /   661.24
NW1d/   0.58 /   657.58
            CASO/   0.00 /   657.53              CASN/   0.74 /   658.94
PRKW/   0.48 /   657.04
            PRKE/   0.42 /   657.82               I65/   3.64 /   651.81
CASNb/   1.39 /   654.59
           CASNc/   1.36 /   654.55             CASNd/   1.90 /   654.50
CASNe/   2.24 /   654.49
           CASNf/   2.55 /   654.48             CASNg/   2.57 /   654.48
CASNh/   2.67 /   654.47
           CASNi/   2.88 /   654.47

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/      18.12        EAStoNEC/      22.71          NW1toP1/
44.60       USPDtoNW1/      31.61*
          P2toP1/     -28.85             S4a/      32.32              S4b/
32.38             S4c/      32.41
             S4d/      32.21          P3toSE/       7.98          SEtoSEC/
7.97         SECtoP2/       7.89
        SWtoSWC/       9.62              S8/       9.51               S9/
12.54*      WEStoSESC/      12.53
      SR26toOUT/      56.46             S3d/      18.02              S3c/
17.95             S3b/      17.92
             S3a/      17.90             S1a/      12.76              S1b/
12.75             S1c/      12.73
             S1d/      12.72*            S2a/      10.98              S2b/
10.99             S2c/      11.00*
             S5b/       4.56*            S5a/       4.56             S10d/
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12.53*            S10c/      12.53
        S10b/     12.52              S10a/      12.51            S11a/
10.14             S11b/      10.14*
        S11c/     10.13*             S12a/       8.28            S12b/
8.28*            S12c/       8.28*
        S13a/     21.14              S13b/      21.17            S13c/
21.19             S13d/      21.20*
   US65toUSM/     35.34          CASNatob/       4.09        CASNbtoc/
4.05           CASNctod/     3.83
   CASNdtoe/       3.56          CASNetof/       3.32        CASNftog/
3.15           CASNgtoH/     2.97
   CASNhtoi/       2.73         CASNitoNW/       2.64            Weir/
4.08            MJRLeft/    26.86
   MJRRight/      27.66          MJRExist/      42.82          MjrNew/
13.70          DSmjrExis/    37.49
   DSmjrNew/      18.99           PRKWout/       4.27         18exist/
-1.29            42in 1/     -7.99
     42in 2/      -7.99         18inchDS/      -1.19           3x6DS/
-8.12             3ft3/     -8.12
   FREE # 1/      56.46

 Cycle       5000      Time          6 Hrs - 56.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   1.88 /   655.04              NW1/   2.12 /   653.52
MJR/   4.92 /   652.13
           USPD/   0.31 /   654.06              USM/   4.84 /   652.21
OUT/   0.64 /   621.70
           DSMR/   8.15 /   648.15             SR26/   1.72 /   639.30
NE1/   1.80 /   657.45
             P1/   2.20 /   652.21              SWC/   1.18 /   652.59
 P3/   1.00 /   654.69
             P2/   2.01 /   652.02              SEC/   1.05 /   652.22
NEC/   1.24 /   656.31
           OUT2/   0.00 /   650.17              EAS/   1.59 /   656.98
 SE/   0.43 /   652.56
             SW/   0.92 /   652.72              WES/   0.71 /   652.25
SESC/   0.81 /   651.93
           NECa/   1.25 /   654.82             NECb/   1.29 /   653.36
NECc/   1.61 /   652.18
           NE1d/   1.17 /   658.35             NE1c/   1.10 /   659.81
NE1b/   1.10 /   661.34
           NE1a/   1.09 /   662.77              P1b/   0.53 /   659.72
P1c/   0.44 /   656.69
            P1d/   0.42 /   653.73              P1a/   0.49 /   662.62
CNEb/   0.92 /   656.45
           CNEa/   0.92 /   658.88             CNEc/   0.93 /   653.70
EASa/   0.30 /   664.78
           EASb/   0.26 /   662.01             WESa/   0.74 /   660.88
WESb/   0.76 /   659.90
           WESc/   0.73 /   657.32             WESd/   0.57 /   654.61
SCWa/   0.50 /   661.85
           SCWb/   0.39 /   658.65             SCWc/   0.53 /   652.70
NCWa/   0.52 /   662.33
           NCWb/   0.35 /   660.86             NCWc/   0.35 /   655.61
NW1a/   1.03 /   663.71
           NW1b/   1.06 /   662.66             NW1c/   0.82 /   661.22
NW1d/   0.57 /   657.57
           CASO/   0.00 /   657.53             CASN/   0.61 /   658.81
PRKW/   0.34 /   656.90
           PRKE/   0.30 /   657.70              I65/   4.04 /   652.21
CASNb/   1.68 /   654.88
          CASNc/   1.68 /   654.87            CASNd/   2.26 /   654.86
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CASNe/   2.60 /   654.85
           CASNf/   2.92 /   654.85            CASNg/   2.93 /   654.85
CASNh/   3.04 /   654.84
           CASNi/   3.25 /   654.84

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/      17.75         EAStoNEC/      22.09          NW1toP1/
51.01        USPDtoNW1/      22.06*
          P2toP1/     -37.36              S4a/      28.81              S4b/
29.16              S4c/      29.47
             S4d/      29.19           P3toSE/       9.71          SEtoSEC/
9.70          SECtoP2/      9.58
         SWtoSWC/      10.90               S8/      10.80               S9/
10.48        WEStoSESC/      10.90
       SR26toOUT/      68.50              S3d/      17.55              S3c/
17.36              S3b/      17.18
             S3a/      16.97              S1a/       7.46*             S1b/
7.52              S1c/      7.58
             S1d/       7.69*             S2a/      10.58*             S2b/
10.66*             S2c/      10.74*
             S5b/       4.25*             S5a/       4.19             S10d/
10.85*            S10c/      10.75
            S10b/      10.57             S10a/      10.42             S11a/
8.06             S11b/      8.21*
            S11c/       8.45*            S12a/       7.13             S12b/
7.19*            S12c/      7.26*
            S13a/      20.33             S13b/      20.46             S13c/
20.53            S13d/      20.56*
       US65toUSM/      33.98         CASNatob/       2.97         CASNbtoc/
2.97         CASNctod/      2.96
        CASNdtoe/       2.93         CASNetof/       2.91         CASNftog/
2.90         CASNgtoH/      2.89
        CASNhtoi/       2.87        CASNitoNW/       2.86             Weir/
2.42          MJRLeft/     29.80
        MJRRight/      29.90         MJRExist/      54.08           MjrNew/
14.46        DSmjrExis/      49.20
        DSmjrNew/      19.31          PRKWout/       2.44          18exist/
-0.43           42in 1/     -3.31
          42in 2/      -3.31         18inchDS/      -0.46            3x6DS/
-3.32             3ft3/     -3.32
        FREE # 1/      68.50

 Cycle       5500      Time          7 Hrs - 38.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.54 /   654.70                NW1/   2.10 /   653.50
MJR/   5.12 /   652.33
            USPD/   0.27 /   654.02                USM/   5.05 /   652.42
OUT/   0.66 /   621.72
            DSMR/   8.23 /   648.23               SR26/   1.75 /   639.33
NE1/   1.29 /   656.94
              P1/   2.44 /   652.45                SWC/   1.26 /   652.67
 P3/   0.98 /   654.67
              P2/   2.38 /   652.39                SEC/   1.29 /   652.46
NEC/   1.01 /   656.08
            OUT2/   0.00 /   650.17                EAS/   1.17 /   656.56
 SE/   0.47 /   652.60
              SW/   0.95 /   652.75                WES/   0.90 /   652.44
SESC/   1.25 /   652.37
            NECa/   1.02 /   654.59               NECb/   1.11 /   653.18
NECc/   1.86 /   652.43
            NE1d/   0.89 /   658.07               NE1c/   0.87 /   659.58
NE1b/   0.87 /   661.11
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            NE1a/   0.86 /   662.54             P1b/   0.52 /   659.71
P1c/   0.43 /   656.68
             P1d/   0.41 /   653.72             P1a/   0.49 /   662.62
CNEb/   0.75 /   656.28
            CNEa/   0.75 /   658.71            CNEc/   0.75 /   653.52
EASa/   0.23 /   664.71
            EASb/   0.20 /   661.95            WESa/   0.63 /   660.77
WESb/   0.64 /   659.78
            WESc/   0.62 /   657.21            WESd/   0.47 /   654.51
SCWa/   0.42 /   661.77
            SCWb/   0.32 /   658.58            SCWc/   0.48 /   652.65
NCWa/   0.42 /   662.23
            NCWb/   0.28 /   660.79            NCWc/   0.28 /   655.54
NW1a/   0.82 /   663.50
            NW1b/   0.84 /   662.44            NW1c/   0.65 /   661.05
NW1d/   0.44 /   657.44
            CASO/   0.00 /   657.53            CASN/   0.54 /   658.74
PRKW/   0.36 /   656.92
            PRKE/   0.31 /   657.71             I65/   4.27 /   652.44
CASNb/   1.60 /   654.80
           CASNc/   1.60 /   654.79           CASNd/   2.18 /   654.78
CASNe/   2.53 /   654.78
           CASNf/   2.84 /   654.77           CASNg/   2.86 /   654.77
CASNh/   2.97 /   654.77
           CASNi/   3.18 /   654.77

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/      11.22       EAStoNEC/      13.98          NW1toP1/
50.06       USPDtoNW1/      18.14*
          P2toP1/     -25.14             S4a/      19.57              S4b/
19.71             S4c/      19.78
             S4d/      19.37          P3toSE/       9.31          SEtoSEC/
9.29          SECtoP2/      9.14
         SWtoSWC/       9.49              S8/       9.41               S9/
7.55        WEStoSESC/      7.81
       SR26toOUT/      71.96             S3d/      11.06              S3c/
10.95             S3b/      10.87*
             S3a/      10.80             S1a/       7.39*             S1b/
7.39             S1c/       7.39
             S1d/       7.38*            S2a/       6.81*             S2b/
6.85*            S2c/       6.90*
             S5b/       2.69*            S5a/       2.68             S10d/
7.80*           S10c/       7.78
            S10b/       7.73            S10a/       7.70             S11a/
5.82            S11b/       5.82*
            S11c/       5.72            S12a/       4.79             S12b/
4.79*           S12c/       4.80*
            S13a/      13.10            S13b/      13.19             S13c/
13.24           S13d/      13.26*
       US65toUSM/      21.96       CASNatob/       2.47        CASNbtoc/
2.48        CASNctod/      2.53
        CASNdtoe/       2.61       CASNetof/       2.65        CASNftog/
2.69        CASNgtoH/      2.73
        CASNhtoi/       2.78      CASNitoNW/       2.80             Weir/
2.36         MJRLeft/      31.09
        MJRRight/      31.11       MJRExist/      57.14           MjrNew/
14.85       DSmjrExis/      52.57
        DSmjrNew/      19.40        PRKWout/       2.46          18exist/
0.71          42in 1/       9.12
          42in 2/       9.12       18inchDS/       1.34            3x6DS/
8.79            3ft3/       8.79
        FREE # 1/      71.96
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 Cycle       6000      Time          8 Hrs - 20.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.45 /   654.61              NW1/   2.03 /   653.43
MJR/   5.27 /   652.48
            USPD/   0.25 /   654.00              USM/   5.22 /   652.59
OUT/   0.68 /   621.74
            DSMR/   8.29 /   648.29             SR26/   1.78 /   639.36
NE1/   1.18 /   656.83
              P1/   2.65 /   652.66              SWC/   1.34 /   652.75
 P3/   0.95 /   654.64
              P2/   2.65 /   652.66              SEC/   1.52 /   652.69
NEC/   0.94 /   656.01
            OUT2/   0.00 /   650.17              EAS/   1.08 /   656.47
 SE/   0.59 /   652.72
              SW/   0.99 /   652.79              WES/   1.14 /   652.68
SESC/   1.53 /   652.65
            NECa/   0.95 /   654.52             NECb/   1.11 /   653.18
NECc/   2.11 /   652.68
            NE1d/   0.83 /   658.01             NE1c/   0.82 /   659.53
NE1b/   0.82 /   661.06
            NE1a/   0.81 /   662.49              P1b/   0.48 /   659.67
P1c/   0.39 /   656.64
             P1d/   0.37 /   653.68              P1a/   0.45 /   662.58
CNEb/   0.70 /   656.23
            CNEa/   0.70 /   658.66             CNEc/   0.71 /   653.48
EASa/   0.21 /   664.69
            EASb/   0.19 /   661.94             WESa/   0.58 /   660.72
WESb/   0.59 /   659.73
            WESc/   0.56 /   657.15             WESd/   0.43 /   654.47
SCWa/   0.39 /   661.74
            SCWb/   0.30 /   658.56             SCWc/   0.59 /   652.76
NCWa/   0.39 /   662.20
            NCWb/   0.26 /   660.77             NCWc/   0.26 /   655.52
NW1a/   0.76 /   663.44
            NW1b/   0.79 /   662.39             NW1c/   0.60 /   661.00
NW1d/   0.41 /   657.41
            CASO/   0.00 /   657.53             CASN/   0.50 /   658.70
PRKW/   0.32 /   656.88
            PRKE/   0.28 /   657.68              I65/   4.45 /   652.62
CASNb/   1.48 /   654.68
           CASNc/   1.48 /   654.67            CASNd/   2.06 /   654.66
CASNe/   2.41 /   654.66
           CASNf/   2.73 /   654.66            CASNg/   2.74 /   654.65
CASNh/   2.85 /   654.65
           CASNi/   3.06 /   654.65

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       9.92         EAStoNEC/      12.35          NW1toP1/
47.54       USPDtoNW1/      15.55*
          P2toP1/      -8.70              S4a/      17.12              S4b/
17.22             S4c/      17.21
             S4d/      16.87          P3toSE/        9.03         SEtoSEC/
8.99          SECtoP2/      8.86
         SWtoSWC/       6.85               S8/       6.76               S9/
6.26        WEStoSESC/      6.50
       SR26toOUT/      74.56              S3d/       9.81              S3c/
9.72             S3b/      9.64*
             S3a/       9.56*             S1a/       6.28*             S1b/
6.28             S1c/      6.28
             S1d/       6.28*             S2a/       6.01*             S2b/
6.04*            S2c/      6.09*
             S5b/       2.38*             S5a/       2.37             S10d/
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6.61*            S10c/       6.59
          S10b/       6.56             S10a/       6.54             S11a/
5.05             S11b/       5.06*
          S11c/       4.95             S12a/       4.20             S12b/
4.21*            S12c/       4.22*
          S13a/      11.47             S13b/      11.53             S13c/
11.58             S13d/      11.60*
     US65toUSM/      18.98          CASNatob/       2.14          CASNbtoc/
2.16          CASNctod/       2.26
      CASNdtoe/       2.40          CASNetof/       2.49          CASNftog/
2.55          CASNgtoH/       2.62
      CASNhtoi/       2.70         CASNitoNW/       2.75              Weir/
2.00           MJRLeft/      32.97
      MJRRight/      32.92          MJRExist/      59.44            MjrNew/
15.14         DSmjrExis/      55.10
      DSmjrNew/      19.47           PRKWout/       2.09           18exist/
1.17            42in 1/      13.50
        42in 2/      13.50          18inchDS/       1.95             3x6DS/
13.10             3ft3/      13.10
      FREE # 1/      74.56

 Cycle       6500      Time          9 Hrs -  1.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   1.38 /   654.54               NW1/   1.94 /   653.34
MJR/   5.41 /   652.62
           USPD/   0.25 /   654.00               USM/   5.37 /   652.74
OUT/   0.69 /   621.75
           DSMR/   8.34 /   648.34              SR26/   1.80 /   639.38
NE1/   1.08 /   656.73
             P1/   2.85 /   652.86               SWC/   1.45 /   652.86
 P3/   0.91 /   654.60
             P2/   2.85 /   652.86               SEC/   1.71 /   652.88
NEC/   0.90 /   655.97
           OUT2/   0.00 /   650.17               EAS/   1.00 /   656.39
 SE/   0.76 /   652.89
             SW/   1.06 /   652.86               WES/   1.33 /   652.87
SESC/   1.73 /   652.85
           NECa/   0.91 /   654.48              NECb/   1.14 /   653.21
NECc/   2.30 /   652.87
           NE1d/   0.78 /   657.96              NE1c/   0.78 /   659.49
NE1b/   0.78 /   661.02
           NE1a/   0.77 /   662.45               P1b/   0.48 /   659.67
P1c/   0.39 /   656.64
            P1d/   0.37 /   653.68               P1a/   0.45 /   662.58
CNEb/   0.67 /   656.20
           CNEa/   0.67 /   658.63              CNEc/   0.67 /   653.44
EASa/   0.20 /   664.68
           EASb/   0.18 /   661.93              WESa/   0.56 /   660.70
WESb/   0.57 /   659.71
           WESc/   0.54 /   657.13              WESd/   0.41 /   654.45
SCWa/   0.38 /   661.73
           SCWb/   0.29 /   658.55              SCWc/   0.74 /   652.91
NCWa/   0.38 /   662.19
           NCWb/   0.25 /   660.76              NCWc/   0.25 /   655.51
NW1a/   0.72 /   663.40
           NW1b/   0.74 /   662.34              NW1c/   0.57 /   660.97
NW1d/   0.38 /   657.38
           CASO/   0.00 /   657.53              CASN/   0.50 /   658.70
PRKW/   0.33 /   656.89
           PRKE/   0.29 /   657.69               I65/   4.62 /   652.79
CASNb/   1.34 /   654.54
          CASNc/   1.33 /   654.52             CASNd/   1.91 /   654.51
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CASNe/   2.25 /   654.50
           CASNf/   2.57 /   654.50            CASNg/   2.59 /   654.50
CASNh/   2.69 /   654.49
           CASNi/   2.90 /   654.49

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       8.78        EAStoNEC/      10.97           NW1toP1/
44.58        USPDtoNW1/      15.46*
          P2toP1/      -2.14             S4a/      15.66              S4b/
15.66              S4c/      15.54
             S4d/     15.25          P3toSE/       8.94           SEtoSEC/
8.89          SECtoP2/      8.77
         SWtoSWC/       1.93              S8/       1.80               S9/
5.79        WEStoSESC/      6.00
       SR26toOUT/     76.83              S3d/       8.77              S3c/
8.77               S3b/      8.76
             S3a/       8.75             S1a/       6.32*             S1b/
6.32               S1c/      6.31
             S1d/       6.31*            S2a/       5.46*             S2b/
5.46*              S2c/      5.46*
             S5b/       2.19*            S5a/       2.19             S10d/
6.11*             S10c/      6.10
            S10b/       6.10            S10a/       6.10             S11a/
4.96              S11b/      4.95*
            S11c/       4.80            S12a/       4.04             S12b/
4.04              S12c/      4.04*
            S13a/      10.33            S13b/      10.34             S13c/
10.34              S13d/      10.34*
       US65toUSM/     16.74        CASNatob/       2.17          CASNbtoc/
2.19         CASNctod/      2.26
        CASNdtoe/       2.36        CASNetof/       2.44          CASNftog/
2.49         CASNgtoH/      2.55
        CASNhtoi/       2.63       CASNitoNW/       2.67              Weir/
2.03          MJRLeft/     34.61
        MJRRight/      34.33        MJRExist/      61.45            MjrNew/
15.40        DSmjrExis/      57.31
        DSmjrNew/      19.53         PRKWout/       2.11           18exist/
1.48           42in 1/     16.53
          42in 2/      16.53        18inchDS/       2.39             3x6DS/
16.07              3ft3/     16.07
        FREE # 1/      76.83

 Cycle       7000      Time          9 Hrs - 43.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.36 /   654.52              NW1/   1.87 /   653.27
MJR/   5.54 /   652.75
            USPD/   0.24 /   653.99              USM/   5.50 /   652.87
OUT/   0.70 /   621.76
            DSMR/   8.39 /   648.39             SR26/   1.82 /   639.40
NE1/   1.04 /   656.69
              P1/   3.00 /   653.01              SWC/   1.60 /   653.01
 P3/   0.87 /   654.56
              P2/   3.00 /   653.01              SEC/   1.86 /   653.03
NEC/   0.87 /   655.94
            OUT2/   0.00 /   650.17              EAS/   0.97 /   656.36
 SE/   0.91 /   653.04
              SW/   1.21 /   653.01              WES/   1.48 /   653.02
SESC/   1.89 /   653.01
            NECa/   0.89 /   654.46             NECb/   1.19 /   653.26
NECc/   2.45 /   653.02
            NE1d/   0.76 /   657.94             NE1c/   0.75 /   659.46
NE1b/   0.75 /   660.99
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          NE1a/   0.75 /   662.43              P1b/   0.46 /   659.65
P1c/   0.38 /   656.63
           P1d/   0.36 /   653.67              P1a/   0.43 /   662.56
CNEb/   0.65 /   656.18
          CNEa/   0.65 /   658.61             CNEc/   0.65 /   653.42
EASa/   0.20 /   664.68
          EASb/   0.17 /   661.92             WESa/   0.54 /   660.68
WESb/   0.55 /   659.69
          WESc/   0.52 /   657.11             WESd/   0.40 /   654.44
SCWa/   0.37 /   661.72
          SCWb/   0.28 /   658.54             SCWc/   0.87 /   653.04
NCWa/   0.37 /   662.18
          NCWb/   0.24 /   660.75             NCWc/   0.24 /   655.50
NW1a/   0.69 /   663.37
          NW1b/   0.72 /   662.32             NW1c/   0.55 /   660.95
NW1d/   0.37 /   657.37
          CASO/   0.00 /   657.53             CASN/   0.48 /   658.68
PRKW/   0.31 /   656.87
          PRKE/   0.28 /   657.68              I65/   4.76 /   652.93
CASNb/   1.19 /   654.39
         CASNc/   1.19 /   654.38            CASNd/   1.75 /   654.35
CASNe/   2.10 /   654.35
         CASNf/   2.42 /   654.35            CASNg/   2.43 /   654.34
CASNh/   2.54 /   654.34
         CASNi/   2.75 /   654.34

       Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
      NE1toEAS/       8.36        EAStoNEC/      10.44          NW1toP1/
41.98      USPDtoNW1/      14.29*
        P2toP1/       0.31             S4a/      14.79              S4b/
14.83            S4c/      14.72
           S4d/      14.46          P3toSE/       8.74          SEtoSEC/
8.69         SECtoP2/      8.59
       SWtoSWC/      -3.03              S8/      -3.18               S9/
5.45       WEStoSESC/      5.61
      SR26toOUT/     78.86             S3d/       8.32              S3c/
8.29             S3b/      8.26
           S3a/       8.23             S1a/       5.84*             S1b/
5.84             S1c/      5.84
           S1d/       5.84*            S2a/       5.15*             S2b/
5.17*            S2c/      5.19*
           S5b/       2.05*            S5a/       2.05             S10d/
5.72*           S10c/      5.71
          S10b/       5.71            S10a/       5.70             S11a/
4.59            S11b/      4.59*
          S11c/       4.44            S12a/       3.76             S12b/
3.76*           S12c/      3.76*
          S13a/       9.75            S13b/       9.78             S13c/
9.80            S13d/      9.80*
      US65toUSM/     15.93        CASNatob/       2.02         CASNbtoc/
2.03        CASNctod/      2.12
      CASNdtoe/       2.23        CASNetof/       2.32         CASNftog/
2.39        CASNgtoH/      2.45
      CASNhtoi/       2.54       CASNitoNW/       2.58             Weir/
1.88         MJRLeft/     35.00
      MJRRight/      34.91        MJRExist/      63.23           MjrNew/
15.64      DSmjrExis/      59.28
      DSmjrNew/      19.58         PRKWout/       1.95          18exist/
1.65          42in 1/     17.93
        42in 2/      17.93        18inchDS/       2.59            3x6DS/
17.46            3ft3/     17.46
      FREE # 1/      78.86
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 Cycle       7500      Time         10 Hrs - 25.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.34 /   654.50             NW1/   1.83 /   653.23
MJR/   5.66 /   652.87
            USPD/   0.23 /   653.98             USM/   5.61 /   652.98
OUT/   0.71 /   621.77
            DSMR/   8.42 /   648.42            SR26/   1.83 /   639.41
NE1/   1.02 /   656.67
              P1/   3.13 /   653.14             SWC/   1.74 /   653.15
 P3/   0.83 /   654.52
              P2/   3.14 /   653.15             SEC/   1.98 /   653.15
NEC/   0.86 /   655.93
            OUT2/   0.00 /   650.17             EAS/   0.95 /   656.34
 SE/   1.03 /   653.16
              SW/   1.35 /   653.15             WES/   1.61 /   653.15
SESC/   2.03 /   653.15
            NECa/   0.88 /   654.45            NECb/   1.26 /   653.33
NECc/   2.58 /   653.15
            NE1d/   0.75 /   657.93            NE1c/   0.74 /   659.45
NE1b/   0.74 /   660.98
            NE1a/   0.74 /   662.42             P1b/   0.44 /   659.63
P1c/   0.36 /   656.61
             P1d/   0.35 /   653.66             P1a/   0.41 /   662.54
CNEb/   0.64 /   656.17
            CNEa/   0.64 /   658.60            CNEc/   0.64 /   653.41
EASa/   0.19 /   664.67
            EASb/   0.17 /   661.92            WESa/   0.53 /   660.67
WESb/   0.54 /   659.68
            WESc/   0.51 /   657.10            WESd/   0.39 /   654.43
SCWa/   0.36 /   661.71
            SCWb/   0.28 /   658.54            SCWc/   0.99 /   653.16
NCWa/   0.36 /   662.17
            NCWb/   0.24 /   660.75            NCWc/   0.24 /   655.50
NW1a/   0.68 /   663.36
            NW1b/   0.71 /   662.31            NW1c/   0.54 /   660.94
NW1d/   0.36 /   657.36
            CASO/   0.00 /   657.53            CASN/   0.48 /   658.68
PRKW/   0.30 /   656.86
            PRKE/   0.26 /   657.66             I65/   4.88 /   653.05
CASNb/   1.07 /   654.27
           CASNc/   1.06 /   654.25           CASNd/   1.62 /   654.22
CASNe/   1.96 /   654.21
           CASNf/   2.28 /   654.21           CASNg/   2.29 /   654.20
CASNh/   2.40 /   654.20
           CASNi/   2.61 /   654.20

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       8.08         EAStoNEC/      10.10          NW1toP1/
30.60        USPDtoNW1/      13.80*
          P2toP1/       8.12              S4a/      14.32              S4b/
14.36              S4c/      14.25
             S4d/      14.03         P3toSE/        7.98          SEtoSEC/
7.94          SECtoP2/       7.86
         SWtoSWC/      -1.60               S8/      -1.73               S9/
5.34         WEStoSESC/      5.47
       SR26toOUT/      80.56              S3d/       8.08              S3c/
8.08               S3b/       8.07
             S3a/       8.06              S1a/       5.40*             S1b/
5.45               S1c/       5.51
             S1d/       5.59*             S2a/       5.03*             S2b/
5.04*              S2c/       5.04*
             S5b/       2.02*             S5a/       2.01             S10d/
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5.57*           S10c/       5.56
          S10b/       5.54             S10a/       5.52             S11a/
4.53            S11b/       4.54*
          S11c/       4.42             S12a/       3.71             S12b/
3.71            S12c/       3.72*
          S13a/       9.48             S13b/       9.49             S13c/
9.49            S13d/       9.50*
     US65toUSM/      15.39          CASNatob/       1.98          CASNbtoc/
1.99          CASNctod/       2.07
      CASNdtoe/       2.17          CASNetof/       2.23          CASNftog/
2.28          CASNgtoH/       2.34
      CASNhtoi/       2.41         CASNitoNW/       2.45              Weir/
1.75           MJRLeft/      35.21
      MJRRight/      35.46          MJRExist/      64.72            MjrNew/
15.84         DSmjrExis/      60.93
      DSmjrNew/      19.63           PRKWout/       1.79           18exist/
1.75            42in 1/      18.64
        42in 2/      18.64          18inchDS/       2.70             3x6DS/
18.17             3ft3/      18.17
      FREE # 1/      80.56

 Cycle       8000      Time         11 Hrs -  6.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.30 /   654.46                NW1/   1.88 /   653.28
MJR/   5.73 /   652.94
            USPD/   0.22 /   653.97                USM/   5.68 /   653.05
OUT/   0.72 /   621.78
            DSMR/   8.45 /   648.45               SR26/   1.84 /   639.42
NE1/   0.95 /   656.60
              P1/   3.23 /   653.24                SWC/   1.84 /   653.25
 P3/   0.80 /   654.49
              P2/   3.24 /   653.25                SEC/   2.08 /   653.25
NEC/   0.82 /   655.89
            OUT2/   0.00 /   650.17                EAS/   0.87 /   656.26
 SE/   1.13 /   653.26
              SW/   1.45 /   653.25                WES/   1.71 /   653.25
SESC/   2.13 /   653.25
            NECa/   0.85 /   654.42               NECb/   1.31 /   653.38
NECc/   2.68 /   653.25
            NE1d/   0.71 /   657.89               NE1c/   0.71 /   659.42
NE1b/   0.71 /   660.95
            NE1a/   0.71 /   662.39                P1b/   0.43 /   659.62
P1c/   0.36 /   656.61
             P1d/   0.34 /   653.65                P1a/   0.41 /   662.54
CNEb/   0.62 /   656.15
            CNEa/   0.62 /   658.58               CNEc/   0.64 /   653.41
EASa/   0.18 /   664.66
            EASb/   0.16 /   661.91               WESa/   0.51 /   660.65
WESb/   0.52 /   659.66
            WESc/   0.49 /   657.08               WESd/   0.37 /   654.41
SCWa/   0.35 /   661.70
            SCWb/   0.26 /   658.52               SCWc/   1.09 /   653.26
NCWa/   0.34 /   662.15
            NCWb/   0.23 /   660.74               NCWc/   0.23 /   655.49
NW1a/   0.65 /   663.33
            NW1b/   0.68 /   662.28               NW1c/   0.52 /   660.92
NW1d/   0.35 /   657.35
            CASO/   0.00 /   657.53               CASN/   0.46 /   658.66
PRKW/   0.30 /   656.86
            PRKE/   0.26 /   657.66                I65/   4.96 /   653.13
CASNb/   0.96 /   654.16
           CASNc/   0.94 /   654.13              CASNd/   1.49 /   654.09
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CASNe/   1.83 /   654.08
           CASNf/   2.15 /   654.08            CASNg/   2.16 /   654.07
CASNh/   2.27 /   654.07
           CASNi/   2.48 /   654.07

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       7.45        EAStoNEC/       9.31          NW1toP1/
22.55       USPDtoNW1/      12.89*
          P2toP1/      15.43             S4a/      13.26             S4b/
13.32             S4c/      13.24
             S4d/      13.06          P3toSE/       7.33          SEtoSEC/
7.29          SECtoP2/      7.22
         SWtoSWC/       0.48              S8/       0.37              S9/
4.95         WEStoSESC/     5.06
       SR26toOUT/      81.70             S3d/       7.42             S3c/
7.40              S3b/      7.38
             S3a/       7.37             S1a/       5.29*            S1b/
5.29              S1c/      5.29
             S1d/       5.29*            S2a/       4.62*            S2b/
4.63*             S2c/      4.60
             S5b/       1.84*            S5a/       1.83            S10d/
5.13*            S10c/      5.13
            S10b/       5.12            S10a/       5.11            S11a/
4.13             S11b/      4.13*
            S11c/       4.02            S12a/       3.37            S12b/
3.37*            S12c/      3.38*
            S13a/       8.71            S13b/       8.73            S13c/
8.74             S13d/      8.75*
       US65toUSM/      14.17        CASNatob/       1.85        CASNbtoc/
1.86        CASNctod/       1.91
        CASNdtoe/       1.98        CASNetof/       2.04        CASNftog/
2.07        CASNgtoH/       2.12
        CASNhtoi/       2.18       CASNitoNW/       2.21            Weir/
1.70          MJRLeft/     34.91
        MJRRight/      35.08        MJRExist/      65.72          MjrNew/
15.98       DSmjrExis/      62.04
        DSmjrNew/      19.66         PRKWout/       1.76         18exist/
1.88           42in 1/     19.56
          42in 2/      19.56        18inchDS/       2.84           3x6DS/
19.08             3ft3/     19.08
        FREE # 1/      81.70

 Cycle       8500      Time         11 Hrs - 48.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.28 /   654.44              NW1/   1.95 /   653.35
MJR/   5.79 /   653.00
            USPD/   0.21 /   653.96              USM/   5.75 /   653.12
OUT/   0.72 /   621.78
            DSMR/   8.47 /   648.47             SR26/   1.85 /   639.43
NE1/   0.92 /   656.57
              P1/   3.31 /   653.32              SWC/   1.92 /   653.33
 P3/   0.77 /   654.46
              P2/   3.32 /   653.33              SEC/   2.17 /   653.34
NEC/   0.80 /   655.87
            OUT2/   0.00 /   650.17              EAS/   0.84 /   656.23
 SE/   1.21 /   653.34
              SW/   1.53 /   653.33              WES/   1.80 /   653.34
SESC/   2.21 /   653.33
            NECa/   0.83 /   654.40             NECb/   1.37 /   653.44
NECc/   2.76 /   653.33
            NE1d/   0.70 /   657.88             NE1c/   0.70 /   659.41
NE1b/   0.70 /   660.94
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            NE1a/   0.69 /   662.37              P1b/   0.40 /   659.59
P1c/   0.33 /   656.58
             P1d/   0.32 /   653.63              P1a/   0.38 /   662.51
CNEb/   0.61 /   656.14
            CNEa/   0.61 /   658.57             CNEc/   0.68 /   653.45
EASa/   0.18 /   664.66
            EASb/   0.16 /   661.91             WESa/   0.49 /   660.63
WESb/   0.50 /   659.64
            WESc/   0.47 /   657.06             WESd/   0.36 /   654.40
SCWa/   0.33 /   661.68
            SCWb/   0.25 /   658.51             SCWc/   1.17 /   653.34
NCWa/   0.33 /   662.14
            NCWb/   0.22 /   660.73             NCWc/   0.22 /   655.48
NW1a/   0.64 /   663.32
            NW1b/   0.67 /   662.27             NW1c/   0.51 /   660.91
NW1d/   0.34 /   657.34
            CASO/   0.00 /   657.53             CASN/   0.44 /   658.64
PRKW/   0.28 /   656.84
            PRKE/   0.24 /   657.64              I65/   5.03 /   653.20
CASNb/   0.89 /   654.09
           CASNc/   0.86 /   654.05            CASNd/   1.41 /   654.01
CASNe/   1.75 /   654.00
           CASNf/   2.07 /   654.00            CASNg/   2.08 /   653.99
CASNh/   2.19 /   653.99
           CASNi/   2.40 /   653.99

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       7.23        EAStoNEC/       9.02           NW1toP1/
20.69        USPDtoNW1/      11.71*
          P2toP1/      18.08             S4a/      12.58               S4b/
12.63              S4c/      12.53
             S4d/      12.38          P3toSE/       6.83           SEtoSEC/
6.79          SECtoP2/      6.73
         SWtoSWC/       1.27              S8/       1.19                S9/
4.67        WEStoSESC/      4.77
       SR26toOUT/      82.58             S3d/       7.20               S3c/
7.17              S3b/      7.14
             S3a/       7.11             S1a/       4.71*              S1b/
4.72              S1c/      4.72
             S1d/       4.73*            S2a/       4.46*              S2b/
4.48*             S2c/      4.45
             S5b/       1.77*            S5a/       1.76              S10d/
4.83*            S10c/      4.81
            S10b/       4.79            S10a/       4.78              S11a/
3.83             S11b/      3.85*
            S11c/       3.77            S12a/       3.18              S12b/
3.19*            S12c/      3.20*
            S13a/       8.41            S13b/       8.44              S13c/
8.46             S13d/      8.46*
       US65toUSM/      13.69        CASNatob/       1.69         CASNbtoc/
1.70        CASNctod/      1.74
        CASNdtoe/       1.80        CASNetof/       1.85         CASNftog/
1.88        CASNgtoH/      1.92
        CASNhtoi/       1.96       CASNitoNW/       1.99              Weir/
1.51         MJRLeft/     35.19
        MJRRight/      35.28        MJRExist/      66.50            MjrNew/
16.09       DSmjrExis/     62.90
        DSmjrNew/      19.68        PRKWout/        1.56           18exist/
1.99          42in 1/     20.32
          42in 2/      20.32        18inchDS/       2.95             3x6DS/
19.84             3ft3/     19.84
        FREE # 1/      82.58
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 Cycle       9000      Time         12 Hrs - 30.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   1.23 /   654.39               NW1/   2.01 /   653.41
MJR/   5.83 /   653.04
            USPD/   0.21 /   653.96               USM/   5.78 /   653.15
OUT/   0.73 /   621.79
            DSMR/   8.48 /   648.48              SR26/   1.86 /   639.44
NE1/   0.86 /   656.51
              P1/   3.37 /   653.38               SWC/   1.99 /   653.40
 P3/   0.75 /   654.44
              P2/   3.39 /   653.40               SEC/   2.23 /   653.40
NEC/   0.77 /   655.84
            OUT2/   0.00 /   650.17               EAS/   0.79 /   656.18
 SE/   1.28 /   653.41
              SW/   1.60 /   653.40               WES/   1.86 /   653.40
SESC/   2.28 /   653.40
            NECa/   0.80 /   654.37              NECb/   1.41 /   653.48
NECc/   2.83 /   653.40
            NE1d/   0.67 /   657.85              NE1c/   0.66 /   659.37
NE1b/   0.66 /   660.90
            NE1a/   0.66 /   662.34               P1b/   0.41 /   659.60
P1c/   0.33 /   656.58
             P1d/   0.31 /   653.62               P1a/   0.38 /   662.51
CNEb/   0.58 /   656.11
            CNEa/   0.58 /   658.54              CNEc/   0.71 /   653.48
EASa/   0.17 /   664.65
            EASb/   0.15 /   661.90              WESa/   0.47 /   660.61
WESb/   0.48 /   659.62
            WESc/   0.46 /   657.05              WESd/   0.35 /   654.39
SCWa/   0.32 /   661.67
            SCWb/   0.24 /   658.50              SCWc/   1.24 /   653.41
NCWa/   0.32 /   662.13
            NCWb/   0.21 /   660.72              NCWc/   0.21 /   655.47
NW1a/   0.61 /   663.29
            NW1b/   0.63 /   662.23              NW1c/   0.48 /   660.88
NW1d/   0.32 /   657.32
            CASO/   0.00 /   657.53              CASN/   0.43 /   658.63
PRKW/   0.28 /   656.84
            PRKE/   0.24 /   657.64               I65/   5.07 /   653.24
CASNb/   0.84 /   654.04
           CASNc/   0.81 /   654.00             CASNd/   1.34 /   653.94
CASNe/   1.69 /   653.94
           CASNf/   2.00 /   653.93             CASNg/   2.02 /   653.93
CASNh/   2.13 /   653.93
           CASNi/   2.34 /   653.93

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       6.55        EAStoNEC/       8.17           NW1toP1/
19.88        USPDtoNW1/      11.46*
          P2toP1/      20.41             S4a/      11.66               S4b/
11.67              S4c/      11.56
             S4d/      11.44          P3toSE/       6.35          SEtoSEC/
6.31          SECtoP2/       6.27
         SWtoSWC/       1.89              S8/       1.82                S9/
4.40        WEStoSESC/       4.48
       SR26toOUT/      83.11             S3d/       6.54               S3c/
6.53             S3b/       6.52
             S3a/       6.51             S1a/       4.72*              S1b/
4.72             S1c/       4.72
             S1d/       4.72*            S2a/       4.09*              S2b/
4.09*            S2c/       4.05
             S5b/       1.62*            S5a/       1.62              S10d/
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4.53*            S10c/       4.53
          S10b/       4.52                S10a/       4.52              S11a/
3.67             S11b/       3.67*
          S11c/       3.58                S12a/       2.99              S12b/
2.99*            S12c/       2.99*
          S13a/       7.69                S13b/       7.69              S13c/
7.70             S13d/       7.70*
     US65toUSM/      12.45            CASNatob/       1.66           CASNbtoc/
1.66           CASNctod/     1.68
      CASNdtoe/       1.70            CASNetof/       1.73           CASNftog/
1.74           CASNgtoH/     1.76
      CASNhtoi/       1.78           CASNitoNW/       1.79              Weir/
1.52            MJRLeft/    35.30
      MJRRight/      35.34            MJRExist/      66.96            MjrNew/
16.15          DSmjrExis/    63.42
      DSmjrNew/      19.70             PRKWout/       1.57            18exist/
2.14            42in 1/     21.44
        42in 2/      21.44            18inchDS/       3.11             3x6DS/
20.96              3ft3/     20.96
      FREE # 1/      83.11

 Cycle       9500      Time         13 Hrs - 11.67 Min

      Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   1.04 /   654.20              NW1/   2.02 /   653.42
MJR/   5.78 /   652.99
           USPD/   0.04 /   653.79              USM/   5.71 /   653.08
OUT/   0.72 /   621.78
           DSMR/   8.47 /   648.47             SR26/   1.85 /   639.43
NE1/   0.61 /   656.26
             P1/   3.39 /   653.40              SWC/   2.02 /   653.43
 P3/   0.69 /   654.38
             P2/   3.42 /   653.43              SEC/   2.26 /   653.43
NEC/   0.51 /   655.58
           OUT2/   0.00 /   650.17              EAS/   0.55 /   655.94
 SE/   1.31 /   653.44
             SW/   1.64 /   653.44              WES/   1.89 /   653.43
SESC/   2.31 /   653.43
           NECa/   0.55 /   654.12             NECb/   1.38 /   653.45
NECc/   2.86 /   653.43
           NE1d/   0.51 /   657.69             NE1c/   0.49 /   659.20
NE1b/   0.46 /   660.70
           NE1a/   0.44 /   662.12              P1b/   0.03 /   659.22
P1c/   0.03 /   656.28
            P1d/   0.09 /   653.40              P1a/   0.02 /   662.15
CNEb/   0.43 /   655.96
           CNEa/   0.42 /   658.38             CNEc/   0.69 /   653.46
EASa/   0.09 /   664.57
           EASb/   0.09 /   661.84             WESa/   0.27 /   660.41
WESb/   0.28 /   659.42
           WESc/   0.27 /   656.86             WESd/   0.21 /   654.25
SCWa/   0.09 /   661.44
           SCWb/   0.08 /   658.34             SCWc/   1.26 /   653.43
NCWa/   0.13 /   661.94
           NCWb/   0.09 /   660.60             NCWc/   0.09 /   655.35
NW1a/   0.44 /   663.12
           NW1b/   0.47 /   662.07             NW1c/   0.36 /   660.76
NW1d/   0.24 /   657.24
           CASO/   0.00 /   657.53             CASN/   0.08 /   658.28
PRKW/   0.01 /   656.57
           PRKE/   0.01 /   657.41              I65/   5.04 /   653.21
CASNb/   0.53 /   653.73
          CASNc/   0.54 /   653.73            CASNd/   1.12 /   653.72
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CASNe/   1.47 /   653.72
           CASNf/   1.79 /   653.72            CASNg/   1.81 /   653.72
CASNh/   1.92 /   653.72
           CASNi/   2.13 /   653.72

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        4.21         EAStoNEC/        5.08          NW1toP1/
14.50       USPDtoNW1/       0.59*
          P2toP1/      25.03              S4a/        5.53*             S4b/
6.01            S4c/        6.16
             S4d/       6.20           P3toSE/        5.38*         SEtoSEC/
5.39         SECtoP2/       5.40
         SWtoSWC/       2.08               S8/        2.09               S9/
1.94       WEStoSESC/       1.92
       SR26toOUT/      82.42              S3d/        3.99*             S3c/
3.66*           S3b/        3.34*
             S3a/       3.02*             S1a/        0.02*             S1b/
0.05*           S1c/        0.10*
             S1d/       0.15              S2a/        2.14*             S2b/
2.30*           S2c/        2.38
             S5b/       0.68*             S5a/        0.61             S10d/
1.91*          S10c/        1.83
            S10b/       1.74             S10a/        1.65*            S11a/
0.44           S11b/        0.55*
            S11c/       0.57             S12a/        0.60             S12b/
0.65*          S12c/        0.72*
            S13a/       4.31             S13b/        4.57             S13c/
4.73           S13d/        4.82*
       US65toUSM/       7.74         CASNatob/        0.07         CASNbtoc/
0.11        CASNctod/       0.28
        CASNdtoe/       0.53         CASNetof/        0.72         CASNftog/
0.87        CASNgtoH/       1.06
        CASNhtoi/       1.27        CASNitoNW/        1.38             Weir/
0.01*        MJRLeft/      32.34
        MJRRight/      32.45         MJRExist/       66.33           MjrNew/
16.06       DSmjrExis/      62.73
        DSmjrNew/      19.68          PRKWout/        0.01*         18exist/
2.53          42in 1/      25.12
          42in 2/      25.12         18inchDS/        3.65            3x6DS/
24.56           3ft3/       24.56
         FREE # 1/     82.42

 Cycle      10000      Time         13 Hrs - 53.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.62 /   653.78              NW1/   1.93 /   653.33
MJR/   5.59 /   652.80
            USPD/   0.00 /   653.75              USM/   5.52 /   652.89
OUT/   0.71 /   621.77
            DSMR/   8.40 /   648.40             SR26/   1.82 /   639.40
NE1/   0.13 /   655.78
              P1/   3.31 /   653.32              SWC/   1.98 /   653.39
 P3/   0.60 /   654.29
              P2/   3.37 /   653.38              SEC/   2.21 /   653.38
NEC/   0.13 /   655.20
            OUT2/   0.00 /   650.17              EAS/   0.11 /   655.50
 SE/   1.25 /   653.38
              SW/   1.60 /   653.40              WES/   1.84 /   653.38
SESC/   2.26 /   653.38
            NECa/   0.15 /   653.72             NECb/   1.31 /   653.38
NECc/   2.81 /   653.38
            NE1d/   0.14 /   657.32             NE1c/   0.12 /   658.83
NE1b/   0.11 /   660.35
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            NE1a/   0.10 /   661.78              P1b/   0.01 /   659.20
P1c/   0.01 /   656.26
             P1d/   0.02 /   653.33              P1a/   0.00 /   662.13
CNEb/   0.12 /   655.65
            CNEa/   0.11 /   658.07             CNEc/   0.61 /   653.38
EASa/   0.02 /   664.50
            EASb/   0.02 /   661.77             WESa/   0.09 /   660.23
WESb/   0.10 /   659.24
            WESc/   0.10 /   656.69             WESd/   0.08 /   654.12
SCWa/   0.01 /   661.36
            SCWb/   0.01 /   658.27             SCWc/   1.21 /   653.38
NCWa/   0.01 /   661.82
            NCWb/   0.01 /   660.52             NCWc/   0.01 /   655.27
NW1a/   0.12 /   662.80
            NW1b/   0.13 /   661.73             NW1c/   0.10 /   660.50
NW1d/   0.07 /   657.07
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   4.90 /   653.07
CASNb/   0.21 /   653.41
           CASNc/   0.22 /   653.41            CASNd/   0.80 /   653.40
CASNe/   1.15 /   653.40
           CASNf/   1.47 /   653.40            CASNg/   1.49 /   653.40
CASNh/   1.60 /   653.40
           CASNi/   1.81 /   653.40

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.41        EAStoNEC/       0.48          NW1toP1/
12.10        USPDtoNW1/       0.00*
          P2toP1/      34.88             S4a/       0.57*             S4b/
0.68*             S4c/       0.81
             S4d/       0.94          P3toSE/       4.07*         SEtoSEC/
4.11          SECtoP2/       4.16
         SWtoSWC/       5.06              S8/       5.13               S9/
0.53         WEStoSESC/       0.44
       SR26toOUT/      79.59             S3d/       0.39              S3c/
0.33*             S3b/       0.27*
             S3a/       0.22*            S1a/       0.00*             S1b/
0.00*             S1c/       0.01*
             S1d/       0.04*            S2a/       0.19*             S2b/
0.23*             S2c/       0.28
             S5b/       0.05*            S5a/       0.03*            S10d/
0.37*            S10c/       0.34
            S10b/       0.30*           S10a/       0.27*            S11a/
0.01*            S11b/       0.02*
            S11c/       0.13            S12a/       0.02             S12b/
0.02*            S12c/       0.03*
            S13a/       0.43*           S13b/       0.49             S13c/
0.53             S13d/       0.56*
       US65toUSM/       0.77        CASNatob/       0.00        CASNbtoc/
0.01         CASNctod/       0.08
        CASNdtoe/       0.21        CASNetof/       0.30        CASNftog/
0.38         CASNgtoH/       0.47
        CASNhtoi/       0.58       CASNitoNW/       0.64             Weir/
0.00          MJRLeft/      31.81
        MJRRight/      31.77        MJRExist/      63.84           MjrNew/
15.73        DSmjrExis/       59.98
        DSmjrNew/      19.60        PRKWout/        0.00          18exist/
2.91           42in 1/      29.68
          42in 2/      29.68        18inchDS/       4.31            3x6DS/
28.99             3ft3/       28.99
        FREE # 1/      79.59
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 Cycle      10500      Time         14 Hrs - 35.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.50 /   653.66              NW1/   1.83 /   653.23
MJR/   5.45 /   652.66
            USPD/   0.00 /   653.75              USM/   5.39 /   652.76
OUT/   0.69 /   621.75
            DSMR/   8.35 /   648.35             SR26/   1.80 /   639.38
NE1/   0.04 /   655.69
              P1/   3.21 /   653.22              SWC/   1.91 /   653.32
 P3/   0.53 /   654.22
              P2/   3.29 /   653.30              SEC/   2.13 /   653.30
NEC/   0.04 /   655.11
            OUT2/   0.00 /   650.17              EAS/   0.03 /   655.42
 SE/   1.17 /   653.30
              SW/   1.53 /   653.33              WES/   1.76 /   653.30
SESC/   2.18 /   653.30
            NECa/   0.05 /   653.62             NECb/   1.23 /   653.30
NECc/   2.73 /   653.30
            NE1d/   0.04 /   657.22             NE1c/   0.03 /   658.74
NE1b/   0.03 /   660.27
            NE1a/   0.02 /   661.70              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.01 /   653.32              P1a/   0.00 /   662.13
CNEb/   0.03 /   655.56
            CNEa/   0.02 /   657.98             CNEc/   0.53 /   653.30
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.03 /   660.17
WESb/   0.03 /   659.17
            WESc/   0.04 /   656.63             WESd/   0.03 /   654.07
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   1.13 /   653.30
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.04 /   662.72
            NW1b/   0.03 /   661.63             NW1c/   0.03 /   660.43
NW1d/   0.02 /   657.02
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   4.78 /   652.95
CASNb/   0.07 /   653.27
           CASNc/   0.08 /   653.27            CASNd/   0.65 /   653.25
CASNe/   1.00 /   653.25
           CASNf/   1.32 /   653.25            CASNg/   1.34 /   653.25
CASNh/   1.45 /   653.25
           CASNi/   1.66 /   653.25

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.06         EAStoNEC/       0.07*         NW1toP1/
11.58       USPDtoNW1/        0.00*
          P2toP1/      38.85              S4a/       0.08*             S4b/
0.11*            S4c/       0.26
             S4d/       0.41          P3toSE/       3.20*         SEtoSEC/
3.24          SECtoP2/       3.29
         SWtoSWC/       6.51               S8/       6.60              S9/
0.25        WEStoSESC/       0.15
       SR26toOUT/      77.36              S3d/       0.05             S3c/
0.04*            S3b/       0.03*
             S3a/       0.01*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.01*             S2a/       0.01*             S2b/
0.02*            S2c/       0.09
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.08*           S10c/       0.06
          S10b/       0.05*           S10a/       0.04*           S11a/
0.00*           S11b/       0.00*
          S11c/       0.11            S12a/       0.00            S12b/
0.00*           S12c/       0.00*
          S13a/       0.04*           S13b/       0.05            S13c/
0.06            S13d/       0.07*
     US65toUSM/       0.10        CASNatob/       0.00        CASNbtoc/
0.01           CASNctod/    0.03
      CASNdtoe/       0.09        CASNetof/       0.14        CASNftog/
0.18           CASNgtoH/    0.22
      CASNhtoi/       0.27       CASNitoNW/       0.30            Weir/
0.00            MJRLeft/   33.09
      MJRRight/      32.84        MJRExist/      61.88          MjrNew/
15.46          DSmjrExis/   57.81
      DSmjrNew/      19.54         PRKWout/       0.00         18exist/
3.02            42in 1/    31.28
        42in 2/      31.28        18inchDS/       4.54           3x6DS/
30.52              3ft3/    30.52
      FREE # 1/      77.36

 Cycle      11000      Time         15 Hrs - 16.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.47 /   653.63              NW1/   1.73 /   653.13
MJR/   5.34 /   652.55
            USPD/   0.00 /   653.75              USM/   5.28 /   652.65
OUT/   0.68 /   621.74
            DSMR/   8.31 /   648.31             SR26/   1.79 /   639.37
NE1/   0.01 /   655.66
              P1/   3.11 /   653.12              SWC/   1.83 /   653.24
 P3/   0.48 /   654.17
              P2/   3.20 /   653.21              SEC/   2.04 /   653.21
NEC/   0.02 /   655.09
            OUT2/   0.00 /   650.17              EAS/   0.01 /   655.40
 SE/   1.08 /   653.21
              SW/   1.46 /   653.26              WES/   1.67 /   653.21
SESC/   2.09 /   653.21
            NECa/   0.02 /   653.59             NECb/   1.14 /   653.21
NECc/   2.64 /   653.21
            NE1d/   0.02 /   657.20             NE1c/   0.01 /   658.72
NE1b/   0.01 /   660.25
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.01 /   655.54
            CNEa/   0.00 /   657.96             CNEc/   0.44 /   653.21
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.01 /   660.15
WESb/   0.01 /   659.15
            WESc/   0.01 /   656.60             WESd/   0.01 /   654.05
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   1.04 /   653.21
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.01 /   661.61             NW1c/   0.01 /   660.41
NW1d/   0.01 /   657.01
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   4.68 /   652.85
CASNb/   0.02 /   653.22
           CASNc/   0.02 /   653.21            CASNd/   0.54 /   653.14
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CASNe/   0.89 /   653.14
           CASNf/   1.21 /   653.14            CASNg/   1.23 /   653.14
CASNh/   1.34 /   653.14
           CASNi/   1.55 /   653.14

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.01         EAStoNEC/        0.01*          NW1toP1/
11.33        USPDtoNW1/       0.00*
          P2toP1/      40.11              S4a/        0.02*              S4b/
0.03*             S4c/       0.18
             S4d/       0.33           P3toSE/        2.58*          SEtoSEC/
2.62          SECtoP2/       2.68
         SWtoSWC/       7.07               S8/        7.18                S9/
0.20        WEStoSESC/       0.09
       SR26toOUT/      75.64              S3d/        0.01               S3c/
0.01*             S3b/       0.00*
             S3a/       0.00*             S1a/        0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/        0.00*              S2b/
0.00*             S2c/       0.07
             S5b/       0.00*             S5a/        0.00*             S10d/
0.02*            S10c/       0.01
            S10b/       0.01*            S10a/        0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.08             S12a/        0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/        0.01              S13c/
0.01             S13d/       0.01*
       US65toUSM/       0.02         CASNatob/        0.00          CASNbtoc/
0.00         CASNctod/       0.01*
        CASNdtoe/       0.06         CASNetof/        0.10          CASNftog/
0.14         CASNgtoH/       0.18
        CASNhtoi/       0.23        CASNitoNW/        0.26              Weir/
0.00          MJRLeft/      33.35
        MJRRight/      33.24         MJRExist/       60.37            MjrNew/
15.26        DSmjrExis/       56.14
        DSmjrNew/      19.50          PRKWout/        0.00           18exist/
3.02           42in 1/      31.68
          42in 2/      31.68         18inchDS/        4.59             3x6DS/
30.90             3ft3/      30.90
        FREE # 1/      75.64

 Cycle      11500      Time         15 Hrs - 58.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.46 /   653.62              NW1/   1.63 /   653.03
MJR/   5.25 /   652.46
            USPD/   0.00 /   653.75              USM/   5.19 /   652.56
OUT/   0.67 /   621.73
            DSMR/   8.28 /   648.28             SR26/   1.77 /   639.35
NE1/   0.01 /   655.66
              P1/   3.01 /   653.02              SWC/   1.75 /   653.16
 P3/   0.43 /   654.12
              P2/   3.11 /   653.12              SEC/   1.95 /   653.12
NEC/   0.01 /   655.08
            OUT2/   0.00 /   650.17              EAS/   0.01 /   655.40
 SE/   0.99 /   653.12
              SW/   1.38 /   653.18              WES/   1.58 /   653.12
SESC/   2.00 /   653.12
            NECa/   0.01 /   653.58             NECb/   1.05 /   653.12
NECc/   2.55 /   653.12
            NE1d/   0.01 /   657.19             NE1c/   0.01 /   658.72
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.35 /   653.12
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.01 /   656.60            WESd/   0.01 /   654.05
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.95 /   653.12
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   4.59 /   652.76
CASNb/   0.01 /   653.21
           CASNc/   0.01 /   653.20           CASNd/   0.44 /   653.04
CASNe/   0.79 /   653.04
           CASNf/   1.11 /   653.04           CASNg/   1.13 /   653.04
CASNh/   1.24 /   653.04
           CASNi/   1.45 /   653.04

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*        NW1toP1/
10.76        USPDtoNW1/       0.00*
          P2toP1/      40.30             S4a/       0.01*            S4b/
0.01*             S4c/       0.14
             S4d/       0.30          P3toSE/       2.13*        SEtoSEC/
2.17          SECtoP2/       2.23
         SWtoSWC/       7.25              S8/       7.35              S9/
0.19        WEStoSESC/       0.07
       SR26toOUT/      74.18             S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*             S2c/       0.06
             S5b/       0.00*            S5a/       0.00*           S10d/
0.00*            S10c/       0.00
            S10b/       0.00*           S10a/       0.00*           S11a/
0.00*            S11b/       0.00*
            S11c/       0.12            S12a/       0.00            S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00            S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.01        CASNatob/       0.00       CASNbtoc/
0.00         CASNctod/       0.00*
        CASNdtoe/       0.05        CASNetof/       0.09       CASNftog/
0.13         CASNgtoH/       0.17
        CASNhtoi/       0.22       CASNitoNW/       0.25            Weir/
0.00          MJRLeft/      33.13
        MJRRight/      33.10        MJRExist/      59.07          MjrNew/
15.09        DSmjrExis/      54.71
        DSmjrNew/      19.46         PRKWout/       0.00        18exist/
2.99           42in 1/      31.53
          42in 2/      31.53        18inchDS/       4.57          3x6DS/
30.75             3ft3/      30.75
        FREE # 1/      74.18
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 Cycle      12000      Time         16 Hrs - 40.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.46 /   653.62              NW1/   1.53 /   652.93
MJR/   5.16 /   652.37
            USPD/   0.00 /   653.75              USM/   5.11 /   652.48
OUT/   0.67 /   621.73
            DSMR/   8.25 /   648.25             SR26/   1.76 /   639.34
NE1/   0.00 /   655.65
              P1/   2.91 /   652.92              SWC/   1.66 /   653.07
 P3/   0.40 /   654.09
              P2/   3.01 /   653.02              SEC/   1.86 /   653.03
NEC/   0.01 /   655.08
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.90 /   653.03
              SW/   1.29 /   653.09              WES/   1.48 /   653.02
SESC/   1.90 /   653.02
            NECa/   0.01 /   653.58             NECb/   0.95 /   653.02
NECc/   2.45 /   653.02
            NE1d/   0.01 /   657.19             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.25 /   653.02
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.85 /   653.02
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   4.50 /   652.67
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.34 /   652.94
CASNe/   0.69 /   652.94
           CASNf/   1.01 /   652.94            CASNg/   1.03 /   652.94
CASNh/   1.14 /   652.94
           CASNi/   1.35 /   652.94

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
10.15       USPDtoNW1/        0.00*
         P2toP1/      40.16                S4a/       0.00*             S4b/
0.00*            S4c/       0.12
            S4d/        0.27          P3toSE/       1.79*         SEtoSEC/
1.82          SECtoP2/      1.88
        SWtoSWC/        7.25                S8/       7.35               S9/
0.17        WEStoSESC/      0.07
      SR26toOUT/      72.80               S3d/       0.00              S3c/
0.00*            S3b/       0.00*
            S3a/        0.00*              S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
            S1d/        0.00*              S2a/       0.00*             S2b/
0.00*            S2c/       0.05
            S5b/        0.00*              S5a/       0.00*            S10d/
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0.00*             S10c/       0.00
          S10b/       0.00*           S10a/       0.00*           S11a/
0.00*             S11b/       0.00*
          S11c/       0.11            S12a/       0.00            S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*           S13b/       0.00            S13c/
0.00              S13d/       0.00*
     US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00           CASNctod/      0.00*
      CASNdtoe/       0.03        CASNetof/       0.07        CASNftog/
0.11           CASNgtoH/      0.15
      CASNhtoi/       0.21       CASNitoNW/       0.23            Weir/
0.00             MJRLeft/    32.61
      MJRRight/      32.69        MJRExist/      57.85          MjrNew/
14.94          DSmjrExis/     53.37
      DSmjrNew/      19.43         PRKWout/       0.00         18exist/
2.94               42in 1/   31.10
        42in 2/      31.10        18inchDS/       4.51           3x6DS/
30.32                3ft3/    30.32
      FREE # 1/      72.80

 Cycle      12500      Time         17 Hrs - 21.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
           AR4/   0.45 /   653.61              NW1/   1.43 /   652.83
MJR/   5.08 /   652.29
          USPD/   0.00 /   653.75              USM/   5.02 /   652.39
OUT/   0.66 /   621.72
          DSMR/   8.22 /   648.22             SR26/   1.75 /   639.33
NE1/   0.00 /   655.65
            P1/   2.81 /   652.82              SWC/   1.57 /   652.98
 P3/   0.36 /   654.05
            P2/   2.92 /   652.93              SEC/   1.76 /   652.93
NEC/   0.00 /   655.07
          OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.80 /   652.93
            SW/   1.21 /   653.01              WES/   1.39 /   652.93
SESC/   1.81 /   652.93
          NECa/   0.01 /   653.58             NECb/   0.86 /   652.93
NECc/   2.36 /   652.93
          NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
          NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96             CNEc/   0.16 /   652.93
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26             SCWc/   0.76 /   652.93
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40              I65/   4.41 /   652.58
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19            CASNd/   0.24 /   652.84
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CASNe/   0.59 /   652.84
           CASNf/   0.91 /   652.84            CASNg/   0.93 /   652.84
CASNh/   1.04 /   652.84
           CASNi/   1.25 /   652.84

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
9.96        USPDtoNW1/       0.00*
          P2toP1/      39.53              S4a/       0.00*              S4b/
0.00*             S4c/       0.13
             S4d/       0.28           P3toSE/       1.53*         SEtoSEC/
1.56          SECtoP2/       1.61
         SWtoSWC/       7.01               S8/       7.11                S9/
0.18        WEStoSESC/       0.05
       SR26toOUT/      71.46              S3d/       0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*              S2b/
0.00*             S2c/       0.05
             S5b/       0.00*             S5a/       0.00*             S10d/
0.00*            S10c/       0.00
            S10b/       0.00*            S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.11             S12a/       0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/       0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00*
        CASNdtoe/       0.02         CASNetof/       0.06          CASNftog/
0.09         CASNgtoH/       0.14
        CASNhtoi/       0.19        CASNitoNW/       0.21              Weir/
0.00          MJRLeft/      32.12
        MJRRight/      32.12         MJRExist/      56.67            MjrNew/
14.79        DSmjrExis/      52.07
        DSmjrNew/      19.39          PRKWout/       0.00           18exist/
2.88           42in 1/      30.60
          42in 2/      30.60         18inchDS/       4.43             3x6DS/
29.83             3ft3/      29.83
        FREE # 1/      71.46

 Cycle      13000      Time         18 Hrs -  3.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.45 /   653.61              NW1/   1.33 /   652.73
MJR/   5.01 /   652.22
            USPD/   0.00 /   653.75              USM/   4.94 /   652.31
OUT/   0.65 /   621.71
            DSMR/   8.19 /   648.19             SR26/   1.73 /   639.31
NE1/   0.00 /   655.65
              P1/   2.72 /   652.73              SWC/   1.49 /   652.90
 P3/   0.34 /   654.03
              P2/   2.83 /   652.84              SEC/   1.67 /   652.84
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.71 /   652.84
              SW/   1.12 /   652.92              WES/   1.30 /   652.84
SESC/   1.72 /   652.84
            NECa/   0.00 /   653.57             NECb/   0.77 /   652.84
NECc/   2.27 /   652.84
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.07 /   652.84
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.67 /   652.84
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   4.32 /   652.49
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.14 /   652.74
CASNe/   0.49 /   652.74
           CASNf/   0.81 /   652.74           CASNg/   0.83 /   652.74
CASNh/   0.94 /   652.74
           CASNi/   1.15 /   652.74

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
9.81       USPDtoNW1/       0.00*
          P2toP1/      38.67             S4a/       0.00*              S4b/
0.00*            S4c/       0.12
             S4d/       0.26          P3toSE/       1.32*         SEtoSEC/
1.35          SECtoP2/       1.40
         SWtoSWC/       6.67              S8/       6.76               S9/
0.16       WEStoSESC/       0.05
       SR26toOUT/      70.13             S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*              S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*              S2b/
0.00*            S2c/       0.05
             S5b/       0.00*            S5a/       0.00*             S10d/
0.00*           S10c/       0.00
            S10b/       0.00*           S10a/       0.00*             S11a/
0.00*           S11b/       0.00*
            S11c/       0.10            S12a/       0.00              S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*           S13b/       0.00              S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00        CASNctod/       0.00*
        CASNdtoe/       0.02        CASNetof/       0.05         CASNftog/
0.08        CASNgtoH/       0.12
        CASNhtoi/       0.17       CASNitoNW/       0.20              Weir/
0.00         MJRLeft/      31.54
        MJRRight/      31.46        MJRExist/      55.48            MjrNew/
14.64       DSmjrExis/      50.77
        DSmjrNew/      19.36         PRKWout/       0.00          18exist/
2.80          42in 1/      30.03
          42in 2/      30.03        18inchDS/       4.39             3x6DS/
29.24            3ft3/      29.24
        FREE # 1/      70.13
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 Cycle      13500      Time         18 Hrs - 45.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.45 /   653.61              NW1/   1.23 /   652.63
MJR/   4.93 /   652.14
            USPD/   0.00 /   653.75              USM/   4.86 /   652.23
OUT/   0.64 /   621.70
            DSMR/   8.16 /   648.16             SR26/   1.72 /   639.30
NE1/   0.00 /   655.65
              P1/   2.62 /   652.63              SWC/   1.40 /   652.81
 P3/   0.31 /   654.00
              P2/   2.73 /   652.74              SEC/   1.57 /   652.74
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.61 /   652.74
              SW/   1.04 /   652.84              WES/   1.20 /   652.74
SESC/   1.62 /   652.74
            NECa/   0.00 /   653.57             NECb/   0.67 /   652.74
NECc/   2.17 /   652.74
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.02 /   652.79
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.57 /   652.74
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   4.24 /   652.41
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.05 /   652.65
CASNe/   0.39 /   652.64
           CASNf/   0.71 /   652.64            CASNg/   0.73 /   652.64
CASNh/   0.84 /   652.64
           CASNi/   1.05 /   652.64

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
9.78        USPDtoNW1/       0.00*
          P2toP1/     37.85              S4a/       0.00*             S4b/
0.00*            S4c/       0.11
             S4d/       0.24          P3toSE/       1.15*         SEtoSEC/
1.17          SECtoP2/       1.23
         SWtoSWC/       6.38               S8/       6.47              S9/
0.16        WEStoSESC/       0.05
       SR26toOUT/     68.81              S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/       0.01*
             S5b/       0.00*            S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.09             S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/     0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/     0.01         CASNetof/       0.04         CASNftog/
0.07          CASNgtoH/      0.11
        CASNhtoi/     0.16        CASNitoNW/       0.18             Weir/
0.00           MJRLeft/     31.08
        MJRRight/    31.12         MJRExist/      54.31           MjrNew/
14.49         DSmjrExis/     49.49
        DSmjrNew/    19.32          PRKWout/       0.00          18exist/
2.72            42in 1/     29.68
         42in 2/    29.68         18inchDS/       4.30            3x6DS/
28.89              3ft3/     28.89
        FREE # 1/    68.81

 Cycle      14000      Time         19 Hrs - 26.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.45 /   653.61              NW1/   1.14 /   652.54
MJR/   4.86 /   652.07
           USPD/   0.00 /   653.75              USM/   4.79 /   652.16
OUT/   0.63 /   621.69
           DSMR/   8.13 /   648.13             SR26/   1.71 /   639.29
NE1/   0.00 /   655.65
             P1/   2.52 /   652.53              SWC/   1.32 /   652.73
 P3/   0.29 /   653.98
             P2/   2.64 /   652.65              SEC/   1.48 /   652.65
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.52 /   652.65
             SW/   0.97 /   652.77              WES/   1.11 /   652.65
SESC/   1.53 /   652.65
           NECa/   0.00 /   653.57             NECb/   0.58 /   652.65
NECc/   2.08 /   652.65
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.01 /   652.78
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.48 /   652.65
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   4.15 /   652.32
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.29 /   652.54
           CASNf/   0.61 /   652.54            CASNg/   0.63 /   652.54
CASNh/   0.74 /   652.54
           CASNi/   0.95 /   652.54

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
9.64          USPDtoNW1/       0.00*
          P2toP1/      37.06              S4a/       0.00*             S4b/
0.00*               S4c/       0.09
             S4d/       0.22           P3toSE/       1.01*         SEtoSEC/
1.03           SECtoP2/        1.08
         SWtoSWC/       6.10               S8/       6.19               S9/
0.15          WEStoSESC/       0.05
       SR26toOUT/      67.55              S3d/       0.00              S3c/
0.00*               S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*               S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*               S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
0.00*              S10c/       0.00
            S10b/       0.00*            S10a/       0.00*            S11a/
0.00*              S11b/       0.00*
            S11c/       0.09             S12a/       0.00             S12b/
0.00*              S12c/       0.00*
            S13a/       0.00*            S13b/       0.00             S13c/
0.00               S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/        0.00
        CASNdtoe/       0.00*        CASNetof/       0.03         CASNftog/
0.05          CASNgtoH/        0.09
        CASNhtoi/       0.13        CASNitoNW/       0.15             Weir/
0.00           MJRLeft/       30.39
        MJRRight/      30.67         MJRExist/      53.19           MjrNew/
14.35          DSmjrExis/      48.25
        DSmjrNew/      19.29          PRKWout/       0.00          18exist/
2.64            42in 1/       29.15
          42in 2/      29.15         18inchDS/       4.15            3x6DS/
28.40               3ft3/      28.40
        FREE # 1/      67.55

 Cycle      14500      Time         20 Hrs -  8.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.45 /   653.61               NW1/   1.04 /   652.44
MJR/   4.79 /   652.00
            USPD/   0.00 /   653.75               USM/   4.72 /   652.09
OUT/   0.63 /   621.69
            DSMR/   8.10 /   648.10              SR26/   1.70 /   639.28
NE1/   0.00 /   655.65
              P1/   2.43 /   652.44               SWC/   1.25 /   652.66
 P3/   0.27 /   653.96
              P2/   2.55 /   652.56               SEC/   1.39 /   652.56
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.43 /   652.56
              SW/   0.89 /   652.69               WES/   1.02 /   652.56
SESC/   1.44 /   652.56
            NECa/   0.00 /   653.57              NECb/   0.49 /   652.56
NECc/   1.99 /   652.56
            NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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          NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26             SCWc/   0.39 /   652.56
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40              I65/   4.07 /   652.24
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.19 /   652.44
         CASNf/   0.51 /   652.44            CASNg/   0.53 /   652.44
CASNh/   0.64 /   652.44
         CASNi/   0.85 /   652.44

       Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
      NE1toEAS/       0.00       EAStoNEC/       0.00*          NW1toP1/
9.41       USPDtoNW1/       0.00*
        P2toP1/      36.13             S4a/       0.00*             S4b/
0.00*            S4c/       0.09
           S4d/       0.22          P3toSE/       0.90*         SEtoSEC/
0.92         SECtoP2/       0.97
       SWtoSWC/       5.82              S8/       5.90               S9/
0.14       WEStoSESC/       0.04
     SR26toOUT/      66.24             S3d/       0.00              S3c/
0.00*            S3b/       0.00*
           S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
           S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
           S5b/       0.00*            S5a/       0.00*            S10d/
0.00*           S10c/       0.00
          S10b/       0.00*           S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
          S11c/       0.07            S12a/       0.00             S12b/
0.00*           S12c/       0.00*
          S13a/       0.00*           S13b/       0.00             S13c/
0.00            S13d/       0.00*
     US65toUSM/       0.00       CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
      CASNdtoe/       0.00*      CASNetof/       0.02         CASNftog/
0.04         CASNgtoH/       0.07
      CASNhtoi/       0.12      CASNitoNW/       0.14              Weir/
0.00          MJRLeft/      29.55
      MJRRight/      30.07       MJRExist/      52.02            MjrNew/
14.21        DSmjrExis/      46.98
      DSmjrNew/      19.25        PRKWout/       0.00           18exist/
2.58           42in 1/      28.46
        42in 2/      28.46       18inchDS/       4.00             3x6DS/
27.76            3ft3/      27.76
      FREE # 1/      66.24
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 Cycle      15000      Time         20 Hrs - 50.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.45 /   653.61              NW1/   0.94 /   652.34
MJR/   4.72 /   651.93
            USPD/   0.00 /   653.75              USM/   4.64 /   652.01
OUT/   0.62 /   621.68
            DSMR/   8.07 /   648.07             SR26/   1.68 /   639.26
NE1/   0.00 /   655.65
              P1/   2.33 /   652.34              SWC/   1.17 /   652.58
 P3/   0.26 /   653.95
              P2/   2.46 /   652.47              SEC/   1.30 /   652.47
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.34 /   652.47
              SW/   0.82 /   652.62              WES/   0.93 /   652.47
SESC/   1.35 /   652.47
            NECa/   0.00 /   653.57             NECb/   0.40 /   652.47
NECc/   1.90 /   652.47
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.30 /   652.47
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   3.98 /   652.15
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.10 /   652.35
           CASNf/   0.42 /   652.35            CASNg/   0.44 /   652.35
CASNh/   0.55 /   652.35
           CASNi/   0.76 /   652.35

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
9.18        USPDtoNW1/       0.00*
          P2toP1/      35.12             S4a/       0.00*             S4b/
0.00*            S4c/        0.08
             S4d/       0.20         P3toSE/       0.80*        SEtoSEC/
0.82          SECtoP2/       0.87
         SWtoSWC/       5.53              S8/       5.60               S9/
0.12        WEStoSESC/       0.05
       SR26toOUT/      64.87             S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.07             S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/     0.00          CASNatob/       0.00          CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/     0.00*         CASNetof/       0.01          CASNftog/
0.03          CASNgtoH/      0.06
        CASNhtoi/     0.10         CASNitoNW/       0.12              Weir/
0.00           MJRLeft/     28.72
        MJRRight/    29.35          MJRExist/      50.79            MjrNew/
14.06         DSmjrExis/     45.65
        DSmjrNew/    19.22           PRKWout/       0.00           18exist/
2.53            42in 1/     27.71
          42in 2/    27.71          18inchDS/       3.85             3x6DS/
27.06              3ft3/     27.06
        FREE # 1/    64.87

 Cycle      15500      Time         21 Hrs - 31.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.45 /   653.61             NW1/   0.85 /   652.25
MJR/   4.64 /   651.85
           USPD/   0.00 /   653.75             USM/   4.56 /   651.93
OUT/   0.61 /   621.67
           DSMR/   8.04 /   648.04            SR26/   1.67 /   639.25
NE1/   0.00 /   655.65
             P1/   2.24 /   652.25             SWC/   1.10 /   652.51
 P3/   0.24 /   653.93
             P2/   2.37 /   652.38             SEC/   1.21 /   652.38
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.25 /   652.38
             SW/   0.75 /   652.55             WES/   0.84 /   652.38
SESC/   1.26 /   652.38
           NECa/   0.00 /   653.57            NECb/   0.31 /   652.38
NECc/   1.81 /   652.38
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.21 /   652.38
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   3.89 /   652.06
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.02 /   652.27
           CASNf/   0.32 /   652.25            CASNg/   0.34 /   652.25
CASNh/   0.45 /   652.25
           CASNi/   0.66 /   652.25

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
8.93          USPDtoNW1/       0.00*
          P2toP1/      34.05               S4a/       0.00*            S4b/
0.00*               S4c/       0.08
             S4d/       0.19            P3toSE/       0.72*         SEtoSEC/
0.74           SECtoP2/       0.78
         SWtoSWC/       5.22                S8/       5.28              S9/
0.12          WEStoSESC/       0.04
       SR26toOUT/      63.42               S3d/       0.00             S3c/
0.00*               S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*            S1b/
0.00*               S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*            S2b/
0.00*               S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*           S10d/
0.00*              S10c/       0.00
            S10b/       0.00*             S10a/       0.00*           S11a/
0.00*              S11b/       0.00*
            S11c/       0.07              S12a/       0.00            S12b/
0.00*              S12c/       0.00*
            S13a/       0.00*             S13b/       0.00            S13c/
0.00               S13d/       0.00*
       US65toUSM/       0.00          CASNatob/       0.00        CASNbtoc/
0.00           CASNctod/       0.00
        CASNdtoe/       0.00*         CASNetof/       0.01        CASNftog/
0.02           CASNgtoH/       0.05
        CASNhtoi/       0.08         CASNitoNW/       0.10            Weir/
0.00            MJRLeft/      27.74
        MJRRight/      28.44          MJRExist/      49.50          MjrNew/
13.91          DSmjrExis/      44.24
        DSmjrNew/      19.18           PRKWout/       0.00         18exist/
2.51             42in 1/      26.76
          42in 2/      26.76          18inchDS/       3.70           3x6DS/
26.18               3ft3/      26.18
        FREE # 1/      63.42

 Cycle      16000      Time         22 Hrs - 13.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.45 /   653.61              NW1/   0.76 /   652.16
MJR/   4.57 /   651.78
            USPD/   0.00 /   653.75              USM/   4.48 /   651.85
OUT/   0.58 /   621.64
            DSMR/   7.93 /   647.93             SR26/   1.62 /   639.20
NE1/   0.00 /   655.65
              P1/   2.15 /   652.16              SWC/   1.03 /   652.44
 P3/   0.23 /   653.92
              P2/   2.28 /   652.29              SEC/   1.12 /   652.29
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.16 /   652.29
              SW/   0.69 /   652.49              WES/   0.75 /   652.29
SESC/   1.17 /   652.29
            NECa/   0.00 /   653.57             NECb/   0.22 /   652.29
NECc/   1.72 /   652.29
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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              NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
               P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
              CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
              EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
              WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
              SCWb/   0.00 /   658.26             SCWc/   0.12 /   652.29
NCWa/   0.00 /   661.81
              NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
              NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
              CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
              PRKE/   0.00 /   657.40              I65/   3.80 /   651.97
CASNb/   0.00 /   653.20
             CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
             CASNf/   0.23 /   652.16            CASNg/   0.25 /   652.16
CASNh/   0.36 /   652.16
             CASNi/   0.57 /   652.16

          Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
8.23        USPDtoNW1/       0.00*
           P2toP1/      32.60             S4a/       0.00*             S4b/
0.00*            S4c/       0.06
               S4d/       0.16          P3toSE/       0.55         SEtoSEC/
0.58          SECtoP2/       0.63
          SWtoSWC/       4.90              S8/       4.96              S9/
0.12        WEStoSESC/       0.04
        SR26toOUT/      58.32             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
               S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
               S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
               S5b/       0.00*            S5a/       0.00*           S10d/
0.00*           S10c/       0.00
              S10b/       0.00*           S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
              S11c/       0.07           S12a/       0.00            S12b/
0.00*           S12c/       0.00*
              S13a/       0.00*           S13b/       0.00            S13c/
0.00            S13d/       0.00*
         US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00         CASNctod/       0.00
          CASNdtoe/       0.00        CASNetof/       0.00*       CASNftog/
0.01         CASNgtoH/       0.03
          CASNhtoi/       0.06       CASNitoNW/       0.08            Weir/
0.00          MJRLeft/      26.20
          MJRRight/      26.94        MJRExist/      44.52          MjrNew/
13.77        DSmjrExis/      39.26
          DSmjrNew/      19.04         PRKWout/       0.00         18exist/
2.55          42in 1/      25.25
           42in 2/      25.25        18inchDS/       3.50           3x6DS/
24.78            3ft3/      24.78
          FREE # 1/      58.32
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 Cycle      16500      Time         22 Hrs - 55.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.45 /   653.61              NW1/   0.67 /   652.07
MJR/   4.51 /   651.72
            USPD/   0.00 /   653.75              USM/   4.42 /   651.79
OUT/   0.56 /   621.62
            DSMR/   7.88 /   647.88             SR26/   1.60 /   639.18
NE1/   0.00 /   655.65
              P1/   2.07 /   652.08              SWC/   0.97 /   652.38
 P3/   0.22 /   653.91
              P2/   2.20 /   652.21              SEC/   1.04 /   652.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.08 /   652.21
              SW/   0.63 /   652.43              WES/   0.67 /   652.21
SESC/   1.09 /   652.21
            NECa/   0.00 /   653.57             NECb/   0.14 /   652.21
NECc/   1.64 /   652.21
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.04 /   652.21
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   3.72 /   651.89
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.15 /   652.08            CASNg/   0.17 /   652.08
CASNh/   0.28 /   652.08
           CASNi/   0.49 /   652.08

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
7.70        USPDtoNW1/       0.00*
          P2toP1/      30.97               S4a/       0.00*             S4b/
0.00*            S4c/        0.06
             S4d/       0.16           P3toSE/       0.45          SEtoSEC/
0.47          SECtoP2/       0.51
         SWtoSWC/       4.58                S8/       4.63               S9/
0.10        WEStoSESC/       0.04
       SR26toOUT/      56.11               S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*              S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*              S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*              S5a/       0.00*            S10d/
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0.00*          S10c/      0.00
          S10b/      0.00*          S10a/      0.00*          S11a/
0.00*          S11b/      0.00*
          S11c/      0.06           S12a/      0.00           S12b/
0.00*          S12c/      0.00*
          S13a/      0.00*          S13b/      0.00           S13c/
0.00           S13d/      0.00*
       US65toUSM/      0.00        CASNatob/      0.00        CASNbtoc/
0.00         CASNctod/      0.00
        CASNdtoe/      0.00        CASNetof/      0.00*       CASNftog/
0.01         CASNgtoH/      0.02
        CASNhtoi/      0.05       CASNitoNW/      0.06            Weir/
0.00          MJRLeft/     24.78
        MJRRight/     25.53        MJRExist/     42.45          MjrNew/
13.65        DSmjrExis/     37.12
        DSmjrNew/     18.98         PRKWout/      0.00         18exist/
2.50           42in 1/     23.85
          42in 2/     23.85        18inchDS/      3.31           3x6DS/
23.45           3ft3/     23.45
        FREE # 1/     56.11

 Cycle      17000      Time         23 Hrs - 36.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.59 /   651.99
MJR/   4.44 /   651.65
            USPD/   0.00 /   653.75              USM/   4.34 /   651.71
OUT/   0.55 /   621.61
            DSMR/   7.85 /   647.85             SR26/   1.59 /   639.17
NE1/   0.00 /   655.65
              P1/   1.99 /   652.00              SWC/   0.91 /   652.32
 P3/   0.21 /   653.90
              P2/   2.12 /   652.13              SEC/   0.96 /   652.13
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.05 /   652.18
              SW/   0.57 /   652.37              WES/   0.59 /   652.13
SESC/   1.01 /   652.13
            NECa/   0.00 /   653.57             NECb/   0.06 /   652.13
NECc/   1.56 /   652.13
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.01 /   652.18
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   3.64 /   651.81
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
          CASNf/   0.09 /   652.02            CASNg/   0.10 /   652.01
CASNh/   0.20 /   652.00
          CASNi/   0.41 /   652.00

        Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
       NE1toEAS/       0.00         EAStoNEC/        0.00*          NW1toP1/
7.23          USPDtoNW1/       0.00*
         P2toP1/      29.37              S4a/        0.00*              S4b/
0.00*              S4c/        0.05
            S4d/       0.14           P3toSE/        0.41           SEtoSEC/
0.41*          SECtoP2/        0.45
        SWtoSWC/       4.25               S8/        4.30                S9/
0.10          WEStoSESC/       0.02
      SR26toOUT/      54.85              S3d/        0.00               S3c/
0.00*              S3b/        0.00*
            S3a/       0.00*             S1a/        0.00*              S1b/
0.00*              S1c/        0.00*
            S1d/       0.00*             S2a/        0.00*              S2b/
0.00*              S2c/        0.00*
            S5b/       0.00*             S5a/        0.00*             S10d/
0.00*             S10c/        0.00
           S10b/       0.00*            S10a/        0.00*             S11a/
0.00*             S11b/        0.00*
           S11c/       0.00*            S12a/        0.00              S12b/
0.00*             S12c/        0.00*
           S13a/       0.00*            S13b/        0.00              S13c/
0.00              S13d/        0.00*
      US65toUSM/       0.00         CASNatob/        0.00          CASNbtoc/
0.00          CASNctod/        0.00
       CASNdtoe/       0.00         CASNetof/        0.00          CASNftog/
0.00          CASNgtoH/        0.02
       CASNhtoi/       0.04        CASNitoNW/        0.05              Weir/
0.00           MJRLeft/       23.47
      MJRRight/       24.26          MJRExist/      41.33            MjrNew/
13.50          DSmjrExis/      35.89
       DSmjrNew/      18.95           PRKWout/       0.00           18exist/
2.56            42in 1/       22.52
        42in 2/       22.52         18inchDS/        3.15             3x6DS/
22.24              3ft3/       22.24
      FREE # 1/      54.85

 Cycle      17500      Time         24 Hrs - 18.33 Min

      Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.52 /   651.92
MJR/   4.35 /   651.56
           USPD/   0.00 /   653.75              USM/   4.25 /   651.62
OUT/   0.54 /   621.60
           DSMR/   7.81 /   647.81             SR26/   1.57 /   639.15
NE1/   0.00 /   655.65
             P1/   1.92 /   651.93              SWC/   0.85 /   652.26
 P3/   0.20 /   653.89
             P2/   2.04 /   652.05              SEC/   0.88 /   652.05
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.05 /   652.18
             SW/   0.52 /   652.32              WES/   0.51 /   652.05
SESC/   0.93 /   652.05
           NECa/   0.00 /   653.57             NECb/   0.01 /   652.08
NECc/   1.48 /   652.05
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   3.54 /   651.71
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.04 /   651.97            CASNg/   0.05 /   651.97
CASNh/   0.13 /   651.93
           CASNi/   0.33 /   651.92

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00        EAStoNEC/       0.00*          NW1toP1/
6.74       USPDtoNW1/        0.00*
          P2toP1/       27.89             S4a/       0.00*              S4b/
0.00*            S4c/        0.01*
             S4d/        0.10          P3toSE/       0.38          SEtoSEC/
0.38*        SECtoP2/        0.42
         SWtoSWC/        3.93              S8/       3.98               S9/
0.10       WEStoSESC/        0.03
       SR26toOUT/       53.37             S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/        0.00*            S1a/       0.00*              S1b/
0.00*            S1c/        0.00*
             S1d/        0.00*            S2a/       0.00*              S2b/
0.00*            S2c/        0.00*
             S5b/        0.00*            S5a/       0.00*             S10d/
0.00*           S10c/        0.00
            S10b/        0.00*           S10a/       0.00*             S11a/
0.00*           S11b/        0.00*
            S11c/        0.00*           S12a/       0.00              S12b/
0.00*           S12c/        0.00*
            S13a/        0.00*           S13b/       0.00              S13c/
0.00            S13d/        0.00*
       US65toUSM/        0.00        CASNatob/       0.00          CASNbtoc/
0.00        CASNctod/        0.00
        CASNdtoe/        0.00        CASNetof/       0.00          CASNftog/
0.00        CASNgtoH/        0.01
        CASNhtoi/        0.03       CASNitoNW/       0.04              Weir/
0.00         MJRLeft/       22.27
        MJRRight/       23.08        MJRExist/      40.03            MjrNew/
13.33       DSmjrExis/       34.45
        DSmjrNew/       18.91        PRKWout/        0.00           18exist/
2.70          42in 1/       21.26
          42in 2/       21.26        18inchDS/       3.01             3x6DS/
21.11            3ft3/       21.11
        FREE # 1/       53.37
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 Cycle      18000      Time         25 Hrs -  0.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.45 /   651.85
MJR/   4.26 /   651.47
            USPD/   0.00 /   653.75              USM/   4.16 /   651.53
OUT/   0.53 /   621.59
            DSMR/   7.78 /   647.78             SR26/   1.56 /   639.14
NE1/   0.00 /   655.65
              P1/   1.84 /   651.85              SWC/   0.80 /   652.21
 P3/   0.20 /   653.89
              P2/   1.97 /   651.98              SEC/   0.81 /   651.98
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.05 /   652.18
              SW/   0.47 /   652.27              WES/   0.44 /   651.98
SESC/   0.86 /   651.98
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   1.41 /   651.98
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   3.44 /   651.61
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.02 /   651.95            CASNg/   0.03 /   651.94
CASNh/   0.07 /   651.87
           CASNi/   0.26 /   651.85

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
6.21        USPDtoNW1/       0.00*
          P2toP1/      26.54              S4a/       0.00*             S4b/
0.00*            S4c/        0.00*
             S4d/       0.09          P3toSE/       0.36          SEtoSEC/
0.36*         SECtoP2/       0.39
         SWtoSWC/       3.62               S8/       3.66              S9/
0.08        WEStoSESC/       0.02
      SR26toOUT/      51.73              S3d/       0.00             S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/      0.00*          S10a/      0.00*          S11a/
0.00*            S11b/       0.00*
          S11c/      0.00*          S12a/      0.00           S12b/
0.00*            S12c/       0.00*
          S13a/      0.00*          S13b/      0.00           S13c/
0.00             S13d/       0.00*
       US65toUSM/    0.00       CASNatob/      0.00       CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/    0.00       CASNetof/      0.00       CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/    0.01      CASNitoNW/      0.02           Weir/
0.00           MJRLeft/     21.16
        MJRRight/   22.00       MJRExist/     38.59         MjrNew/
13.13         DSmjrExis/     32.87
        DSmjrNew/   18.86        PRKWout/      0.00        18exist/
2.90            42in 1/     20.06
          42in 2/   20.06       18inchDS/      2.89          3x6DS/
20.08              3ft3/     20.08
        FREE # 1/   51.74

 Cycle      18500      Time         25 Hrs - 41.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
           AR4/   0.44 /   653.60             NW1/   0.39 /   651.79
MJR/   4.16 /   651.37
          USPD/   0.00 /   653.75             USM/   4.06 /   651.43
OUT/   0.52 /   621.58
          DSMR/   7.74 /   647.74            SR26/   1.54 /   639.12
NE1/   0.00 /   655.65
            P1/   1.77 /   651.78             SWC/   0.74 /   652.15
 P3/   0.19 /   653.88
            P2/   1.89 /   651.90             SEC/   0.73 /   651.90
NEC/   0.00 /   655.07
          OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
            SW/   0.42 /   652.22             WES/   0.36 /   651.90
SESC/   0.78 /   651.90
          NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   1.33 /   651.90
          NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
          NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40             I65/   3.33 /   651.50
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.01 /   651.94            CASNg/   0.02 /   651.93
CASNh/   0.02 /   651.82
           CASNi/   0.20 /   651.79

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/        0.00*          NW1toP1/
5.63          USPDtoNW1/       0.00*
          P2toP1/      25.34              S4a/        0.00*              S4b/
0.00*                S4c/       0.00*
             S4d/       0.09           P3toSE/        0.34           SEtoSEC/
0.34*          SECtoP2/       0.37
         SWtoSWC/       3.32               S8/        3.36                S9/
0.07          WEStoSESC/       0.02
       SR26toOUT/      50.01              S3d/        0.00               S3c/
0.00*                S3b/       0.00*
             S3a/       0.00*             S1a/        0.00*              S1b/
0.00*                S1c/       0.00*
             S1d/       0.00*             S2a/        0.00*              S2b/
0.00*                S2c/       0.00*
             S5b/       0.00*             S5a/        0.00*             S10d/
0.00*               S10c/       0.00
            S10b/       0.00*            S10a/        0.00*             S11a/
0.00*               S11b/       0.00*
            S11c/       0.00*            S12a/        0.00              S12b/
0.00*               S12c/       0.00*
            S13a/       0.00*            S13b/        0.00              S13c/
0.00                S13d/       0.00*
       US65toUSM/       0.00         CASNatob/        0.00          CASNbtoc/
0.00           CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/        0.00          CASNftog/
0.00           CASNgtoH/       0.00
        CASNhtoi/       0.01        CASNitoNW/        0.01              Weir/
0.00            MJRLeft/      20.12
        MJRRight/      20.98         MJRExist/       37.07            MjrNew/
12.92          DSmjrExis/       31.19
        DSmjrNew/      18.81          PRKWout/        0.00           18exist/
3.14            42in 1/      18.90
          42in 2/      18.90         18inchDS/        2.77             3x6DS/
19.11               3ft3/      19.11
        FREE # 1/      50.01

 Cycle      19000      Time         26 Hrs - 23.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.33 /   651.73
MJR/   4.06 /   651.27
            USPD/   0.00 /   653.75              USM/   3.95 /   651.32
OUT/   0.51 /   621.57
            DSMR/   7.69 /   647.69             SR26/   1.52 /   639.10
NE1/   0.00 /   655.65
              P1/   1.70 /   651.71              SWC/   0.70 /   652.11
 P3/   0.18 /   653.87
              P2/   1.83 /   651.84              SEC/   0.67 /   651.84
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
              SW/   0.38 /   652.18              WES/   0.29 /   651.83
SESC/   0.71 /   651.83
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   1.27 /   651.84
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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           NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31            P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40            I65/   3.22 /   651.39
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
          CASNf/   0.00 /   651.93          CASNg/   0.01 /   651.93
CASNh/   0.00 /   651.80
          CASNi/   0.14 /   651.73

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00       EAStoNEC/       0.00*        NW1toP1/
5.01        USPDtoNW1/       0.00*
          P2toP1/      24.24            S4a/       0.00*            S4b/
0.00*            S4c/       0.00*
             S4d/       0.04         P3toSE/       0.32        SEtoSEC/
0.32*         SECtoP2/       0.34
         SWtoSWC/       3.04             S8/       3.08             S9/
0.09        WEStoSESC/       0.02
       SR26toOUT/      48.23            S3d/       0.00            S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*           S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*           S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*           S5a/       0.00*           S10d/
0.00*           S10c/       0.00
            S10b/       0.00*          S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*          S12a/       0.00            S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*          S13b/       0.00            S13c/
0.00            S13d/       0.00*
        US65toUSM/       0.00       CASNatob/       0.00       CASNbtoc/
0.00        CASNctod/       0.00
         CASNdtoe/       0.00       CASNetof/       0.00       CASNftog/
0.00        CASNgtoH/       0.00
         CASNhtoi/       0.00      CASNitoNW/       0.01           Weir/
0.00         MJRLeft/      19.11
         MJRRight/      19.99       MJRExist/      35.51         MjrNew/
12.70       DSmjrExis/       29.46
         DSmjrNew/      18.76        PRKWout/       0.00        18exist/
3.37          42in 1/      17.78
          42in 2/      17.78       18inchDS/       2.63          3x6DS/
18.18            3ft3/       18.18
         FREE # 1/      48.23
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 Cycle      19500      Time         27 Hrs -  5.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60             NW1/   0.28 /   651.68
MJR/   3.96 /   651.17
            USPD/   0.00 /   653.75             USM/   3.85 /   651.22
OUT/   0.49 /   621.55
            DSMR/   7.65 /   647.65            SR26/   1.51 /   639.09
NE1/   0.00 /   655.65
              P1/   1.63 /   651.64             SWC/   0.65 /   652.06
 P3/   0.18 /   653.87
              P2/   1.76 /   651.77             SEC/   0.60 /   651.77
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
              SW/   0.35 /   652.15             WES/   0.23 /   651.77
SESC/   0.65 /   651.77
            NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   1.20 /   651.77
            NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   3.11 /   651.28
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.01 /   651.92
CASNh/   0.00 /   651.80
           CASNi/   0.09 /   651.68

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00       EAStoNEC/       0.00*         NW1toP1/
4.39        USPDtoNW1/       0.00*
          P2toP1/      23.21            S4a/       0.00*             S4b/
0.00*            S4c/        0.00*
             S4d/       0.05        P3toSE/        0.30          SEtoSEC/
0.30*         SECtoP2/       0.33
         SWtoSWC/       2.77             S8/       2.81               S9/
0.06        WEStoSESC/       0.01
       SR26toOUT/      46.40            S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*           S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*           S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*           S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
     US65toUSM/       0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/       0.00
      CASNdtoe/       0.00         CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/       0.00
      CASNhtoi/       0.00        CASNitoNW/       0.00             Weir/
0.00           MJRLeft/      18.13
      MJRRight/      19.04         MJRExist/      33.91           MjrNew/
12.48         DSmjrExis/      27.69
      DSmjrNew/      18.71          PRKWout/       0.00          18exist/
3.59            42in 1/      16.71
        42in 2/      16.71         18inchDS/       2.50            3x6DS/
17.28             3ft3/      17.28
      FREE # 1/      46.40

 Cycle      20000      Time         27 Hrs - 46.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.23 /   651.63
MJR/   3.85 /   651.06
            USPD/   0.00 /   653.75              USM/   3.74 /   651.11
OUT/   0.48 /   621.54
            DSMR/   7.61 /   647.61             SR26/   1.49 /   639.07
NE1/   0.00 /   655.65
              P1/   1.57 /   651.58              SWC/   0.60 /   652.01
 P3/   0.17 /   653.86
              P2/   1.69 /   651.70              SEC/   0.54 /   651.71
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
              SW/   0.31 /   652.11              WES/   0.16 /   651.70
SESC/   0.58 /   651.70
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   1.13 /   651.70
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   2.99 /   651.16
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.01 /   651.92
CASNh/   0.00 /   651.80
           CASNi/   0.05 /   651.64

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
3.81        USPDtoNW1/       0.00*
          P2toP1/      22.24             S4a/       0.00*             S4b/
0.00*            S4c/       0.00*
             S4d/       0.08          P3toSE/       0.28         SEtoSEC/
0.28*         SECtoP2/       0.30
         SWtoSWC/       2.52              S8/       2.55              S9/
0.05        WEStoSESC/       0.01
       SR26toOUT/      44.56             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00*           S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/      17.20
       MJRRight/       18.13        MJRExist/      32.30           MjrNew/
12.24        DSmjrExis/       25.90
        DSmjrNew/      18.65         PRKWout/       0.00          18exist/
3.77           42in 1/      15.70
          42in 2/      15.70        18inchDS/       2.40            3x6DS/
16.40            3ft3/      16.40
        FREE # 1/      44.56

 Cycle      20500      Time         28 Hrs - 28.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.19 /   651.59
MJR/   3.75 /   650.96
            USPD/   0.00 /   653.75              USM/   3.63 /   651.00
OUT/   0.47 /   621.53
            DSMR/   7.56 /   647.56             SR26/   1.47 /   639.05
NE1/   0.00 /   655.65
              P1/   1.51 /   651.52              SWC/   0.56 /   651.97
 P3/   0.17 /   653.86
              P2/   1.63 /   651.64              SEC/   0.47 /   651.64
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
              SW/   0.28 /   652.08              WES/   0.10 /   651.64
SESC/   0.52 /   651.64
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   1.07 /   651.64
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   2.88 /   651.05
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.01 /   651.92
CASNh/   0.00 /   651.80
           CASNi/   0.02 /   651.61

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00       EAStoNEC/       0.00*         NW1toP1/
3.27        USPDtoNW1/       0.00*
          P2toP1/      21.30             S4a/       0.00*            S4b/
0.00*            S4c/        0.00*
             S4d/       0.06          P3toSE/       0.27         SEtoSEC/
0.27*         SECtoP2/       0.28
         SWtoSWC/       2.28              S8/       2.31              S9/
0.08        WEStoSESC/       0.02
       SR26toOUT/      42.72             S3d/       0.00             S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
0.00*           S10c/        0.00
            S10b/       0.00*           S10a/       0.00*           S11a/
0.00*           S11b/        0.00*
            S11c/       0.00*           S12a/       0.00            S12b/
0.00*           S12c/        0.00*
            S13a/       0.00*           S13b/       0.00            S13c/
0.00            S13d/        0.00*
       US65toUSM/       0.00       CASNatob/       0.00        CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00       CASNetof/       0.00        CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00      CASNitoNW/       0.00*           Weir/
0.00          MJRLeft/      16.30
        MJRRight/      17.24       MJRExist/      30.70          MjrNew/
12.01        DSmjrExis/      24.12
        DSmjrNew/      18.60        PRKWout/       0.00         18exist/
3.94           42in 1/      14.72
          42in 2/      14.72       18inchDS/       2.32           3x6DS/
15.56            3ft3/       15.56
        FREE # 1/      42.72
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 Cycle      21000      Time         29 Hrs - 10.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.16 /   651.56
MJR/   3.64 /   650.85
            USPD/   0.00 /   653.75                USM/   3.53 /   650.90
OUT/   0.46 /   621.52
            DSMR/   7.52 /   647.52               SR26/   1.45 /   639.03
NE1/   0.00 /   655.65
              P1/   1.44 /   651.45                SWC/   0.52 /   651.93
 P3/   0.16 /   653.85
              P2/   1.57 /   651.58                SEC/   0.41 /   651.58
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
              SW/   0.25 /   652.05                WES/   0.04 /   651.58
SESC/   0.46 /   651.58
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   1.01 /   651.58
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   2.78 /   650.95
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.92
CASNh/   0.00 /   651.80
           CASNi/   0.01 /   651.60

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
2.69*     USPDtoNW1/         0.00*
          P2toP1/      20.42                S4a/       0.00*             S4b/
0.00*           S4c/         0.00*
             S4d/       0.06          P3toSE/       0.25          SEtoSEC/
0.25*       SECtoP2/         0.27
         SWtoSWC/       2.06                 S8/       2.08               S9/
0.06      WEStoSESC/         0.01
       SR26toOUT/      40.91                S3d/       0.00             S3c/
0.00*           S3b/         0.00*
             S3a/       0.00*               S1a/       0.00*             S1b/
0.00*           S1c/         0.00*
             S1d/       0.00*               S2a/       0.00*             S2b/
0.00*           S2c/         0.00*
             S5b/       0.00*               S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
     US65toUSM/       0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/      0.00
      CASNdtoe/       0.00         CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/      0.00
      CASNhtoi/       0.00        CASNitoNW/       0.00*            Weir/
0.00           MJRLeft/     15.50
      MJRRight/      16.46         MJRExist/      29.12           MjrNew/
11.77         DSmjrExis/     22.36
      DSmjrNew/      18.54          PRKWout/       0.00          18exist/
4.26            42in 1/     13.77
        42in 2/      13.77         18inchDS/       2.26            3x6DS/
14.80              3ft3/     14.80
      FREE # 1/      40.91

 Cycle      21500      Time         29 Hrs - 51.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.13 /   651.53
MJR/   3.54 /   650.75
           USPD/   0.00 /   653.75              USM/   3.43 /   650.80
OUT/   0.44 /   621.50
           DSMR/   7.47 /   647.47             SR26/   1.43 /   639.01
NE1/   0.00 /   655.65
             P1/   1.38 /   651.39              SWC/   0.48 /   651.89
 P3/   0.16 /   653.85
             P2/   1.51 /   651.52              SEC/   0.36 /   651.53
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.04 /   652.17
             SW/   0.23 /   652.03              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.95 /   651.52
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   2.67 /   650.84
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.92
CASNh/   0.00 /   651.80
           CASNi/   0.01 /   651.60

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
2.01*       USPDtoNW1/       0.00*
          P2toP1/     19.64              S4a/       0.00*             S4b/
0.00*             S4c/       0.00*
           S4d/       0.05            P3toSE/       0.24          SEtoSEC/
0.24*          SECtoP2/      0.26
         SWtoSWC/       1.85               S8/       1.87              S9/
0.01*       WEStoSESC/       0.00
       SR26toOUT/     39.13              S3d/       0.00             S3c/
0.00*             S3b/       0.00*
           S3a/       0.00*              S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
           S1d/       0.00*              S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
           S5b/       0.00*              S5a/       0.00*            S10d/
0.00*            S10c/       0.00
          S10b/       0.00*             S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*             S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*             S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00*            Weir/
0.00         MJRLeft/      14.69
        MJRRight/     15.66         MJRExist/      27.58           MjrNew/
11.54       DSmjrExis/      20.64
         DSmjrNew/    18.49          PRKWout/       0.00          18exist/
4.46          42in 1/      12.86
          42in 2/     12.86         18inchDS/       2.19            3x6DS/
14.03            3ft3/      14.03
        FREE # 1/     39.13

 Cycle      22000      Time         30 Hrs - 33.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
           AR4/   0.44 /   653.60              NW1/   0.11 /   651.51
MJR/   3.44 /   650.65
          USPD/   0.00 /   653.75              USM/   3.32 /   650.69
OUT/   0.43 /   621.49
          DSMR/   7.42 /   647.42             SR26/   1.41 /   638.99
NE1/   0.00 /   655.65
            P1/   1.32 /   651.33              SWC/   0.44 /   651.85
 P3/   0.15 /   653.84
            P2/   1.46 /   651.47              SEC/   0.30 /   651.47
NEC/   0.00 /   655.07
          OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
            SW/   0.20 /   652.00              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
          NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.90 /   651.47
          NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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         NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
          P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
         CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
         EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
         WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
         SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
         NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
         NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
         CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
         PRKE/   0.00 /   657.40              I65/   2.57 /   650.74
CASNb/   0.00 /   653.20
        CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
        CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
        CASNi/   0.01 /   651.60

      Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
     NE1toEAS/       0.00        EAStoNEC/       0.00*        NW1toP1/
1.54*      USPDtoNW1/       0.00*
       P2toP1/      18.86             S4a/       0.00*            S4b/
0.00*            S4c/       0.00*
          S4d/       0.04          P3toSE/       0.23         SEtoSEC/
0.23*        SECtoP2/       0.24
      SWtoSWC/       1.65              S8/       1.67              S9/
0.00*      WEStoSESC/       0.00
    SR26toOUT/      37.39             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
          S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
          S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
          S5b/       0.00*            S5a/       0.00*           S10d/
0.00*           S10c/       0.00
         S10b/       0.00*           S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
         S11c/       0.00*           S12a/       0.00            S12b/
0.00*           S12c/       0.00*
         S13a/       0.00*           S13b/       0.00            S13c/
0.00            S13d/       0.00*
    US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/       0.00
     CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/       0.00
     CASNhtoi/       0.00       CASNitoNW/       0.00*           Weir/
0.00         MJRLeft/      13.88
     MJRRight/      14.87        MJRExist/      26.08          MjrNew/
11.30       DSmjrExis/      18.95
     DSmjrNew/      18.43        PRKWout/       0.00         18exist/
4.61          42in 1/      12.00
       42in 2/      12.00        18inchDS/       2.13           3x6DS/
13.26            3ft3/      13.26
     FREE # 1/      37.39
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 Cycle      22500      Time         31 Hrs - 15.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.10 /   651.50
MJR/   3.34 /   650.55
            USPD/   0.00 /   653.75                USM/   3.22 /   650.59
OUT/   0.42 /   621.48
            DSMR/   7.38 /   647.38               SR26/   1.40 /   638.98
NE1/   0.00 /   655.65
              P1/   1.26 /   651.27                SWC/   0.41 /   651.82
 P3/   0.15 /   653.84
              P2/   1.40 /   651.41                SEC/   0.25 /   651.42
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.18 /   651.98                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.84 /   651.41
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   2.46 /   650.63
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.01 /   651.60

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/      0.00         EAStoNEC/       0.00*         NW1toP1/
1.21*       USPDtoNW1/       0.00*
          P2toP1/      18.05                S4a/       0.00*             S4b/
0.00*            S4c/        0.00*
             S4d/       0.04           P3toSE/       0.21          SEtoSEC/
0.21*         SECtoP2/       0.23
         SWtoSWC/       1.47                 S8/       1.49               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      35.70                S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*               S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*               S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*               S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
     US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/      0.00
      CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/      0.00
      CASNhtoi/       0.00       CASNitoNW/       0.00*            Weir/
0.00           MJRLeft/     13.12
      MJRRight/      14.11        MJRExist/      24.60           MjrNew/
11.08         DSmjrExis/     17.32
      DSmjrNew/      18.38         PRKWout/       0.00          18exist/
4.73            42in 1/     11.17
        42in 2/      11.17        18inchDS/       2.08            3x6DS/
12.52              3ft3/     12.52
      FREE # 1/      35.70

 Cycle      23000      Time         31 Hrs - 56.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.09 /   651.49
MJR/   3.24 /   650.45
           USPD/   0.00 /   653.75              USM/   3.12 /   650.49
OUT/   0.41 /   621.47
           DSMR/   7.33 /   647.33             SR26/   1.38 /   638.96
NE1/   0.00 /   655.65
             P1/   1.21 /   651.22              SWC/   0.38 /   651.79
 P3/   0.15 /   653.84
             P2/   1.35 /   651.36              SEC/   0.20 /   651.37
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
             SW/   0.17 /   651.97              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.79 /   651.36
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   2.36 /   650.53
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
```

CASNe/   0.00 /   652.25
CASNf/   0.00 /   651.93   CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
CASNi/   0.01 /   651.60

Conduit/   FLOW   ===> "*" Conduit uses the normal flow option.
NE1toEAS/   0.00   EAStoNEC/   0.00*   NW1toP1/
0.97*   USPDtoNW1/   0.00*
P2toP1/   17.19   S4a/   0.00*   S4b/
0.00*   S4c/   0.00*
S4d/   0.04   P3toSE/   0.20   SEtoSEC/
0.20*   SECtoP2/   0.22
SWtoSWC/   1.29   S8/   1.31*   S9/
0.00*   WEStoSESC/   0.00
SR26toOUT/   34.03   S3d/   0.00   S3c/
0.00*   S3b/   0.00*
S3a/   0.00*   S1a/   0.00*   S1b/
0.00*   S1c/   0.00*
S1d/   0.00*   S2a/   0.00*   S2b/
0.00*   S2c/   0.00*
S5b/   0.00*   S5a/   0.00*   S10d/
0.00*   S10c/   0.00
S10b/   0.00*   S10a/   0.00*   S11a/
0.00*   S11b/   0.00*
S11c/   0.00*   S12a/   0.00   S12b/
0.00*   S12c/   0.00*
S13a/   0.00*   S13b/   0.00   S13c/
0.00   S13d/   0.00*
US65toUSM/   0.00   CASNatob/   0.00   CASNbtoc/
0.00   CASNctod/   0.00
CASNdtoe/   0.00   CASNetof/   0.00   CASNftog/
0.00   CASNgtoH/   0.00
CASNhtoi/   0.00   CASNitoNW/   0.00*   Weir/
0.00   MJRLeft/   12.27
MJRRight/   13.25   MJRExist/   23.15   MjrNew/
10.87   DSmjrExis/   15.70
DSmjrNew/   18.32   PRKWout/   0.00   18exist/
4.55   42in 1/   10.41
42in 2/   10.41   18inchDS/   2.00   3x6DS/
11.70   3ft3/   11.70
FREE # 1/   34.03

Cycle   23500   Time   32 Hrs - 38.33 Min

Junction / Depth / Elevation   ===> "*" Junction is Surcharged.
AR4/   0.44 /   653.60   NW1/   0.08 /   651.48
MJR/   3.15 /   650.36
USPD/   0.00 /   653.75   USM/   3.02 /   650.39
OUT/   0.40 /   621.46
DSMR/   7.28 /   647.28   SR26/   1.36 /   638.94
NE1/   0.00 /   655.65
P1/   1.16 /   651.17   SWC/   0.35 /   651.76
P3/   0.14 /   653.83
P2/   1.30 /   651.31   SEC/   0.15 /   651.32
NEC/   0.00 /   655.07
OUT2/   0.00 /   650.17   EAS/   0.00 /   655.39
SE/   0.03 /   652.16
SW/   0.15 /   651.95   WES/   0.00 /   651.54
SESC/   0.42 /   651.54
NECa/   0.00 /   653.57   NECb/   0.00 /   652.07
NECc/   0.74 /   651.31
NE1d/   0.00 /   657.18   NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24

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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   2.26 /   650.43
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.01 /   651.60

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.80*       USPDtoNW1/       0.00*
          P2toP1/      16.27              S4a/       0.00*            S4b/
0.00*            S4c/       0.00*
             S4d/       0.04          P3toSE/       0.19         SEtoSEC/
0.19*         SECtoP2/       0.20
         SWtoSWC/       1.14               S8/       1.15*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      32.24              S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*           S10d/
0.00*           S10c/       0.00
            S10b/       0.00*            S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*            S12a/       0.00            S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*            S13b/       0.00            S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00         MJRLeft/      11.46
        MJRRight/      12.44        MJRExist/      21.71          MjrNew/
10.52       DSmjrExis/      13.98
        DSmjrNew/      18.26        PRKWout/        0.00         18exist/
4.28         42in 1/        9.74
          42in 2/       9.74        18inchDS/       1.94           3x6DS/
10.93            3ft3/      10.93
        FREE # 1/      32.24
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 Cycle      24000      Time         33 Hrs - 20.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.07 /   651.47
MJR/   3.05 /   650.26
            USPD/   0.00 /   653.75              USM/   2.93 /   650.30
OUT/   0.38 /   621.44
            DSMR/   7.23 /   647.23             SR26/   1.34 /   638.92
NE1/   0.00 /   655.65
              P1/   1.11 /   651.12              SWC/   0.33 /   651.74
 P3/   0.14 /   653.83
              P2/   1.25 /   651.26              SEC/   0.11 /   651.28
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.14 /   651.94              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.69 /   651.26
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   2.16 /   650.33
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.01 /   651.60

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00        EAStoNEC/        0.00*         NW1toP1/
0.66*       USPDtoNW1/        0.00*
          P2toP1/       15.36             S4a/        0.00*             S4b/
0.00*             S4c/        0.00*
             S4d/        0.03          P3toSE/        0.19         SEtoSEC/
0.19*         SECtoP2/        0.19
         SWtoSWC/        1.00              S8/        1.01*              S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/       30.37             S3d/        0.00             S3c/
0.00*             S3b/        0.00*
             S3a/        0.00*            S1a/        0.00*             S1b/
0.00*             S1c/        0.00*
             S1d/        0.00*            S2a/        0.00*             S2b/
0.00*             S2c/        0.00*
             S5b/        0.00*            S5a/        0.00*            S10d/
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0.00*             S10c/        0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/        0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/        0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/        0.00*
       US65toUSM/     0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/        0.00
        CASNdtoe/     0.00         CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/        0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00             Weir/
0.00            MJRLeft/      10.71
        MJRRight/    11.69         MJRExist/      20.33           MjrNew/
10.02         DSmjrExis/      12.17
        DSmjrNew/    18.19          PRKWout/       0.00          18exist/
4.04             42in 1/       9.11
          42in 2/     9.11        18inchDS/        1.89            3x6DS/
10.22              3ft3/      10.22
        FREE # 1/    30.37

 Cycle      24500      Time         34 Hrs -  1.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.06 /   651.46
MJR/   2.96 /   650.17
           USPD/   0.00 /   653.75              USM/   2.84 /   650.21
OUT/   0.36 /   621.42
           DSMR/   7.17 /   647.17             SR26/   1.32 /   638.90
NE1/   0.00 /   655.65
             P1/   1.07 /   651.08              SWC/   0.31 /   651.72
 P3/   0.13 /   653.82
             P2/   1.20 /   651.21              SEC/   0.09 /   651.26
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
             SW/   0.12 /   651.92              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.64 /   651.21
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   2.07 /   650.24
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.01 /   651.60

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/        0.00*          NW1toP1/
0.55*        USPDtoNW1/      0.00*
          P2toP1/      14.49              S4a/        0.00*              S4b/
0.00*             S4c/       0.00*
             S4d/       0.02           P3toSE/        0.18           SEtoSEC/
0.18*           SECtoP2/     0.18*
         SWtoSWC/       0.88               S8/        0.89*               S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/      28.58              S3d/        0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/        0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/        0.00*              S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*             S5a/        0.00*             S10d/
0.00*            S10c/       0.00
            S10b/       0.00*            S10a/        0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*            S12a/        0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/        0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/        0.00          CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/        0.00          CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/        0.00              Weir/
0.00           MJRLeft/     10.02
        MJRRight/      10.99         MJRExist/       19.04            MjrNew/
9.52         DSmjrExis/     10.45
         DSmjrNew/     18.12          PRKWout/        0.00           18exist/
3.81            42in 1/      8.53
          42in 2/       8.53         18inchDS/        1.83             3x6DS/
9.55              3ft3/      9.55
        FREE # 1/      28.58

 Cycle      25000      Time         34 Hrs - 43.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.05 /   651.45
MJR/   2.93 /   650.14
            USPD/   0.00 /   653.75              USM/   2.84 /   650.21
OUT/   0.36 /   621.42
            DSMR/   7.16 /   647.16             SR26/   1.32 /   638.90
NE1/   0.00 /   655.65
              P1/   0.99 /   651.00              SWC/   0.29 /   651.70
 P3/   0.13 /   653.82
              P2/   1.15 /   651.16              SEC/   0.09 /   651.26
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.11 /   651.91              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.59 /   651.16
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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          NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40             I65/   2.10 /   650.27
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
         CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
         CASNi/   0.00 /   651.59

       Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
      NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.47*      USPDtoNW1/      0.00*
       P2toP1/       15.14              S4a/       0.00*            S4b/
0.00*          S4c/      0.00*
           S4d/       0.03          P3toSE/       0.17          SEtoSEC/
0.17*       SECtoP2/      0.17*
       SWtoSWC/       0.78               S8/       0.79*             S9/
0.00*      WEStoSESC/      0.00
     SR26toOUT/      28.01              S3d/       0.00             S3c/
0.00*          S3b/      0.00*
           S3a/       0.00*             S1a/       0.00*            S1b/
0.00*          S1c/      0.00*
           S1d/       0.00*             S2a/       0.00*            S2b/
0.00*          S2c/      0.00*
           S5b/       0.00*             S5a/       0.00*           S10d/
0.00*         S10c/      0.00
          S10b/       0.00*            S10a/       0.00*           S11a/
0.00*         S11b/      0.00*
          S11c/       0.00*            S12a/       0.00            S12b/
0.00*         S12c/      0.00*
          S13a/       0.00*            S13b/       0.00            S13c/
0.00          S13d/      0.00*
     US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/      0.00
      CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/      0.00
      CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00         MJRLeft/     13.78
      MJRRight/      15.18        MJRExist/      18.64          MjrNew/
9.37        DSmjrExis/     9.91
      DSmjrNew/      18.10         PRKWout/       0.00         18exist/
3.40          42in 1/     12.76
        42in 2/      12.76        18inchDS/       2.57           3x6DS/
13.19            3ft3/     13.19
      FREE # 1/      28.01
```

Cycle 25500 Time 35 Hrs - 25.00 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.05 / 651.45
MJR/ 2.92 / 650.13
USPD/ 0.00 / 653.75 USM/ 2.81 / 650.18
OUT/ 0.35 / 621.41
DSMR/ 7.15 / 647.15 SR26/ 1.31 / 638.89
NE1/ 0.00 / 655.65
P1/ 0.90 / 650.91 SWC/ 0.27 / 651.68
P3/ 0.13 / 653.82
P2/ 1.11 / 651.12 SEC/ 0.08 / 651.25
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.03 / 652.16
SW/ 0.10 / 651.90 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.55 / 651.12
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24
NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 2.06 / 650.23
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60
CASNe/ 0.00 / 652.25
CASNf/ 0.00 / 651.93 CASNg/ 0.00 / 651.91
CASNh/ 0.00 / 651.80
CASNi/ 0.00 / 651.59

Conduit/ FLOW ===> "*" Conduit uses the normal flow option.
NE1toEAS/ 0.00 EAStoNEC/ 0.00* NW1toP1/
0.40* USPDtoNW1/ 0.00*
P2toP1/ 15.42 S4a/ 0.00* S4b/
0.00* S4c/ 0.00*
S4d/ 0.02 P3toSE/ 0.16 SEtoSEC/
0.16* SECtoP2/ 0.16*
SWtoSWC/ 0.69 S8/ 0.70* S9/
0.00* WEStoSESC/ 0.00
SR26toOUT/ 27.76 S3d/ 0.00 S3c/
0.00* S3b/ 0.00*
S3a/ 0.00* S1a/ 0.00* S1b/
0.00* S1c/ 0.00*
S1d/ 0.00* S2a/ 0.00* S2b/
0.00* S2c/ 0.00*
S5b/ 0.00* S5a/ 0.00* S10d/

```
0.00*           S10c/       0.00
          S10b/       0.00*          S10a/       0.00*          S11a/
0.00*           S11b/       0.00*
          S11c/       0.00*          S12a/       0.00           S12b/
0.00*           S12c/       0.00*
          S13a/       0.00*          S13b/       0.00           S13c/
0.00            S13d/       0.00*
       US65toUSM/     0.00        CASNatob/      0.00       CASNbtoc/
0.00         CASNctod/      0.00
        CASNdtoe/     0.00        CASNetof/      0.00       CASNftog/
0.00         CASNgtoH/      0.00
        CASNhtoi/     0.00       CASNitoNW/      0.00           Weir/
0.00            MJRLeft/   11.91
        MJRRight/    13.11        MJRExist/     18.46         MjrNew/
9.29           DSmjrExis/     9.67
        DSmjrNew/    18.09         PRKWout/      0.00        18exist/
2.98             42in 1/    10.98
         42in 2/     10.98        18inchDS/      2.23          3x6DS/
11.37             3ft3/     11.37
        FREE # 1/    27.76

 Cycle      26000      Time         36 Hrs -  6.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.05 /   651.45
MJR/   2.88 /   650.09
            USPD/   0.00 /   653.75              USM/   2.76 /   650.13
OUT/   0.35 /   621.41
            DSMR/   7.12 /   647.12             SR26/   1.31 /   638.89
NE1/   0.00 /   655.65
              P1/   0.84 /   650.85              SWC/   0.25 /   651.66
 P3/   0.12 /   653.81
              P2/   1.06 /   651.07              SEC/   0.08 /   651.25
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.09 /   651.89              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.50 /   651.07
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   2.00 /   650.17
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00          EAStoNEC/        0.00*          NW1toP1/
0.35*       USPDtoNW1/        0.00*
          P2toP1/      14.81               S4a/        0.00*              S4b/
0.00*             S4c/        0.00*
             S4d/        0.02            P3toSE/        0.16           SEtoSEC/
0.16*          SECtoP2/        0.16*
         SWtoSWC/        0.62                S8/        0.62*               S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/      26.88               S3d/        0.00               S3c/
0.00*             S3b/        0.00*
             S3a/        0.00*             S1a/        0.00*              S1b/
0.00*             S1c/        0.00*
             S1d/        0.00*             S2a/        0.00*              S2b/
0.00*             S2c/        0.00*
             S5b/        0.00*             S5a/        0.00*             S10d/
0.00*            S10c/        0.00
            S10b/        0.00*            S10a/        0.00*             S11a/
0.00*            S11b/        0.00*
            S11c/        0.00*            S12a/        0.00              S12b/
0.00*            S12c/        0.00*
            S13a/        0.00*            S13b/        0.00              S13c/
0.00             S13d/        0.00*
       US65toUSM/        0.00          CASNatob/        0.00          CASNbtoc/
0.00          CASNctod/        0.00
        CASNdtoe/        0.00          CASNetof/        0.00          CASNftog/
0.00          CASNgtoH/        0.00
        CASNhtoi/        0.00         CASNitoNW/        0.00              Weir/
0.00           MJRLeft/       10.61
        MJRRight/      11.71           MJRExist/       17.84            MjrNew/
9.04         DSmjrExis/        8.83
        DSmjrNew/      18.05           PRKWout/        0.00           18exist/
2.68            42in 1/        9.78
          42in 2/       9.78           18inchDS/        2.02             3x6DS/
10.12             3ft3/       10.12
        FREE # 1/      26.88

 Cycle      26500      Time         36 Hrs - 48.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.04 /   651.44
MJR/   2.82 /   650.03
            USPD/   0.00 /   653.75              USM/   2.69 /   650.06
OUT/   0.34 /   621.40
            DSMR/   7.08 /   647.08             SR26/   1.29 /   638.87
NE1/   0.00 /   655.65
              P1/   0.79 /   650.80              SWC/   0.24 /   651.65
 P3/   0.12 /   653.81
              P2/   1.01 /   651.02              SEC/   0.08 /   651.25
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.09 /   651.89              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.45 /   651.02
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31            P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40            I65/   1.93 /   650.10
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93          CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00       EAStoNEC/       0.00*        NW1toP1/
0.30*        USPDtoNW1/       0.00*
          P2toP1/      13.90             S4a/       0.00*            S4b/
0.00*             S4c/       0.00*
             S4d/       0.02          P3toSE/       0.15        SEtoSEC/
0.15*          SECtoP2/       0.15*
         SWtoSWC/       0.55              S8/       0.56*             S9/
0.00*        WEStoSESC/       0.00
       SR26toOUT/      25.70             S3d/       0.00            S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
0.00*            S10c/       0.00
            S10b/       0.00*           S10a/       0.00*           S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00            S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00            S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00       CASNatob/       0.00       CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00       CASNetof/       0.00       CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00      CASNitoNW/       0.00           Weir/
0.00          MJRLeft/       9.61
        MJRRight/      10.65       MJRExist/      17.01         MjrNew/
8.68         DSmjrExis/       7.70
        DSmjrNew/      18.00        PRKWout/       0.00        18exist/
2.44           42in 1/       8.86
          42in 2/       8.86       18inchDS/       1.88          3x6DS/
9.16             3ft3/       9.16
        FREE # 1/      25.70
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 Cycle      27000      Time         37 Hrs - 30.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                 NW1/   0.04 /   651.44
MJR/   2.76 /   649.97
            USPD/   0.00 /   653.75                 USM/   2.63 /   650.00
OUT/   0.32 /   621.38
            DSMR/   7.00 /   647.00                SR26/   1.27 /   638.85
NE1/   0.00 /   655.65
              P1/   0.75 /   650.76                 SWC/   0.22 /   651.63
 P3/   0.12 /   653.81
              P2/   0.96 /   650.97                 SEC/   0.08 /   651.25
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                 EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.08 /   651.88                 WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57                NECb/   0.00 /   652.07
NECc/   0.40 /   650.97
            NE1d/   0.00 /   657.18                NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                 P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                 P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96                CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75                WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59                WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26                SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51                NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60                NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53                CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                 I65/   1.86 /   650.03
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19               CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93               CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.27*       USPDtoNW1/       0.00*
          P2toP1/      12.93             S4a/       0.00*             S4b/
0.00*            S4c/        0.00*
             S4d/       0.02          P3toSE/       0.14          SEtoSEC/
0.14*         SECtoP2/       0.14*
         SWtoSWC/       0.46*             S8/       0.47*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      23.66             S3d/       0.00             S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/     0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/     0.00         CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00             Weir/
0.00            MJRLeft/     8.77
        MJRRight/     9.75         MJRExist/      16.19           MjrNew/
7.47          DSmjrExis/     5.76
        DSmjrNew/    17.90          PRKWout/       0.00          18exist/
2.24           42in 1/       8.09
          42in 2/     8.09         18inchDS/       1.76            3x6DS/
8.35              3ft3/      8.35
        FREE # 1/    23.67

 Cycle      27500      Time         38 Hrs - 11.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.04 /   651.44
MJR/   2.69 /   649.90
            USPD/   0.00 /   653.75              USM/   2.57 /   649.94
OUT/   0.31 /   621.37
            DSMR/   6.95 /   646.95             SR26/   1.26 /   638.84
NE1/   0.00 /   655.65
              P1/   0.71 /   650.72              SWC/   0.20 /   651.61
 P3/   0.12 /   653.81
              P2/   0.92 /   650.93              SEC/   0.08 /   651.25
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
              SW/   0.07 /   651.87              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.36 /   650.93
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   1.79 /   649.96
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
            CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
            CASNi/   0.00 /   651.59

          Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/       0.00         EAStoNEC/        0.00*          NW1toP1/
0.23*        USPDtoNW1/       0.00*
           P2toP1/      12.00              S4a/        0.00*              S4b/
0.00*              S4c/       0.00*
              S4d/       0.01           P3toSE/        0.14          SEtoSEC/
0.14*          SECtoP2/       0.14*
          SWtoSWC/       0.41*              S8/        0.41*               S9/
0.00*        WEStoSESC/       0.00
        SR26toOUT/      22.47              S3d/        0.00              S3c/
0.00*              S3b/       0.00*
              S3a/       0.00*             S1a/        0.00*              S1b/
0.00*              S1c/       0.00*
              S1d/       0.00*             S2a/        0.00*              S2b/
0.00*              S2c/       0.00*
              S5b/       0.00*             S5a/        0.00*             S10d/
0.00*             S10c/       0.00
             S10b/       0.00*            S10a/        0.00*             S11a/
0.00*             S11b/       0.00*
             S11c/       0.00*            S12a/        0.00              S12b/
0.00*             S12c/       0.00*
             S13a/       0.00*            S13b/        0.00              S13c/
0.00              S13d/       0.00*
        US65toUSM/       0.00         CASNatob/        0.00          CASNbtoc/
0.00          CASNctod/       0.00
         CASNdtoe/       0.00         CASNetof/        0.00          CASNftog/
0.00          CASNgtoH/       0.00
         CASNhtoi/       0.00        CASNitoNW/        0.00              Weir/
0.00           MJRLeft/       8.03
         MJRRight/       8.98         MJRExist/       15.33            MjrNew/
7.12         DSmjrExis/       4.63
         DSmjrNew/      17.83          PRKWout/        0.00           18exist/
2.06            42in 1/       7.42
           42in 2/       7.42         18inchDS/        1.65             3x6DS/
7.65              3ft3/       7.65
         FREE # 1/      22.47

 Cycle      28000      Time         38 Hrs - 53.33 Min

        Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
              AR4/   0.44 /   653.60              NW1/   0.03 /   651.43
MJR/   2.63 /   649.84
             USPD/   0.00 /   653.75              USM/   2.50 /   649.87
OUT/   0.29 /   621.35
             DSMR/   6.89 /   646.89             SR26/   1.24 /   638.82
NE1/   0.00 /   655.65
               P1/   0.68 /   650.69              SWC/   0.19 /   651.60
 P3/   0.11 /   653.80
               P2/   0.88 /   650.89              SEC/   0.07 /   651.24
NEC/   0.00 /   655.07
             OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.03 /   652.16
               SW/   0.07 /   651.87              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
             NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.32 /   650.89
             NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   1.72 /   649.89
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.21*       USPDtoNW1/       0.00*
          P2toP1/      11.13             S4a/       0.00*             S4b/
0.00*             S4c/       0.00*
             S4d/       0.01          P3toSE/       0.13         SEtoSEC/
0.13*         SECtoP2/       0.13*
         SWtoSWC/       0.36*             S8/       0.37*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      21.23             S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00*            S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       7.39
        MJRRight/       8.30        MJRExist/      14.45           MjrNew/
6.77        DSmjrExis/       3.47
        DSmjrNew/      17.75         PRKWout/       0.00          18exist/
1.91           42in 1/       6.84
          42in 2/       6.84        18inchDS/       1.57            3x6DS/
7.03             3ft3/       7.03
        FREE # 1/      21.23
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 Cycle      28500      Time         39 Hrs - 35.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.03 /   651.43
MJR/   2.56 /   649.77
            USPD/   0.00 /   653.75                USM/   2.43 /   649.80
OUT/   0.28 /   621.34
            DSMR/   6.82 /   646.82               SR26/   1.23 /   638.81
NE1/   0.00 /   655.65
              P1/   0.64 /   650.65                SWC/   0.18 /   651.59
 P3/   0.11 /   653.80
              P2/   0.84 /   650.85                SEC/   0.07 /   651.24
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.06 /   651.86                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.28 /   650.85
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   1.65 /   649.82
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/       0.00        EAStoNEC/       0.00*        NW1toP1/
0.19*       USPDtoNW1/       0.00*
          P2toP1/      10.34               S4a/       0.00*            S4b/
0.00*            S4c/       0.00*
            S4d/        0.01          P3toSE/       0.13          SEtoSEC/
0.13*         SECtoP2/       0.13*
        SWtoSWC/       0.32*               S8/       0.33*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      20.01              S3d/       0.00            S3c/
0.00*            S3b/       0.00*
            S3a/       0.00*              S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
            S1d/       0.00*              S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
            S5b/       0.00*              S5a/       0.00*           S10d/
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0.00*            S10c/       0.00
          S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
     US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/      0.00
      CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/      0.00
      CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00           MJRLeft/      6.80
      MJRRight/       7.68        MJRExist/      13.59           MjrNew/
6.41          DSmjrExis/     2.33
      DSmjrNew/      17.67         PRKWout/       0.00          18exist/
1.77            42in 1/      6.31*
        42in 2/       6.31*       18inchDS/       1.53            3x6DS/
6.44             3ft3/       6.44
      FREE # 1/      20.01

 Cycle      29000      Time         40 Hrs - 16.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60             NW1/   0.03 /   651.43
MJR/   2.50 /   649.71
           USPD/   0.00 /   653.75             USM/   2.36 /   649.73
OUT/   0.27 /   621.33
           DSMR/   6.75 /   646.75            SR26/   1.22 /   638.80
NE1/   0.00 /   655.65
             P1/   0.61 /   650.62             SWC/   0.17 /   651.58
 P3/   0.11 /   653.80
             P2/   0.81 /   650.82             SEC/   0.07 /   651.24
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
             SW/   0.06 /   651.86             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.25 /   650.82
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   1.58 /   649.75
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/        0.00*         NW1toP1/
0.17*       USPDtoNW1/       0.00*
         P2toP1/        9.59              S4a/        0.00*            S4b/
0.00*             S4c/       0.00*
            S4d/        0.01           P3toSE/        0.12          SEtoSEC/
0.12*           SECtoP2/     0.12*
        SWtoSWC/        0.29*              S8/        0.29*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      18.79              S3d/        0.00             S3c/
0.00*             S3b/       0.00*
            S3a/        0.00*             S1a/        0.00*            S1b/
0.00*             S1c/       0.00*
            S1d/        0.00*             S2a/        0.00*            S2b/
0.00*             S2c/       0.00*
            S5b/        0.00*             S5a/        0.00*           S10d/
0.00             S10c/       0.00
           S10b/        0.00*            S10a/        0.00*           S11a/
0.00*            S11b/       0.00*
           S11c/        0.00*            S12a/        0.00            S12b/
0.00*            S12c/       0.00*
           S13a/        0.00*            S13b/        0.00            S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/        0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/        0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/        0.00            Weir/
0.00           MJRLeft/      6.20
        MJRRight/       7.05         MJRExist/       12.73          MjrNew/
6.06        DSmjrExis/       1.21*
        DSmjrNew/      17.58          PRKWout/        0.00         18exist/
1.65           42in 1/       5.75*
         42in 2/        5.75*        18inchDS/        1.47           3x6DS/
5.86              3ft3/      5.86
        FREE # 1/      18.80

 Cycle      29500      Time         40 Hrs - 58.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.03 /   651.43
MJR/   2.43 /   649.64
           USPD/   0.00 /   653.75              USM/   2.30 /   649.67
OUT/   0.26 /   621.32
           DSMR/   6.63 /   646.63             SR26/   1.20 /   638.78
NE1/   0.00 /   655.65
             P1/   0.59 /   650.60              SWC/   0.16 /   651.57
 P3/   0.11 /   653.80
             P2/   0.77 /   650.78              SEC/   0.07 /   651.24
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
             SW/   0.06 /   651.86              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.21 /   650.78
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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          NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31            P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40            I65/   1.51 /   649.68
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
         CASNf/   0.00 /   651.93          CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
         CASNi/   0.00 /   651.59

        Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
       NE1toEAS/       0.00      EAStoNEC/       0.00*        NW1toP1/
0.15*       USPDtoNW1/       0.00*
        P2toP1/        8.90           S4a/       0.00*            S4b/
0.00*             S4c/       0.00*
           S4d/        0.01        P3toSE/       0.12         SEtoSEC/
0.12*         SECtoP2/       0.12*
        SWtoSWC/       0.26*           S8/       0.27*             S9/
0.00*       WEStoSESC/       0.00
      SR26toOUT/      17.61           S3d/       0.00             S3c/
0.00*             S3b/       0.00*
           S3a/        0.00*          S1a/       0.00*            S1b/
0.00*             S1c/       0.00*
           S1d/        0.00*          S2a/       0.00*            S2b/
0.00*             S2c/       0.00*
           S5b/        0.00*          S5a/       0.00*           S10d/
0.00             S10c/       0.00
          S10b/        0.00*         S10a/       0.00*           S11a/
0.00*            S11b/       0.00*
          S11c/        0.00*         S12a/       0.00            S12b/
0.00*            S12c/       0.00*
          S13a/        0.00*         S13b/       0.00            S13c/
0.00             S13d/       0.00*
      US65toUSM/       0.00      CASNatob/       0.00        CASNbtoc/
0.00         CASNctod/       0.00
       CASNdtoe/       0.00      CASNetof/       0.00        CASNftog/
0.00         CASNgtoH/       0.00
       CASNhtoi/       0.00     CASNitoNW/       0.00            Weir/
0.00          MJRLeft/       5.68
       MJRRight/       6.50      MJRExist/      11.89          MjrNew/
5.70         DSmjrExis/      0.18*
       DSmjrNew/      17.42      PRKWout/        0.00         18exist/
1.54           42in 1/       5.28*
        42in 2/        5.28*     18inchDS/       1.42           3x6DS/
5.35             3ft3/       5.35
       FREE # 1/      17.61
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 Cycle      30000      Time         41 Hrs - 40.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.03 /   651.43
MJR/   2.37 /   649.58
            USPD/   0.00 /   653.75              USM/   2.23 /   649.60
OUT/   0.25 /   621.31
            DSMR/   5.80 /   645.80             SR26/   1.19 /   638.77
NE1/   0.00 /   655.65
              P1/   0.57 /   650.58              SWC/   0.15 /   651.56
 P3/   0.10 /   653.79
              P2/   0.74 /   650.75              SEC/   0.07 /   651.24
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.05 /   651.85              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.18 /   650.75
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   1.45 /   649.62
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.14*       USPDtoNW1/       0.00*
          P2toP1/       8.27              S4a/       0.00*             S4b/
0.00*             S4c/       0.00*
             S4d/       0.01           P3toSE/       0.11          SEtoSEC/
0.11*          SECtoP2/       0.11*
         SWtoSWC/       0.24*              S8/       0.24*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      16.46              S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00              S10c/       0.00
             S10b/       0.00*             S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
             S11c/       0.00*             S12a/       0.00             S12b/
0.00*             S12c/       0.00*
             S13a/       0.00*             S13b/       0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/       0.00          CASNatob/       0.00          CASNbtoc/
0.00           CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/       0.00          CASNftog/
0.00           CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/       0.00              Weir/
0.00             MJRLeft/       5.23
        MJRRight/       6.02          MJRExist/      11.09            MjrNew/
5.36            DSmjrExis/      0.00*
        DSmjrNew/      16.46           PRKWout/       0.00           18exist/
1.45               42in 1/      4.86*
          42in 2/       4.86*        18inchDS/       1.38             3x6DS/
4.91               3ft3/        4.91
        FREE # 1/      16.47

 Cycle      30500      Time         42 Hrs - 21.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60             NW1/   0.02 /   651.42
MJR/   2.31 /   649.52
           USPD/   0.00 /   653.75             USM/   2.17 /   649.54
OUT/   0.24 /   621.30
           DSMR/   5.04 /   645.04            SR26/   1.17 /   638.75
NE1/   0.00 /   655.65
             P1/   0.55 /   650.56             SWC/   0.14 /   651.55
 P3/   0.10 /   653.79
             P2/   0.72 /   650.73             SEC/   0.07 /   651.24
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
             SW/   0.05 /   651.85             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.16 /   650.73
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   1.39 /   649.56
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/        0.00*          NW1toP1/
0.12*        USPDtoNW1/      0.00*
          P2toP1/       7.69             S4a/        0.00*              S4b/
0.00*             S4c/       0.00*
             S4d/       0.01          P3toSE/        0.11           SEtoSEC/
0.11*         SECtoP2/       0.11*
         SWtoSWC/       0.22*             S8/        0.22*               S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/      15.39             S3d/        0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/        0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/        0.00*              S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/        0.00*             S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/        0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/        0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/        0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/        0.00          CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00        CASNetof/        0.00          CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00       CASNitoNW/        0.00              Weir/
0.00           MJRLeft/      4.84
        MJRRight/       5.61        MJRExist/       10.34            MjrNew/
5.04         DSmjrExis/      0.00*
        DSmjrNew/      15.39         PRKWout/        0.00           18exist/
1.36            42in 1/      4.50*
          42in 2/       4.50*       18inchDS/        1.33             3x6DS/
4.53              3ft3/      4.53
        FREE # 1/      15.39

 Cycle      31000      Time         43 Hrs -  3.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.02 /   651.42
MJR/   2.25 /   649.46
            USPD/   0.00 /   653.75              USM/   2.11 /   649.48
OUT/   0.23 /   621.29
            DSMR/   4.37 /   644.37             SR26/   1.16 /   638.74
NE1/   0.00 /   655.65
              P1/   0.53 /   650.54              SWC/   0.13 /   651.54
 P3/   0.10 /   653.79
              P2/   0.69 /   650.70              SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.05 /   651.85              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.13 /   650.70
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   1.33 /   649.50
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.11*       USPDtoNW1/       0.00*
          P2toP1/       7.16             S4a/       0.00*             S4b/
0.00*             S4c/       0.00*
             S4d/       0.01          P3toSE/       0.10         SEtoSEC/
0.10*         SECtoP2/       0.10*
         SWtoSWC/       0.20*             S8/       0.20*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      14.39             S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       4.48
        MJRRight/       5.24        MJRExist/       9.64           MjrNew/
4.74        DSmjrExis/       0.00*
        DSmjrNew/      14.38        PRKWout/        0.00         18exist/
1.28           42in 1/       4.18*
          42in 2/       4.18*       18inchDS/       1.28            3x6DS/
4.20             3ft3/       4.20
        FREE # 1/      14.39
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 Cycle      31500      Time         43 Hrs - 45.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.02 /   651.42
MJR/   2.20 /   649.41
            USPD/   0.00 /   653.75                USM/   2.06 /   649.43
OUT/   0.22 /   621.28
            DSMR/   3.79 /   643.79               SR26/   1.15 /   638.73
NE1/   0.00 /   655.65
              P1/   0.51 /   650.52                SWC/   0.13 /   651.54
 P3/   0.10 /   653.79
              P2/   0.66 /   650.67                SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.05 /   651.85                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.10 /   650.67
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   1.27 /   649.44
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.10*       USPDtoNW1/       0.00*
          P2toP1/       6.68             S4a/       0.00*             S4b/
0.00*            S4c/       0.00*
             S4d/       0.01         P3toSE/        0.10          SEtoSEC/
0.10*         SECtoP2/       0.10*
         SWtoSWC/       0.18*             S8/       0.18*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      13.46             S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
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0.00              S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/       0.00*
     US65toUSM/       0.00          CASNatob/      0.00          CASNbtoc/
0.00            CASNctod/     0.00
      CASNdtoe/       0.00          CASNetof/      0.00          CASNftog/
0.00            CASNgtoH/     0.00
      CASNhtoi/       0.00         CASNitoNW/      0.00              Weir/
0.00              MJRLeft/    4.17
      MJRRight/       4.91          MJRExist/      9.00            MjrNew/
4.45            DSmjrExis/    0.00*
      DSmjrNew/      13.45           PRKWout/      0.00           18exist/
1.21               42in 1/    3.90*
        42in 2/       3.90*         18inchDS/      1.24             3x6DS/
3.90                 3ft3/    3.90
      FREE # 1/      13.46

 Cycle      32000      Time         44 Hrs - 26.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.02 /   651.42
MJR/   2.15 /   649.36
           USPD/   0.00 /   653.75              USM/   2.01 /   649.38
OUT/   0.22 /   621.28
           DSMR/   3.29 /   643.29             SR26/   1.14 /   638.72
NE1/   0.00 /   655.65
             P1/   0.49 /   650.50              SWC/   0.12 /   651.53
 P3/   0.10 /   653.79
             P2/   0.64 /   650.65              SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
             SW/   0.04 /   651.84              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.08 /   650.65
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   1.22 /   649.39
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/        0.00*         NW1toP1/
0.09*      USPDtoNW1/        0.00*
          P2toP1/       6.25               S4a/        0.00*             S4b/
0.00*            S4c/        0.00*
             S4d/       0.00            P3toSE/        0.10          SEtoSEC/
0.10*         SECtoP2/        0.10*
         SWtoSWC/       0.17*               S8/        0.17*              S9/
0.00*      WEStoSESC/        0.00
       SR26toOUT/      12.60               S3d/        0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*              S1a/        0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*              S2a/        0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*              S5a/        0.00*            S10d/
0.00            S10c/        0.00
            S10b/       0.00*             S10a/        0.00*            S11a/
0.00*           S11b/        0.00*
            S11c/       0.00*             S12a/        0.00             S12b/
0.00*           S12c/        0.00*
            S13a/       0.00*             S13b/        0.00             S13c/
0.00            S13d/        0.00*
       US65toUSM/       0.00          CASNatob/        0.00         CASNbtoc/
0.00        CASNctod/        0.00
        CASNdtoe/       0.00          CASNetof/        0.00         CASNftog/
0.00        CASNgtoH/        0.00
        CASNhtoi/       0.00         CASNitoNW/        0.00             Weir/
0.00          MJRLeft/       3.88
        MJRRight/       4.60          MJRExist/        8.41           MjrNew/
4.18       DSmjrExis/        0.00*
        DSmjrNew/      12.60           PRKWout/        0.00          18exist/
1.15         42in 1/        3.63*
          42in 2/       3.63*         18inchDS/        1.19            3x6DS/
3.63            3ft3/        3.63
        FREE # 1/      12.60

 Cycle      32500      Time         45 Hrs -  8.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.02 /   651.42
MJR/   2.10 /   649.31
            USPD/   0.00 /   653.75              USM/   1.96 /   649.33
OUT/   0.21 /   621.27
            DSMR/   2.84 /   642.84             SR26/   1.13 /   638.71
NE1/   0.00 /   655.65
              P1/   0.48 /   650.49              SWC/   0.12 /   651.53
 P3/   0.09 /   653.78
              P2/   0.62 /   650.63              SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.04 /   651.84              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.06 /   650.63
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   1.17 /   649.34
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
0.09*       USPDtoNW1/       0.00*
          P2toP1/       5.85             S4a/       0.00*              S4b/
0.00*             S4c/       0.00*
             S4d/       0.00          P3toSE/       0.09          SEtoSEC/
0.09*         SECtoP2/       0.09*
         SWtoSWC/       0.15*             S8/       0.15*               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      11.80             S3d/       0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*              S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*             S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00              Weir/
0.00          MJRLeft/       3.61
        MJRRight/       4.32        MJRExist/       7.86            MjrNew/
3.94        DSmjrExis/       0.00*
        DSmjrNew/      11.80         PRKWout/       0.00           18exist/
1.09          42in 1/        3.39*
         42in 2/        3.39*       18inchDS/       1.15             3x6DS/
3.37             3ft3/       3.37
        FREE # 1/      11.80
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 Cycle      33000      Time         45 Hrs - 50.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.02 /   651.42
MJR/   2.06 /   649.27
            USPD/   0.00 /   653.75                USM/   1.91 /   649.28
OUT/   0.20 /   621.26
            DSMR/   2.45 /   642.45               SR26/   1.12 /   638.70
NE1/   0.00 /   655.65
              P1/   0.46 /   650.47                SWC/   0.11 /   651.52
 P3/   0.09 /   653.78
              P2/   0.60 /   650.61                SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.04 /   651.84                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.04 /   650.61
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   1.12 /   649.29
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
0.08*       USPDtoNW1/       0.00*
          P2toP1/       5.49               S4a/       0.00*             S4b/
0.00*            S4c/       0.00*
             S4d/       0.00            P3toSE/       0.09          SEtoSEC/
0.09*         SECtoP2/       0.09*
         SWtoSWC/       0.14*               S8/       0.14*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      11.07               S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*            S10d/
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0.00              S10c/       0.00
           S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
           S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/       0.00*
           S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/      0.00          CASNatob/      0.00          CASNbtoc/
0.00            CASNctod/     0.00
        CASNdtoe/      0.00          CASNetof/      0.00          CASNftog/
0.00            CASNgtoH/     0.00
        CASNhtoi/      0.00         CASNitoNW/      0.00              Weir/
0.00             MJRLeft/     3.37
        MJRRight/      4.07          MJRExist/      7.35            MjrNew/
3.71            DSmjrExis/    0.00*
        DSmjrNew/     11.06           PRKWout/      0.00           18exist/
1.04              42in 1/     3.18*
          42in 2/      3.18*         18inchDS/      1.10             3x6DS/
3.15                3ft3/     3.15
        FREE # 1/     11.07

 Cycle      33500      Time         46 Hrs - 31.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60             NW1/   0.02 /   651.42
MJR/   2.02 /   649.23
           USPD/   0.00 /   653.75             USM/   1.87 /   649.24
OUT/   0.19 /   621.25
           DSMR/   2.10 /   642.10            SR26/   1.11 /   638.69
NE1/   0.00 /   655.65
             P1/   0.45 /   650.46             SWC/   0.11 /   651.52
 P3/   0.09 /   653.78
             P2/   0.58 /   650.59             SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
             SW/   0.04 /   651.84             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.02 /   650.59
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   1.09 /   649.26
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*          NW1toP1/
0.07*       USPDtoNW1/       0.00*
          P2toP1/       5.17               S4a/       0.00*              S4b/
0.00*             S4c/       0.00*
             S4d/       0.00            P3toSE/       0.09           SEtoSEC/
0.09*          SECtoP2/       0.09*
         SWtoSWC/       0.13*               S8/       0.13*               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/      10.42               S3d/       0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*              S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*             S10d/
0.00             S10c/       0.00
            S10b/       0.00*             S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*             S12a/       0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*             S13b/       0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00          CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/       0.00              Weir/
0.00          MJRLeft/       3.39
        MJRRight/       4.12          MJRExist/       6.90            MjrNew/
3.50        DSmjrExis/       0.00*
        DSmjrNew/      10.41           PRKWout/       0.00           18exist/
1.58*          42in 1/       2.96*
          42in 2/       2.96*         18inchDS/       1.13             3x6DS/
3.18             3ft3/       3.18
        FREE # 1/      10.42

 Cycle      34000      Time         47 Hrs - 13.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.02 /   651.42
MJR/   1.98 /   649.19
            USPD/   0.00 /   653.75              USM/   1.84 /   649.21
OUT/   0.18 /   621.24
            DSMR/   1.73 /   641.73             SR26/   1.10 /   638.68
NE1/   0.00 /   655.65
              P1/   0.43 /   650.44              SWC/   0.10 /   651.51
 P3/   0.09 /   653.78
              P2/   0.56 /   650.57              SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.04 /   651.84              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   1.05 /   649.22
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.07*       USPDtoNW1/       0.00*
          P2toP1/       4.91             S4a/       0.00*             S4b/
0.00*             S4c/       0.00*
             S4d/       0.00          P3toSE/       0.09          SEtoSEC/
0.09*         SECtoP2/       0.09*
         SWtoSWC/       0.12*             S8/       0.12*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       9.87             S3d/       0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
        US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       3.13
        MJRRight/       3.83        MJRExist/       6.53           MjrNew/
3.33        DSmjrExis/       0.00*
        DSmjrNew/       9.87        PRKWout/        0.00          18exist/
1.47*          42in 1/       2.73*
          42in 2/       2.73*       18inchDS/       1.06            3x6DS/
2.94             3ft3/       2.94
        FREE # 1/       9.87
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 Cycle      34500      Time         47 Hrs - 55.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.02 /   651.42
MJR/   1.95 /   649.16
            USPD/   0.00 /   653.75              USM/   1.80 /   649.17
OUT/   0.17 /   621.23
            DSMR/   1.60 /   641.60             SR26/   1.10 /   638.68
NE1/   0.00 /   655.65
              P1/   0.41 /   650.42              SWC/   0.10 /   651.51
 P3/   0.09 /   653.78
              P2/   0.55 /   650.56              SEC/   0.06 /   651.23
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.03 /   651.83              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   1.01 /   649.18
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/      0.00        EAStoNEC/       0.00*        NW1toP1/
0.06*       USPDtoNW1/      0.00*
          P2toP1/       4.65             S4a/       0.00*            S4b/
0.00*            S4c/       0.00
             S4d/       0.00         P3toSE/        0.08         SEtoSEC/
0.08*         SECtoP2/      0.08*
         SWtoSWC/       0.11*             S8/       0.11*             S9/
0.00*       WEStoSESC/      0.00
       SR26toOUT/       9.33             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
```

0.00 S10c/ 0.00
S10b/ 0.00* S10a/ 0.00* S11a/
0.00* S11b/ 0.00*
S11c/ 0.00* S12a/ 0.00 S12b/
0.00* S12c/ 0.00*
S13a/ 0.00* S13b/ 0.00 S13c/
0.00 S13d/ 0.00*
US65toUSM/ 0.00 CASNatob/ 0.00 CASNbtoc/
0.00 CASNctod/ 0.00
CASNdtoe/ 0.00 CASNetof/ 0.00 CASNftog/
0.00 CASNgtoH/ 0.00
CASNhtoi/ 0.00 CASNitoNW/ 0.00 Weir/
0.00 MJRLeft/ 2.91
MJRRight/ 3.58 MJRExist/ 6.17 MjrNew/
3.16 DSmjrExis/ 0.00*
DSmjrNew/ 9.33 PRKWout/ 0.00 18exist/
1.37* 42in 1/ 2.54*
42in 2/ 2.54* 18inchDS/ 0.99 3x6DS/
2.74 3ft3/ 2.74
FREE # 1/ 9.33

Cycle 35000 Time 48 Hrs - 36.67 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.02 / 651.42
MJR/ 1.91 / 649.12
USPD/ 0.00 / 653.75 USM/ 1.77 / 649.14
OUT/ 0.16 / 621.22
DSMR/ 1.42 / 641.42 SR26/ 1.09 / 638.67
NE1/ 0.00 / 655.65
P1/ 0.40 / 650.41 SWC/ 0.09 / 651.50
P3/ 0.08 / 653.77
P2/ 0.53 / 650.54 SEC/ 0.05 / 651.22
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.02 / 652.15
SW/ 0.03 / 651.83 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.00 / 650.57
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24
NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 0.98 / 649.15
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60

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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
0.06*       USPDtoNW1/       0.00*
          P2toP1/       4.40             S4a/       0.00*              S4b/
0.00*              S4c/      0.00
             S4d/       0.00          P3toSE/       0.08          SEtoSEC/
0.08*         SECtoP2/       0.08*
         SWtoSWC/       0.10*             S8/       0.11*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       8.82             S3d/       0.00              S3c/
0.00*              S3b/      0.00*
             S3a/       0.00*            S1a/       0.00*              S1b/
0.00*              S1c/      0.00*
             S1d/       0.00*            S2a/       0.00*              S2b/
0.00*              S2c/      0.00*
             S5b/       0.00*            S5a/       0.00*             S10d/
0.00              S10c/      0.00
            S10b/       0.00*           S10a/       0.00*             S11a/
0.00*             S11b/      0.00*
            S11c/       0.00*           S12a/       0.00              S12b/
0.00*             S12c/      0.00*
            S13a/       0.00*           S13b/       0.00              S13c/
0.00              S13d/      0.00*
       US65toUSM/       0.00        CASNatob/       0.00          CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00        CASNetof/       0.00          CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00              Weir/
0.00           MJRLeft/      2.71
       MJRRight/       3.37        MJRExist/       5.81            MjrNew/
2.99         DSmjrExis/      0.00*
        DSmjrNew/       8.81         PRKWout/       0.00           18exist/
1.29*          42in 1/      2.38*
          42in 2/       2.38*       18inchDS/       0.93             3x6DS/
2.57              3ft3/      2.57
        FREE # 1/       8.82

 Cycle      35500      Time         49 Hrs - 18.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.02 /   651.42
MJR/   1.84 /   649.05
            USPD/   0.00 /   653.75                USM/   1.70 /   649.07
OUT/   0.21 /   621.27
            DSMR/   2.77 /   642.77               SR26/   1.12 /   638.70
NE1/   0.00 /   655.65
              P1/   0.39 /   650.40                SWC/   0.09 /   651.50
 P3/   0.08 /   653.77
              P2/   0.51 /   650.52                SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.03 /   651.83                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   0.90 /   649.07
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
          CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
          CASNi/   0.00 /   651.59

        Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
       NE1toEAS/       0.00       EAStoNEC/       0.00*          NW1toP1/
0.06*       USPDtoNW1/       0.00*
         P2toP1/       4.17             S4a/       0.00             S4b/
0.00             S4c/       0.00
            S4d/       0.00          P3toSE/       0.08          SEtoSEC/
0.08*         SECtoP2/       0.08*
        SWtoSWC/       0.10*             S8/       0.10*             S9/
0.00*       WEStoSESC/       0.00
      SR26toOUT/      11.66             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
            S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
            S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
            S5b/       0.00*            S5a/       0.00*           S10d/
0.00            S10c/       0.00
           S10b/       0.00*           S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
           S11c/       0.00*           S12a/       0.00            S12b/
0.00*           S12c/       0.00*
           S13a/       0.00*           S13b/       0.00            S13c/
0.00            S13d/       0.00*
      US65toUSM/       0.00       CASNatob/       0.00       CASNbtoc/
0.00        CASNctod/       0.00
       CASNdtoe/       0.00       CASNetof/       0.00       CASNftog/
0.00        CASNgtoH/       0.00
       CASNhtoi/       0.00      CASNitoNW/       0.00            Weir/
0.00         MJRLeft/       2.54
       MJRRight/       3.22       MJRExist/       9.01          MjrNew/
2.64        DSmjrExis/       0.00*
       DSmjrNew/      11.66        PRKWout/       0.00        18exist/
1.21*         42in 1/       2.24*
         42in 2/       2.24*      18inchDS/       0.88           3x6DS/
2.41            3ft3/       2.41
       FREE # 1/      11.66
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 Cycle      36000      Time         50 Hrs -  0.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.78 /   648.99
            USPD/   0.00 /   653.75                USM/   1.63 /   649.00
OUT/   0.19 /   621.25
            DSMR/   2.00 /   642.00               SR26/   1.11 /   638.69
NE1/   0.00 /   655.65
              P1/   0.38 /   650.39                SWC/   0.09 /   651.50
 P3/   0.08 /   653.77
              P2/   0.50 /   650.51                SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.03 /   651.83                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.84 /   649.01
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.05*      USPDtoNW1/       0.00*
          P2toP1/       3.95              S4a/       0.00              S4b/
0.00            S4c/       0.00
             S4d/       0.00          P3toSE/       0.07          SEtoSEC/
0.08*        SECtoP2/       0.08*
         SWtoSWC/       0.09*              S8/       0.09*              S9/
0.00*      WEStoSESC/       0.00
       SR26toOUT/      10.22              S3d/       0.00              S3c/
0.00*           S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*           S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*           S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00              S10c/      0.00
          S10b/       0.00*           S10a/       0.00*           S11a/
0.00*             S11b/      0.00*
          S11c/       0.00*           S12a/       0.00            S12b/
0.00*             S12c/      0.00*
          S13a/       0.00*           S13b/       0.00            S13c/
0.00              S13d/      0.00*
       US65toUSM/     0.00        CASNatob/       0.00        CASNbtoc/
0.00            CASNctod/    0.00
        CASNdtoe/     0.00        CASNetof/       0.00        CASNftog/
0.00            CASNgtoH/    0.00
        CASNhtoi/     0.00       CASNitoNW/       0.00            Weir/
0.00              MJRLeft/   2.36
        MJRRight/     3.05        MJRExist/       7.86          MjrNew/
2.34            DSmjrExis/   0.00*
        DSmjrNew/    10.21         PRKWout/       0.00         18exist/
1.14*             42in 1/    2.11*
          42in 2/     2.11*       18inchDS/       0.83           3x6DS/
2.27              3ft3/      2.27
        FREE # 1/    10.22

 Cycle      36500      Time         50 Hrs - 41.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.72 /   648.93
            USPD/   0.00 /   653.75              USM/   1.58 /   648.95
OUT/   0.17 /   621.23
            DSMR/   1.48 /   641.48             SR26/   1.09 /   638.67
NE1/   0.00 /   655.65
              P1/   0.37 /   650.38              SWC/   0.08 /   651.49
 P3/   0.08 /   653.77
              P2/   0.49 /   650.50              SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.03 /   651.83              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.79 /   648.96
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00          EAStoNEC/        0.00*          NW1toP1/
0.05*       USPDtoNW1/       0.00*
          P2toP1/        3.74               S4a/        0.00               S4b/
0.00             S4c/        0.00
             S4d/        0.00            P3toSE/        0.07           SEtoSEC/
0.07*         SECtoP2/       0.07*
         SWtoSWC/        0.08*               S8/        0.09*               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/        9.07               S3d/        0.00               S3c/
0.00*            S3b/        0.00*
             S3a/        0.00*              S1a/        0.00*              S1b/
0.00*            S1c/        0.00*
             S1d/        0.00*              S2a/        0.00*              S2b/
0.00*            S2c/        0.00*
             S5b/        0.00*              S5a/        0.00*             S10d/
0.00            S10c/        0.00
            S10b/        0.00*             S10a/        0.00*             S11a/
0.00*           S11b/        0.00*
            S11c/        0.00*             S12a/        0.00              S12b/
0.00*           S12c/        0.00*
            S13a/        0.00*             S13b/        0.00              S13c/
0.00            S13d/        0.00*
       US65toUSM/        0.00          CASNatob/        0.00          CASNbtoc/
0.00        CASNctod/        0.00
        CASNdtoe/        0.00          CASNetof/        0.00          CASNftog/
0.00        CASNgtoH/        0.00
        CASNhtoi/        0.00         CASNitoNW/        0.00              Weir/
0.00          MJRLeft/       2.20
        MJRRight/        2.90          MJRExist/        6.95            MjrNew/
2.10        DSmjrExis/       0.00*
        DSmjrNew/        9.07           PRKWout/        0.00           18exist/
1.08*          42in 1/       1.99*
          42in 2/        1.99*         18inchDS/        0.79             3x6DS/
2.14            3ft3/        2.14
        FREE # 1/        9.07

 Cycle      37000      Time         51 Hrs - 23.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.68 /   648.89
            USPD/   0.00 /   653.75              USM/   1.54 /   648.91
OUT/   0.15 /   621.21
            DSMR/   1.31 /   641.31             SR26/   1.08 /   638.66
NE1/   0.00 /   655.65
              P1/   0.36 /   650.37              SWC/   0.08 /   651.49
 P3/   0.08 /   653.77
              P2/   0.47 /   650.48              SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.03 /   651.83              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.75 /   648.92
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.05*       USPDtoNW1/       0.00*
         P2toP1/        3.55             S4a/       0.00             S4b/
0.00             S4c/        0.00
            S4d/        0.00          P3toSE/       0.07         SEtoSEC/
0.07*        SECtoP2/        0.07*
         SWtoSWC/       0.08*             S8/       0.08*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       8.15             S3d/       0.00             S3c/
0.00*            S3b/        0.00*
            S3a/        0.00*            S1a/       0.00*            S1b/
0.00*            S1c/        0.00*
            S1d/        0.00*            S2a/       0.00*            S2b/
0.00*            S2c/        0.00*
            S5b/        0.00*            S5a/       0.00*           S10d/
0.00            S10c/        0.00
           S10b/        0.00*           S10a/       0.00*           S11a/
0.00*           S11b/        0.00*
           S11c/        0.00*           S12a/       0.00            S12b/
0.00*           S12c/        0.00*
           S13a/        0.00*           S13b/       0.00            S13c/
0.00            S13d/        0.00*
       US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/        0.00
        CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/        0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00         MJRLeft/        2.06
        MJRRight/       2.77        MJRExist/       6.23          MjrNew/
1.90        DSmjrExis/       0.00*
        DSmjrNew/       8.14        PRKWout/        0.00         18exist/
1.02*          42in 1/       1.88*
         42in 2/        1.88*       18inchDS/       0.74           3x6DS/
2.03            3ft3/        2.03
        FREE # 1/       8.15
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Cycle 37500 Time 52 Hrs - 5.00 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.01 / 651.41
MJR/ 1.64 / 648.85
USPD/ 0.00 / 653.75 USM/ 1.50 / 648.87
OUT/ 0.14 / 621.20
DSMR/ 1.21 / 641.21 SR26/ 1.07 / 638.65
NE1/ 0.00 / 655.65
P1/ 0.35 / 650.36 SWC/ 0.08 / 651.49
P3/ 0.08 / 653.77
P2/ 0.46 / 650.47 SEC/ 0.05 / 651.22
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.02 / 652.15
SW/ 0.03 / 651.83 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.00 / 650.57
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24
NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 0.71 / 648.88
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60
CASNe/ 0.00 / 652.25
CASNf/ 0.00 / 651.93 CASNg/ 0.00 / 651.91
CASNh/ 0.00 / 651.80
CASNi/ 0.00 / 651.59

Conduit/ FLOW ===> "*" Conduit uses the normal flow option.
NE1toEAS/ 0.00 EAStoNEC/ 0.00* NW1toP1/
0.04* USPDtoNW1/ 0.00*
P2toP1/ 3.37 S4a/ 0.00 S4b/
0.00 S4c/ 0.00
S4d/ 0.00 P3toSE/ 0.07 SEtoSEC/
0.07* SECtoP2/ 0.07*
SWtoSWC/ 0.07* S8/ 0.08* S9/
0.00* WEStoSESC/ 0.00
SR26toOUT/ 7.39 S3d/ 0.00 S3c/
0.00* S3b/ 0.00*
S3a/ 0.00* S1a/ 0.00* S1b/
0.00* S1c/ 0.00*
S1d/ 0.00* S2a/ 0.00* S2b/
0.00* S2c/ 0.00*
S5b/ 0.00* S5a/ 0.00* S10d/

0.00 S10c/ 0.00
S10b/ 0.00* S10a/ 0.00* S11a/
0.00* S11b/ 0.00*
S11c/ 0.00* S12a/ 0.00 S12b/
0.00* S12c/ 0.00*
S13a/ 0.00* S13b/ 0.00 S13c/
0.00 S13d/ 0.00*
US65toUSM/ 0.00 CASNatob/ 0.00 CASNbtoc/
0.00 CASNctod/ 0.00
CASNdtoe/ 0.00 CASNetof/ 0.00 CASNftog/
0.00 CASNgtoH/ 0.00
CASNhtoi/ 0.00 CASNitoNW/ 0.00 Weir/
0.00 MJRLeft/ 1.93
MJRRight/ 2.63 MJRExist/ 5.64 MjrNew/
1.74 DSmjrExis/ 0.00*
DSmjrNew/ 7.39 PRKWout/ 0.00 18exist/
0.97* 42in 1/ 1.78*
42in 2/ 1.78* 18inchDS/ 0.69 3x6DS/
1.93 3ft3/ 1.93
FREE # 1/ 7.39

Cycle 38000 Time 52 Hrs - 46.67 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.01 / 651.41
MJR/ 1.61 / 648.82
USPD/ 0.00 / 653.75 USM/ 1.47 / 648.84
OUT/ 0.12 / 621.18
DSMR/ 1.13 / 641.13 SR26/ 1.07 / 638.65
NE1/ 0.00 / 655.65
P1/ 0.34 / 650.35 SWC/ 0.07 / 651.48
P3/ 0.08 / 653.77
P2/ 0.45 / 650.46 SEC/ 0.05 / 651.22
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.02 / 652.15
SW/ 0.03 / 651.83 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.00 / 650.57
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24
NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 0.68 / 648.85
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60

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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.04*        USPDtoNW1/      0.00*
          P2toP1/       3.20              S4a/       0.00             S4b/
0.00              S4c/       0.00
             S4d/       0.00            P3toSE/       0.07          SEtoSEC/
0.07*          SECtoP2/      0.07*
         SWtoSWC/       0.07*              S8/       0.07*             S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       6.76              S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*            S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*            S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*           S10d/
0.00             S10c/       0.00
            S10b/       0.00*            S10a/       0.00*           S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*            S12a/       0.00            S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/       0.00            S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00        CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00        CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00            Weir/
0.00          MJRLeft/       1.82
        MJRRight/       2.51         MJRExist/       5.14          MjrNew/
1.61        DSmjrExis/       0.00*
        DSmjrNew/       6.76          PRKWout/       0.00         18exist/
0.93*          42in 1/       1.69*
          42in 2/       1.69*        18inchDS/       0.65           3x6DS/
1.83             3ft3/       1.83
        FREE # 1/       6.76

 Cycle      38500      Time         53 Hrs - 28.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.59 /   648.80
            USPD/   0.00 /   653.75              USM/   1.44 /   648.81
OUT/   0.12 /   621.18
            DSMR/   1.07 /   641.07             SR26/   1.06 /   638.64
NE1/   0.00 /   655.65
              P1/   0.33 /   650.34              SWC/   0.07 /   651.48
 P3/   0.08 /   653.77
              P2/   0.44 /   650.45              SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.65 /   648.82
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.04*       USPDtoNW1/       0.00*
          P2toP1/       3.05             S4a/       0.00             S4b/
0.00             S4c/       0.00
             S4d/       0.00          P3toSE/       0.06         SEtoSEC/
0.06*        SECtoP2/       0.06*
         SWtoSWC/       0.07*             S8/       0.07*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       6.25             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
0.00            S10c/       0.00
            S10b/       0.00*           S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*           S12a/       0.00            S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*           S13b/       0.00            S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00         MJRLeft/       1.72
        MJRRight/       2.40        MJRExist/       4.74          MjrNew/
1.49        DSmjrExis/       0.00*
        DSmjrNew/       6.24        PRKWout/       0.00          18exist/
0.88*          42in 1/       1.60*
          42in 2/       1.60*       18inchDS/       0.61           3x6DS/
1.74            3ft3/       1.74
        FREE # 1/       6.25
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 Cycle      39000      Time         54 Hrs - 10.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.56 /   648.77
            USPD/   0.00 /   653.75                USM/   1.42 /   648.79
OUT/   0.11 /   621.17
            DSMR/   1.01 /   641.01               SR26/   1.05 /   638.63
NE1/   0.00 /   655.65
              P1/   0.32 /   650.33                SWC/   0.07 /   651.48
 P3/   0.07 /   653.76
              P2/   0.43 /   650.44                SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.02 /   651.82                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.62 /   648.79
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.04*       USPDtoNW1/       0.00*
          P2toP1/       2.90              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.06          SEtoSEC/
0.06*         SECtoP2/       0.06*
         SWtoSWC/       0.06*              S8/       0.06*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       5.80              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00             S10c/      0.00
           S10b/       0.00*          S10a/        0.00*          S11a/
0.00*            S11b/      0.00*
           S11c/       0.00*          S12a/        0.00           S12b/
0.00*            S12c/      0.00*
           S13a/       0.00*          S13b/        0.00           S13c/
0.00             S13d/      0.00*
       US65toUSM/      0.00       CASNatob/        0.00       CASNbtoc/
0.00          CASNctod/     0.00
        CASNdtoe/      0.00       CASNetof/        0.00       CASNftog/
0.00          CASNgtoH/     0.00
        CASNhtoi/      0.00      CASNitoNW/        0.00           Weir/
0.00            MJRLeft/    1.62
        MJRRight/      2.29       MJRExist/        4.40         MjrNew/
1.40          DSmjrExis/    0.00*
        DSmjrNew/      5.80        PRKWout/        0.00        18exist/
0.84*           42in 1/     1.53*
          42in 2/      1.53*      18inchDS/        0.57          3x6DS/
1.66             3ft3/      1.66
        FREE # 1/      5.80

 Cycle      39500      Time         54 Hrs - 51.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.54 /   648.75
            USPD/   0.00 /   653.75              USM/   1.40 /   648.77
OUT/   0.10 /   621.16
            DSMR/   0.97 /   640.97             SR26/   1.05 /   638.63
NE1/   0.00 /   655.65
              P1/   0.32 /   650.33              SWC/   0.07 /   651.48
 P3/   0.07 /   653.76
              P2/   0.42 /   650.43              SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.60 /   648.77
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/        0.00*         NW1toP1/
0.03*       USPDtoNW1/       0.00*
          P2toP1/       2.77              S4a/        0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/        0.06          SEtoSEC/
0.06*         SECtoP2/       0.06*
         SWtoSWC/       0.06*              S8/        0.06*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       5.40              S3d/        0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/        0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/        0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/        0.00*            S10d/
0.00            S10c/       0.00
            S10b/       0.00*            S10a/        0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*            S12a/        0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*            S13b/        0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00         CASNatob/        0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/        0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/        0.00             Weir/
0.00         MJRLeft/       1.53
        MJRRight/       2.19         MJRExist/        4.09           MjrNew/
1.31        DSmjrExis/       0.00*
        DSmjrNew/       5.40          PRKWout/        0.00          18exist/
0.80*         42in 1/       1.45*
          42in 2/       1.45*        18inchDS/        0.54            3x6DS/
1.59            3ft3/       1.59
        FREE # 1/       5.40

 Cycle      40000      Time         55 Hrs - 33.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60               NW1/   0.01 /   651.41
MJR/   1.52 /   648.73
            USPD/   0.00 /   653.75               USM/   1.38 /   648.75
OUT/   0.09 /   621.15
            DSMR/   0.93 /   640.93              SR26/   1.04 /   638.62
NE1/   0.00 /   655.65
              P1/   0.31 /   650.32               SWC/   0.06 /   651.47
 P3/   0.07 /   653.76
              P2/   0.41 /   650.42               SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.02 /   651.82               WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57              NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.58 /   648.75
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.03*        USPDtoNW1/      0.00*
          P2toP1/       2.64             S4a/       0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00          P3toSE/       0.06         SEtoSEC/
0.06*          SECtoP2/      0.06*
         SWtoSWC/       0.06*             S8/       0.06*              S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       5.06             S3d/       0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       1.45
        MJRRight/       2.10        MJRExist/       3.82           MjrNew/
1.23         DSmjrExis/      0.00*
        DSmjrNew/       5.06         PRKWout/       0.00          18exist/
0.77*           42in 1/      1.38*
          42in 2/       1.38*       18inchDS/       0.50            3x6DS/
1.52             3ft3/       1.52
        FREE # 1/       5.06
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 Cycle      40500      Time         56 Hrs - 15.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.50 /   648.71
            USPD/   0.00 /   653.75                USM/   1.36 /   648.73
OUT/   0.09 /   621.15
            DSMR/   0.89 /   640.89               SR26/   1.04 /   638.62
NE1/   0.00 /   655.65
              P1/   0.30 /   650.31                SWC/   0.06 /   651.47
 P3/   0.07 /   653.76
              P2/   0.40 /   650.41                SEC/   0.05 /   651.22
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.02 /   652.15
              SW/   0.02 /   651.82                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.56 /   648.73
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.03*       USPDtoNW1/       0.00*
          P2toP1/       2.52             S4a/       0.00              S4b/
0.00             S4c/        0.00
             S4d/       0.00          P3toSE/       0.06          SEtoSEC/
0.06*         SECtoP2/       0.06*
         SWtoSWC/       0.05*             S8/       0.05*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       4.75             S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
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0.00 S10c/ 0.00
S10b/ 0.00* S10a/ 0.00* S11a/
0.00* S11b/ 0.00*
S11c/ 0.00* S12a/ 0.00 S12b/
0.00* S12c/ 0.00*
S13a/ 0.00* S13b/ 0.00 S13c/
0.00 S13d/ 0.00*
US65toUSM/ 0.00 CASNatob/ 0.00 CASNbtoc/
0.00 CASNctod/ 0.00
CASNdtoe/ 0.00 CASNetof/ 0.00 CASNftog/
0.00 CASNgtoH/ 0.00
CASNhtoi/ 0.00 CASNitoNW/ 0.00 Weir/
0.00 MJRLeft/ 1.37
MJRRight/ 2.01 MJRExist/ 3.58 MjrNew/
1.17 DSmjrExis/ 0.00*
DSmjrNew/ 4.75 PRKWout/ 0.00 18exist/
0.73* 42in 1/ 1.32*
42in 2/ 1.32* 18inchDS/ 0.46 3x6DS/
1.46 3ft3/ 1.46
FREE # 1/ 4.75

Cycle 41000 Time 56 Hrs - 56.67 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.01 / 651.41
MJR/ 1.49 / 648.70
USPD/ 0.00 / 653.75 USM/ 1.34 / 648.71
OUT/ 0.08 / 621.14
DSMR/ 0.86 / 640.86 SR26/ 1.03 / 638.61
NE1/ 0.00 / 655.65
P1/ 0.30 / 650.31 SWC/ 0.06 / 651.47
P3/ 0.07 / 653.76
P2/ 0.39 / 650.40 SEC/ 0.04 / 651.21
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.02 / 652.15
SW/ 0.02 / 651.82 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.00 / 650.57
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24
NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 0.55 / 648.72
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60

CASNe/   0.00 /   652.25
CASNf/   0.00 /   651.93   CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
CASNi/   0.00 /   651.59

Conduit/   FLOW   ===> "*" Conduit uses the normal flow option.
NE1toEAS/   0.00   EAStoNEC/   0.00*   NW1toP1/
0.03*   USPDtoNW1/   0.00*
P2toP1/   2.41   S4a/   0.00   S4b/
0.00   S4c/   0.00
S4d/   0.00   P3toSE/   0.06   SEtoSEC/
0.06*   SECtoP2/   0.06*
SWtoSWC/   0.05*   S8/   0.05*   S9/
0.00*   WEStoSESC/   0.00
SR26toOUT/   4.48   S3d/   0.00   S3c/
0.00*   S3b/   0.00*
S3a/   0.00*   S1a/   0.00*   S1b/
0.00*   S1c/   0.00*
S1d/   0.00*   S2a/   0.00*   S2b/
0.00*   S2c/   0.00*
S5b/   0.00*   S5a/   0.00*   S10d/
0.00   S10c/   0.00
S10b/   0.00*   S10a/   0.00*   S11a/
0.00*   S11b/   0.00*
S11c/   0.00*   S12a/   0.00   S12b/
0.00*   S12c/   0.00*
S13a/   0.00*   S13b/   0.00   S13c/
0.00   S13d/   0.00*
US65toUSM/   0.00   CASNatob/   0.00   CASNbtoc/
0.00   CASNctod/   0.00
CASNdtoe/   0.00   CASNetof/   0.00   CASNftog/
0.00   CASNgtoH/   0.00
CASNhtoi/   0.00   CASNitoNW/   0.00   Weir/
0.00   MJRLeft/   1.30
MJRRight/   1.93   MJRExist/   3.37   MjrNew/
1.11   DSmjrExis/   0.00*
DSmjrNew/   4.48   PRKWout/   0.00   18exist/
0.70*   42in 1/   1.26*
42in 2/   1.26*   18inchDS/   0.44   3x6DS/
1.39   3ft3/   1.39
FREE # 1/   4.48

Cycle   41500   Time   57 Hrs - 38.33 Min

Junction / Depth / Elevation   ===> "*" Junction is Surcharged.
AR4/   0.44 /   653.60   NW1/   0.01 /   651.41
MJR/   1.47 /   648.68
USPD/   0.00 /   653.75   USM/   1.33 /   648.70
OUT/   0.08 /   621.14
DSMR/   0.84 /   640.84   SR26/   1.03 /   638.61
NE1/   0.00 /   655.65
P1/   0.29 /   650.30   SWC/   0.06 /   651.47
P3/   0.07 /   653.76
P2/   0.38 /   650.39   SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
OUT2/   0.00 /   650.17   EAS/   0.00 /   655.39
SE/   0.01 /   652.14
SW/   0.02 /   651.82   WES/   0.00 /   651.54
SESC/   0.42 /   651.54
NECa/   0.00 /   653.57   NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
NE1d/   0.00 /   657.18   NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24

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           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   0.53 /   648.70
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
          CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
          CASNi/   0.00 /   651.59

        Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/      0.00         EAStoNEC/       0.00*         NW1toP1/
0.03*       USPDtoNW1/      0.00*
         P2toP1/       2.30              S4a/       0.00              S4b/
0.00             S4c/       0.00
            S4d/       0.00           P3toSE/       0.05          SEtoSEC/
0.05*         SECtoP2/      0.05*
        SWtoSWC/       0.05*              S8/       0.05*              S9/
0.00*       WEStoSESC/      0.00
       SR26toOUT/      4.24              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
            S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
            S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
            S5b/       0.00*             S5a/       0.00*            S10d/
0.00            S10c/       0.00
           S10b/       0.00*            S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
           S11c/       0.00*            S12a/       0.00             S12b/
0.00*           S12c/       0.00*
           S13a/       0.00*            S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/      0.00         CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/      0.00
        CASNdtoe/      0.00         CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/      0.00
        CASNhtoi/      0.00        CASNitoNW/       0.00             Weir/
0.00          MJRLeft/      1.24
        MJRRight/      1.85         MJRExist/       3.19           MjrNew/
1.05        DSmjrExis/      0.00*
        DSmjrNew/      4.24          PRKWout/       0.00         18exist/
0.67*          42in 1/      1.20*
         42in 2/       1.20*        18inchDS/       0.41            3x6DS/
1.33            3ft3/       1.33
        FREE # 1/      4.25
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 Cycle      42000      Time         58 Hrs - 20.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60               NW1/   0.01 /   651.41
MJR/   1.46 /   648.67
            USPD/   0.00 /   653.75               USM/   1.31 /   648.68
OUT/   0.09 /   621.15
            DSMR/   0.88 /   640.88              SR26/   1.03 /   638.61
NE1/   0.00 /   655.65
              P1/   0.28 /   650.29               SWC/   0.06 /   651.47
 P3/   0.07 /   653.76
              P2/   0.37 /   650.38               SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82               WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57              NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68               P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31               P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96              CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75              WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59              WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26              SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51              NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60              NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53              CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40               I65/   0.51 /   648.68
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19             CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93             CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*          NW1toP1/
0.03*      USPDtoNW1/        0.00*
          P2toP1/       2.20               S4a/       0.00               S4b/
0.00             S4c/        0.00
             S4d/       0.00           P3toSE/       0.05          SEtoSEC/
0.05*        SECtoP2/        0.05*
         SWtoSWC/       0.05*               S8/       0.05*               S9/
0.00*      WEStoSESC/        0.00
       SR26toOUT/       4.64               S3d/       0.00               S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*              S1a/       0.00*              S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*              S2a/       0.00*              S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*              S5a/       0.00*             S10d/
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0.00              S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/     0.00         CASNatob/       0.00         CASNbtoc/
0.00           CASNctod/      0.00
        CASNdtoe/     0.00         CASNetof/       0.00         CASNftog/
0.00           CASNgtoH/      0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00             Weir/
0.00             MJRLeft/     1.18
        MJRRight/     1.78         MJRExist/       3.02           MjrNew/
1.62           DSmjrExis/     0.00*
        DSmjrNew/     4.64          PRKWout/       0.00          18exist/
0.65*            42in 1/      1.15*
         42in 2/      1.15*        18inchDS/       0.38            3x6DS/
1.28              3ft3/       1.28
        FREE # 1/     4.64

 Cycle      42500      Time         59 Hrs -  1.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.44 /   648.65
            USPD/   0.00 /   653.75              USM/   1.29 /   648.66
OUT/   0.08 /   621.14
            DSMR/   0.84 /   640.84             SR26/   1.03 /   638.61
NE1/   0.00 /   655.65
              P1/   0.28 /   650.29              SWC/   0.06 /   651.47
 P3/   0.07 /   653.76
              P2/   0.37 /   650.38              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.50 /   648.67
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/        0.00*          NW1toP1/
0.02*        USPDtoNW1/      0.00*
          P2toP1/       2.11               S4a/        0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00            P3toSE/        0.05          SEtoSEC/
0.05*          SECtoP2/      0.05*
         SWtoSWC/       0.04*               S8/        0.04*              S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       4.30               S3d/        0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*              S1a/        0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*              S2a/        0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*              S5a/        0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*             S10a/        0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*             S12a/        0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*             S13b/        0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00          CASNatob/        0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/        0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/        0.00             Weir/
0.00          MJRLeft/       1.12
        MJRRight/       1.71          MJRExist/        2.79           MjrNew/
1.50        DSmjrExis/       0.00*
        DSmjrNew/       4.29           PRKWout/        0.00          18exist/
0.62*          42in 1/       1.10*
          42in 2/       1.10*         18inchDS/        0.36            3x6DS/
1.23             3ft3/       1.23
        FREE # 1/       4.30

 Cycle      43000      Time         59 Hrs - 43.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.42 /   648.63
            USPD/   0.00 /   653.75              USM/   1.28 /   648.65
OUT/   0.07 /   621.13
            DSMR/   0.81 /   640.81             SR26/   1.02 /   638.60
NE1/   0.00 /   655.65
              P1/   0.27 /   650.28              SWC/   0.05 /   651.46
 P3/   0.07 /   653.76
              P2/   0.36 /   650.37              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31            P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40            I65/   0.48 /   648.65
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93          CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00       EAStoNEC/       0.00*          NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       2.02            S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00         P3toSE/       0.05          SEtoSEC/
0.05*         SECtoP2/       0.05*
         SWtoSWC/       0.04*            S8/       0.04*              S9/
0.00*        WEStoSESC/       0.00
       SR26toOUT/       4.00            S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*           S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*           S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*           S5a/       0.00*            S10d/
0.00            S10c/       0.00
            S10b/       0.00*          S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*          S12a/       0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*          S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00       CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00       CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00      CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       1.07
        MJRRight/       1.65       MJRExist/       2.60           MjrNew/
1.40         DSmjrExis/       0.00*
        DSmjrNew/       4.00        PRKWout/       0.00          18exist/
0.60*         42in 1/       1.06*
          42in 2/       1.06*       18inchDS/       0.33            3x6DS/
1.19             3ft3/       1.19
        FREE # 1/       4.00
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 Cycle      43500      Time         60 Hrs - 25.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.41 /   648.62
            USPD/   0.00 /   653.75                USM/   1.26 /   648.63
OUT/   0.07 /   621.13
            DSMR/   0.78 /   640.78               SR26/   1.02 /   638.60
NE1/   0.00 /   655.65
              P1/   0.27 /   650.28                SWC/   0.05 /   651.46
 P3/   0.06 /   653.75
              P2/   0.35 /   650.36                SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.46 /   648.63
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.94              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.05         SEtoSEC/
0.05*         SECtoP2/       0.05*
         SWtoSWC/       0.04*              S8/       0.04*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       3.75              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00              S10c/        0.00
           S10b/        0.00*           S10a/        0.00*            S11a/
0.00*             S11b/        0.00*
           S11c/        0.00*           S12a/        0.00             S12b/
0.00*             S12c/        0.00*
           S13a/        0.00*           S13b/        0.00             S13c/
0.00              S13d/        0.00*
       US65toUSM/       0.00        CASNatob/        0.00         CASNbtoc/
0.00           CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/        0.00         CASNftog/
0.00           CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/        0.00             Weir/
0.00            MJRLeft/       1.02
        MJRRight/       1.60        MJRExist/        2.43           MjrNew/
1.31          DSmjrExis/       0.00*
        DSmjrNew/       3.75         PRKWout/        0.00          18exist/
0.57*            42in 1/       1.02*
          42in 2/       1.02*       18inchDS/        0.31            3x6DS/
1.15              3ft3/        1.15
        FREE # 1/       3.75

 Cycle      44000      Time         61 Hrs -  6.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60             NW1/   0.01 /   651.41
MJR/   1.40 /   648.61
            USPD/   0.00 /   653.75             USM/   1.25 /   648.62
OUT/   0.07 /   621.13
            DSMR/   0.75 /   640.75            SR26/   1.01 /   638.59
NE1/   0.00 /   655.65
              P1/   0.26 /   650.27             SWC/   0.05 /   651.46
 P3/   0.06 /   653.75
              P2/   0.34 /   650.35             SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.45 /   648.62
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.87              S4a/       0.00               S4b/
0.00              S4c/       0.00
             S4d/       0.00            P3toSE/       0.05          SEtoSEC/
0.05*         SECtoP2/       0.05*
         SWtoSWC/       0.04*              S8/       0.04*               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       3.52              S3d/       0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*              S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*             S10d/
0.00             S10c/       0.00
            S10b/       0.00*            S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*            S12a/       0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/       0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00              Weir/
0.00          MJRLeft/       0.98
        MJRRight/       1.54         MJRExist/       2.28            MjrNew/
1.24        DSmjrExis/       0.00*
        DSmjrNew/       3.52          PRKWout/       0.00           18exist/
0.55*          42in 1/       0.98*
          42in 2/       0.98*        18inchDS/       0.28             3x6DS/
1.12             3ft3/       1.12
        FREE # 1/       3.52

 Cycle      44500      Time         61 Hrs - 48.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.38 /   648.59
            USPD/   0.00 /   653.75              USM/   1.24 /   648.61
OUT/   0.06 /   621.12
            DSMR/   0.73 /   640.73             SR26/   1.01 /   638.59
NE1/   0.00 /   655.65
              P1/   0.26 /   650.27              SWC/   0.05 /   651.46
 P3/   0.06 /   653.75
              P2/   0.34 /   650.35              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.44 /   648.61
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
0.02*        USPDtoNW1/      0.00*
          P2toP1/       1.80             S4a/       0.00               S4b/
0.00              S4c/       0.00
             S4d/       0.00          P3toSE/       0.05          SEtoSEC/
0.05*         SECtoP2/       0.05*
         SWtoSWC/       0.04*             S8/       0.04*               S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       3.32             S3d/       0.00               S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*              S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*             S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00              S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00              Weir/
0.00          MJRLeft/       0.94
        MJRRight/       1.49        MJRExist/       2.15            MjrNew/
1.17         DSmjrExis/      0.00*
        DSmjrNew/       3.32        PRKWout/       0.00           18exist/
0.53*          42in 1/       0.95*
          42in 2/       0.95*       18inchDS/       0.26             3x6DS/
1.08             3ft3/       1.08
        FREE # 1/       3.32
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 Cycle      45000      Time         62 Hrs - 30.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60               NW1/   0.01 /   651.41
MJR/   1.37 /   648.58
            USPD/   0.00 /   653.75               USM/   1.23 /   648.60
OUT/   0.06 /   621.12
            DSMR/   0.71 /   640.71              SR26/   1.01 /   638.59
NE1/   0.00 /   655.65
              P1/   0.25 /   650.26               SWC/   0.05 /   651.46
 P3/   0.06 /   653.75
              P2/   0.33 /   650.34               SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82               WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57              NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68               P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31               P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96              CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75              WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59              WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26              SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51              NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60              NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53              CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40               I65/   0.43 /   648.60
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19             CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93             CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.73              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00          P3toSE/       0.05         SEtoSEC/
0.05*         SECtoP2/       0.05*
         SWtoSWC/       0.03*              S8/       0.03*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       3.14              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00            S10c/       0.00
          S10b/      0.00*          S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
          S11c/      0.00*          S12a/       0.00            S12b/
0.00*           S12c/       0.00*
          S13a/      0.00*          S13b/       0.00            S13c/
0.00            S13d/       0.00*
       US65toUSM/    0.00        CASNatob/      0.00         CASNbtoc/
0.00          CASNctod/     0.00
        CASNdtoe/    0.00        CASNetof/      0.00         CASNftog/
0.00          CASNgtoH/     0.00
        CASNhtoi/    0.00       CASNitoNW/      0.00             Weir/
0.00           MJRLeft/     0.90
        MJRRight/    1.44        MJRExist/      2.03           MjrNew/
1.11          DSmjrExis/    0.00*
        DSmjrNew/    3.14         PRKWout/      0.00          18exist/
0.51*          42in 1/      0.91*
          42in 2/    0.91*       18inchDS/      0.23            3x6DS/
1.06            3ft3/       1.06
        FREE # 1/    3.14

 Cycle      45500      Time         63 Hrs - 11.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60               NW1/   0.01 /   651.41
MJR/   1.36 /   648.57
           USPD/   0.00 /   653.75               USM/   1.22 /   648.59
OUT/   0.06 /   621.12
           DSMR/   0.69 /   640.69              SR26/   1.00 /   638.58
NE1/   0.00 /   655.65
             P1/   0.25 /   650.26               SWC/   0.05 /   651.46
 P3/   0.06 /   653.75
             P2/   0.33 /   650.34               SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.02 /   651.82               WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57              NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68               P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31               P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96              CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75              WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59              WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26              SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51              NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60              NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53              CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40               I65/   0.42 /   648.59
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19             CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/        0.00*          NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.67              S4a/        0.00              S4b/
0.00             S4c/        0.00
             S4d/       0.00           P3toSE/        0.04          SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.03*              S8/        0.03*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       2.99              S3d/        0.00              S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*             S1a/        0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*             S2a/        0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*             S5a/        0.00*            S10d/
0.00            S10c/        0.00
            S10b/       0.00*            S10a/        0.00*            S11a/
0.00*           S11b/        0.00*
            S11c/       0.00*            S12a/        0.00             S12b/
0.00*           S12c/        0.00*
            S13a/       0.00*            S13b/        0.00             S13c/
0.00            S13d/        0.00*
       US65toUSM/       0.00         CASNatob/        0.00         CASNbtoc/
0.00        CASNctod/        0.00
        CASNdtoe/       0.00         CASNetof/        0.00         CASNftog/
0.00        CASNgtoH/        0.00
        CASNhtoi/       0.00        CASNitoNW/        0.00             Weir/
0.00         MJRLeft/        0.86
        MJRRight/       1.39         MJRExist/        1.93           MjrNew/
1.06        DSmjrExis/       0.00*
        DSmjrNew/       2.99          PRKWout/        0.00          18exist/
0.49*          42in 1/       0.88*
          42in 2/       0.88*        18inchDS/        0.20            3x6DS/
1.03            3ft3/        1.03
        FREE # 1/       2.99

 Cycle      46000      Time         63 Hrs - 53.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.36 /   648.57
            USPD/   0.00 /   653.75              USM/   1.21 /   648.58
OUT/   0.05 /   621.11
            DSMR/   0.67 /   640.67             SR26/   1.00 /   638.58
NE1/   0.00 /   655.65
              P1/   0.24 /   650.25              SWC/   0.05 /   651.46
 P3/   0.06 /   653.75
              P2/   0.32 /   650.33              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.41 /   648.58
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00       EAStoNEC/       0.00*          NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.61             S4a/       0.00             S4b/
0.00             S4c/        0.00
             S4d/       0.00         P3toSE/       0.04          SEtoSEC/
0.04*        SECtoP2/        0.04*
         SWtoSWC/       0.03*             S8/       0.03*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       2.86             S3d/       0.00             S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
0.00            S10c/        0.00
            S10b/       0.00*           S10a/       0.00*           S11a/
0.00*           S11b/        0.00*
            S11c/       0.00*           S12a/       0.00            S12b/
0.00*           S12c/        0.00*
            S13a/       0.00*           S13b/       0.00            S13c/
0.00            S13d/        0.00*
       US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/        0.00
        CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/        0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00         MJRLeft/        0.83
        MJRRight/       1.35        MJRExist/       1.85          MjrNew/
1.01        DSmjrExis/       0.00*
        DSmjrNew/       2.86         PRKWout/       0.00         18exist/
0.47*          42in 1/       0.85*
          42in 2/       0.85*       18inchDS/       0.20           3x6DS/
0.98            3ft3/        0.98
        FREE # 1/       2.86
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 Cycle      46500      Time         64 Hrs - 35.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.35 /   648.56
            USPD/   0.00 /   653.75              USM/   1.20 /   648.57
OUT/   0.05 /   621.11
            DSMR/   0.66 /   640.66             SR26/   1.00 /   638.58
NE1/   0.00 /   655.65
              P1/   0.24 /   650.25              SWC/   0.04 /   651.45
 P3/   0.06 /   653.75
              P2/   0.31 /   650.32              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.02 /   651.82              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.40 /   648.57
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.55              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00          P3toSE/       0.04          SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.03*              S8/       0.03*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       2.74              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00 S10c/ 0.00
S10b/ 0.00* S10a/ 0.00* S11a/
0.00* S11b/ 0.00*
S11c/ 0.00* S12a/ 0.00 S12b/
0.00* S12c/ 0.00*
S13a/ 0.00* S13b/ 0.00 S13c/
0.00 S13d/ 0.00*
US65toUSM/ 0.00 CASNatob/ 0.00 CASNbtoc/
0.00 CASNctod/ 0.00
CASNdtoe/ 0.00 CASNetof/ 0.00 CASNftog/
0.00 CASNgtoH/ 0.00
CASNhtoi/ 0.00 CASNitoNW/ 0.00 Weir/
0.00 MJRLeft/ 0.79
MJRRight/ 1.31 MJRExist/ 1.77 MjrNew/
0.97 DSmjrExis/ 0.00*
DSmjrNew/ 2.74 PRKWout/ 0.00 18exist/
0.46* 42in 1/ 0.82*
42in 2/ 0.82* 18inchDS/ 0.19 3x6DS/
0.95 3ft3/ 0.95
FREE # 1/ 2.74

Cycle 47000 Time 65 Hrs - 16.67 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.01 / 651.41
MJR/ 1.34 / 648.55
USPD/ 0.00 / 653.75 USM/ 1.19 / 648.56
OUT/ 0.05 / 621.11
DSMR/ 0.64 / 640.64 SR26/ 1.00 / 638.58
NE1/ 0.00 / 655.65
P1/ 0.24 / 650.25 SWC/ 0.04 / 651.45
P3/ 0.06 / 653.75
P2/ 0.31 / 650.32 SEC/ 0.04 / 651.21
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.01 / 652.14
SW/ 0.01 / 651.81 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.00 / 650.57
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24
NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 0.39 / 648.56
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60

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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.49              S4a/       0.00              S4b/
0.00               S4c/      0.00
             S4d/       0.00           P3toSE/       0.04          SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.03*              S8/       0.03*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       2.63              S3d/       0.00              S3c/
0.00*              S3b/      0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*              S1c/      0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*              S2c/      0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
0.00              S10c/      0.00
            S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/      0.00*
            S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/      0.00*
            S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/      0.00*
       US65toUSM/       0.00         CASNatob/       0.00          CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00         CASNetof/       0.00          CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00              Weir/
0.00           MJRLeft/      0.76
        MJRRight/       1.26         MJRExist/       1.69            MjrNew/
0.93        DSmjrExis/       0.00*
        DSmjrNew/       2.63          PRKWout/       0.00           18exist/
0.44*          42in 1/       0.79*
          42in 2/       0.79*        18inchDS/       0.18             3x6DS/
0.92              3ft3/      0.92
        FREE # 1/       2.63

 Cycle      47500      Time         65 Hrs - 58.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.33 /   648.54
            USPD/   0.00 /   653.75              USM/   1.18 /   648.55
OUT/   0.05 /   621.11
            DSMR/   0.63 /   640.63             SR26/   0.99 /   638.57
NE1/   0.00 /   655.65
              P1/   0.23 /   650.24              SWC/   0.04 /   651.45
 P3/   0.06 /   653.75
              P2/   0.30 /   650.31              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.38 /   648.55
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.44              S4a/       0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00          P3toSE/       0.04          SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.03*              S8/       0.03*              S9/
0.00*        WEStoSESC/       0.00
       SR26toOUT/       2.52              S3d/       0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*            S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
        US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       0.73
        MJRRight/       1.22        MJRExist/       1.63           MjrNew/
0.90        DSmjrExis/       0.00*
        DSmjrNew/       2.52        PRKWout/       0.00          18exist/
0.43*          42in 1/       0.76*
          42in 2/       0.76*       18inchDS/       0.16            3x6DS/
0.90             3ft3/       0.90
        FREE # 1/       2.52
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 Cycle      48000      Time         66 Hrs - 40.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.33 /   648.54
            USPD/   0.00 /   653.75              USM/   1.18 /   648.55
OUT/   0.04 /   621.10
            DSMR/   0.62 /   640.62             SR26/   0.99 /   638.57
NE1/   0.00 /   655.65
              P1/   0.23 /   650.24              SWC/   0.04 /   651.45
 P3/   0.06 /   653.75
              P2/   0.30 /   650.31              SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.38 /   648.55
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
0.02*       USPDtoNW1/       0.00*
          P2toP1/       1.40               S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.04          SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.03*               S8/       0.03*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       2.43               S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*            S10d/
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0.00              S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/     0.00         CASNatob/       0.00         CASNbtoc/
0.00            CASNctod/     0.00
        CASNdtoe/     0.00         CASNetof/       0.00         CASNftog/
0.00            CASNgtoH/     0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00             Weir/
0.00             MJRLeft/     0.71
        MJRRight/     1.19         MJRExist/       1.56           MjrNew/
0.86           DSmjrExis/     0.00*
        DSmjrNew/     2.43          PRKWout/       0.00          18exist/
0.41*             42in 1/     0.74*
          42in 2/     0.74*        18inchDS/       0.14             3x6DS/
0.87              3ft3/       0.87
        FREE # 1/     2.43

 Cycle      48500      Time         67 Hrs - 21.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60             NW1/   0.01 /   651.41
MJR/   1.32 /   648.53
           USPD/   0.00 /   653.75             USM/   1.17 /   648.54
OUT/   0.04 /   621.10
           DSMR/   0.60 /   640.60            SR26/   0.99 /   638.57
NE1/   0.00 /   655.65
             P1/   0.22 /   650.23             SWC/   0.04 /   651.45
 P3/   0.06 /   653.75
             P2/   0.29 /   650.30             SEC/   0.04 /   651.21
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   0.37 /   648.54
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/        0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       1.35               S4a/        0.00              S4b/
0.00             S4c/       0.00
            S4d/       0.00            P3toSE/        0.04          SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.03*               S8/        0.03*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       2.34               S3d/        0.00              S3c/
0.00*            S3b/       0.00*
            S3a/       0.00*              S1a/        0.00*             S1b/
0.00*            S1c/       0.00*
            S1d/       0.00*              S2a/        0.00*             S2b/
0.00*            S2c/       0.00*
            S5b/       0.00*              S5a/        0.00*            S10d/
0.00            S10c/       0.00
           S10b/       0.00*             S10a/        0.00*            S11a/
0.00*           S11b/       0.00*
           S11c/       0.00*             S12a/        0.00             S12b/
0.00*           S12c/       0.00*
           S13a/       0.00*             S13b/        0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00          CASNatob/        0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/        0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/        0.00             Weir/
0.00         MJRLeft/       0.68
        MJRRight/       1.15          MJRExist/        1.51           MjrNew/
0.83        DSmjrExis/       0.00*
        DSmjrNew/       2.34           PRKWout/        0.00          18exist/
0.40*          42in 1/       0.71*
          42in 2/       0.71*         18inchDS/        0.13            3x6DS/
0.85             3ft3/       0.85
        FREE # 1/       2.34

 Cycle      49000      Time         68 Hrs -  3.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.31 /   648.52
           USPD/   0.00 /   653.75              USM/   1.16 /   648.53
OUT/   0.04 /   621.10
           DSMR/   0.59 /   640.59             SR26/   0.99 /   638.57
NE1/   0.00 /   655.65
             P1/   0.22 /   650.23              SWC/   0.04 /   651.45
 P3/   0.05 /   653.74
             P2/   0.29 /   650.30              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.36 /   648.53
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       1.30             S4a/       0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00          P3toSE/       0.04         SEtoSEC/
0.04*         SECtoP2/       0.04*
         SWtoSWC/       0.02*             S8/       0.02*              S9/
0.00*        WEStoSESC/       0.00
       SR26toOUT/       2.25             S3d/       0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       0.65
        MJRRight/       1.11        MJRExist/       1.45           MjrNew/
0.80         DSmjrExis/       0.00*
        DSmjrNew/       2.25         PRKWout/       0.00          18exist/
0.38*          42in 1/       0.69*
          42in 2/       0.69*       18inchDS/       0.11            3x6DS/
0.83             3ft3/       0.83
        FREE # 1/       2.25
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 Cycle      49500      Time         68 Hrs - 45.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.31 /   648.52
            USPD/   0.00 /   653.75                USM/   1.16 /   648.53
OUT/   0.04 /   621.10
            DSMR/   0.58 /   640.58               SR26/   0.98 /   638.56
NE1/   0.00 /   655.65
              P1/   0.22 /   650.23                SWC/   0.04 /   651.45
 P3/   0.05 /   653.74
              P2/   0.28 /   650.29                SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.36 /   648.53
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00         EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/        0.00*
          P2toP1/        1.26              S4a/       0.00             S4b/
0.00             S4c/        0.00
             S4d/        0.00           P3toSE/       0.04         SEtoSEC/
0.04*         SECtoP2/        0.04*
         SWtoSWC/        0.02*              S8/       0.02*             S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/        2.17              S3d/       0.00             S3c/
0.00*            S3b/        0.00*
             S3a/        0.00*             S1a/       0.00*            S1b/
0.00*            S1c/        0.00*
             S1d/        0.00*             S2a/       0.00*            S2b/
0.00*            S2c/        0.00*
             S5b/        0.00*             S5a/       0.00*           S10d/
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0.00              S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/     0.00         CASNatob/       0.00         CASNbtoc/
0.00           CASNctod/      0.00
        CASNdtoe/     0.00         CASNetof/       0.00         CASNftog/
0.00           CASNgtoH/      0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00             Weir/
0.00            MJRLeft/      0.63
        MJRRight/     1.08         MJRExist/       1.40           MjrNew/
0.77          DSmjrExis/      0.00*
        DSmjrNew/     2.17          PRKWout/       0.00          18exist/
0.37*            42in 1/      0.67*
          42in 2/     0.67*        18inchDS/       0.09            3x6DS/
0.81              3ft3/       0.81
        FREE # 1/     2.17

 Cycle      50000      Time         69 Hrs - 26.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60             NW1/   0.01 /   651.41
MJR/   1.30 /   648.51
            USPD/   0.00 /   653.75             USM/   1.15 /   648.52
OUT/   0.04 /   621.10
            DSMR/   0.57 /   640.57            SR26/   0.98 /   638.56
NE1/   0.00 /   655.65
              P1/   0.21 /   650.22             SWC/   0.04 /   651.45
 P3/   0.05 /   653.74
              P2/   0.28 /   650.29             SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.35 /   648.52
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00           EAStoNEC/        0.00*          NW1toP1/
0.01*       USPDtoNW1/        0.00*
          P2toP1/        1.22                S4a/        0.00               S4b/
0.00              S4c/        0.00
             S4d/        0.00             P3toSE/        0.04           SEtoSEC/
0.04*          SECtoP2/        0.04*
         SWtoSWC/        0.02*                S8/        0.02*               S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/        2.10                S3d/        0.00               S3c/
0.00*             S3b/        0.00*
             S3a/        0.00*               S1a/        0.00*              S1b/
0.00*             S1c/        0.00*
             S1d/        0.00*               S2a/        0.00*              S2b/
0.00*             S2c/        0.00*
             S5b/        0.00*               S5a/        0.00*             S10d/
0.00             S10c/        0.00
            S10b/        0.00*              S10a/        0.00*             S11a/
0.00*            S11b/        0.00*
            S11c/        0.00*              S12a/        0.00              S12b/
0.00*            S12c/        0.00*
            S13a/        0.00*              S13b/        0.00              S13c/
0.00             S13d/        0.00*
       US65toUSM/        0.00           CASNatob/        0.00          CASNbtoc/
0.00         CASNctod/        0.00
        CASNdtoe/        0.00           CASNetof/        0.00          CASNftog/
0.00         CASNgtoH/        0.00
        CASNhtoi/        0.00          CASNitoNW/        0.00              Weir/
0.00          MJRLeft/        0.61
        MJRRight/        1.05           MJRExist/        1.35            MjrNew/
0.74        DSmjrExis/        0.00*
        DSmjrNew/        2.10            PRKWout/        0.00           18exist/
0.36*          42in 1/        0.65*
          42in 2/        0.65*          18inchDS/        0.06             3x6DS/
0.80             3ft3/        0.80
        FREE # 1/        2.10

 Cycle      50500      Time         70 Hrs -  8.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.30 /   648.51
            USPD/   0.00 /   653.75                USM/   1.15 /   648.52
OUT/   0.04 /   621.10
            DSMR/   0.56 /   640.56               SR26/   0.98 /   638.56
NE1/   0.00 /   655.65
              P1/   0.21 /   650.22                SWC/   0.04 /   651.45
 P3/   0.05 /   653.74
              P2/   0.27 /   650.28                SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.35 /   648.52
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*        USPDtoNW1/      0.00*
          P2toP1/       1.18              S4a/       0.00             S4b/
0.00             S4c/      0.00
             S4d/       0.00          P3toSE/       0.04         SEtoSEC/
0.04*         SECtoP2/      0.04*
         SWtoSWC/       0.02*              S8/       0.02*             S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       2.03              S3d/       0.00             S3c/
0.00*             S3b/      0.00*
             S3a/       0.00*             S1a/       0.00*            S1b/
0.00*             S1c/      0.00*
             S1d/       0.00*             S2a/       0.00*            S2b/
0.00*             S2c/      0.00*
             S5b/       0.00*             S5a/       0.00*           S10d/
0.00            S10c/      0.00
            S10b/       0.00*            S10a/       0.00*           S11a/
0.00*            S11b/      0.00*
            S11c/       0.00*            S12a/       0.00            S12b/
0.00*            S12c/      0.00*
            S13a/       0.00*            S13b/       0.00            S13c/
0.00            S13d/      0.00*
       US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00           MJRLeft/      0.59
        MJRRight/       1.02        MJRExist/       1.31          MjrNew/
0.72          DSmjrExis/      0.00*
        DSmjrNew/       2.03         PRKWout/       0.00         18exist/
0.35*           42in 1/      0.63*
          42in 2/       0.63*       18inchDS/       0.04           3x6DS/
0.78             3ft3/      0.78
        FREE # 1/       2.03
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 Cycle      51000      Time         70 Hrs - 50.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.01 /   651.41
MJR/   1.29 /   648.50
            USPD/   0.00 /   653.75                USM/   1.14 /   648.51
OUT/   0.04 /   621.10
            DSMR/   0.55 /   640.55               SR26/   0.98 /   638.56
NE1/   0.00 /   655.65
              P1/   0.21 /   650.22                SWC/   0.04 /   651.45
 P3/   0.05 /   653.74
              P2/   0.27 /   650.28                SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.34 /   648.51
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       1.15              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*              S8/       0.02*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.96              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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```
0.00             S10c/      0.00
          S10b/      0.00*          S10a/       0.00*          S11a/
0.00*            S11b/      0.00*
          S11c/      0.00*          S12a/       0.00           S12b/
0.00*            S12c/      0.00*
          S13a/      0.00*          S13b/       0.00           S13c/
0.00             S13d/      0.00*
     US65toUSM/      0.00       CASNatob/       0.00       CASNbtoc/
0.00          CASNctod/     0.00
      CASNdtoe/      0.00       CASNetof/       0.00       CASNftog/
0.00          CASNgtoH/     0.00
      CASNhtoi/      0.00      CASNitoNW/       0.00           Weir/
0.00           MJRLeft/     0.57
      MJRRight/      0.99       MJRExist/       1.26         MjrNew/
0.70          DSmjrExis/    0.00*
      DSmjrNew/      1.96        PRKWout/       0.00        18exist/
0.34*            42in 1/    0.61*
        42in 2/      0.61*      18inchDS/       0.02          3x6DS/
0.77             3ft3/      0.77
      FREE # 1/      1.96

 Cycle      51500      Time         71 Hrs - 31.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60             NW1/   0.01 /   651.41
MJR/   1.29 /   648.50
           USPD/   0.00 /   653.75             USM/   1.14 /   648.51
OUT/   0.04 /   621.10
           DSMR/   0.54 /   640.54            SR26/   0.98 /   638.56
NE1/   0.00 /   655.65
             P1/   0.20 /   650.21             SWC/   0.04 /   651.45
 P3/   0.05 /   653.74
             P2/   0.27 /   650.28             SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   0.34 /   648.51
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/        0.00*         NW1toP1/
0.01*        USPDtoNW1/       0.00*
          P2toP1/       1.11               S4a/        0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00            P3toSE/        0.03          SEtoSEC/
0.03*          SECtoP2/       0.03*
         SWtoSWC/       0.02*               S8/        0.02*              S9/
0.00*        WEStoSESC/       0.00
       SR26toOUT/       1.90               S3d/        0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*              S1a/        0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*              S2a/        0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*              S5a/        0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*             S10a/        0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*             S12a/        0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*             S13b/        0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00          CASNatob/        0.00         CASNbtoc/
0.00          CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/        0.00         CASNftog/
0.00          CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/        0.00             Weir/
0.00           MJRLeft/       0.55
        MJRRight/       0.96          MJRExist/        1.22           MjrNew/
0.67         DSmjrExis/       0.00*
        DSmjrNew/       1.90           PRKWout/        0.00          18exist/
0.33*           42in 1/       0.59*
          42in 2/       0.59*         18inchDS/       -0.01            3x6DS/
0.76              3ft3/       0.76
        FREE # 1/       1.90

 Cycle      52000      Time         72 Hrs - 13.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.28 /   648.49
            USPD/   0.00 /   653.75              USM/   1.13 /   648.50
OUT/   0.03 /   621.09
            DSMR/   0.54 /   640.54             SR26/   0.98 /   638.56
NE1/   0.00 /   655.65
              P1/   0.20 /   650.21              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.26 /   650.27              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.33 /   648.50
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       1.08             S4a/       0.00             S4b/
0.00             S4c/       0.00
             S4d/       0.00          P3toSE/       0.03         SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*             S8/       0.02*             S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       1.84             S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
0.00             S10c/       0.00
            S10b/       0.00*           S10a/       0.00*           S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*           S12a/       0.00            S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*           S13b/       0.00            S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00            Weir/
0.00         MJRLeft/       0.53
        MJRRight/       0.93        MJRExist/       1.18          MjrNew/
0.65        DSmjrExis/       0.00*
        DSmjrNew/       1.84        PRKWout/        0.00         18exist/
0.32*          42in 1/       0.57*
          42in 2/       0.57*       18inchDS/      -0.02           3x6DS/
0.74             3ft3/       0.74
        FREE # 1/       1.84
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 Cycle      52500      Time         72 Hrs - 55.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60               NW1/   0.01 /   651.41
MJR/   1.28 /   648.49
            USPD/   0.00 /   653.75               USM/   1.13 /   648.50
OUT/   0.03 /   621.09
            DSMR/   0.53 /   640.53              SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
              P1/   0.20 /   650.21               SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.26 /   650.27               SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81               WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57              NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68               P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31               P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96              CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75              WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59              WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26              SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51              NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60              NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53              CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40               I65/   0.33 /   648.50
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19             CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93             CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       1.05              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.03         SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*              S8/       0.02*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.78              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00              S10c/        0.00
          S10b/        0.00*            S10a/        0.00*            S11a/
0.00*             S11b/        0.00*
          S11c/        0.00*            S12a/        0.00             S12b/
0.00*             S12c/        0.00*
          S13a/        0.00*            S13b/        0.00             S13c/
0.00              S13d/        0.00*
       US65toUSM/      0.00          CASNatob/       0.00          CASNbtoc/
0.00           CASNctod/       0.00
        CASNdtoe/      0.00          CASNetof/       0.00          CASNftog/
0.00           CASNgtoH/       0.00
        CASNhtoi/      0.00         CASNitoNW/       0.00              Weir/
0.00             MJRLeft/      0.51
        MJRRight/      0.91          MJRExist/       1.15            MjrNew/
0.63           DSmjrExis/      0.00*
        DSmjrNew/      1.78           PRKWout/       0.00           18exist/
0.31*            42in 1/       0.55*
          42in 2/      0.55*         18inchDS/      -0.04             3x6DS/
0.73              3ft3/        0.73
        FREE # 1/      1.78

 Cycle      53000      Time         73 Hrs - 36.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.27 /   648.48
            USPD/   0.00 /   653.75              USM/   1.12 /   648.49
OUT/   0.03 /   621.09
            DSMR/   0.52 /   640.52             SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
              P1/   0.20 /   650.21              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.25 /   650.26              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.32 /   648.49
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*        NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       1.02              S4a/       0.00             S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.03        SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*              S8/       0.02*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.73              S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*           S10d/
0.00            S10c/       0.00
            S10b/       0.00*            S10a/       0.00*           S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*            S12a/       0.00            S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*            S13b/       0.00            S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00        CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00        CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00            Weir/
0.00          MJRLeft/       0.49
        MJRRight/       0.88         MJRExist/       1.11          MjrNew/
0.61        DSmjrExis/       0.00*
        DSmjrNew/       1.73          PRKWout/       0.00         18exist/
0.30*          42in 1/       0.54*
          42in 2/       0.54*        18inchDS/      -0.05           3x6DS/
0.71            3ft3/       0.71
        FREE # 1/       1.73

 Cycle      53500      Time         74 Hrs - 18.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.27 /   648.48
            USPD/   0.00 /   653.75              USM/   1.12 /   648.49
OUT/   0.03 /   621.09
            DSMR/   0.51 /   640.51             SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
              P1/   0.19 /   650.20              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.25 /   650.26              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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          NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40             I65/   0.32 /   648.49
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
         CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
         CASNi/   0.00 /   651.59

        Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
       NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/      0.00*
        P2toP1/        0.99             S4a/       0.00               S4b/
0.00             S4c/      0.00
           S4d/        0.00          P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/      0.03*
        SWtoSWC/       0.02*             S8/       0.02*               S9/
0.00*       WEStoSESC/      0.00
      SR26toOUT/       1.67             S3d/       0.00               S3c/
0.00*            S3b/      0.00*
           S3a/        0.00*            S1a/       0.00*              S1b/
0.00*            S1c/      0.00*
           S1d/        0.00*            S2a/       0.00*              S2b/
0.00*            S2c/      0.00*
           S5b/        0.00*            S5a/       0.00*             S10d/
0.00            S10c/      0.00
          S10b/        0.00*           S10a/       0.00*             S11a/
0.00*           S11b/      0.00*
          S11c/        0.00*           S12a/       0.00              S12b/
0.00*           S12c/      0.00*
          S13a/        0.00*           S13b/       0.00              S13c/
0.00            S13d/      0.00*
      US65toUSM/       0.00        CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/      0.00
       CASNdtoe/       0.00        CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/      0.00
       CASNhtoi/       0.00       CASNitoNW/       0.00              Weir/
0.00          MJRLeft/      0.48
       MJRRight/       0.86        MJRExist/       1.08            MjrNew/
0.60        DSmjrExis/      0.00*
       DSmjrNew/       1.67         PRKWout/       0.00           18exist/
0.29*          42in 1/      0.52*
        42in 2/        0.52*       18inchDS/      -0.06             3x6DS/
0.70            3ft3/      0.70
       FREE # 1/       1.67
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 Cycle      54000      Time         75 Hrs -  0.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.27 /   648.48
            USPD/   0.00 /   653.75              USM/   1.11 /   648.48
OUT/   0.03 /   621.09
            DSMR/   0.50 /   640.50             SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
              P1/   0.19 /   650.20              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.25 /   650.26              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.31 /   648.48
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.96             S4a/       0.00               S4b/
0.00             S4c/       0.00
             S4d/       0.00         P3toSE/        0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*             S8/       0.02*               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.62             S3d/       0.00               S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*              S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*              S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*             S10d/
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0.00              S10c/      0.00
           S10b/      0.00*         S10a/      0.00*         S11a/
0.00*             S11b/      0.00*
           S11c/      0.00*         S12a/      0.00          S12b/
0.00*             S12c/      0.00*
           S13a/      0.00*         S13b/      0.00          S13c/
0.00              S13d/      0.00*
      US65toUSM/      0.00      CASNatob/      0.00      CASNbtoc/
0.00           CASNctod/     0.00
       CASNdtoe/      0.00      CASNetof/      0.00      CASNftog/
0.00           CASNgtoH/     0.00
       CASNhtoi/      0.00     CASNitoNW/      0.00          Weir/
0.00             MJRLeft/    0.46
       MJRRight/      0.83      MJRExist/      1.04        MjrNew/
0.58            DSmjrExis/   0.00*
       DSmjrNew/      1.62      PRKWout/       0.00       18exist/
0.28*             42in 1/    0.51*
         42in 2/      0.51*     18inchDS/     -0.07         3x6DS/
0.68               3ft3/     0.68
       FREE # 1/      1.62

 Cycle      54500      Time         75 Hrs - 41.67 Min

      Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60             NW1/   0.01 /   651.41
MJR/   1.26 /   648.47
           USPD/   0.00 /   653.75             USM/   1.11 /   648.48
OUT/   0.03 /   621.09
           DSMR/   0.50 /   640.50            SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
             P1/   0.19 /   650.20             SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
             P2/   0.24 /   650.25             SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40             I65/   0.31 /   648.48
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.93              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*              S8/       0.02*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.57              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
0.00            S10c/       0.00
            S10b/       0.00*            S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*            S12a/       0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*            S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00             Weir/
0.00         MJRLeft/       0.45
        MJRRight/       0.81         MJRExist/       1.01           MjrNew/
0.56        DSmjrExis/       0.00*
        DSmjrNew/       1.57          PRKWout/       0.00          18exist/
0.27*         42in 1/       0.49*
          42in 2/       0.49*        18inchDS/      -0.08            3x6DS/
0.67            3ft3/       0.67
        FREE # 1/       1.57

 Cycle      55000      Time         76 Hrs - 23.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.01 /   651.41
MJR/   1.26 /   648.47
            USPD/   0.00 /   653.75              USM/   1.10 /   648.47
OUT/   0.03 /   621.09
            DSMR/   0.49 /   640.49             SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
              P1/   0.18 /   650.19              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.24 /   650.25              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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          NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40              I65/   0.30 /   648.47
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
         CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
         CASNi/   0.00 /   651.59

       Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/        0.00*          NW1toP1/
0.01*        USPDtoNW1/      0.00*
         P2toP1/        0.91              S4a/        0.00              S4b/
0.00              S4c/       0.00
           S4d/         0.00           P3toSE/        0.03          SEtoSEC/
0.03*          SECtoP2/      0.03*
       SWtoSWC/         0.02*              S8/        0.02*              S9/
0.00*        WEStoSESC/      0.00
      SR26toOUT/        1.52              S3d/        0.00              S3c/
0.00*             S3b/       0.00*
           S3a/         0.00*             S1a/        0.00*             S1b/
0.00*             S1c/       0.00*
           S1d/         0.00*             S2a/        0.00*             S2b/
0.00*             S2c/       0.00*
           S5b/         0.00*             S5a/        0.00*            S10d/
0.00             S10c/       0.00
          S10b/         0.00*            S10a/        0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/         0.00*            S12a/        0.00             S12b/
0.00*            S12c/       0.00*
          S13a/         0.00*            S13b/        0.00             S13c/
0.00             S13d/       0.00*
      US65toUSM/        0.00         CASNatob/        0.00         CASNbtoc/
0.00          CASNctod/      0.00
       CASNdtoe/        0.00         CASNetof/        0.00         CASNftog/
0.00          CASNgtoH/      0.00
       CASNhtoi/        0.00        CASNitoNW/        0.00             Weir/
0.00           MJRLeft/      0.43
       MJRRight/        0.79         MJRExist/        0.98           MjrNew/
0.54          DSmjrExis/     0.00*
       DSmjrNew/        1.52          PRKWout/        0.00          18exist/
0.27*           42in 1/      0.48*
         42in 2/        0.48*        18inchDS/       -0.08            3x6DS/
0.65              3ft3/      0.65
       FREE # 1/        1.52
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 Cycle      55500      Time         77 Hrs -  5.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60             NW1/   0.00 /   651.40
MJR/   1.25 /   648.46
            USPD/   0.00 /   653.75             USM/   1.10 /   648.47
OUT/   0.03 /   621.09
            DSMR/   0.48 /   640.48            SR26/   0.97 /   638.55
NE1/   0.00 /   655.65
              P1/   0.18 /   650.19             SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.24 /   650.25             SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.30 /   648.47
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.88             S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00          P3toSE/       0.03         SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.02*             S8/       0.02*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.47             S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
```

```
0.00              S10c/       0.00
          S10b/        0.00*          S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
          S11c/        0.00*          S12a/       0.00             S12b/
0.00*             S12c/       0.00*
          S13a/        0.00*          S13b/       0.00             S13c/
0.00              S13d/       0.00*
     US65toUSM/        0.00       CASNatob/       0.00         CASNbtoc/
0.00           CASNctod/      0.00
      CASNdtoe/        0.00       CASNetof/       0.00         CASNftog/
0.00           CASNgtoH/      0.00
      CASNhtoi/        0.00      CASNitoNW/       0.00             Weir/
0.00            MJRLeft/      0.42
      MJRRight/        0.77       MJRExist/       0.94           MjrNew/
0.53          DSmjrExis/      0.00*
      DSmjrNew/        1.47        PRKWout/       0.00          18exist/
0.26*            42in 1/      0.46*
        42in 2/        0.46*      18inchDS/      -0.09            3x6DS/
0.64               3ft3/      0.64
      FREE # 1/        1.47

 Cycle      56000      Time         77 Hrs - 46.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.25 /   648.46
            USPD/   0.00 /   653.75              USM/   1.10 /   648.47
OUT/   0.03 /   621.09
            DSMR/   0.48 /   640.48             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.18 /   650.19              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.23 /   650.24              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.30 /   648.47
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.86               S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00            P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.01*               S8/       0.01*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.43               S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*            S10d/
0.00            S10c/       0.00
            S10b/       0.00*             S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*             S12a/       0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*             S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00          CASNatob/       0.00         CASNbtoc/
0.00        CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/       0.00         CASNftog/
0.00        CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       0.41
        MJRRight/       0.75          MJRExist/       0.91           MjrNew/
0.51        DSmjrExis/       0.00*
        DSmjrNew/       1.43           PRKWout/       0.00          18exist/
0.25*          42in 1/       0.45*
          42in 2/       0.45*         18inchDS/      -0.10            3x6DS/
0.63            3ft3/       0.63
        FREE # 1/       1.43

 Cycle      56500      Time         78 Hrs - 28.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.25 /   648.46
            USPD/   0.00 /   653.75              USM/   1.09 /   648.46
OUT/   0.03 /   621.09
            DSMR/   0.47 /   640.47             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.18 /   650.19              SWC/   0.03 /   651.44
 P3/   0.05 /   653.74
              P2/   0.23 /   650.24              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.29 /   648.46
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.84             S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00          P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.01*             S8/       0.01*              S9/
0.00*        WEStoSESC/       0.00
       SR26toOUT/       1.39             S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00            S10c/       0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       0.40
        MJRRight/       0.73        MJRExist/       0.89           MjrNew/
0.50        DSmjrExis/       0.00*
        DSmjrNew/       1.39        PRKWout/        0.00          18exist/
0.25*         42in 1/       0.44*
          42in 2/       0.44*       18inchDS/      -0.10            3x6DS/
0.61            3ft3/       0.61
        FREE # 1/       1.39
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 Cycle      57000      Time         79 Hrs - 10.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.24 /   648.45
            USPD/   0.00 /   653.75              USM/   1.09 /   648.46
OUT/   0.03 /   621.09
            DSMR/   0.46 /   640.46             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.18 /   650.19              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
              P2/   0.23 /   650.24              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.29 /   648.46
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*        NW1toP1/
0.01*      USPDtoNW1/       0.00*
          P2toP1/       0.81             S4a/       0.00             S4b/
0.00             S4c/       0.00
             S4d/       0.00         P3toSE/       0.03        SEtoSEC/
0.03*        SECtoP2/       0.03*
         SWtoSWC/       0.01*             S8/       0.01*             S9/
0.00*      WEStoSESC/       0.00
       SR26toOUT/       1.35             S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
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0.00              S10c/       0.00
             S10b/       0.00*            S10a/        0.00*            S11a/
0.00*             S11b/       0.00*
             S11c/       0.00*            S12a/        0.00             S12b/
0.00*             S12c/       0.00*
             S13a/       0.00*            S13b/        0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/        0.00         CASNatob/        0.00          CASNbtoc/
0.00           CASNctod/      0.00
        CASNdtoe/        0.00         CASNetof/        0.00          CASNftog/
0.00           CASNgtoH/      0.00
        CASNhtoi/        0.00        CASNitoNW/        0.00              Weir/
0.00             MJRLeft/     0.39
        MJRRight/        0.71         MJRExist/        0.87            MjrNew/
0.49            DSmjrExis/    0.00*
        DSmjrNew/        1.35          PRKWout/        0.00           18exist/
0.24*             42in 1/     0.43*
          42in 2/        0.43*        18inchDS/       -0.11             3x6DS/
0.60              3ft3/       0.60
        FREE # 1/        1.36

 Cycle      57500      Time         79 Hrs - 51.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
              AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.24 /   648.45
             USPD/   0.00 /   653.75              USM/   1.09 /   648.46
OUT/   0.02 /   621.08
             DSMR/   0.46 /   640.46             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
               P1/   0.17 /   650.18              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
               P2/   0.23 /   650.24              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
             OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
               SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
             NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
             NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
             NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
              P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
             CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
             EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
             WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
             SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
             NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
             NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
             CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
             PRKE/   0.00 /   657.40              I65/   0.28 /   648.45
CASNb/   0.00 /   653.20
            CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.79              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.01*              S8/       0.01*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.32              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
0.00            S10c/       0.00
            S10b/       0.00*            S10a/       0.00*            S11a/
0.00*           S11b/       0.00*
            S11c/       0.00*            S12a/       0.00             S12b/
0.00*           S12c/       0.00*
            S13a/       0.00*            S13b/       0.00             S13c/
0.00            S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       0.37
        MJRRight/       0.69         MJRExist/       0.84           MjrNew/
0.48        DSmjrExis/       0.00*
        DSmjrNew/       1.32          PRKWout/       0.00          18exist/
0.23*          42in 1/       0.42*
          42in 2/       0.42*        18inchDS/      -0.11            3x6DS/
0.59            3ft3/       0.59
        FREE # 1/       1.32

 Cycle      58000      Time         80 Hrs - 33.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.24 /   648.45
            USPD/   0.00 /   653.75              USM/   1.08 /   648.45
OUT/   0.02 /   621.08
            DSMR/   0.45 /   640.45             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.17 /   650.18              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
              P2/   0.22 /   650.23              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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             NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
              P1d/   0.00 /   653.31            P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
             CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
             EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
             WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
             SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
             NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
             NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
             CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
             PRKE/   0.00 /   657.40            I65/   0.28 /   648.45
CASNb/   0.00 /   653.20
            CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
            CASNf/   0.00 /   651.93          CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
            CASNi/   0.00 /   651.59

          Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/        0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/        0.00*
           P2toP1/        0.77             S4a/       0.00             S4b/
0.00               S4c/       0.00
              S4d/        0.00          P3toSE/       0.03         SEtoSEC/
0.03*          SECtoP2/       0.03*
          SWtoSWC/        0.01*             S8/       0.01*             S9/
0.00*        WEStoSESC/       0.00
        SR26toOUT/        1.29             S3d/       0.00             S3c/
0.00*              S3b/       0.00*
              S3a/        0.00*            S1a/       0.00*            S1b/
0.00*              S1c/       0.00*
              S1d/        0.00*            S2a/       0.00*            S2b/
0.00*              S2c/       0.00*
              S5b/        0.00*            S5a/       0.00*           S10d/
0.00              S10c/       0.00
             S10b/        0.00*           S10a/       0.00*           S11a/
0.00*             S11b/       0.00*
             S11c/        0.00*           S12a/       0.00            S12b/
0.00*             S12c/       0.00*
             S13a/        0.00*           S13b/       0.00            S13c/
0.00              S13d/       0.00*
        US65toUSM/        0.00        CASNatob/       0.00        CASNbtoc/
0.00          CASNctod/       0.00
         CASNdtoe/        0.00        CASNetof/       0.00        CASNftog/
0.00          CASNgtoH/       0.00
         CASNhtoi/        0.00       CASNitoNW/       0.00            Weir/
0.00           MJRLeft/       0.36
         MJRRight/        0.68        MJRExist/       0.82          MjrNew/
0.46         DSmjrExis/       0.00*
         DSmjrNew/        1.29         PRKWout/       0.00         18exist/
0.23*          42in 1/        0.40*
           42in 2/        0.40*       18inchDS/      -0.12           3x6DS/
0.58              3ft3/       0.58
         FREE # 1/        1.29
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 Cycle      58500      Time         81 Hrs - 15.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.24 /   648.45
            USPD/   0.00 /   653.75              USM/   1.08 /   648.45
OUT/   0.02 /   621.08
            DSMR/   0.45 /   640.45             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.17 /   650.18              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
              P2/   0.22 /   650.23              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.28 /   648.45
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/      0.00         EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.75               S4a/       0.00               S4b/
0.00             S4c/        0.00
             S4d/       0.00           P3toSE/       0.03          SEtoSEC/
0.03*         SECtoP2/       0.03*
         SWtoSWC/       0.01*               S8/       0.01*               S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.26               S3d/       0.00               S3c/
0.00*            S3b/        0.00*
             S3a/       0.00*              S1a/       0.00*              S1b/
0.00*            S1c/        0.00*
             S1d/       0.00*              S2a/       0.00*              S2b/
0.00*            S2c/        0.00*
             S5b/       0.00*              S5a/       0.00*             S10d/
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0.00               S10c/      0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*              S11b/      0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*              S12c/      0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00               S13d/      0.00*
       US65toUSM/     0.00         CASNatob/       0.00          CASNbtoc/
0.00            CASNctod/     0.00
        CASNdtoe/     0.00         CASNetof/       0.00          CASNftog/
0.00            CASNgtoH/     0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00              Weir/
0.00              MJRLeft/    0.35
        MJRRight/     0.66         MJRExist/       0.80            MjrNew/
0.45            DSmjrExis/    0.00*
        DSmjrNew/     1.25          PRKWout/       0.00           18exist/
0.22*             42in 1/     0.39*
          42in 2/     0.39*        18inchDS/      -0.12             3x6DS/
0.56               3ft3/      0.56
        FREE # 1/     1.26

 Cycle      59000      Time         81 Hrs - 56.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.23 /   648.44
            USPD/   0.00 /   653.75              USM/   1.08 /   648.45
OUT/   0.02 /   621.08
            DSMR/   0.44 /   640.44             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.17 /   650.18              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
              P2/   0.22 /   650.23              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.28 /   648.45
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00          EAStoNEC/        0.00*          NW1toP1/
0.01*       USPDtoNW1/        0.00*
          P2toP1/        0.73               S4a/        0.00              S4b/
0.00              S4c/        0.00
             S4d/        0.00            P3toSE/        0.02          SEtoSEC/
0.02*          SECtoP2/        0.02*
         SWtoSWC/        0.01*               S8/        0.01*              S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/        1.22               S3d/        0.00              S3c/
0.00*             S3b/        0.00*
             S3a/        0.00*              S1a/        0.00*             S1b/
0.00*             S1c/        0.00*
             S1d/        0.00*              S2a/        0.00*             S2b/
0.00*             S2c/        0.00*
             S5b/        0.00*              S5a/        0.00*            S10d/
0.00             S10c/        0.00
            S10b/        0.00*             S10a/        0.00*            S11a/
0.00*            S11b/        0.00*
            S11c/        0.00*             S12a/        0.00             S12b/
0.00*            S12c/        0.00*
            S13a/        0.00*             S13b/        0.00             S13c/
0.00             S13d/        0.00*
       US65toUSM/        0.00          CASNatob/        0.00          CASNbtoc/
0.00         CASNctod/        0.00
        CASNdtoe/        0.00          CASNetof/        0.00          CASNftog/
0.00         CASNgtoH/        0.00
        CASNhtoi/        0.00         CASNitoNW/        0.00             Weir/
0.00          MJRLeft/        0.34
        MJRRight/        0.64          MJRExist/        0.78           MjrNew/
0.44        DSmjrExis/        0.00*
        DSmjrNew/        1.22           PRKWout/        0.00          18exist/
0.22*         42in 1/        0.38*
          42in 2/        0.38*         18inchDS/       -0.11            3x6DS/
0.55             3ft3/        0.55
        FREE # 1/        1.22

 Cycle      59500      Time         82 Hrs - 38.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.23 /   648.44
            USPD/   0.00 /   653.75              USM/   1.07 /   648.44
OUT/   0.02 /   621.08
            DSMR/   0.44 /   640.44             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.17 /   650.18              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
              P2/   0.22 /   650.23              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.27 /   648.44
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/        0.00*
          P2toP1/        0.72             S4a/       0.00              S4b/
0.00              S4c/        0.00
             S4d/        0.00          P3toSE/       0.02         SEtoSEC/
0.02*        SECtoP2/        0.02*
         SWtoSWC/        0.01*             S8/       0.01*              S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/        1.19             S3d/       0.00              S3c/
0.00*             S3b/        0.00*
             S3a/        0.00*            S1a/       0.00*             S1b/
0.00*             S1c/        0.00*
             S1d/        0.00*            S2a/       0.00*             S2b/
0.00*             S2c/        0.00*
             S5b/        0.00*            S5a/       0.00*            S10d/
0.00             S10c/        0.00
            S10b/        0.00*           S10a/       0.00*            S11a/
0.00*            S11b/        0.00*
            S11c/        0.00*           S12a/       0.00             S12b/
0.00*            S12c/        0.00*
            S13a/        0.00*           S13b/       0.00             S13c/
0.00             S13d/        0.00*
       US65toUSM/        0.00        CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/        0.00
        CASNdtoe/        0.00        CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/        0.00
        CASNhtoi/        0.00       CASNitoNW/       0.00             Weir/
0.00          MJRLeft/        0.33
        MJRRight/        0.63        MJRExist/       0.76           MjrNew/
0.43        DSmjrExis/        0.00*
        DSmjrNew/        1.19         PRKWout/       0.00          18exist/
0.21*          42in 1/        0.37*
          42in 2/        0.37*       18inchDS/      -0.11            3x6DS/
0.53             3ft3/        0.53
        FREE # 1/        1.19
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 Cycle      60000      Time         83 Hrs - 20.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.23 /   648.44
            USPD/   0.00 /   653.75              USM/   1.07 /   648.44
OUT/   0.02 /   621.08
            DSMR/   0.43 /   640.43             SR26/   0.96 /   638.54
NE1/   0.00 /   655.65
              P1/   0.16 /   650.17              SWC/   0.03 /   651.44
 P3/   0.04 /   653.73
              P2/   0.21 /   650.22              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.27 /   648.44
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.70             S4a/       0.00             S4b/
0.00              S4c/       0.00
             S4d/       0.00         P3toSE/       0.02         SEtoSEC/
0.02*         SECtoP2/       0.02*
         SWtoSWC/       0.01*             S8/       0.01*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.16             S3d/       0.00             S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*            S1a/       0.00*            S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*            S2a/       0.00*            S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*            S5a/       0.00*           S10d/
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```
0.00              S10c/        0.00
          S10b/        0.00*          S10a/        0.00*          S11a/
0.00*             S11b/        0.00*
          S11c/        0.00*          S12a/        0.00           S12b/
0.00*             S12c/        0.00*
          S13a/        0.00*          S13b/        0.00           S13c/
0.00              S13d/        0.00*
       US65toUSM/      0.00        CASNatob/       0.00        CASNbtoc/
0.00           CASNctod/       0.00
        CASNdtoe/      0.00        CASNetof/       0.00        CASNftog/
0.00           CASNgtoH/       0.00
        CASNhtoi/      0.00       CASNitoNW/       0.00            Weir/
0.00             MJRLeft/      0.32
        MJRRight/      0.61        MJRExist/       0.74          MjrNew/
0.42           DSmjrExis/      0.00*
        DSmjrNew/      1.16         PRKWout/       0.00         18exist/
0.21*            42in 1/       0.36*
         42in 2/       0.36*       18inchDS/      -0.11           3x6DS/
0.52              3ft3/        0.52
        FREE # 1/      1.16

 Cycle      60500      Time         84 Hrs -  1.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.22 /   648.43
           USPD/   0.00 /   653.75              USM/   1.07 /   648.44
OUT/   0.02 /   621.08
           DSMR/   0.43 /   640.43             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
             P1/   0.16 /   650.17              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
             P2/   0.21 /   650.22              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   0.27 /   648.44
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
CASNf/   0.00 /   651.93   CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
CASNi/   0.00 /   651.59

Conduit/   FLOW   ===> "*" Conduit uses the normal flow option.
NE1toEAS/   0.00   EAStoNEC/   0.00*   NW1toP1/
0.01*   USPDtoNW1/   0.00*
P2toP1/   0.68   S4a/   0.00   S4b/
0.00   S4c/   0.00
S4d/   0.00   P3toSE/   0.02   SEtoSEC/
0.02*   SECtoP2/   0.02*
SWtoSWC/   0.01*   S8/   0.01*   S9/
0.00*   WEStoSESC/   0.00
SR26toOUT/   1.14   S3d/   0.00   S3c/
0.00*   S3b/   0.00*
S3a/   0.00*   S1a/   0.00*   S1b/
0.00*   S1c/   0.00*
S1d/   0.00*   S2a/   0.00*   S2b/
0.00*   S2c/   0.00*
S5b/   0.00*   S5a/   0.00*   S10d/
0.00   S10c/   0.00
S10b/   0.00*   S10a/   0.00*   S11a/
0.00*   S11b/   0.00*
S11c/   0.00*   S12a/   0.00   S12b/
0.00*   S12c/   0.00*
S13a/   0.00*   S13b/   0.00   S13c/
0.00   S13d/   0.00*
US65toUSM/   0.00   CASNatob/   0.00   CASNbtoc/
0.00   CASNctod/   0.00
CASNdtoe/   0.00   CASNetof/   0.00   CASNftog/
0.00   CASNgtoH/   0.00
CASNhtoi/   0.00   CASNitoNW/   0.00   Weir/
0.00   MJRLeft/   0.32
MJRRight/   0.60   MJRExist/   0.73   MjrNew/
0.41   DSmjrExis/   0.00*
DSmjrNew/   1.14   PRKWout/   0.00   18exist/
0.20*   42in 1/   0.36*
42in 2/   0.36*   18inchDS/   -0.10   3x6DS/
0.51   3ft3/   0.51
FREE # 1/   1.14

Cycle   61000   Time   84 Hrs - 43.33 Min

Junction / Depth / Elevation   ===> "*" Junction is Surcharged.
AR4/   0.44 /   653.60   NW1/   0.00 /   651.40
MJR/   1.22 /   648.43
USPD/   0.00 /   653.75   USM/   1.07 /   648.44
OUT/   0.02 /   621.08
DSMR/   0.42 /   640.42   SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
P1/   0.16 /   650.17   SWC/   0.02 /   651.43
P3/   0.04 /   653.73
P2/   0.21 /   650.22   SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
OUT2/   0.00 /   650.17   EAS/   0.00 /   655.39
SE/   0.01 /   652.14
SW/   0.01 /   651.81   WES/   0.00 /   651.54
SESC/   0.42 /   651.54
NECa/   0.00 /   653.57   NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
NE1d/   0.00 /   657.18   NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24

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            NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.26 /   648.43
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00       EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/        0.00*
          P2toP1/        0.66            S4a/       0.00               S4b/
0.00             S4c/        0.00
             S4d/        0.00         P3toSE/       0.02          SEtoSEC/
0.02*         SECtoP2/        0.02*
         SWtoSWC/        0.01*            S8/       0.01*              S9/
0.00*        WEStoSESC/        0.00
       SR26toOUT/        1.11            S3d/       0.00               S3c/
0.00*             S3b/        0.00*
             S3a/        0.00*           S1a/       0.00*              S1b/
0.00*             S1c/        0.00*
             S1d/        0.00*           S2a/       0.00*              S2b/
0.00*             S2c/        0.00*
             S5b/        0.00*           S5a/       0.00*             S10d/
0.00             S10c/        0.00
            S10b/        0.00*          S10a/       0.00*             S11a/
0.00*            S11b/        0.00*
            S11c/        0.00*          S12a/       0.00              S12b/
0.00*            S12c/        0.00*
            S13a/        0.00*          S13b/       0.00              S13c/
0.00             S13d/        0.00*
       US65toUSM/        0.00       CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/        0.00
        CASNdtoe/        0.00       CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/        0.00
        CASNhtoi/        0.00      CASNitoNW/       0.00              Weir/
0.00          MJRLeft/        0.31
        MJRRight/        0.58       MJRExist/       0.71            MjrNew/
0.40         DSmjrExis/        0.00*
        DSmjrNew/        1.11        PRKWout/       0.00           18exist/
0.20*          42in 1/        0.35*
          42in 2/        0.35*       18inchDS/      -0.10             3x6DS/
0.50             3ft3/        0.50
        FREE # 1/        1.11
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 Cycle      61500      Time         85 Hrs - 25.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                 NW1/   0.00 /   651.40
MJR/   1.22 /   648.43
            USPD/   0.00 /   653.75                 USM/   1.06 /   648.43
OUT/   0.02 /   621.08
            DSMR/   0.42 /   640.42                SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.16 /   650.17                 SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.21 /   650.22                 SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                 EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81                 WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57                NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18                NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                 P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                 P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96                CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75                WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59                WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26                SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51                NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60                NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53                CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                 I65/   0.26 /   648.43
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19               CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93               CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/        0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/        0.00*
          P2toP1/        0.65             S4a/       0.00              S4b/
0.00             S4c/        0.00
             S4d/        0.00          P3toSE/       0.02          SEtoSEC/
0.02*         SECtoP2/        0.02*
         SWtoSWC/        0.01*             S8/       0.01*              S9/
0.00*       WEStoSESC/        0.00
       SR26toOUT/        1.08             S3d/       0.00              S3c/
0.00*            S3b/        0.00*
             S3a/        0.00*            S1a/       0.00*             S1b/
0.00*            S1c/        0.00*
             S1d/        0.00*            S2a/       0.00*             S2b/
0.00*            S2c/        0.00*
             S5b/        0.00*            S5a/       0.00*            S10d/
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0.00              S10c/       0.00
          S10b/       0.00*            S10a/       0.00*            S11a/
0.00*             S11b/       0.00*
          S11c/       0.00*            S12a/       0.00             S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*            S13b/       0.00             S13c/
0.00              S13d/       0.00*
       US65toUSM/     0.00         CASNatob/       0.00          CASNbtoc/
0.00           CASNctod/      0.00
        CASNdtoe/     0.00         CASNetof/       0.00          CASNftog/
0.00           CASNgtoH/      0.00
        CASNhtoi/     0.00        CASNitoNW/       0.00              Weir/
0.00            MJRLeft/      0.30
        MJRRight/     0.57         MJRExist/       0.69            MjrNew/
0.39           DSmjrExis/     0.00*
        DSmjrNew/     1.08          PRKWout/       0.00           18exist/
0.19*            42in 1/      0.34*
          42in 2/     0.34*        18inchDS/      -0.10             3x6DS/
0.48              3ft3/       0.48
        FREE # 1/     1.08

 Cycle      62000      Time         86 Hrs -  6.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.22 /   648.43
            USPD/   0.00 /   653.75              USM/   1.06 /   648.43
OUT/   0.02 /   621.08
            DSMR/   0.41 /   640.41             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.16 /   650.17              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.20 /   650.21              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.26 /   648.43
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.63              S4a/       0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00           P3toSE/       0.02          SEtoSEC/
0.02*         SECtoP2/       0.02*
         SWtoSWC/       0.01*              S8/       0.01*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.06              S3d/       0.00              S3c/
0.00*             S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
0.00             S10c/       0.00
            S10b/       0.00*            S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
            S11c/       0.00*            S12a/       0.00             S12b/
0.00*            S12c/       0.00*
            S13a/       0.00*            S13b/       0.00             S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00         CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00         CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00        CASNitoNW/       0.00              Weir/
0.00          MJRLeft/       0.29
        MJRRight/       0.56         MJRExist/       0.68            MjrNew/
0.38        DSmjrExis/       0.00*
        DSmjrNew/       1.06          PRKWout/       0.00           18exist/
0.19*          42in 1/       0.33*
          42in 2/       0.33*        18inchDS/      -0.10            3x6DS/
0.47             3ft3/       0.47
        FREE # 1/       1.06

 Cycle      62500      Time         86 Hrs - 48.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.21 /   648.42
            USPD/   0.00 /   653.75              USM/   1.06 /   648.43
OUT/   0.02 /   621.08
            DSMR/   0.41 /   640.41             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.15 /   650.16              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.20 /   650.21              SEC/   0.03 /   651.20
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.26 /   648.43
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00        EAStoNEC/       0.00*         NW1toP1/
0.01*        USPDtoNW1/      0.00*
          P2toP1/       0.62             S4a/       0.00              S4b/
0.00              S4c/       0.00
             S4d/       0.00         P3toSE/       0.02          SEtoSEC/
0.02*          SECtoP2/      0.02*
         SWtoSWC/       0.01*             S8/       0.01*              S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       1.03             S3d/       0.00              S3c/
0.00*             S3b/      0.00*
             S3a/       0.00*            S1a/       0.00*             S1b/
0.00*             S1c/      0.00*
             S1d/       0.00*            S2a/       0.00*             S2b/
0.00*             S2c/      0.00*
             S5b/       0.00*            S5a/       0.00*            S10d/
0.00             S10c/      0.00
            S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/      0.00*
            S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/      0.00*
            S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/      0.00*
       US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00           MJRLeft/      0.28
        MJRRight/       0.55        MJRExist/       0.66           MjrNew/
0.37          DSmjrExis/     0.00*
        DSmjrNew/       1.03         PRKWout/       0.00          18exist/
0.18*           42in 1/      0.32*
          42in 2/       0.32*       18inchDS/      -0.10            3x6DS/
0.46             3ft3/      0.46
        FREE # 1/       1.03
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 Cycle      63000      Time         87 Hrs - 30.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60                NW1/   0.00 /   651.40
MJR/   1.21 /   648.42
            USPD/   0.00 /   653.75                USM/   1.06 /   648.43
OUT/   0.02 /   621.08
            DSMR/   0.41 /   640.41               SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.15 /   650.16                SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.20 /   650.21                SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68                P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31                P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96               CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75               WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59               WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26               SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51               NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60               NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53               CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40                I65/   0.25 /   648.42
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19              CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93              CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
0.01*       USPDtoNW1/       0.00*
          P2toP1/       0.60               S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.02         SEtoSEC/
0.02*        SECtoP2/       0.02*
         SWtoSWC/       0.01*               S8/       0.01*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       1.01               S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*            S10d/
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0.00             S10c/       0.00
          S10b/       0.00*           S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*           S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*           S13b/       0.00             S13c/
0.00             S13d/       0.00*
     US65toUSM/       0.00        CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/       0.00
      CASNdtoe/       0.00        CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/       0.00
      CASNhtoi/       0.00       CASNitoNW/       0.00             Weir/
0.00           MJRLeft/       0.28
      MJRRight/       0.53        MJRExist/       0.64           MjrNew/
0.36          DSmjrExis/      0.00*
      DSmjrNew/       1.01         PRKWout/       0.00          18exist/
0.18*           42in 1/       0.31*
        42in 2/       0.31*       18inchDS/      -0.10            3x6DS/
0.45             3ft3/        0.45
      FREE # 1/       1.01

 Cycle      63500      Time         88 Hrs - 11.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
           AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.21 /   648.42
          USPD/   0.00 /   653.75              USM/   1.05 /   648.42
OUT/   0.02 /   621.08
          DSMR/   0.40 /   640.40             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
            P1/   0.15 /   650.16              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
            P2/   0.20 /   650.21              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
          OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
            SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
          NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
          NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
          NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40              I65/   0.25 /   648.42
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*          NW1toP1/
0.01*       USPDtoNW1/       0.00*
         P2toP1/        0.59               S4a/       0.00                S4b/
0.00             S4c/        0.00
            S4d/        0.00            P3toSE/       0.02           SEtoSEC/
0.02*        SECtoP2/        0.02*
         SWtoSWC/       0.01*               S8/       0.01*                S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       0.99               S3d/       0.00                S3c/
0.00*            S3b/        0.00*
            S3a/        0.00*              S1a/       0.00*               S1b/
0.00*            S1c/        0.00*
            S1d/        0.00*              S2a/       0.00*               S2b/
0.00*            S2c/        0.00*
            S5b/        0.00*              S5a/       0.00*              S10d/
0.00            S10c/        0.00
           S10b/        0.00*             S10a/       0.00*              S11a/
0.00*           S11b/        0.00*
           S11c/        0.00*             S12a/       0.00               S12b/
0.00*           S12c/        0.00*
           S13a/        0.00*             S13b/       0.00               S13c/
0.00            S13d/        0.00*
       US65toUSM/       0.00          CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00
        CASNdtoe/       0.00          CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/       0.00
        CASNhtoi/       0.00         CASNitoNW/       0.00               Weir/
0.00          MJRLeft/       0.27
        MJRRight/       0.52          MJRExist/       0.63             MjrNew/
0.36        DSmjrExis/       0.00*
        DSmjrNew/       0.99           PRKWout/       0.00            18exist/
0.18*          42in 1/       0.31*
         42in 2/        0.31*         18inchDS/      -0.10              3x6DS/
0.44             3ft3/       0.44
        FREE # 1/       0.99

 Cycle      64000      Time         88 Hrs - 53.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.21 /   648.42
           USPD/   0.00 /   653.75              USM/   1.05 /   648.42
OUT/   0.02 /   621.08
           DSMR/   0.40 /   640.40             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
             P1/   0.15 /   650.16              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
             P2/   0.19 /   650.20              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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             NE1a/   0.00 /   661.68            P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
              P1d/   0.00 /   653.31            P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
             CNEa/   0.00 /   657.96           CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
             EASb/   0.00 /   661.75           WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
             WESc/   0.00 /   656.59           WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
             SCWb/   0.00 /   658.26           SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
             NCWb/   0.00 /   660.51           NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
             NW1b/   0.00 /   661.60           NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
             CASO/   0.00 /   657.53           CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
             PRKE/   0.00 /   657.40            I65/   0.25 /   648.42
CASNb/   0.00 /   653.20
            CASNc/   0.00 /   653.19          CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
            CASNf/   0.00 /   651.93          CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
            CASNi/   0.00 /   651.59

          Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/        0.00        EAStoNEC/       0.00*          NW1toP1/
0.01*        USPDtoNW1/        0.00*
           P2toP1/        0.58             S4a/       0.00               S4b/
0.00               S4c/        0.00
              S4d/        0.00          P3toSE/       0.02           SEtoSEC/
0.02*          SECtoP2/        0.02*
          SWtoSWC/        0.01*             S8/       0.01*               S9/
0.00*        WEStoSESC/        0.00
        SR26toOUT/        0.96             S3d/       0.00               S3c/
0.00*              S3b/        0.00*
              S3a/        0.00*            S1a/       0.00*              S1b/
0.00*              S1c/        0.00*
              S1d/        0.00*            S2a/       0.00*              S2b/
0.00*              S2c/        0.00*
              S5b/        0.00*            S5a/       0.00*             S10d/
0.00              S10c/        0.00
             S10b/        0.00*           S10a/       0.00*             S11a/
0.00*             S11b/        0.00*
             S11c/        0.00*           S12a/       0.00              S12b/
0.00*             S12c/        0.00*
             S13a/        0.00*           S13b/       0.00              S13c/
0.00              S13d/        0.00*
        US65toUSM/        0.00        CASNatob/       0.00          CASNbtoc/
0.00          CASNctod/        0.00
         CASNdtoe/        0.00        CASNetof/       0.00          CASNftog/
0.00          CASNgtoH/        0.00
         CASNhtoi/        0.00       CASNitoNW/       0.00              Weir/
0.00           MJRLeft/        0.26
         MJRRight/        0.51        MJRExist/       0.61            MjrNew/
0.35         DSmjrExis/        0.00*
         DSmjrNew/        0.96         PRKWout/       0.00           18exist/
0.17*           42in 1/        0.30*
           42in 2/        0.30*       18inchDS/      -0.10             3x6DS/
0.43              3ft3/        0.43
         FREE # 1/        0.96
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 Cycle      64500      Time         89 Hrs - 35.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.20 /   648.41
            USPD/   0.00 /   653.75              USM/   1.05 /   648.42
OUT/   0.02 /   621.08
            DSMR/   0.39 /   640.39             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.15 /   650.16              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.19 /   650.20              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.25 /   648.42
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.01*      USPDtoNW1/       0.00*
          P2toP1/       0.56              S4a/       0.00              S4b/
0.00            S4c/        0.00
             S4d/       0.00          P3toSE/        0.02          SEtoSEC/
0.02*        SECtoP2/       0.02*
         SWtoSWC/       0.01*              S8/       0.01*              S9/
0.00*      WEStoSESC/       0.00
       SR26toOUT/       0.94              S3d/       0.00              S3c/
0.00*           S3b/        0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*           S1c/        0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*           S2c/        0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00              S10c/       0.00
          S10b/       0.00*             S10a/       0.00*             S11a/
0.00*             S11b/       0.00*
          S11c/       0.00*             S12a/       0.00              S12b/
0.00*             S12c/       0.00*
          S13a/       0.00*             S13b/       0.00              S13c/
0.00              S13d/       0.00*
       US65toUSM/     0.00          CASNatob/       0.00          CASNbtoc/
0.00           CASNctod/      0.00
        CASNdtoe/     0.00          CASNetof/       0.00          CASNftog/
0.00           CASNgtoH/      0.00
        CASNhtoi/     0.00         CASNitoNW/       0.00              Weir/
0.00             MJRLeft/     0.26
        MJRRight/     0.50          MJRExist/       0.60            MjrNew/
0.34          DSmjrExis/      0.00*
        DSmjrNew/     0.94           PRKWout/       0.00           18exist/
0.17*            42in 1/      0.29*
          42in 2/     0.29*         18inchDS/      -0.10             3x6DS/
0.43              3ft3/       0.43
        FREE # 1/     0.94

 Cycle      65000      Time         90 Hrs - 16.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.20 /   648.41
           USPD/   0.00 /   653.75              USM/   1.05 /   648.42
OUT/   0.02 /   621.08
           DSMR/   0.39 /   640.39             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
             P1/   0.15 /   650.16              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
             P2/   0.19 /   650.20              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   0.24 /   648.41
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

          Conduit/        FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/        0.00          EAStoNEC/       0.00*          NW1toP1/
0.00*         USPDtoNW1/       0.00*
           P2toP1/        0.55               S4a/       0.00              S4b/
0.00               S4c/        0.00
             S4d/        0.00            P3toSE/       0.02           SEtoSEC/
0.02*          SECtoP2/        0.02*
          SWtoSWC/        0.01*               S8/       0.01*              S9/
0.00*         WEStoSESC/        0.00
        SR26toOUT/        0.92               S3d/       0.00              S3c/
0.00*              S3b/        0.00*
             S3a/        0.00*              S1a/       0.00*             S1b/
0.00*              S1c/        0.00*
             S1d/        0.00*              S2a/       0.00*             S2b/
0.00*              S2c/        0.00*
             S5b/        0.00*              S5a/       0.00*            S10d/
0.00              S10c/        0.00
            S10b/        0.00*             S10a/       0.00*            S11a/
0.00*             S11b/        0.00*
            S11c/        0.00*             S12a/       0.00             S12b/
0.00*             S12c/        0.00*
            S13a/        0.00*             S13b/       0.00             S13c/
0.00              S13d/        0.00*
        US65toUSM/        0.00         CASNatob/       0.00         CASNbtoc/
0.00          CASNctod/        0.00
         CASNdtoe/        0.00         CASNetof/       0.00         CASNftog/
0.00          CASNgtoH/        0.00
         CASNhtoi/        0.00        CASNitoNW/       0.00             Weir/
0.00           MJRLeft/        0.25
         MJRRight/        0.49         MJRExist/       0.59           MjrNew/
0.33         DSmjrExis/        0.00*
         DSmjrNew/        0.92          PRKWout/       0.00          18exist/
0.17*           42in 1/        0.29*
           42in 2/        0.29*        18inchDS/      -0.10            3x6DS/
0.42              3ft3/        0.42
         FREE # 1/        0.92

 Cycle      65500      Time         90 Hrs - 58.33 Min

        Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.20 /   648.41
            USPD/   0.00 /   653.75              USM/   1.04 /   648.41
OUT/   0.02 /   621.08
            DSMR/   0.39 /   640.39             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.15 /   650.16              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.19 /   650.20              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
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             NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
              P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
             CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
             EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
             WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
             SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
             NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
             NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
             CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
             PRKE/   0.00 /   657.40             I65/   0.24 /   648.41
CASNb/   0.00 /   653.20
            CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
            CASNf/   0.00 /   651.93           CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
            CASNi/   0.00 /   651.59

          Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
         NE1toEAS/       0.00          EAStoNEC/       0.00*          NW1toP1/
0.00*        USPDtoNW1/       0.00*
           P2toP1/       0.54               S4a/       0.00               S4b/
0.00              S4c/       0.00
              S4d/       0.00            P3toSE/       0.02           SEtoSEC/
0.02*          SECtoP2/       0.02*
          SWtoSWC/       0.01*               S8/       0.01*               S9/
0.00*        WEStoSESC/       0.00
        SR26toOUT/       0.90               S3d/       0.00               S3c/
0.00*             S3b/       0.00*
              S3a/       0.00*              S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
              S1d/       0.00*              S2a/       0.00*              S2b/
0.00*             S2c/       0.00*
              S5b/       0.00*              S5a/       0.00*             S10d/
0.00             S10c/       0.00
             S10b/       0.00*             S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
             S11c/       0.00*             S12a/       0.00              S12b/
0.00*            S12c/       0.00*
             S13a/       0.00*             S13b/       0.00              S13c/
0.00             S13d/       0.00*
        US65toUSM/       0.00          CASNatob/       0.00          CASNbtoc/
0.00         CASNctod/       0.00
         CASNdtoe/       0.00          CASNetof/       0.00          CASNftog/
0.00         CASNgtoH/       0.00
         CASNhtoi/       0.00         CASNitoNW/       0.00              Weir/
0.00          MJRLeft/       0.24
         MJRRight/       0.48          MJRExist/       0.57            MjrNew/
0.33         DSmjrExis/       0.00*
         DSmjrNew/       0.90           PRKWout/       0.00          18exist/
0.16*           42in 1/       0.28*
          42in 2/       0.28*         18inchDS/      -0.10             3x6DS/
0.41             3ft3/       0.41
         FREE # 1/       0.90
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 Cycle      66000      Time         91 Hrs - 40.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60               NW1/   0.00 /   651.40
MJR/   1.20 /   648.41
            USPD/   0.00 /   653.75               USM/   1.04 /   648.41
OUT/   0.02 /   621.08
            DSMR/   0.38 /   640.38              SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
              P1/   0.14 /   650.15               SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.19 /   650.20               SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17               EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81               WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57              NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18              NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68               P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31               P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96              CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75              WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59              WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26              SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51              NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60              NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53              CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40               I65/   0.24 /   648.41
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19             CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93             CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00         EAStoNEC/       0.00*         NW1toP1/
0.00*       USPDtoNW1/       0.00*
          P2toP1/       0.53              S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.02          SEtoSEC/
0.02*         SECtoP2/       0.02*
         SWtoSWC/       0.01*              S8/       0.01*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       0.88              S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*             S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*             S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*             S5a/       0.00*            S10d/
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0.00             S10c/       0.00
          S10b/       0.00*          S10a/       0.00*           S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*          S12a/       0.00            S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*          S13b/       0.00            S13c/
0.00             S13d/       0.00*
       US65toUSM/     0.00        CASNatob/      0.00         CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/     0.00        CASNetof/      0.00         CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/     0.00       CASNitoNW/      0.00             Weir/
0.00           MJRLeft/      0.24
        MJRRight/     0.47        MJRExist/      0.56           MjrNew/
0.32          DSmjrExis/     0.00*
        DSmjrNew/     0.88         PRKWout/      0.00          18exist/
0.16*           42in 1/      0.27*
         42in 2/      0.27*       18inchDS/     -0.09            3x6DS/
0.40             3ft3/       0.40
        FREE # 1/     0.88

 Cycle      66500      Time         92 Hrs - 21.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.20 /   648.41
           USPD/   0.00 /   653.75              USM/   1.04 /   648.41
OUT/   0.02 /   621.08
           DSMR/   0.38 /   640.38             SR26/   0.95 /   638.53
NE1/   0.00 /   655.65
             P1/   0.14 /   650.15              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
             P2/   0.18 /   650.19              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
           NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
            P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
           CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
           EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
           WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
           SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
           NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
           NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
           CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
           PRKE/   0.00 /   657.40              I65/   0.24 /   648.41
CASNb/   0.00 /   653.20
          CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
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CASNe/ 0.00 / 652.25
CASNf/ 0.00 / 651.93 CASNg/ 0.00 / 651.91
CASNh/ 0.00 / 651.80
CASNi/ 0.00 / 651.59

Conduit/ FLOW ===> "*" Conduit uses the normal flow option.
NE1toEAS/ 0.00 EAStoNEC/ 0.00* NW1toP1/
0.00* USPDtoNW1/ 0.00*
P2toP1/ 0.52 S4a/ 0.00 S4b/
0.00 S4c/ 0.00
S4d/ 0.00 P3toSE/ 0.02 SEtoSEC/
0.02* SECtoP2/ 0.02*
SWtoSWC/ 0.01* S8/ 0.01* S9/
0.00* WEStoSESC/ 0.00
SR26toOUT/ 0.86 S3d/ 0.00 S3c/
0.00* S3b/ 0.00*
S3a/ 0.00* S1a/ 0.00* S1b/
0.00* S1c/ 0.00*
S1d/ 0.00* S2a/ 0.00* S2b/
0.00* S2c/ 0.00*
S5b/ 0.00* S5a/ 0.00* S10d/
0.00 S10c/ 0.00
S10b/ 0.00* S10a/ 0.00* S11a/
0.00* S11b/ 0.00*
S11c/ 0.00* S12a/ 0.00 S12b/
0.00* S12c/ 0.00*
S13a/ 0.00* S13b/ 0.00 S13c/
0.00 S13d/ 0.00*
US65toUSM/ 0.00 CASNatob/ 0.00 CASNbtoc/
0.00 CASNctod/ 0.00
CASNdtoe/ 0.00 CASNetof/ 0.00 CASNftog/
0.00 CASNgtoH/ 0.00
CASNhtoi/ 0.00 CASNitoNW/ 0.00 Weir/
0.00 MJRLeft/ 0.23
MJRRight/ 0.46 MJRExist/ 0.55 MjrNew/
0.31 DSmjrExis/ 0.00*
DSmjrNew/ 0.86 PRKWout/ 0.00 18exist/
0.16* 42in 1/ 0.27*
42in 2/ 0.27* 18inchDS/ -0.09 3x6DS/
0.39 3ft3/ 0.39
FREE # 1/ 0.86

Cycle 67000 Time 93 Hrs - 3.33 Min

Junction / Depth / Elevation ===> "*" Junction is Surcharged.
AR4/ 0.44 / 653.60 NW1/ 0.00 / 651.40
MJR/ 1.19 / 648.40
USPD/ 0.00 / 653.75 USM/ 1.04 / 648.41
OUT/ 0.02 / 621.08
DSMR/ 0.38 / 640.38 SR26/ 0.94 / 638.52
NE1/ 0.00 / 655.65
P1/ 0.14 / 650.15 SWC/ 0.02 / 651.43
P3/ 0.04 / 653.73
P2/ 0.18 / 650.19 SEC/ 0.02 / 651.19
NEC/ 0.00 / 655.07
OUT2/ 0.00 / 650.17 EAS/ 0.00 / 655.39
SE/ 0.01 / 652.14
SW/ 0.01 / 651.81 WES/ 0.00 / 651.54
SESC/ 0.42 / 651.54
NECa/ 0.00 / 653.57 NECb/ 0.00 / 652.07
NECc/ 0.00 / 650.57
NE1d/ 0.00 / 657.18 NE1c/ 0.00 / 658.71
NE1b/ 0.00 / 660.24

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          NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
           P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
          CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
          EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
          WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
          SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
          NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
          NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
          CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
          PRKE/   0.00 /   657.40              I65/   0.23 /   648.40
CASNb/   0.00 /   653.20
         CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
         CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
         CASNi/   0.00 /   651.59

       Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
      NE1toEAS/       0.00       EAStoNEC/       0.00*          NW1toP1/
0.00*       USPDtoNW1/       0.00*
        P2toP1/       0.51            S4a/       0.00              S4b/
0.00              S4c/       0.00
           S4d/       0.00         P3toSE/       0.02          SEtoSEC/
0.02*         SECtoP2/       0.02*
       SWtoSWC/       0.01*            S8/       0.01*              S9/
0.00*        WEStoSESC/       0.00
     SR26toOUT/       0.84            S3d/       0.00              S3c/
0.00*             S3b/       0.00*
           S3a/       0.00*           S1a/       0.00*             S1b/
0.00*             S1c/       0.00*
           S1d/       0.00*           S2a/       0.00*             S2b/
0.00*             S2c/       0.00*
           S5b/       0.00*           S5a/       0.00*            S10d/
0.00             S10c/       0.00
          S10b/       0.00*          S10a/       0.00*            S11a/
0.00*            S11b/       0.00*
          S11c/       0.00*          S12a/       0.00             S12b/
0.00*            S12c/       0.00*
          S13a/       0.00*          S13b/       0.00             S13c/
0.00             S13d/       0.00*
     US65toUSM/       0.00       CASNatob/       0.00         CASNbtoc/
0.00         CASNctod/       0.00
      CASNdtoe/       0.00       CASNetof/       0.00         CASNftog/
0.00         CASNgtoH/       0.00
      CASNhtoi/       0.00      CASNitoNW/       0.00             Weir/
0.00          MJRLeft/       0.23
      MJRRight/       0.45       MJRExist/       0.54           MjrNew/
0.30         DSmjrExis/       0.00*
      DSmjrNew/       0.84       PRKWout/        0.00         18exist/
0.15*          42in 1/       0.26*
        42in 2/       0.26*      18inchDS/      -0.09            3x6DS/
0.38             3ft3/       0.38
      FREE # 1/       0.84
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 Cycle      67500      Time         93 Hrs - 45.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.19 /   648.40
            USPD/   0.00 /   653.75              USM/   1.03 /   648.40
OUT/   0.02 /   621.08
            DSMR/   0.37 /   640.37             SR26/   0.94 /   638.52
NE1/   0.00 /   655.65
              P1/   0.14 /   650.15              SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.18 /   650.19              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.23 /   648.40
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
0.00*       USPDtoNW1/       0.00*
          P2toP1/       0.49               S4a/       0.00             S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.02         SEtoSEC/
0.02*         SECtoP2/       0.02*
         SWtoSWC/       0.01*               S8/       0.01*             S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       0.82               S3d/       0.00             S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*            S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*            S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*           S10d/
```

```
0.00            S10c/      0.00
          S10b/      0.00*          S10a/      0.00*          S11a/
0.00*           S11b/      0.00*
          S11c/      0.00*          S12a/      0.00           S12b/
0.00*           S12c/      0.00*
          S13a/      0.00*          S13b/      0.00           S13c/
0.00            S13d/      0.00*
       US65toUSM/    0.00        CASNatob/     0.00        CASNbtoc/
0.00         CASNctod/     0.00
        CASNdtoe/    0.00        CASNetof/     0.00        CASNftog/
0.00         CASNgtoH/     0.00
        CASNhtoi/    0.00       CASNitoNW/     0.00            Weir/
0.00          MJRLeft/     0.22
        MJRRight/    0.44        MJRExist/     0.53          MjrNew/
0.30        DSmjrExis/     0.00*
        DSmjrNew/    0.82         PRKWout/     0.00         18exist/
0.15*         42in 1/      0.25*
          42in 2/    0.25*       18inchDS/    -0.09           3x6DS/
0.38            3ft3/      0.38
        FREE # 1/    0.82

 Cycle      68000      Time         94 Hrs - 26.67 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60             NW1/   0.00 /   651.40
MJR/   1.19 /   648.40
            USPD/   0.00 /   653.75             USM/   1.03 /   648.40
OUT/   0.01 /   621.07
            DSMR/   0.37 /   640.37            SR26/   0.94 /   638.52
NE1/   0.00 /   655.65
              P1/   0.14 /   650.15             SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
              P2/   0.18 /   650.19             SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17             EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81             WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57            NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18            NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68             P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31             P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96            CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75            WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59            WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26            SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51            NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60            NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53            CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40             I65/   0.23 /   648.40
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19           CASNd/   0.00 /   652.60
```

```
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*          NW1toP1/
0.00*        USPDtoNW1/      0.00*
          P2toP1/       0.48               S4a/       0.00               S4b/
0.00              S4c/       0.00
            S4d/        0.00            P3toSE/       0.02          SEtoSEC/
0.02*          SECtoP2/      0.02*
         SWtoSWC/       0.01*               S8/       0.01*               S9/
0.00*        WEStoSESC/      0.00
       SR26toOUT/       0.80               S3d/       0.00               S3c/
0.00*             S3b/       0.00*
            S3a/        0.00*              S1a/       0.00*              S1b/
0.00*             S1c/       0.00*
            S1d/        0.00*              S2a/       0.00*              S2b/
0.00*             S2c/       0.00*
            S5b/        0.00*              S5a/       0.00*             S10d/
0.00             S10c/       0.00
           S10b/        0.00*             S10a/       0.00*             S11a/
0.00*            S11b/       0.00*
           S11c/        0.00*             S12a/       0.00              S12b/
0.00*            S12c/       0.00*
           S13a/        0.00*             S13b/       0.00              S13c/
0.00             S13d/       0.00*
       US65toUSM/       0.00          CASNatob/       0.00          CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/       0.00          CASNetof/       0.00          CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/       0.00         CASNitoNW/       0.00              Weir/
0.00           MJRLeft/      0.22
        MJRRight/       0.43          MJRExist/       0.52            MjrNew/
0.29         DSmjrExis/      0.00*
        DSmjrNew/       0.80           PRKWout/       0.00           18exist/
0.15*           42in 1/      0.25*
          42in 2/       0.25*         18inchDS/      -0.09             3x6DS/
0.37              3ft3/      0.37
        FREE # 1/       0.80

 Cycle       68500      Time          95 Hrs -  8.33 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
            AR4/   0.44 /   653.60                NW1/   0.00 /   651.40
MJR/   1.19 /   648.40
           USPD/   0.00 /   653.75                USM/   1.03 /   648.40
OUT/   0.01 /   621.07
           DSMR/   0.37 /   640.37               SR26/   0.94 /   638.52
NE1/   0.00 /   655.65
             P1/   0.14 /   650.15                SWC/   0.02 /   651.43
 P3/   0.04 /   653.73
             P2/   0.18 /   650.19                SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
           OUT2/   0.00 /   650.17                EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
             SW/   0.01 /   651.81                WES/   0.00 /   651.54
SESC/   0.42 /   651.54
           NECa/   0.00 /   653.57               NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
           NE1d/   0.00 /   657.18               NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
```

NE1a/ 0.00 / 661.68 P1b/ 0.00 / 659.19
P1c/ 0.00 / 656.25
P1d/ 0.00 / 653.31 P1a/ 0.00 / 662.13
CNEb/ 0.00 / 655.53
CNEa/ 0.00 / 657.96 CNEc/ 0.00 / 652.77
EASa/ 0.00 / 664.48
EASb/ 0.00 / 661.75 WESa/ 0.00 / 660.14
WESb/ 0.00 / 659.14
WESc/ 0.00 / 656.59 WESd/ 0.00 / 654.04
SCWa/ 0.00 / 661.35
SCWb/ 0.00 / 658.26 SCWc/ 0.00 / 652.17
NCWa/ 0.00 / 661.81
NCWb/ 0.00 / 660.51 NCWc/ 0.00 / 655.26
NW1a/ 0.01 / 662.69
NW1b/ 0.00 / 661.60 NW1c/ 0.00 / 660.40
NW1d/ 0.00 / 657.00
CASO/ 0.00 / 657.53 CASN/ 0.00 / 658.20
PRKW/ 0.00 / 656.56
PRKE/ 0.00 / 657.40 I65/ 0.23 / 648.40
CASNb/ 0.00 / 653.20
CASNc/ 0.00 / 653.19 CASNd/ 0.00 / 652.60
CASNe/ 0.00 / 652.25
CASNf/ 0.00 / 651.93 CASNg/ 0.00 / 651.91
CASNh/ 0.00 / 651.80
CASNi/ 0.00 / 651.59

Conduit/ FLOW ===> "*" Conduit uses the normal flow option.
NE1toEAS/ 0.00 EAStoNEC/ 0.00* NW1toP1/
0.00* USPDtoNW1/ 0.00*
P2toP1/ 0.47 S4a/ 0.00 S4b/
0.00 S4c/ 0.00
S4d/ 0.00 P3toSE/ 0.02 SEtoSEC/
0.02* SECtoP2/ 0.02*
SWtoSWC/ 0.01* S8/ 0.01* S9/
0.00* WEStoSESC/ 0.00
SR26toOUT/ 0.79 S3d/ 0.00 S3c/
0.00* S3b/ 0.00*
S3a/ 0.00* S1a/ 0.00* S1b/
0.00* S1c/ 0.00*
S1d/ 0.00* S2a/ 0.00* S2b/
0.00* S2c/ 0.00*
S5b/ 0.00* S5a/ 0.00* S10d/
0.00 S10c/ 0.00
S10b/ 0.00* S10a/ 0.00* S11a/
0.00* S11b/ 0.00*
S11c/ 0.00* S12a/ 0.00 S12b/
0.00* S12c/ 0.00*
S13a/ 0.00* S13b/ 0.00 S13c/
0.00 S13d/ 0.00*
US65toUSM/ 0.00 CASNatob/ 0.00 CASNbtoc/
0.00 CASNctod/ 0.00
CASNdtoe/ 0.00 CASNetof/ 0.00 CASNftog/
0.00 CASNgtoH/ 0.00
CASNhtoi/ 0.00 CASNitoNW/ 0.00 Weir/
0.00 MJRLeft/ 0.21
MJRRight/ 0.43 MJRExist/ 0.50 MjrNew/
0.28 DSmjrExis/ 0.00*
DSmjrNew/ 0.79 PRKWout/ 0.00 18exist/
0.14* 42in 1/ 0.25*
42in 2/ 0.25* 18inchDS/ -0.09 3x6DS/
0.37 3ft3/ 0.37
FREE # 1/ 0.79

```
 Cycle      69000      Time         95 Hrs - 50.00 Min

       Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60              NW1/   0.00 /   651.40
MJR/   1.19 /   648.40
            USPD/   0.00 /   653.75              USM/   1.03 /   648.40
OUT/   0.01 /   621.07
            DSMR/   0.36 /   640.36             SR26/   0.94 /   638.52
NE1/   0.00 /   655.65
              P1/   0.14 /   650.15              SWC/   0.02 /   651.43
 P3/   0.03 /   653.72
              P2/   0.18 /   650.19              SEC/   0.02 /   651.19
NEC/   0.00 /   655.07
            OUT2/   0.00 /   650.17              EAS/   0.00 /   655.39
 SE/   0.01 /   652.14
              SW/   0.01 /   651.81              WES/   0.00 /   651.54
SESC/   0.42 /   651.54
            NECa/   0.00 /   653.57             NECb/   0.00 /   652.07
NECc/   0.00 /   650.57
            NE1d/   0.00 /   657.18             NE1c/   0.00 /   658.71
NE1b/   0.00 /   660.24
            NE1a/   0.00 /   661.68              P1b/   0.00 /   659.19
P1c/   0.00 /   656.25
             P1d/   0.00 /   653.31              P1a/   0.00 /   662.13
CNEb/   0.00 /   655.53
            CNEa/   0.00 /   657.96             CNEc/   0.00 /   652.77
EASa/   0.00 /   664.48
            EASb/   0.00 /   661.75             WESa/   0.00 /   660.14
WESb/   0.00 /   659.14
            WESc/   0.00 /   656.59             WESd/   0.00 /   654.04
SCWa/   0.00 /   661.35
            SCWb/   0.00 /   658.26             SCWc/   0.00 /   652.17
NCWa/   0.00 /   661.81
            NCWb/   0.00 /   660.51             NCWc/   0.00 /   655.26
NW1a/   0.01 /   662.69
            NW1b/   0.00 /   661.60             NW1c/   0.00 /   660.40
NW1d/   0.00 /   657.00
            CASO/   0.00 /   657.53             CASN/   0.00 /   658.20
PRKW/   0.00 /   656.56
            PRKE/   0.00 /   657.40              I65/   0.23 /   648.40
CASNb/   0.00 /   653.20
           CASNc/   0.00 /   653.19            CASNd/   0.00 /   652.60
CASNe/   0.00 /   652.25
           CASNf/   0.00 /   651.93            CASNg/   0.00 /   651.91
CASNh/   0.00 /   651.80
           CASNi/   0.00 /   651.59

         Conduit/       FLOW   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00          EAStoNEC/       0.00*         NW1toP1/
0.00*       USPDtoNW1/       0.00*
          P2toP1/       0.47               S4a/       0.00              S4b/
0.00             S4c/       0.00
             S4d/       0.00           P3toSE/       0.02          SEtoSEC/
0.02*        SECtoP2/       0.02*
         SWtoSWC/       0.01*               S8/       0.01*              S9/
0.00*       WEStoSESC/       0.00
       SR26toOUT/       0.77               S3d/       0.00              S3c/
0.00*            S3b/       0.00*
             S3a/       0.00*              S1a/       0.00*             S1b/
0.00*            S1c/       0.00*
             S1d/       0.00*              S2a/       0.00*             S2b/
0.00*            S2c/       0.00*
             S5b/       0.00*              S5a/       0.00*            S10d/
```

```
0.00             S10c/      0.00
            S10b/      0.00*           S10a/      0.00*            S11a/
0.00*            S11b/      0.00*
            S11c/      0.00*           S12a/      0.00             S12b/
0.00*            S12c/      0.00*
            S13a/      0.00*           S13b/      0.00             S13c/
0.00             S13d/      0.00*
       US65toUSM/      0.00         CASNatob/      0.00         CASNbtoc/
0.00          CASNctod/      0.00
        CASNdtoe/      0.00         CASNetof/      0.00         CASNftog/
0.00          CASNgtoH/      0.00
        CASNhtoi/      0.00        CASNitoNW/      0.00             Weir/
0.00           MJRLeft/      0.21
        MJRRight/      0.42         MJRExist/      0.49           MjrNew/
0.28          DSmjrExis/      0.00*
        DSmjrNew/      0.77          PRKWout/      0.00          18exist/
0.14*          42in 1/      0.24*
          42in 2/      0.24*        18inchDS/     -0.09            3x6DS/
0.36             3ft3/      0.36
        FREE # 1/      0.77
```

```
*====================================================*
| Table E5 - Junction Time Limitation Summary        |
|             (0.10 or 0.25)* Depth * Area           |
| Time step = ------------------------------         |
|                     Sum of Flow                    |
*====================================================*
|  The time this junction was the limiting junction  |
|                 is listed in the third column.     |
*====================================================*
```

Junction	Time(.10)	Time(.25)	Time(sec)
AR4	50.0000	50.0000	12965.0000
NW1	50.0000	50.0000	0.0000
MJR	50.0000	50.0000	0.0000
USPD	50.0000	50.0000	0.0000
USM	50.0000	50.0000	0.0000
OUT	50.0000	50.0000	0.0000
DSMR	0.4984	1.2460	330760.000
SR26	4.9301	12.3252	1875.0000
NE1	50.0000	50.0000	0.0000
P1	50.0000	50.0000	0.0000
SWC	50.0000	50.0000	0.0000
P3	50.0000	50.0000	0.0000
P2	50.0000	50.0000	0.0000
SEC	50.0000	50.0000	0.0000
NEC	50.0000	50.0000	0.0000

OUT2	50.0000	50.0000	0.0000
EAS	50.0000	50.0000	0.0000
SE	50.0000	50.0000	0.0000
SW	50.0000	50.0000	0.0000
WES	50.0000	50.0000	0.0000
SESC	50.0000	50.0000	0.0000
NECa	50.0000	50.0000	0.0000
NECb	50.0000	50.0000	0.0000
NECc	50.0000	50.0000	0.0000
NE1d	50.0000	50.0000	0.0000
NE1c	50.0000	50.0000	0.0000
NE1b	50.0000	50.0000	0.0000
NE1a	50.0000	50.0000	0.0000
P1b	50.0000	50.0000	0.0000
P1c	50.0000	50.0000	0.0000
P1d	50.0000	50.0000	0.0000
P1a	50.0000	50.0000	0.0000
CNEb	50.0000	50.0000	0.0000
CNEa	50.0000	50.0000	0.0000
CNEc	50.0000	50.0000	0.0000
EASa	50.0000	50.0000	0.0000
EASb	50.0000	50.0000	0.0000
WESa	50.0000	50.0000	0.0000
WESb	50.0000	50.0000	0.0000
WESc	50.0000	50.0000	0.0000
WESd	50.0000	50.0000	0.0000
SCWa	50.0000	50.0000	0.0000
SCWb	50.0000	50.0000	0.0000
SCWc	50.0000	50.0000	0.0000
NCWa	50.0000	50.0000	0.0000
NCWb	50.0000	50.0000	0.0000

NCWc	50.0000	50.0000	0.0000
NW1a	50.0000	50.0000	0.0000
NW1b	50.0000	50.0000	0.0000
NW1c	50.0000	50.0000	0.0000
NW1d	50.0000	50.0000	0.0000
CASO	50.0000	50.0000	0.0000
CASN	50.0000	50.0000	0.0000
PRKW	50.0000	50.0000	0.0000
PRKE	50.0000	50.0000	0.0000
I65	50.0000	50.0000	0.0000
CASNb	50.0000	50.0000	0.0000
CASNc	50.0000	50.0000	0.0000
CASNd	50.0000	50.0000	0.0000
CASNe	50.0000	50.0000	0.0000
CASNf	50.0000	50.0000	0.0000
CASNg	50.0000	50.0000	0.0000
CASNh	50.0000	50.0000	0.0000
CASNi	50.0000	50.0000	0.0000

The junction requiring the smallest time step was...DSMR

```
*===========================================================*
|       Table E5a - Conduit Explicit Condition Summary      |
|       Courant   =         Conduit Length                  |
|       Time step = --------------------------------        |
|                      Velocity + sqrt(g*depth)             |
|                                                           |
|                 Conduit Implicit Condition Summary        |
|       Courant   =         Conduit Length                  |
|       Time step = --------------------------------        |
|                             Velocity                      |
*===========================================================*
|  The 3rd column is the Explicit time step times the       |
|      minimum courant time step factor                     |
|                                                           |
|  Minimum Conduit Time Step in seconds in the 4th column   |
|  in the list. Maximum possible is 10 * maximum time step  |
|                                                           |
|  The 5th column is the maximum change at any time step    |
|  during the simulation. The 6th column is the wobble      |
|  value which is an indicator of the flow stability.       |
|                                                           |
|  You should use this section to find those conduits that  |
|  are slowing your model down.  Use modify conduits to     |
|  alter the length of the slow conduits to make your       |
```

```
|  simulation faster, or change the conduit name to        |
|  "CHME?????" where ????? are any characters, this will   |
|  lengthen the conduit based on the model time step,      |
|  not the value listed in modify conduits.                |
*==========================================================*
```

Conduit	Time(exp)	Expl*Cmin	Time(imp)	Time(min)	Max Qchange	Wobble	Type of Soln
NE1toEAS	11.6036	11.6036	38.3251	280.1667	0.0151	1.0096	Normal Soln
EAStoNEC	14.5586	14.5586	44.0390	0.0000	-0.0664	0.9765	Normal Soln
NW1toP1	13.4279	13.4279	34.5428	0.0000	-12.9174	0.7612	Normal Soln
USPDtoNW1	9.5936	9.5936	18.2216	0.0000	0.1751	0.0116	Normal Soln
P2toP1	25.4838	25.4838	50.0000	0.0000	-0.0319	12.0755	Normal Soln
S4a	37.1674	37.1674	50.0000	0.0000	0.0297	0.3903	Normal Soln
S4b	37.1742	37.1742	50.0000	0.0000	0.0223	0.3890	Normal Soln
S4c	37.1784	37.1784	50.0000	0.0000	0.0217	0.4143	Normal Soln
S4d	13.8573	13.8573	42.6407	0.0000	0.0242	0.5533	Normal Soln
P3toSE	29.9472	29.9472	50.0000	0.0000	0.0066	0.1356	Normal Soln
SEtoSEC	12.9584	12.9584	36.0232	0.0000	0.0068	0.1284	Normal Soln
SECtoP2	20.7198	20.7198	50.0000	0.0000	0.0081	0.1868	Normal Soln
SWtoSWC	21.0830	21.0830	50.0000	0.0000	-0.0330	0.4753	Normal Soln
S8	37.0608	37.0608	50.0000	0.0000	-0.0408	0.3977	Normal Soln
S9	29.9962	29.9962	50.0000	0.0000	0.0271	0.0696	Normal Soln
WEStoSESC	23.5824	23.5824	50.0000	0.0000	-0.0138	0.4362	Normal Soln
SR26toOUT	12.7262	12.7262	17.1645	0.0000	0.7788	0.2015	Normal Soln
S3d	41.8880	41.8880	50.0000	0.0000	-0.0148	0.2598	Normal Soln
S3c	41.4170	41.4170	50.0000	0.0000	-0.0151	0.2601	Normal Soln
S3b	41.3539	41.3539	50.0000	0.0000	-0.0154	0.2603	Normal Soln
S3a	38.7505	38.7505	50.0000	0.0000	0.0199	0.2600	Normal Soln
S1a	45.0442	45.0442	50.0000	0.0000	-0.0512	0.1212	Normal Soln
S1b	45.2862	45.2862	50.0000	0.0000	-0.0285	0.1216	Normal Soln
S1c	47.1539	47.1539	50.0000	0.0000	-0.0251	0.1031	Normal Soln
S1d	47.4451	47.4451	50.0000	0.0000	0.3236	0.1218	Normal Soln
S2a	38.3438	38.3438	50.0000	0.0000	0.0117	0.1459	Normal Soln
S2b	43.6100	43.6100	50.0000	0.0000	0.0092	0.1459	

```
Normal Soln
              S2c    43.9391    43.9391    50.0000     0.0000      -0.0108   0.1541
Normal Soln
              S5b    50.0000    50.0000    50.0000     0.0000       0.0067   0.0254
Normal Soln
              S5a    24.7200    24.7200    50.0000     0.0000       0.0077   0.0276
Normal Soln
             S10d    30.0704    30.0704    50.0000     0.0000       0.0118   0.0955
Normal Soln
             S10c    45.1671    45.1671    50.0000     0.0000       0.0105   0.1264
Normal Soln
             S10b    44.0301    44.0301    50.0000     0.0000       0.0106   0.1391
Normal Soln
             S10a    17.1450    17.1450    48.6742     0.0000       0.0246   0.1389
Normal Soln
             S11a    48.6561    48.6561    50.0000     0.0000       0.0161   0.0827
Normal Soln
             S11b    47.0435    47.0435    50.0000     0.0000       0.0129   0.0591
Normal Soln
             S11c    44.7561    44.7561    50.0000     0.0000       0.0127   0.1363
Normal Soln
             S12a    21.9985    21.9985    50.0000     0.0000       0.0122   0.0739
Normal Soln
             S12b    27.1109    27.1109    50.0000     0.0000       0.0094   0.0427
Normal Soln
             S12c    28.4441    28.4441    50.0000     0.0000      -0.0106   0.0426
Normal Soln
             S13a    27.3547    27.3547    50.0000     0.0000       0.0201   0.2451
Normal Soln
             S13b    30.5492    30.5492    50.0000     0.0000      -0.0229   0.2469
Normal Soln
             S13c    25.9786    25.9786    50.0000     0.0000      -0.0647   0.1400
Normal Soln
             S13d    20.7860    20.7860    45.6565     0.0000       0.0574   0.0891
Normal Soln
         US65toUSM    20.9975    20.9975    50.0000     0.0000       0.0319   5.3121
Normal Soln
          CASNatob     5.1124     5.1124    10.3051     0.0000       0.0045   0.7562
Normal Soln
          CASNbtoc    18.0617    18.0617    50.0000     0.0000      -0.0046   0.9556
Normal Soln
          CASNctod    50.0000    50.0000    50.0000     0.0000      -0.0041   0.1543
Normal Soln
          CASNdtoe    32.0666    32.0666    50.0000     0.0000      -0.0042   0.1607
Normal Soln
          CASNetof    22.3844    22.3844    50.0000     0.0000       0.0042   0.1942
Normal Soln
          CASNftog    18.4622    18.4622    50.0000     0.0000       0.0056   0.6252
Normal Soln
          CASNgtoH    29.7587    29.7587    50.0000     0.0000       0.0048   0.3511
Normal Soln
          CASNhtoi    24.6983    24.6983    50.0000     0.0000      -0.0048   0.1985
Normal Soln
         CASNitoNW    10.1813    10.1813    38.8365     0.0000       0.0034   5.6916
Normal Soln
             Weir    50.0000    50.0000    50.0000     0.0000      -0.0180   0.0218
Normal Soln
           MJRLeft    17.0008    17.0008    50.0000     0.0000       0.2255   0.9533
Normal Soln
          MJRRight    17.2143    17.2143    50.0000     0.0000       0.2499   1.1057
Normal Soln
          MJRExist     4.8599     4.8599    11.0770     0.0000      -4.4644   2.2046
Normal Soln
```

```
           MjrNew     4.9904     4.9904    11.7793     0.0000      -0.5957   3.5965
Normal Soln
        DSmjrExis     7.4000     7.4000    11.6389     0.0000       0.1004   0.8523
Normal Soln
         DSmjrNew     5.7962     5.7962    14.3592     0.0000      -0.9899   5.5031
Normal Soln
          PRKWout    50.0000    50.0000    50.0000     0.0000      -0.0167   0.0262
Normal Soln
          18exist    21.0989    21.0989    50.0000     0.0000      -0.3862   2.7047
Normal Soln
           42in 1    19.0106    19.0106    50.0000     0.0000       0.4694   1.3427
Normal Soln
           42in 2    19.0106    19.0106    50.0000     0.0000       0.4694   1.3427
Normal Soln
         18inchDS     3.2963     3.2963    19.2433     7.3333       0.0733   2.4980
Normal Soln
            3x6DS     3.1738     3.1738    15.5678  5472.5000       0.3076   1.3589
Normal Soln
             3ft3     3.1738     3.1738    15.5678     0.0000       0.3076   1.3589
Normal Soln
The conduit with the smallest time step limitation was..3x6DS
The conduit with the largest wobble was.................P2toP1
The conduit with the largest flow change in any
consecutive time step...................................NW1toP1

 ################################################
 *      End of time step DO-loop in Runoff      *
 ################################################

 Final Date (Mo/Day/Year)   =            1/ 5/2014
 Total number of time steps =                 5760
 Final Julian Date          =              2014005
 Final time of day          =                   0. seconds.
 Final time of day          =                 0.00   hours.
 Final running time         =              96.0000   hours.
 Final running time         =               4.0000    days.

 ####################################################
 *     Extrapolation Summary for Watersheds         *
 * Explains the number of time steps and iterations *
 * used in the solution of the subcatchments.       *
 * # Steps ==> Total Number of Extrapolated Steps   *
 * # Calls ==> Total Number of OVERLND Calls        *
 ####################################################

 Subcatchment   # Steps   # Calls Subcatchment   # Steps   # Calls
 -------------  -------  -------- ------------  -------  --------
 AR4#1                0         0 PRKE#1              0         0 PRKW#1
   0         0
 USPD#1               0         0 NW1a#1              0         0 CASN#1
   0         0
 NW1#1                0         0 NE1a#1              0         0 EASa#1
   0         0
 NEC#1                0         0 P3#1                0         0 SW#1
   0         0
 SW#2                 0         0 WESa#1              0         0 WESa#2
   0         0
 CNEa#1               0         0 SCWa#1              0         0 NCWa#1
   0         0
 P2#1                 0         0 P1a#1               0         0 P1#1
   0         0
 USM#1                0         0 MJR#1               0         0 OUT2#1
   0         0
```

```
 CASO#1                0         0


############################################################
# Rainfall input summary from Runoff Continuity Check   #
############################################################

 Total rainfall read for gage #         1 is       5.5100 in
 Total rainfall duration for gage #     1 is       720.00 minutes

 ************************************************************
 * Table R5. CONTINUITY CHECK FOR SURFACE WATER             *
 *       Any continuity error can be fixed by lowering the  *
 *       wet and transition time step. The transition time  *
 *       should not be much greater than the wet time step. *
 ************************************************************
                                                              Inches over
                                                  cubic feet   Total Basin
 Total Precipitation (Rain plus Snow)            1.196488E+07     5.510
 Total Infiltration                              3.298761E+06         1.519
 Total Evaporation                               1.085742E+05         0.050
 Surface Runoff from Watersheds                  8.566817E+06         3.945
 Total Water remaining in Surface Storage        0.000000E+00         0.000
 Infiltration over the Pervious Area...          3.298761E+06         1.519
                                --------
 Infiltration + Evaporation +
 Surface Runoff + Snow removal +
 Water remaining in Surface Storage +
 Water remaining in Snow Cover.........          1.197415E+07         5.514
 Total Precipitation + Initial Storage.          1.196488E+07         5.510


 The error in continuity is calculated as
 ***************************************
 * Precipitation + Initial Snow Cover  *
 *      - Infiltration -               *
 *Evaporation - Snow removal -         *
 *Surface Runoff from Watersheds -     *
 *Water in Surface Storage -           *
 *Water remaining in Snow Cover        *
 *-------------------------------------*
 * Precipitation + Initial Snow Cover  *
 ***************************************
 Percent Continuity Error...............                            -0.0775


 ****************************************************
 * Table R6. Continuity Check for Channel/Pipes     *
 *           You should have zero continuity error  *
 *           if you are not using runoff hydraulics *
 ****************************************************
                                                                  Inches over
                                                  cubic feet       Total Basin
 Initial Channel/Pipe Storage................    0.000000E+00         0.000
 Final Channel/Pipe Storage..................    0.000000E+00         0.000
 Surface Runoff from Watersheds..............    8.566817E+06         3.945
 Groundwater Subsurface Inflow or Diversion..    0.000000E+00         0.000
 Evaporation Loss from Channels..............    0.000000E+00         0.000
 Groundwater Flow Diverted Out of Network....    0.000000E+00         0.000
 Channel/Pipe/Inlet Outflow..................    8.566817E+06         3.945
 Initial Storage + Inflow....................    8.566817E+06         3.945
 Final Storage + Outflow + Diverted GW.......    8.566817E+06         3.945
 *******************************************
```

```
 * Final Storage + Outflow + Evaporation  - *
 * Watershed Runoff - Groundwater Inflow  - *
 *     Initial Channel/Pipe Storage         *
 *     ------------------------------       *
 *  Final Storage + Outflow  + Evaporation  *
 ********************************************
 Percent Continuity Error...................                         0.0000

         ##################################################
         # Table R9. Summary Statistics for Subcatchments #
         ##################################################

 Note: Total Runoff Depth includes pervious & impervious areas.
       Pervious and Impervious Runoff Depth is only the runoff from those two areas.
       For catchments receiving redirected flow, this flow will only be shown if the
flow is not
       directed directly to the outlet. Flow that is getting redirected is also
listed with
       the original subcatchment.


 Subcatchment...........               AR4#1            PRKE#1            PRKW#1
 USPD#1           NW1a#1              CASN#1
 Area (acres)...........            53.67400           6.80300           7.08200
36.85500         33.69200            8.17600
 Percent Impervious.....             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000
 Total Rainfall (in)....             5.51000           5.51000           5.51000
5.51000          5.51000             5.51000
 Max Intensity (in/hr)..             0.80033           0.80033           0.80033
0.80033          0.80033             0.80033

 Pervious Area
 -------------
 Total Runoff Depth (in)             4.21717           3.79838           3.79486
4.11273          4.00203             3.01563
 Peak Runoff Rate (cfs).            37.41279           4.43917           4.64559
25.58412         22.32320            4.24372

 Total Impervious Area
 ---------------------
 Total Runoff Depth (in)             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000
 Peak Runoff Rate (cfs).             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000

 Impervious Area with depression storage
 ---------------------------------------
 Total Runoff Depth (in)             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000
 Peak Runoff Rate (cfs).             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000

 Impervious Area without depression storage
 ------------------------------------------
 Total Runoff Depth (in)             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000
 Peak Runoff Rate (cfs).             0.00000           0.00000           0.00000
0.00000          0.00000             0.00000

 Total Area
 ----------
 Total Runoff Depth (in)             4.21717           3.79838           3.79486
```

```
4.11273          4.00203          3.01563
 Peak Runoff Rate (cfs).         37.41279          4.43917          4.64559
25.58412         22.32320          4.24372

 Rational Formula
 ----------------
 Pervious Tc. (mins)....          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Perv. Intensity (in/hr)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Pervious C ............          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Impervious Tc. (mins)..          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Imp. Intensity (in/hr).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Impervious C ..........          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area (Ha)......          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area Tc........          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area Intensity.          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000


 Subcatchment...........            NW1#1            NE1a#1           EASa#1
  NEC#1            P3#1            SW#1
 Area (acres)...........         25.04500         28.64800          7.05400
15.40300         23.07600         13.11500
 Percent Impervious.....          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Total Rainfall (in)....          5.51000          5.51000          5.51000
5.51000          5.51000          5.51000
 Max Intensity (in/hr)..          0.80033          0.80033          0.80033
0.80033          0.80033          0.80033

 Pervious Area
 -------------
 Total Runoff Depth (in)          3.90178          4.00687          4.21593
4.00693          3.90283          3.69562
 Peak Runoff Rate (cfs).         16.58151         19.11131          4.93944
10.49040         15.36953          8.26711

 Total Impervious Area
 ---------------------
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000

 Impervious Area with depression storage
 ---------------------------------------
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000

 Impervious Area without depression storage
 ------------------------------------------
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
```

```
0.00000            0.00000            0.00000

 Total Area
 ----------
 Total Runoff Depth (in)              3.90178            4.00687            4.21593
4.00693            3.90283            3.69562
 Peak Runoff Rate (cfs).             16.58151           19.11131            4.93944
10.49040           15.36953            8.26711

 Rational Formula
 ----------------
 Pervious Tc. (mins)....              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Perv. Intensity (in/hr)              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Pervious C ............              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Impervious Tc. (mins)..              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Imp. Intensity (in/hr).              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Impervious C ..........              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Partial Area (Ha)......              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Partial Area Tc........              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Partial Area Intensity.              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000


 Subcatchment...........                 SW#2              WESa#1             WESa#2
 CNEa#1             SCWa#1              NCWa#1
 Area (acres)...........             21.46700            8.89800           10.84300
18.24000           16.10500           13.16000
 Percent Impervious.....              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Total Rainfall (in)....              5.51000            5.51000            5.51000
5.51000            5.51000            5.51000
 Max Intensity (in/hr)..              0.80033            0.80033            0.80033
0.80033            0.80033            0.80033

 Pervious Area
 -------------
 Total Runoff Depth (in)              3.69702            4.00541            4.10886
3.79910            4.11246            4.10474
 Peak Runoff Rate (cfs).             13.47807            5.82974            7.53365
11.54669           11.13624            9.04570

 Total Impervious Area
 ---------------------
 Total Runoff Depth (in)              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Peak Runoff Rate (cfs).              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000

 Impervious Area with depression storage
 ---------------------------------------
 Total Runoff Depth (in)              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
 Peak Runoff Rate (cfs).              0.00000            0.00000            0.00000
0.00000            0.00000            0.00000
```

```
 Impervious Area without depression storage
 ------------------------------------------
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000

 Total Area
 ----------
 Total Runoff Depth (in)          3.69702          4.00541          4.10886
3.79910          4.11246          4.10474
 Peak Runoff Rate (cfs).         13.47807          5.82974          7.53365
11.54669         11.13624          9.04570

 Rational Formula
 ----------------
 Pervious Tc. (mins)....          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Perv. Intensity (in/hr)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Pervious C ............          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Impervious Tc. (mins)..          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Imp. Intensity (in/hr).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Impervious C ..........          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area (Ha)......          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area Tc........          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area Intensity.          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000


 Subcatchment...........             P2#1            P1a#1             P1#1
 USM#1            MJR#1            OUT2#1
 Area (acres)...........         28.80900         21.50600         40.75300
57.76300         69.21700          8.24900
 Percent Impervious.....          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Total Rainfall (in)....          5.51000          5.51000          5.51000
5.51000          5.51000          5.51000
 Max Intensity (in/hr)..          0.80033          0.80033          0.80033
0.80033          0.80033          0.80033

 Pervious Area
 -------------
 Total Runoff Depth (in)          3.69915          3.69779          3.79946
4.22467          4.21934          3.01385
 Peak Runoff Rate (cfs).         18.40030         13.80849         25.60585
40.54812         48.96626          4.26177

 Total Impervious Area
 ---------------------
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000

 Impervious Area with depression storage
 ---------------------------------------
```

```
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000

 Impervious Area without depression storage
 -----------------------------------------
 Total Runoff Depth (in)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Peak Runoff Rate (cfs).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000

 Total Area
 ----------
 Total Runoff Depth (in)          3.69915          3.69779          3.79946
4.22467          4.21934          3.01385
 Peak Runoff Rate (cfs).         18.40030         13.80849         25.60585
40.54812         48.96626          4.26177

 Rational Formula
 ----------------
 Pervious Tc. (mins)....          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Perv. Intensity (in/hr)          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Pervious C ............          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Impervious Tc. (mins)..          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Imp. Intensity (in/hr).          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Impervious C ..........          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area (Ha)......          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area Tc........          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000
 Partial Area Intensity.          0.00000          0.00000          0.00000
0.00000          0.00000          0.00000


 Subcatchment...........           CASO#1
 Area (acres)...........         24.57200
 Percent Impervious.....          0.00000
 Total Rainfall (in)....          5.51000
 Max Intensity (in/hr)..          0.80033

 Pervious Area
 -------------
 Total Runoff Depth (in)          3.10916
 Peak Runoff Rate (cfs).         12.79575

 Total Impervious Area
 ---------------------
 Total Runoff Depth (in)          0.00000
 Peak Runoff Rate (cfs).          0.00000

 Impervious Area with depression storage
 ---------------------------------------
 Total Runoff Depth (in)          0.00000
 Peak Runoff Rate (cfs).          0.00000

 Impervious Area without depression storage
```

```
 ------------------------------------------
 Total Runoff Depth (in)          0.00000
 Peak Runoff Rate (cfs).          0.00000

 Total Area
 ----------
 Total Runoff Depth (in)          3.10916
 Peak Runoff Rate (cfs).         12.79575

 Rational Formula
 ----------------
 Pervious Tc. (mins)....          0.00000
 Perv. Intensity (in/hr)          0.00000
 Pervious C ............          0.00000
 Impervious Tc. (mins)..          0.00000
 Imp. Intensity (in/hr).          0.00000
 Impervious C ..........          0.00000
 Partial Area (Ha)......          0.00000
 Partial Area Tc........          0.00000
 Partial Area Intensity.          0.00000

 ===> Runoff simulation ended normally.

 *===================================================*
 |  Table E6. Final Model Condition                  |
 |            This table is used for steady state    |
 |            flow comparison and is the information|
 |            saved to the hot-restart file.         |
 |            Final Time =    96.001 hours           |
 *===================================================*

 Junction / Depth  / Elevation    ===>  "*" Junction is Surcharged.
             AR4/   0.44 /   653.60/             NW1/   0.00 /   651.40/
MJR/   1.19 /   648.40/
            USPD/   0.00 /   653.75/             USM/   1.03 /   648.40/
OUT/   0.01 /   621.07/
            DSMR/   0.36 /   640.36/            SR26/   0.94 /   638.52/
NE1/   0.00 /   655.65/
              P1/   0.14 /   650.15/             SWC/   0.02 /   651.43/
 P3/   0.03 /   653.72/
              P2/   0.18 /   650.19/             SEC/   0.02 /   651.19/
NEC/   0.00 /   655.07/
            OUT2/   0.00 /   650.17/             EAS/   0.00 /   655.39/
 SE/   0.01 /   652.14/
              SW/   0.01 /   651.81/             WES/   0.00 /   651.54/
SESC/   0.42 /   651.54/
            NECa/   0.00 /   653.57/            NECb/   0.00 /   652.07/
NECc/   0.00 /   650.57/
            NE1d/   0.00 /   657.18/            NE1c/   0.00 /   658.71/
NE1b/   0.00 /   660.24/
            NE1a/   0.00 /   661.68/             P1b/   0.00 /   659.19/
P1c/   0.00 /   656.25/
             P1d/   0.00 /   653.31/             P1a/   0.00 /   662.13/
CNEb/   0.00 /   655.53/
            CNEa/   0.00 /   657.96/            CNEc/   0.00 /   652.77/
EASa/   0.00 /   664.48/
            EASb/   0.00 /   661.75/            WESa/   0.00 /   660.14/
WESb/   0.00 /   659.14/
            WESc/   0.00 /   656.59/            WESd/   0.00 /   654.04/
SCWa/   0.00 /   661.35/
            SCWb/   0.00 /   658.26/            SCWc/   0.00 /   652.17/
NCWa/   0.00 /   661.81/
            NCWb/   0.00 /   660.51/            NCWc/   0.00 /   655.26/
```

```
NW1a/   0.01 /   662.69/
            NW1b/   0.00 /   661.60/           NW1c/   0.00 /   660.40/
NW1d/   0.00 /   657.00/
            CASO/   0.00 /   657.53/           CASN/   0.00 /   658.20/
PRKW/   0.00 /   656.56/
            PRKE/   0.00 /   657.40/            I65/   0.23 /   648.40/
CASNb/   0.00 /   653.20/
           CASNc/   0.00 /   653.19/          CASNd/   0.00 /   652.60/
CASNe/   0.00 /   652.25/
           CASNf/   0.00 /   651.93/          CASNg/   0.00 /   651.91/
CASNh/   0.00 /   651.80/
           CASNi/   0.00 /   651.59/

   Conduit/       Flow   ===> "*" Conduit uses the normal flow option.
        NE1toEAS/       0.00 /        EAStoNEC/       0.00*/         NW1toP1/
0.00*/
       USPDtoNW1/       0.00*/          P2toP1/       0.46 /             S4a/
0.00 /
             S4b/       0.00 /             S4c/       0.00 /             S4d/
0.00 /
          P3toSE/       0.02 /         SEtoSEC/       0.02*/         SECtoP2/
0.02*/
         SWtoSWC/       0.01*/              S8/       0.01*/              S9/
0.00*/
       WEStoSESC/       0.00 /       SR26toOUT/       0.77 /             S3d/
0.00 /
             S3c/       0.00*/             S3b/       0.00*/             S3a/
0.00*/
             S1a/       0.00*/             S1b/       0.00*/             S1c/
0.00*/
             S1d/       0.00*/             S2a/       0.00*/             S2b/
0.00*/
             S2c/       0.00*/             S5b/       0.00*/             S5a/
0.00*/
            S10d/       0.00 /            S10c/       0.00 /            S10b/
0.00*/
            S10a/       0.00*/            S11a/       0.00*/            S11b/
0.00*/
            S11c/       0.00*/            S12a/       0.00 /            S12b/
0.00*/
            S12c/       0.00*/            S13a/       0.00*/            S13b/
0.00 /
            S13c/       0.00 /            S13d/       0.00*/       US65toUSM/
0.00 /
        CASNatob/       0.00 /        CASNbtoc/       0.00 /        CASNctod/
0.00 /
        CASNdtoe/       0.00 /        CASNetof/       0.00 /        CASNftog/
0.00 /
        CASNgtoH/       0.00 /        CASNhtoi/       0.00 /       CASNitoNW/
0.00 /
            Weir/       0.00 /         MJRLeft/       0.21 /        MJRRight/
0.42 /
        MJRExist/       0.49 /          MjrNew/       0.28 /       DSmjrExis/
0.00*/
        DSmjrNew/       0.77 /         PRKWout/       0.00 /         18exist/
0.14*/
          42in 1/       0.24*/          42in 2/       0.24*/        18inchDS/
-0.09 /
           3x6DS/       0.36 /            3ft3/       0.36 /        FREE # 1/
0.77 /

         Conduit/   Velocity
        NE1toEAS/       0.00 /        EAStoNEC/       0.00 /         NW1toP1/
```

```
0.04 /
      USPDtoNW1/        0.00 /          P2toP1/       0.34 /            S4a/
0.00 /
            S4b/        0.00 /             S4c/       0.00 /            S4d/
0.00 /
         P3toSE/        0.26 /         SEtoSEC/       0.32 /        SECtoP2/
0.14 /
        SWtoSWC/        0.15 /              S8/       0.09 /             S9/
0.00 /
      WEStoSESC/        0.00 /       SR26toOUT/       2.92 /            S3d/
0.00 /
            S3c/        0.00 /             S3b/       0.00 /            S3a/
0.00 /
            S1a/        0.00 /             S1b/       0.00 /            S1c/
0.00 /
            S1d/        0.00 /             S2a/       0.00 /            S2b/
0.00 /
            S2c/        0.00 /             S5b/       0.00 /            S5a/
0.00 /
           S10d/        0.00 /            S10c/       0.00 /           S10b/
0.00 /
           S10a/        0.00 /            S11a/       0.00 /           S11b/
0.00 /
           S11c/        0.00 /            S12a/       0.00 /           S12b/
0.00 /
           S12c/        0.00 /            S13a/       0.00 /           S13b/
0.00 /
           S13c/        0.00 /            S13d/       0.00 /       US65toUSM/
0.00 /
       CASNatob/        0.00 /        CASNbtoc/       0.00 /        CASNctod/
0.00 /
       CASNdtoe/        0.00 /        CASNetof/       0.00 /        CASNftog/
0.00 /
       CASNgtoH/        0.00 /        CASNhtoi/       0.00 /       CASNitoNW/
0.00 /
           Weir/        0.00 /         MJRLeft/       0.21 /        MJRRight/
0.23 /
       MJRExist/        2.88 /          MjrNew/       2.39 /       DSmjrExis/
0.00 /
       DSmjrNew/        3.21 /         PRKWout/       0.00 /         18exist/
1.58 /
         42in 1/        1.73 /          42in 2/       1.73 /        18inchDS/
-0.17 /
          3x6DS/        1.06 /            3ft3/       1.06 /

        Conduit/       Width
       NE1toEAS/        3.00 /        EAStoNEC/       4.00 /         NW1toP1/
6.00 /
      USPDtoNW1/       16.00 /          P2toP1/       8.00 /            S4a/
6.00 /
            S4b/        6.00 /             S4c/       6.00 /            S4d/
6.11 /
         P3toSE/        2.19 /         SEtoSEC/       6.00 /        SECtoP2/
3.22 /
        SWtoSWC/        6.00 /              S8/       2.21 /             S9/
8.11 /
      WEStoSESC/        6.00 /       SR26toOUT/       5.50 /            S3d/
4.00 /
            S3c/        4.00 /             S3b/       4.00 /            S3a/
4.00 /
            S1a/        6.00 /             S1b/       6.00 /            S1c/
8.00 /
            S1d/        8.08 /             S2a/       2.00 /            S2b/
```

```
2.00 /
            S2c/        2.11 /            S5b/        7.00 /            S5a/
6.00 /
           S10d/        6.00 /           S10c/        5.00 /           S10b/
4.00 /
           S10a/        4.00 /           S11a/        7.00 /           S11b/
7.00 /
           S11c/        7.11 /           S12a/        6.00 /           S12b/
6.00 /
           S12c/        6.11 /           S13a/        6.00 /           S13b/
6.00 /
           S13c/        6.00 /           S13d/        7.00 /      US65toUSM/
8.00 /
       CASNatob/        0.59 /       CASNbtoc/        1.57 /       CASNctod/
1.76 /
       CASNdtoe/        1.76 /       CASNetof/        1.76 /       CASNftog/
1.76 /
       CASNgtoH/        1.76 /       CASNhtoi/        1.76 /      CASNitoNW/
0.39 /
           Weir/        4.00 /        MJRLeft/        2.89 /       MJRRight/
3.50 /
       MJRExist/        1.38 /         MjrNew/        0.96 /      DSmjrExis/
1.18 /
       DSmjrNew/        1.18 /        PRKWout/        4.00 /        18exist/
0.88 /
         42in 1/        1.40 /         42in 2/        1.40 /       18inchDS/
1.40 /
          3x6DS/        1.78 /           3ft3/        1.78 /

       Junction/         EGL
            AR4/        0.44 /            NW1/        0.07 /            MJR/
1.19 /
           USPD/        0.00 /            USM/        6.23 /            OUT/
0.15 /
           DSMR/        7.39 /           SR26/        1.32 /            NE1/
0.00 /
             P1/        0.14 /            SWC/        0.02 /             P3/
0.03 /
             P2/        0.18 /            SEC/        0.02 /            NEC/
0.00 /
           OUT2/        0.00 /            EAS/        0.00 /             SE/
0.01 /
             SW/        0.01 /            WES/        0.00 /           SESC/
0.42 /
           NECa/        0.00 /           NECb/        0.00 /           NECc/
0.00 /
           NE1d/        0.00 /           NE1c/        0.00 /           NE1b/
0.00 /
           NE1a/        0.00 /            P1b/        0.00 /            P1c/
0.00 /
            P1d/        0.00 /            P1a/        0.00 /           CNEb/
0.00 /
           CNEa/        0.00 /           CNEc/        0.00 /           EASa/
0.00 /
           EASb/        0.00 /           WESa/        0.00 /           WESb/
0.00 /
           WESc/        0.00 /           WESd/        0.00 /           SCWa/
0.00 /
           SCWb/        0.00 /           SCWc/        0.00 /           NCWa/
0.00 /
           NCWb/        0.00 /           NCWc/        0.00 /           NW1a/
0.01 /
           NW1b/        0.00 /           NW1c/        0.00 /           NW1d/
```

```
0.00 /
            CASO/       0.00 /            CASN/       0.00 /            PRKW/
0.00 /
            PRKE/       0.00 /             I65/       0.27 /           CASNb/
4.33 /
           CASNc/       0.00 /           CASNd/       0.00 /           CASNe/
0.00 /
           CASNf/       0.00 /           CASNg/       0.00 /           CASNh/
0.00 /
           CASNi/       0.00 /

        Junction/  Freeboard
             AR4/       4.56 /             NW1/       8.60 /             MJR/
6.60 /
            USPD/       8.25 /             USM/      10.60 /             OUT/
8.93 /
            DSMR/      17.13 /            SR26/      15.37 /             NE1/
4.00 /
              P1/       6.85 /             SWC/       3.98 /              P3/
3.97 /
              P2/       3.82 /             SEC/       3.98 /             NEC/
4.00 /
            OUT2/       4.00 /             EAS/       4.00 /              SE/
3.99 /
              SW/       3.99 /             WES/       4.00 /            SESC/
3.58 /
            NECa/       4.00 /            NECb/       4.00 /            NECc/
4.00 /
            NE1d/       4.00 /            NE1c/       4.00 /            NE1b/
4.00 /
            NE1a/       4.00 /             P1b/       4.00 /             P1c/
4.00 /
             P1d/       4.00 /             P1a/       4.00 /            CNEb/
4.00 /
            CNEa/       4.00 /            CNEc/       4.00 /            EASa/
4.01 /
            EASb/       4.00 /            WESa/       4.00 /            WESb/
4.00 /
            WESc/       4.00 /            WESd/       4.00 /            SCWa/
4.01 /
            SCWb/       4.00 /            SCWc/       4.00 /            NCWa/
4.00 /
            NCWb/       4.00 /            NCWc/       4.00 /            NW1a/
3.99 /
            NW1b/       4.01 /            NW1c/       4.00 /            NW1d/
4.00 /
            CASO/       4.00 /            CASN/       4.62 /            PRKW/
4.00 /
            PRKE/       4.00 /             I65/       8.60 /           CASNb/
9.80 /
           CASNc/      10.56 /           CASNd/      11.83 /           CASNe/
9.95 /
           CASNf/      12.80 /           CASNg/      11.09 /           CASNh/
9.66 /
           CASNi/      10.34 /

        Junction/ Max Volume
             AR4/   13089.54 /             NW1/  521811.40 /             MJR/
1249213.04 /
            USPD/     184.70 /             USM/    8951.02 /             OUT/
9.14 /
            DSMR/     106.63 /            SR26/      23.37 /             NE1/
23.82 /
```

```
                P1/ 1170579.94 /              SWC/      25.45 /              P3/
130816.53 /
                P2/ 2518392.36 /              SEC/      28.48 /             NEC/
16.95 /
              OUT2/       0.00 /              EAS/      21.12 /              SE/
16.45 /
                SW/  330063.84 /              WES/      23.80 /            SESC/
29.07 /
              NECa/      16.95 /             NECb/      17.89 /            NECc/
36.00 /
              NE1d/      15.46 /             NE1c/      14.57 /            NE1b/
14.52 /
              NE1a/      14.50 /              P1b/       9.24 /             P1c/
7.77 /
               P1d/       7.35 /              P1a/       8.79 /            CNEb/
12.03 /
              CNEa/      12.03 /             CNEc/      12.03 /            EASa/
4.10 /
              EASb/       3.61 /             WESa/      10.56 /            WESb/
10.69 /
              WESc/      10.26 /             WESd/       7.99 /            SCWa/
7.62 /
              SCWb/       5.86 /             SCWc/      15.88 /            NCWa/
7.46 /
              NCWb/       5.05 /             NCWc/       5.05 /            NW1a/
13.65 /
              NW1b/      13.96 /             NW1c/      10.83 /            NW1d/
7.45 /
              CASO/       0.00 /             CASN/       9.52 /            PRKW/
6.29 /
              PRKE/       5.53 /              I65/      63.97 /           CASNb/
21.08 /
             CASNc/      21.06 /            CASNd/      28.34 /           CASNe/
32.70 /
             CASNf/      36.68 /            CASNg/      36.89 /           CASNh/
38.26 /
             CASNi/      40.87 /

        Junction/Total Fldng
               AR4/       0.00 /              NW1/       0.00 /             MJR/
0.00 /
              USPD/       0.00 /              USM/       0.00 /             OUT/
0.00 /
              DSMR/       0.00 /             SR26/       0.00 /             NE1/
0.00 /
                P1/       0.00 /              SWC/       0.00 /              P3/
0.00 /
                P2/       0.00 /              SEC/       0.00 /             NEC/
0.00 /
              OUT2/       0.00 /              EAS/       0.00 /              SE/
0.00 /
                SW/       0.00 /              WES/       0.00 /            SESC/
0.00 /
              NECa/       0.00 /             NECb/       0.00 /            NECc/
0.00 /
              NE1d/       0.00 /             NE1c/       0.00 /            NE1b/
0.00 /
              NE1a/       0.00 /              P1b/       0.00 /             P1c/
0.00 /
               P1d/       0.00 /              P1a/       0.00 /            CNEb/
0.00 /
              CNEa/       0.00 /             CNEc/       0.00 /            EASa/
0.00 /
```

```
                 EASb/        0.00 /                WESa/        0.00 /                WESb/
0.00 /
                 WESc/        0.00 /                WESd/        0.00 /                SCWa/
0.00 /
                 SCWb/        0.00 /                SCWc/        0.00 /                NCWa/
0.00 /
                 NCWb/        0.00 /                NCWc/        0.00 /                NW1a/
0.00 /
                 NW1b/        0.00 /                NW1c/        0.00 /                NW1d/
0.00 /
                 CASO/        0.00 /                CASN/        0.00 /                PRKW/
0.00 /
                 PRKE/        0.00 /                 I65/        0.00 /               CASNb/
0.00 /
                CASNc/        0.00 /               CASNd/        0.00 /               CASNe/
0.00 /
                CASNf/        0.00 /               CASNg/        0.00 /               CASNh/
0.00 /
                CASNi/        0.00 /

              Conduit/ Cross Sectional Area
              NE1toEAS/       0.00 /           EAStoNEC/        0.00 /             NW1toP1/
0.10 /
             USPDtoNW1/       0.01 /              P2toP1/        1.37 /                 S4a/
0.00 /
                  S4b/        0.00 /                 S4c/        0.00 /                 S4d/
0.11 /
               P3toSE/        0.07 /             SEtoSEC/        0.05 /             SECtoP2/
0.12 /
              SWtoSWC/        0.05 /                  S8/        0.08 /                  S9/
0.15 /
             WEStoSESC/       2.27 /           SR26toOUT/        0.26 /                 S3d/
0.00 /
                  S3c/        0.00 /                 S3b/        0.00 /                 S3a/
0.00 /
                  S1a/        0.00 /                 S1b/        0.00 /                 S1c/
0.00 /
                  S1d/        0.11 /                 S2a/        0.00 /                 S2b/
0.00 /
                  S2c/        0.04 /                 S5b/        0.00 /                 S5a/
0.00 /
                 S10d/        0.00 /                S10c/        0.00 /                S10b/
0.00 /
                 S10a/        0.00 /                S11a/        0.00 /                S11b/
0.00 /
                 S11c/        0.13 /                S12a/        0.00 /                S12b/
0.00 /
                 S12c/        0.11 /                S13a/        0.00 /                S13b/
0.00 /
                 S13c/        0.00 /                S13d/        0.00 /            US65toUSM/
0.01 /
              CASNatob/       0.00 /            CASNbtoc/        0.00 /            CASNctod/
0.00 /
              CASNdtoe/       0.00 /            CASNetof/        0.00 /            CASNftog/
0.00 /
              CASNgtoH/       0.00 /            CASNhtoi/        0.00 /           CASNitoNW/
0.00 /
                 Weir/        0.00 /             MJRLeft/        1.00 /            MJRRight/
1.80 /
              MJRExist/       0.17 /              MjrNew/        0.12 /           DSmjrExis/
0.00 /
              DSmjrNew/       0.24 /             PRKWout/        0.00 /              18exist/
0.09 /
```

42in 1/ 0.14 / 42in 2/ 0.14 / 18inchDS/
0.53 /
3x6DS/ 0.34 / 3ft3/ 0.34 /

Conduit/ Final Volume
NE1toEAS/ 0.01 / EAStoNEC/ 0.01 / NW1toP1/
17.73 /
USPDtoNW1/ 0.37 / P2toP1/ 411.11 / S4a/
0.05 /
S4b/ 0.07 / S4c/ 0.10 / S4d/
12.84 /
P3toSE/ 13.08 / SEtoSEC/ 6.38 / SECtoP2/
17.74 /
SWtoSWC/ 8.26 / S8/ 21.77 / S9/
31.31 /
WEStoSESC/ 480.83 / SR26toOUT/ 72.39 / S3d/
0.03 /
S3c/ 0.02 / S3b/ 0.00 / S3a/
0.00 /
S1a/ 0.00 / S1b/ 0.00 / S1c/
0.00 /
S1d/ 34.28 / S2a/ 0.00 / S2b/
0.00 /
S2c/ 13.28 / S5b/ 0.01 / S5a/
0.00 /
S10d/ 0.00 / S10c/ 0.00 / S10b/
0.00 /
S10a/ 0.00 / S11a/ 0.00 / S11b/
0.00 /
S11c/ 36.93 / S12a/ 0.00 / S12b/
0.00 /
S12c/ 20.01 / S13a/ 0.00 / S13b/
0.00 /
S13c/ 0.00 / S13d/ 0.35 / US65toUSM/
1.11 /
CASNatob/ 0.00 / CASNbtoc/ 0.00 / CASNctod/
0.00 /
CASNdtoe/ 0.00 / CASNetof/ 0.00 / CASNftog/
0.00 /
CASNgtoH/ 0.00 / CASNhtoi/ 0.00 / CASNitoNW/
0.00 /
Weir/ 0.00 / MJRLeft/ 260.11 / MJRRight/
479.38 /
MJRExist/ 18.47 / MjrNew/ 12.47 / DSmjrExis/
0.65 /
DSmjrNew/ 38.34 / PRKWout/ 0.00 / 18exist/
26.77 /
42in 1/ 41.93 / 42in 2/ 41.93 / 18inchDS/
26.51 /
3x6DS/ 16.91 / 3ft3/ 16.91 /

Conduit/ Hydraulic Radius
NE1toEAS/ 0.00 / EAStoNEC/ 0.00 / NW1toP1/
0.02 /
USPDtoNW1/ 0.00 / P2toP1/ 0.16 / S4a/
0.00 /
S4b/ 0.00 / S4c/ 0.00 / S4d/
0.02 /
P3toSE/ 0.03 / SEtoSEC/ 0.01 / SECtoP2/
0.03 /
SWtoSWC/ 0.01 / S8/ 0.03 / S9/
0.02 /
WEStoSESC/ 0.33 / SR26toOUT/ 0.05 / S3d/

```
0.00 /
          S3c/      0.00 /           S3b/      0.00 /           S3a/
0.00 /
          S1a/      0.00 /           S1b/      0.00 /           S1c/
0.00 /
          S1d/      0.01 /           S2a/      0.00 /           S2b/
0.00 /
          S2c/      0.01 /           S5b/      0.00 /           S5a/
0.00 /
         S10d/      0.00 /          S10c/      0.00 /          S10b/
0.00 /
         S10a/      0.00 /          S11a/      0.00 /          S11b/
0.00 /
         S11c/      0.02 /          S12a/      0.00 /          S12b/
0.00 /
         S12c/      0.02 /          S13a/      0.00 /          S13b/
0.00 /
         S13c/      0.00 /          S13d/      0.00 /     US65toUSM/
0.00 /
     CASNatob/      0.00 /      CASNbtoc/      0.00 /      CASNctod/
0.00 /
     CASNdtoe/      0.00 /      CASNetof/      0.00 /      CASNftog/
0.00 /
     CASNgtoH/      0.00 /      CASNhtoi/      0.00 /     CASNitoNW/
0.00 /
         Weir/      0.00 /       MJRLeft/      0.30 /      MJRRight/
0.45 /
     MJRExist/      0.11 /        MjrNew/      0.11 /     DSmjrExis/
0.01 /
     DSmjrNew/      0.18 /       PRKWout/      0.00 /       18exist/
0.09 /
       42in 1/      0.09 /        42in 2/      0.09 /      18inchDS/
0.28 /
        3x6DS/      0.16 /          3ft3/      0.16 /

        Conduit/ Upstream/ Downstream Elevation
       NE1toEAS/   655.65/   655.39        EAStoNEC/   655.39/   655.07
NW1toP1/   651.40/   650.15/
      USPDtoNW1/   653.75/   651.40          P2toP1/   650.19/   650.15
S4a/   655.07/   653.57/
            S4b/   653.57/   652.07             S4c/   652.07/   650.57
S4d/   650.57/   650.19/
         P3toSE/   653.72/   652.14         SEtoSEC/   652.14/   651.19
SECtoP2/   651.19/   650.19/
        SWtoSWC/   651.81/   651.43              S8/   651.43/   650.19
 S9/   651.54/   650.19/
      WEStoSESC/   651.54/   651.54       SR26toOUT/   638.52/   621.07
S3d/   657.18/   655.65/
            S3c/   658.71/   657.18             S3b/   660.24/   658.71
S3a/   660.24/   660.24/
            S1a/   659.19/   659.19             S1b/   656.25/   656.25
S1c/   653.31/   653.31/
            S1d/   653.31/   650.15             S2a/   655.53/   655.53
S2b/   652.77/   652.77/
            S2c/   652.77/   650.19             S5b/   661.75/   655.39
S5a/   661.75/   661.75/
           S10d/   654.04/   651.54            S10c/   654.04/   654.04
S10b/   656.59/   656.59/
           S10a/   659.14/   659.14            S11a/   658.26/   658.26
S11b/   652.17/   652.17/
           S11c/   652.17/   650.19            S12a/   660.51/   660.51
S12b/   655.26/   655.26/
           S12c/   655.26/   650.19            S13a/   661.60/   661.60
```

```
S13b/   660.40/   660.40/
            S13c/   657.00/   657.00           S13d/   657.00/   651.40
US65toUSM/   653.60/   653.60/
        CASNatob/   658.20/   657.53        CASNbtoc/   653.19/   653.19
CASNctod/   652.60/   652.60/
        CASNdtoe/   652.25/   652.25        CASNetof/   651.93/   651.93
CASNftog/   651.91/   651.91/
        CASNgtoH/   651.80/   651.80        CASNhtoi/   651.59/   651.59
CASNitoNW/   651.59/   651.47/
            Weir/   653.75/   653.75         MJRLeft/   648.40/   648.40
MJRRight/   648.40/   648.40/
        MJRExist/   648.40/   646.78          MjrNew/   648.40/   647.31
DSmjrExis/   640.36/   638.52/
        DSmjrNew/   640.36/   638.74         PRKWout/   653.75/   653.75
18exist/   650.15/   648.40/
          42in 1/   650.15/   648.40          42in 2/   650.15/   648.40
18inchDS/   648.40/   648.40/
           3x6DS/   648.40/   648.40            3ft3/   648.40/   648.40


 *===========================================================*
 |         Table E7 -  Iteration Summary                     |
 *===========================================================*

 Total number of time steps simulated............      69120
 Total number of passes in the simulation........      98003
 Total number of time steps during simulation....      92481
 Ratio of actual # of time steps / NTCYC.........      1.338
 Average number of iterations per time step......      1.060
 Average  time step size(seconds)................      3.737
 Smallest time step size(seconds)................      1.000
 Largest  time step size(seconds)................      5.000
 Average minimum Conduit Courant time step (sec).      4.625
 Average minimum implicit time step (sec)........      2.459
 Average minimum junction time step (sec)........      2.459
 Average Courant Factor Tf.......................      2.459
 Number of times omega reduced...................       4675


 *===========================================================*
 |     Table E8 - Junction Time Step Limitation Summary     |
 *===========================================================*
 |   Not Convr = Number of times this junction did not      |
 |               converge during the simulation.            |
 |   Avg Convr = Average junction iterations.               |
 |   Conv err  = Mean convergence error.                    |
 |   Omega Cng = Change of omega during iterations          |
 |   Max Itern = Maximum number of iterations               |
 *===========================================================*
         Junction Not Convr Avg Convr Total Itt Omega Cng  Max Itern  Ittrn >10
Ittrn >25  Ittrn >40
   -------------- --------- --------- ---------  --------  ---------  ---------
---------  ---------
              AR4         0      1.10    102034         0          5          0
 0         0
              NW1         0      1.26    116415       121         17         55
 0         0
              MJR      3231     20.15   1863757       160        501       3674
3659      3646
             USPD         0      1.13    104940        99         37         42
 2         0
              USM         0      1.44    133611         1         16         19
 0         0
```

OUT	0	1.24	114582	10	13	9	0	0
DSMR	3385	20.56	1901779	359	501	3818	3788	3769
SR26	0	1.11	102378	16	23	1	0	0
NE1	0	1.17	108161	0	6	0	0	0
P1	241	2.91	269123	937	501	434	330	301
SWC	0	1.24	114762	1	10	2	0	0
P3	0	1.15	106560	0	7	0	0	0
P2	0	2.14	197838	1	17	3	0	0
SEC	0	1.72	159343	73	289	70	70	68
NEC	0	1.23	113340	725	9	0	0	0
OUT2	0	1.00	92481	0	1	0	0	0
EAS	0	1.21	111806	331	11	4	0	0
SE	0	1.42	130885	65	289	64	60	59
SW	0	1.19	110351	0	7	0	0	0
WES	0	1.30	120345	0	5	0	0	0
SESC	0	1.50	138934	0	9	0	0	0
NECa	0	1.16	107059	0	6	0	0	0
NECb	0	1.24	114549	0	6	0	0	0
NECc	0	1.94	179355	1	6	0	0	0
NE1d	0	1.15	106480	0	6	0	0	0
NE1c	0	1.14	105761	0	6	0	0	0
NE1b	0	1.14	105678	0	6	0	0	0
NE1a	0	1.11	102583	1	6	0	0	0
P1b	0	1.12	103223	0	6	0	0	0
P1c	0	1.13	104465	2	6	0	0	0
P1d	0	1.13	104531	33	66	37	20	6
P1a	0	1.08	100125	0	6	0	0	0
CNEb	0	1.17	107846	2	6	0	0	0
CNEa	0	1.10	101862	2	7	0	0	0
CNEc	0	1.14	105540	3	7	0	0	0
EASa	0	1.08	99432	2	7	0	0	0
EASb	0	1.14	105547	2	7	0		

```
 0         0
            WESa         0      1.12    103150         3         7         0
 0         0
            WESb         0      1.14    105731         1         6         0
 0         0
            WESc         0      1.16    106860         4         7         0
 0         0
            WESd         0      1.18    108823         3         6         0
 0         0
            SCWa         0      1.09    101150         3         7         0
 0         0
            SCWb         0      1.15    106244         2         6         0
 0         0
            SCWc         0      1.23    113711         3         7         0
 0         0
            NCWa         0      1.10    101416         2         7         0
 0         0
            NCWb         0      1.15    106312         4         7         0
 0         0
            NCWc         0      1.14    105112         2         7         0
 0         0
            NW1a         0      1.14    105538         1         6         0
 0         0
            NW1b         0      1.17    108154         0         7         0
 0         0
            NW1c         0      1.17    107979         5         7         0
 0         0
            NW1d         0      1.18    108940         0         7         0
 0         0
            CASO         0      1.00     92481         0         1         0
 0         0
            CASN         0      1.07     98827         0         6         0
 0         0
            PRKW         0      1.08    100174         2         7         0
 0         0
            PRKE         0      1.08     99852         2         7         0
 0         0
             I65       555      4.91    454379      1691       501       715
663       656
           CASNb         0      1.19    110292         0         6         0
 0         0
           CASNc         4      1.20    111429         0       501         4
 4         4
           CASNd         0      1.21    112319         0         6         0
 0         0
           CASNe         0      1.29    118964         0        11         1
 0         0
           CASNf         0      1.34    123594         0         6         0
 0         0
           CASNg         0      1.31    121488         0         8         0
 0         0
           CASNh         0      1.29    118851         0         9         0
 0         0
           CASNi         0      1.18    108831         0         6         0
 0         0
 Total number of iteratons for all junctions..  11228062
```

```
 Minimum number of possible iterations.........   5918784
```

Efficiency of the simulation.................. 1.90

Excellent Efficiency

```
*=========================================================*
| Extran Efficiency is an indicator of the efficiency of  |
| the simulation.  Ideal efficiency is one iteration per  |
| time step.  Altering the underrelaxation parameter,     |
| lowering the time step, increasing the flow and head    |
| tolerance are good ways of improving the efficiency,    |
| another is lowering the internal time step. The lower the|
| efficiency generally the faster your model will run.    |
| If your efficiency is less than 1.5 then you may try    |
| increasing your time step so that your overall simulation|
| is faster.  Ideal efficiency would be around 2.0        |
|                                                         |
| Good Efficiency      < 1.5           mean iterations    |
| Excellent Efficiency < 2.5 and > 1.5 mean iterations    |
| Good      Efficiency < 4.0 and > 2.5 mean iterations    |
| Fair      Efficiency < 7.5 and > 4.0 mean iterations    |
| Poor Efficiency      > 7.5           mean iterations    |
*=========================================================*
```

```
*=====================================================*
|        Table E9 - JUNCTION SUMMARY STATISTICS       |
| The Maximum area is only the area of the node, it   |
| does not include the area of the surrounding conduits|
*=====================================================*
```

Junction Name	Ground Elevation feet	Uppermost PipeCrown Elevation feet	Maximum Junction Elevation feet	Time of Occurence Hr.	Min.	Feet of Surcharge at Max Elevation	Freeboard of node feet	Maximum Junction Area ft^2	Maximum Gutter Depth feet	Maximum Gutter Width feet	Maximum Gutter Velocity ft/s
AR4	658.1600	657.6000	655.1174	5	44	0.0000	3.0426	18717.493	0.0000	0.0000	0.0000
NW1	660.0000	658.4000	653.5309	7	6	0.0000	6.4691	282548.20	0.0000	0.0000	0.0000
MJR	655.0000	652.3700	653.0514	12	47	0.6814	1.9486	236807.17	0.0000	0.0000	0.0000

```
                USPD    662.0000  660.7500  654.1485       5   28        0.0000     7.8515
1125.5733    0.0000    0.0000    0.0000
                 USM    659.0000  657.6000  653.1655      12   46        0.0000     5.8345
7845.4510    0.0000    0.0000    0.0000
                 OUT    630.0000  626.0600  621.7875      12   47        0.0000     8.2125
12.5660    0.0000    0.0000    0.0000
                DSMR    657.4900  649.6200  648.4858      12   47        0.0000     9.0042
12.5660    0.0000    0.0000    0.0000
                SR26    653.8900  643.4700  639.4396      12   47        0.0000    14.4504
12.5660    0.0000    0.0000    0.0000
                 NE1    659.6500  658.6500  657.5453       5   47        0.0000     2.1047
12.5660    0.0000    0.0000    0.0000
                  P1    657.0000  654.0100  653.4105      12   58        0.0000     3.5895
374069.42    0.0000    0.0000    0.0000
                 SWC    655.4100  654.4100  653.4355      13    3        0.0000     1.9745
12.5660    0.0000    0.0000    0.0000
                  P3    657.6900  656.6900  654.6884       6   56        0.0000     3.0016
135347.10    0.0000    0.0000    0.0000
                  P2    654.0100  654.0100  653.4339      13    5        0.0000     0.5761
801292.24    0.0000    0.0000    0.0000
                 SEC    655.1700  654.1700  653.4362      13    4        0.0000     1.7338
12.5660    0.0000    0.0000    0.0000
                 NEC    659.0700  658.0700  656.4189       5   33        0.0000     2.6511
12.5660    0.0000    0.0000    0.0000
                OUT2    654.1700  650.1700  650.1700       0    0        0.0000     4.0000
12.5660    0.0000    0.0000    0.0000
                 EAS    659.3900  658.3900  657.0709       5   46        0.0000     2.3191
12.5660    0.0000    0.0000    0.0000
                  SE    656.1300  655.1300  653.4394      13    4        0.0000     2.6906
12.5660    0.0000    0.0000    0.0000
                  SW    655.8000  654.8000  653.4365      13    2        0.0000     2.3635
224294.55    0.0000    0.0000    0.0000
                 WES    655.5400  654.5400  653.4339      13    5        0.0000     2.1061
12.5660    0.0000    0.0000    0.0000
                SESC    655.1200  654.5400  653.4335      13    6        0.0000     1.6865
12.5660    0.0000    0.0000    0.0000
                NECa    657.5700  656.5700  654.9187       5   35        0.0000     2.6513
12.5660    0.0000    0.0000    0.0000
                NECb    656.0700  655.0700  653.4936      12   45        0.0000     2.5764
12.5660    0.0000    0.0000    0.0000
                NECc    654.5700  653.5700  653.4346      13    4        0.0000     1.1354
12.5660    0.0000    0.0000    0.0000
                NE1d    661.1800  660.1800  658.4099       5   45        0.0000     2.7701
12.5660    0.0000    0.0000    0.0000
                NE1c    662.7100  661.7100  659.8693       5   42        0.0000     2.8407
12.5660    0.0000    0.0000    0.0000
                NE1b    664.2400  663.2400  661.3954       5   41        0.0000     2.8446
12.5660    0.0000    0.0000    0.0000
                NE1a    665.6800  664.6800  662.8343       5   39        0.0000     2.8457
12.5660    0.0000    0.0000    0.0000
                 P1b    663.1900  662.1900  659.9252       5   27        0.0000     3.2648
12.5660    0.0000    0.0000    0.0000
                 P1c    660.2500  659.2500  656.8684       5   28        0.0000     3.3816
12.5660    0.0000    0.0000    0.0000
                 P1d    657.3100  656.3100  653.8952       5   29        0.0000     3.4148
12.5660    0.0000    0.0000    0.0000
                 P1a    666.1300  665.1300  662.8293       5   26        0.0000     3.3007
12.5660    0.0000    0.0000    0.0000
                CNEb    659.5300  658.5300  656.4874       5   43        0.0000     3.0426
12.5660    0.0000    0.0000    0.0000
                CNEa    661.9600  660.9600  658.9170       5   43        0.0000     3.0430
12.5660    0.0000    0.0000    0.0000
                CNEc    656.7700  655.7700  653.7272       5   45        0.0000     3.0428
```

```
12.5660    0.0000    0.0000    0.0000
            EASa    668.4900  667.4800  664.8062      5   35       0.0000    3.6838
12.5660    0.0000    0.0000    0.0000
            EASb    665.7500  664.7500  662.0377      5   37       0.0000    3.7123
12.5660    0.0000    0.0000    0.0000
            WESa    664.1400  663.1400  660.9806      5   31       0.0000    3.1594
12.5660    0.0000    0.0000    0.0000
            WESb    663.1400  662.1400  659.9910      5   32       0.0000    3.1490
12.5660    0.0000    0.0000    0.0000
            WESc    660.5900  659.5900  657.4062      5   33       0.0000    3.1838
12.5660    0.0000    0.0000    0.0000
            WESd    658.0400  657.0400  654.6761      5   34       0.0000    3.3639
12.5660    0.0000    0.0000    0.0000
            SCWa    665.3600  664.3500  661.9561      5   31       0.0000    3.4039
12.5660    0.0000    0.0000    0.0000
            SCWb    662.2600  661.2600  658.7263      5   31       0.0000    3.5337
12.5660    0.0000    0.0000    0.0000
            SCWc    656.1700  655.1700  653.4336     13    5       0.0000    2.7364
12.5660    0.0000    0.0000    0.0000
            NCWa    665.8100  664.8100  662.4034      5   33       0.0000    3.4066
12.5660    0.0000    0.0000    0.0000
            NCWb    664.5100  663.5100  660.9115      5   33       0.0000    3.5985
12.5660    0.0000    0.0000    0.0000
            NCWc    659.2600  658.2600  655.6615      5   34       0.0000    3.5985
12.5660    0.0000    0.0000    0.0000
            NW1a    666.6800  665.6900  663.7661      5   42       0.0000    2.9139
12.5660    0.0000    0.0000    0.0000
            NW1b    665.6100  664.6000  662.7111      5   44       0.0000    2.8989
12.5660    0.0000    0.0000    0.0000
            NW1c    664.4000  663.4000  661.2615      5   44       0.0000    3.1385
12.5660    0.0000    0.0000    0.0000
            NW1d    661.0000  660.0000  657.5931      5   45       0.0000    3.4069
12.5660    0.0000    0.0000    0.0000
            CASO    661.5300  657.5300  657.5300      0    0       0.0000    4.0000
12.5660    0.0000    0.0000    0.0000
            CASN    662.8200  659.7000  658.9573      5   31       0.0000    3.8627
12.5660    0.0000    0.0000    0.0000
            PRKW    660.5600  660.5600  657.0609      5   26       0.0000    3.4991
12.5660    0.0000    0.0000    0.0000
            PRKE    661.4000  661.4000  657.8399      5   26       0.0000    3.5601
12.5660    0.0000    0.0000    0.0000
             I65    657.0000  651.6700  653.2609     12   48       1.5909    3.7391
12.5660    0.0000    0.0000    0.0000
           CASNb    663.0000  659.0300  654.8776      6   56       0.0000    8.1224
12.5660    0.0000    0.0000    0.0000
           CASNc    663.7500  657.6900  654.8662      6   58       0.0000    8.8838
12.5660    0.0000    0.0000    0.0000
           CASNd    664.4300  657.1500  654.8556      6   57       0.0000    9.5744
12.5660    0.0000    0.0000    0.0000
           CASNe    662.2000  656.7500  654.8519      6   58       0.0000    7.3481
12.5660    0.0000    0.0000    0.0000
           CASNf    664.7300  656.5600  654.8493      6   58       0.0000    9.8807
12.5660    0.0000    0.0000    0.0000
           CASNg    663.0000  656.4115  654.8473      6   58       0.0000    8.1527
12.5660    0.0000    0.0000    0.0000
           CASNh    661.4600  656.3500  654.8449      6   58       0.0000    6.6151
12.5660    0.0000    0.0000    0.0000
           CASNi    661.9300  656.1000  654.8428      6   58       0.0000    7.0872
12.5660    0.0000    0.0000    0.0000

 *=======================================================*
 |        Table E10 - CONDUIT SUMMARY STATISTICS          |
 | Note: The peak flow may be less than the design flow |
```

```
| and the conduit may still surcharge because of the    |
| downstream boundary conditions.                       |
|                                                       |
| * denotes an open conduit that has been overtopped    |
|   this is a potential source of severe errors         |
*=======================================================*
```

Conduit Name	Design Flow (cfs)	Design Velocity (ft/s)	Conduit Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurence Hr.	Time of Occurence Min.	Maximum Computed Velocity (ft/s)	Time of Occurence Hr.	Time of Occurence Min.	Ratio of Max. to Design Flow	Maximum Water Elev at Pipe Ends Upstream (ft)	Maximum Water Elev at Pipe Ends Dwnstrm (ft)	Ratio d/D US	Ratio d/D DS	
NE1toEAS	37.9787	4.2199	36.0000	19.0643	5	48	3.3921	5	49	0.5020	657.5453	657.0709	0.632	0.560	
EAStoNEC	55.3529	4.6127	36.0000	23.9334	5	46	3.6332	5	46	0.4324	657.0709	656.4189	0.560	0.450	
NW1toP1	180.8086	10.0449	36.0000	51.2358	7	6	5.2109	4	25	0.2834	653.5309	653.4105	0.710	1.134	
USPDtoNW1	6714.230	25.9237	84.0000	34.6319	5	28	4.0611	3	49	0.0052	654.1485	653.5309	0.057	0.304	
P2toP1	14.0126	0.0000	48.0000	40.3070	16	13	-2.1829	6	44	2.8765	653.4339	653.4105	0.856	0.850	
S4a	175.0424	3.8898	36.0000	33.9756	5	33	2.5074	5	34	0.1941	656.4189	654.9187	0.450	0.450	
S4b	175.0424	3.8898	36.0000	33.9586	5	35	2.5054	5	34	0.1940	654.9187	653.4936	0.450	0.475	
S4c	175.0424	3.8898	36.0000	33.9545	5	36	2.5034	5	37	0.1940	653.4936	653.4346	0.475	0.955	
S4d	174.8084	3.8846	41.0821	33.9204	5	37	2.6337	5	13	0.1940	653.4346	653.4339	0.837	1.000	*
P3toSE	148.3352	4.4950	36.0000	9.7091	6	56	2.2004	9	34	0.0655	654.6884	653.4394	0.333	0.436	
SEtoSEC	184.0318	10.2240	36.0000	9.7029	6	56	3.3314	6	39	0.0527	653.4394	653.4362	0.436	0.755	
SECtoP2	166.2416	4.6178	41.0821	9.5793	6	56	1.5972	5	42	0.0576	653.4362	653.4339	0.662	1.000	*
SWtoSWC	95.7732	5.3207	36.0000	10.8998	6	55	1.9655	6	31	0.1138	653.4365	653.4355	0.546	0.675	
S8	118.2446	3.5832	41.0821	10.7997	6	56	1.6723	5	45	0.0913	653.4355	653.4339	0.592	1.000	*
S9	761.7623	14.9365	41.0821	13.1935	5	36	3.6363	4	6	0.0173	653.4335	653.4339	0.553	1.000	*
WEStoSESC	91.5809	5.0878	36.0000	13.1943	5	35	2.8213	5	36	0.1441	653.4339	653.4335	0.631	0.771	
SR26toOUT	946.7096	34.4258	60.0000	83.3047	12	47	16.0215	12	48	0.0880	639.4396	621.7875	0.194	0.145	
S3d	147.2419	3.7754	36.0000	19.0738	5	45	1.8447	5	37	0.1295	658.4099	657.5453	0.410	0.632	
S3c	147.2419	3.7754	36.0000	19.0925	5	42	2.1828	5	41	0.1297	659.8693	658.4099	0.386	0.410	
S3b	147.2419	3.7754	36.0000	19.1004	5	41	2.2132	5	40	0.1297	661.3954	659.8693	0.385	0.386	
S3a	147.5434	3.7832	36.0000	19.1075	5	39	2.2179	5	39	0.1295	662.8343	661.3954	0.385	0.385	
S1a	245.0593	5.4458	36.0000	13.8039	5	26	2.4219	5	26	0.0563	662.8293	659.9252	0.233	0.245	
S1b	245.0593	5.4458	36.0000	13.7988	5	27	2.3330	5	27	0.0563	659.9252	656.8684	0.245	0.206	

```
          S1c 286.7888   5.6233  36.0000  13.7948     5    28   2.2784     5   28
0.0481 656.8684 653.8952 0.206 0.195
          S1d 303.8404   5.9577  40.8031  13.7876     5    29   2.2920     4   41
0.0454 653.8952 653.4105 0.172 1.000 *
          S2a 159.1714   4.8234  36.0000  11.5458     5    43   2.4766     5   43
0.0725 658.9170 656.4874 0.319 0.319
          S2b 159.0718   4.8204  36.0000  11.5453     5    44   2.4754     5   45
0.0726 656.4874 653.7272 0.319 0.319
          S2c 159.0718   4.8204  41.0821  11.5432     5    45   2.4403     5   15
0.0726 653.7272 653.4339 0.280 1.000 *
          S5b 390.9969   8.1458  36.0000   4.9385     5    37   1.2272     4   54
0.0126 662.0377 657.0709 0.096 0.560
          S5a 360.1178   8.0026  36.0000   4.9394     5    35   2.1994     5   36
0.0137 664.8062 662.0377 0.109 0.096
         S10d 276.7663   6.1504  36.0000  13.1949     5    34   2.5473     5   34
0.0477 654.6761 653.4339 0.212 0.631
         S10c 209.0551   4.9775  36.0000  13.1962     5    34   2.2326     5   34
0.0631 657.4062 654.6761 0.272 0.212
         S10b 190.0885   4.8741  36.0000  13.1985     5    32   2.3805     5   33
0.0694 659.9910 657.4062 0.284 0.272
         S10a 190.6134   4.8875  36.0000  13.2007     5    31   2.4037     5   31
0.0693 660.9806 659.9910 0.280 0.284
         S11a 273.4491   5.6969  36.0000  11.1350     5    31   2.1405     5   31
0.0407 661.9561 658.7263 0.202 0.155
         S11b 382.6074   7.9710  36.0000  11.1333     5    32   2.7375     5   31
0.0291 658.7263 653.4336 0.155 0.421
         S11c 235.8594   4.9137  41.0821  11.1308     5    32   1.9562     4   41
0.0472 653.4336 653.4339 0.369 1.000 *
         S12a 247.1673   5.4926  36.0000   9.0451     5    33   2.0353     5   33
0.0366 662.4034 660.9115 0.198 0.134
         S12b 428.7645   9.5281  36.0000   9.0449     5    33   3.1268     5   34
0.0211 660.9115 655.6615 0.134 0.134
         S12c 428.7645   9.5281  41.0821   9.0446     5    34   2.7841     3   56
0.0211 655.6615 653.4339 0.117 1.000 *
         S13a 182.7496   4.0611  36.0000  22.3215     5    42   2.2378     5   41
0.1221 663.7661 662.7111 0.359 0.370
         S13b 181.5105   4.0336  36.0000  22.3194     5    44   2.2158     5   44
0.1230 662.7111 661.2615 0.370 0.287
         S13c 322.7622   7.1725  36.0000  22.3185     5    45   3.1358     5   45
0.0691 661.2615 657.5931 0.287 0.198
         S13d 502.3882  10.4664  36.0000  22.3183     5    45   3.5044     4   25
0.0444 657.5931 653.5309 0.198 0.710
     US65toUSM  14.0126   0.0000  48.0000  37.2182     5    45   3.2017     5   45
2.6561 655.1174 654.4742 0.379 0.219
      CASNatob  12.1475   6.8741  18.0000   4.2435     5    31   4.8618     5   31
0.3493 658.9573 658.1417 0.505 0.408
      CASNbtoc  11.8637   0.9441  48.0000   4.2167     5    32   1.6786     4   53
0.3554 654.8776 654.8662 0.419 0.419
      CASNctod  65.5093   4.1190  54.0000   4.0447     5    33   1.9784     4   37
0.0617 654.8662 654.8556 0.372 0.490
      CASNdtoe  66.5502   4.1844  54.0000   3.6804     6    42   1.6722     4    0
0.0553 654.8556 654.8519 0.501 0.578
      CASNetof  57.9224   3.6419  54.0000   3.4688     6    41   1.4347     3   42
0.0599 654.8519 654.8493 0.578 0.620
      CASNftog  19.6969   1.2385  54.0000   3.3226     6    44   1.0116     3   42
0.1687 654.8493 654.8473 0.649 0.652
      CASNgtoH  28.1559   1.7703  54.0000   3.1447     6    44   1.0544     3   38
0.1117 654.8473 654.8449 0.652 0.666
      CASNhtoi  54.6987   3.4392  54.0000   2.9417     6    46   0.9386     3   32
0.0538 654.8449 654.8428 0.677 0.721
     CASNitoNW   1.0386   1.3224  12.0000   2.8563     6    55   3.6358     6   55
2.7500 654.8428 653.5309 3.253 2.061
         Weir 441.5200   6.8988  48.0000   4.4358     5    27   1.9179     5   27
```

```
  0.0100 657.8399 654.1485 0.110 0.100
         MJRLeft 126.1509   6.4248  60.0000  38.7555     4    55   4.0580     4    0
  0.3072 653.1655 653.0514 1.037 1.136
        MJRRight 114.0398   5.8080  60.0000  42.1101     4    54   4.0796     3   54
  0.3693 653.1655 653.0514 1.089 1.168
        MJRExist  81.1827  11.4850  36.0000  67.1316    12    47   9.7499    12   47
  0.8269 653.0514 648.7010 1.610 0.694
          MjrNew  10.5043   5.9442  18.0000  16.1739    12    47   9.1687    12   47
  1.5397 653.0514 648.5632 3.221 0.949
       DSmjrExis 149.9787  21.2176  36.0000  63.6036    12    47  13.7471    12   48
  0.4241 648.4858 639.8336 0.642 0.455
        DSmjrNew  10.5043   5.9442  18.0000  19.7012    12    47  11.1427    12   47
  1.8755 648.4858 639.9700 5.611 1.000
         PRKWout 387.3978   6.0531  48.0000   4.6427     5    26   1.7278     5   26
  0.0120 657.0609 654.1485 0.125 0.100
         18exist   8.2265   4.6553  18.0000   4.7672    31    24   2.9890    31   24
  0.5795 653.4105 653.2609 2.267 3.394
          42in 1  85.3592   8.8721  42.0000  31.6845    15    22   5.0438    34   25
  0.3712 653.4105 653.2609 0.972 1.455
          42in 2  85.3592   8.8721  42.0000  31.6845    15    22   5.0438    34   25
  0.3712 653.4105 653.2609 0.972 1.455
        18inchDS   8.2711   4.6805  18.0000   4.5929    15    21   2.5983    15   21
  0.5553 653.2609 653.1655 3.394 3.537
           3x6DS  85.8219   8.9201  42.0000  30.9025    15    21   3.2118    15   21
  0.3601 653.2609 653.1655 1.455 1.516
            3ft3  85.8219   8.9201  42.0000  30.9025    15    21   3.2118    15   21
  0.3601 653.2609 653.1655 1.455 1.516
        FREE # 1  Undefnd  Undefnd  Undefn   83.3047    12    47


 *==================================================*
 | Table E11.  Area assumptions used in the analysis|
 | Subcritical and Critical flow assumptions from   |
 |    Subroutine Head.  See Figure 17-1 in the      |
 |         manual for further information.          |
 *==================================================*

                Duration    Duration  Durat. of Durat. of
                   of       of Sub-    Upstream Downstream   Maximum   Maximum
Maximum
        Conduit    Dry       Critical   Critical   Critical Hydraulic    X-Sect
Vel*D
         Name    Flow(min)  Flow(min)  Flow(min)  Flow(min)  Radius-m Area(ft^2)
(ft^2/s)
 -------------- ---------- ----------  ---------  --------- ---------  ---------
--------
        NE1toEAS   121.0000  5639.0000     0.0000     0.0000    0.8329     5.3611
6.0635
        EAStoNEC    85.4167  5674.5833     0.0000     0.0000    0.9022     6.0324
5.4894
         NW1toP1   111.5833  5648.4167     0.0000     0.0000    1.2514    15.0092
8.8984
       USPDtoNW1  3388.0833  2371.9167     0.0000     0.0000    0.4765    23.3288
3.7449
          P2toP1   118.4167  5641.5833     0.0000     0.0000    1.8441    27.2939
4.9758
             S4a    85.5000  5674.5000     0.0000     0.0000    0.9326    13.5488
3.3816
             S4b    96.5000  5663.5000     0.0000     0.0000    0.9327    13.5724
3.3831
             S4c   103.1667  5656.8333     0.0000     0.0000    1.0499    26.9547
3.3828
             S4d  3027.9167  2732.0833     0.0000     0.0000    1.7615    48.5930
```

3.3340

P3toSE	113.0000	5647.0000	0.0000	0.0000	0.5699	5.2197	1.9330
SEtoSEC	117.7500	5642.2500	0.0000	0.0000	0.9495	10.5964	2.4789
SECtoP2	117.7500	5642.2500	0.0000	0.0000	1.3373	33.1377	1.9494
SWtoSWC	125.4167	5634.5833	0.0000	0.0000	1.1137	10.9653	2.0170
S8	127.6667	5632.3333	0.0000	0.0000	1.6102	28.1979	2.3043
S9	999.9167	4760.0833	0.0000	0.0000	1.3781	42.9074	2.6501
WEStoSESC	102.4167	5657.5833	0.0000	0.0000	1.1755	12.6011	2.1692
SR26toOUT	215.3333	5544.6667	0.0000	0.0000	0.7027	4.6510	13.5947
S3d	114.9167	5645.0833	0.0000	0.0000	0.8375	13.6632	2.8801
S3c	108.0833	5651.9167	0.0000	0.0000	0.7688	9.0589	2.6069
S3b	245.1667	5514.8333	0.0000	0.0000	0.7631	8.6470	2.5612
S3a	1574.0000	4186.0000	0.0000	0.0000	0.7623	8.6195	2.5611
S1a	2472.5000	3287.5000	0.0000	0.0000	0.5456	5.8463	1.7369
S1b	1566.0000	4194.0000	0.0000	0.0000	0.5588	5.4338	1.5788
S1c	906.6667	4853.3333	0.0000	0.0000	0.5092	5.9000	1.3709
S1d	238.1667	5521.8333	0.0000	0.0000	0.5639	25.8187	2.1624
S2a	2540.0000	3220.0000	0.0000	0.0000	0.5789	4.6631	2.3705
S2b	1484.0000	4276.0000	0.0000	0.0000	0.5791	4.6636	2.3696
S2c	211.0000	5549.0000	0.0000	0.0000	0.6176	18.7674	2.8386
S5b	3157.5833	2602.4167	0.0000	0.0000	0.3452	9.7444	1.1965
S5a	4213.4167	1546.5833	0.0000	0.0000	0.2793	2.1232	0.6750
S10d	1046.5000	4713.5000	0.0000	0.0000	0.5113	10.5546	1.8062
S10c	1173.3333	4586.6667	0.0000	0.0000	0.5871	5.2138	1.6211
S10b	2017.5000	3742.5000	0.0000	0.0000	0.5924	5.4185	1.9841
S10a	3797.7500	1962.2500	0.0000	0.0000	0.5890	5.5291	2.0330
S11a	2517.5000	3242.5000	0.0000	0.0000	0.4834	4.6120	1.1477
S11b	2171.8333	3588.1667	0.0000	0.0000	0.4041	6.8085	1.4781
S11c	792.8333	4967.1667	0.0000	0.0000	1.0249	33.7231	1.8032
S12a	3940.3333	1819.6667	0.0000	0.0000	0.4599	3.7212	1.0124
S12b	3764.5000	1995.5000	0.0000	0.0000	0.3388	2.8927	1.2554
S12c	3375.4167	2384.5833	0.0000	0.0000	0.4151	21.8466	2.0261

S13a	2627.1667	3132.8333	0.0000	0.0000	0.7775	10.1497	2.4472
S13b	1646.6667	4113.3333	0.0000	0.0000	0.7810	8.8410	2.1854
S13c	1463.8333	4296.1667	0.0000	0.0000	0.6287	5.9502	2.2807
S13d	1743.5000	4016.5000	0.0000	0.0000	0.5614	15.0590	3.8541
US65toUSM	112.1667	0.0000	0.0000	5647.8333	1.0618	9.4487	3.8285
CASNatob	133.5000	0.0000	0.0000	5626.5000	0.3718	0.7835	3.3278
CASNbtoc	4620.4167	1139.5833	0.0000	0.0000	0.8862	4.9971	1.5917
CASNctod	4448.4167	957.1250	0.0000	354.4583	0.9328	6.5414	1.7374
CASNdtoe	4451.0833	1308.9167	0.0000	0.0000	1.1353	8.7412	1.4317
CASNetof	4414.5833	1205.2083	0.0000	140.2083	1.2286	9.9374	1.1810
CASNftog	4225.8333	1534.1667	0.0000	0.0000	1.2947	10.9511	0.9588
CASNgtoH	3242.5833	1320.4583	0.0000	1196.9583	1.2986	11.1120	0.8821
CASNhtoi	3262.5833	1565.7083	0.0000	931.7083	1.3205	11.8586	0.8035
CASNitoNW	176.5833	1776.5833	0.0000	3806.8333	0.3033	0.8145	9.6471
Weir	1796.0000	3964.0000	0.0000	0.0000	0.3423	2.2035	0.8038
MJRLeft	105.5000	5529.1667	0.0000	125.3333	1.5175	20.2813	9.8888
MJRRight	97.4167	5662.5833	0.0000	0.0000	1.5191	20.4670	10.4068
MJRExist	209.5000	0.0000	0.0000	5550.5000	0.8844	6.1272	33.6980
MjrNew	209.5000	0.0000	0.0000	5550.5000	0.4464	1.7496	28.6732
DSmjrExis	3558.9167	199.3333	0.0000	2001.7500	0.8435	3.9299	22.6100
DSmjrNew	211.0000	0.0000	0.0000	5549.0000	0.4538	1.7677	55.2445
PRKWout	1290.5000	4469.5000	0.0000	0.0000	0.3778	2.4042	0.7767
18exist	132.2500	5627.7500	0.0000	0.0000	0.4482	1.8096	6.8412
42in 1	132.2500	5627.7500	0.0000	0.0000	1.0459	9.5756	13.5778
42in 2	132.2500	5627.7500	0.0000	0.0000	1.0459	9.5756	13.5778
18inchDS	115.0833	5644.9167	0.0000	0.0000	0.4527	1.8094	12.4230
3x6DS	115.0833	5644.9167	0.0000	0.0000	1.0638	10.0622	15.3556
3ft3	115.0833	5644.9167	0.0000	0.0000	1.0638	10.0622	15.3556

```
 *============================================*
 | Table E12. Mean Conduit Flow Information  |
 *============================================*
                        Mean     Total      Mean       Low      Mean      Mean
Mean      Mean
       Conduit          Flow      Flow   Percent      Flow    Froude Hydraulic
```

Conduit Name	(cfs)	(ft^3)	Change	Weightng	Number	Radius	Cross Area	Roughness
NE1toEAS	1.2069	417094.39	0.0053	0.9843	0.2587	0.1032	0.5675	0.0130
EAStoNEC	1.5194	525092.66	0.0089	0.9889	0.2565	0.1096	0.6869	0.0130
NW1toP1	4.8492	1675874.8	0.0161	0.9855	0.3290	0.3749	3.4776	0.0130
USPDtoNW1	2.1461	741681.93	0.0149	0.5602	0.1417	0.0771	1.6975	0.0270
P2toP1	8.0647	2787173.3	0.0205	0.9846	0.2076	0.8447	10.1796	0.0130
S4a	2.1678	749200.99	0.0094	0.9889	0.1585	0.1130	1.3824	0.0400
S4b	2.1688	749551.23	0.0093	0.9874	0.1300	0.1248	1.5469	0.0400
S4c	2.1703	750048.18	0.0106	0.9866	0.0880	0.2538	3.5814	0.0400
S4d	2.1687	749515.66	0.0123	0.6069	0.0472	0.6024	10.9139	0.0400
P3toSE	0.9333	322546.25	0.0014	0.9853	0.5225	0.1649	0.8748	0.0400
SEtoSEC	0.9331	322489.66	0.0029	0.9847	0.5645	0.1958	1.5406	0.0130
SECtoP2	0.9330	322436.65	0.0035	0.9847	0.1120	0.3943	5.0711	0.0400
SWtoSWC	1.3389	462733.68	0.0061	0.9837	0.3356	0.3083	2.5023	0.0130
S8	1.3407	463330.50	0.0049	0.9834	0.1389	0.3947	4.5962	0.0400
S9	0.8427	291239.86	0.0068	0.8545	0.0729	0.3450	6.0028	0.0130

WEStoSESC	0.8429	291318.19	0.0057	0.9867	0.0448	0.4452	
3.5605	0.0130						
SR26toOUT	22.5690	7799860.9	0.0299	0.9721	3.5448	0.3362	
2.2815	0.0130						
S3d	1.2068	417064.73	0.0067	0.9850	0.1499	0.0979	
0.9689	0.0400						
S3c	1.2065	416972.37	0.0069	0.9859	0.1449	0.0930	
0.8740	0.0400						
S3b	1.2062	416866.93	0.0069	0.9682	0.1380	0.0923	
0.8666	0.0400						
S3a	1.2059	416749.70	0.0072	0.7957	0.1176	0.0919	
0.8626	0.0400						
S1a	0.8354	288701.89	0.0060	0.6792	0.1410	0.0594	
0.5478	0.0400						
S1b	0.8354	288706.68	0.0044	0.7968	0.1650	0.0613	
0.5723	0.0400						
S1c	0.8354	288712.25	0.0043	0.8823	0.1741	0.0549	
0.5925	0.0400						
S1d	0.8365	289078.95	0.0067	0.9691	0.0706	0.1311	
2.2571	0.0400						
S2a	0.7279	251575.07	0.0047	0.6704	0.1347	0.0713	
0.4664	0.0400						
S2b	0.7282	251657.49	0.0026	0.8074	0.1300	0.0736	
0.4799	0.0400						
S2c	0.7301	252328.30	0.0043	0.9726	0.0507	0.1549	
1.6262	0.0400						
S5b	0.3125	107990.73	0.0019	0.5901	0.1173	0.0384	
0.3967	0.0400						
S5a	0.3124	107960.72	0.0013	0.3762	0.1489	0.0311	
0.2328	0.0400						
S10d	0.8430	291340.42	0.0050	0.8642	0.1303	0.0819	

							0.8768	0.0400
S10c	0.8426	291213.65	0.0038	0.8477	0.1736	0.0705	0.6114	0.0400
S10b	0.8425	291179.68	0.0036	0.7382	0.1492	0.0715	0.5648	0.0400
S10a	0.8424	291119.46	0.0031	0.4843	0.1105	0.0708	0.5573	0.0400
S11a	0.6957	240437.96	0.0031	0.6733	0.1538	0.0538	0.5230	0.0400
S11b	0.6960	240520.70	0.0031	0.7181	0.1449	0.0560	0.5662	0.0400
S11c	0.6967	240790.77	0.0047	0.8971	0.0613	0.2384	3.6185	0.0400
S12a	0.5674	196098.47	0.0024	0.4474	0.1270	0.0521	0.4519	0.0400
S12b	0.5674	196105.73	0.0025	0.4937	0.2056	0.0376	0.2949	0.0400
S12c	0.5679	196256.90	0.0033	0.5618	0.1107	0.1181	1.8732	0.0400
S13a	1.4165	489527.03	0.0056	0.6591	0.1089	0.0924	1.0158	0.0400
S13b	1.4166	489568.24	0.0064	0.7863	0.1342	0.0940	1.0408	0.0400
S13c	1.4166	489586.46	0.0064	0.8100	0.2378	0.0745	0.7363	0.0400
S13d	1.4170	489709.03	0.0083	0.7737	0.1047	0.0871	1.0930	0.0400
US65toUSM	2.3769	821454.77	0.0100	0.9854	0.2931	0.1280	1.2879	0.0130
CASNatob	0.2590	89504.420	0.0013	0.1705	0.2435	0.0454	0.0817	0.0130

CASNbtoc	0.2590	89526.879	0.0016	0.2771	0.0849	0.1003	0.4483	0.0130
CASNctod	0.2593	89607.524	0.0014	0.3223	0.7762	0.1040	0.4956	0.0130
CASNdtoe	0.2599	89810.001	0.0014	0.3223	0.2964	0.1555	0.8577	0.0130
CASNetof	0.2602	89914.476	0.0014	0.3323	0.2557	0.1936	1.1470	0.0130
CASNftog	0.2606	90053.891	0.0015	0.3821	0.0249	0.2363	1.4638	0.0130
CASNgtoH	0.2609	90167.748	0.0012	0.5791	0.5571	0.2391	1.4858	0.0130
CASNhtoi	0.2617	90448.698	0.0012	0.5765	0.9609	0.2558	1.6292	0.0130
CASNitoNW	0.2621	90570.784	0.0010	0.6057	0.2104	0.0896	0.2344	0.0130
Weir	0.2714	93801.110	0.0017	0.7669	0.1799	0.0376	0.2258	0.0400
MJRLeft	9.7958	3385435.2	0.0195	0.9863	0.1346	0.9412	8.9086	0.0130
MJRRight	10.3944	3592287.6	0.0207	0.9873	0.1313	1.0075	9.8127	0.0130
MJRExist	17.0383	5888432.4	0.0185	0.9728	1.0268	0.5355	3.6394	0.0130
MjrNew	5.5308	1911453.9	0.0058	0.9728	1.0088	0.3029	1.1382	0.0130
DSmjrExis	12.9288	4468206.3	0.0134	0.5379	1.2122	0.3404	1.4909	0.0130
DSmjrNew	9.6402	3331648.1	0.0112	0.9726	1.2886	0.3308	1.2901	0.0130
PRKWout	0.2823	97553.983	0.0018	0.8325	0.1735	0.0414	0.2592	0.0400

```
        18exist    1.2923 446605.99    0.0030    0.9828    0.4633    0.2802
0.9858    0.0130


         42in 1    6.9810 2412622.6    0.0119    0.9828    0.6171    0.5430
3.4668    0.0120


         42in 2    6.9810 2412622.6    0.0119    0.9828    0.6171    0.5430
3.4668    0.0120


       18inchDS    1.1409 394300.09    0.0031    0.9850    0.1195    0.3446
1.2889    0.0130


          3x6DS    7.0567 2438779.4    0.0170    0.9850    0.2557    0.6476
5.1347    0.0120


           3ft3    7.0567 2438779.4    0.0170    0.9850    0.2557    0.6476
5.1347    0.0120


       FREE # 1   22.5693 7799966.5



 *================================================================*
 | Table E13. Channel losses(H), headwater depth (HW), tailwater |
 | depth (TW), critical and normal depth (Yc and Yn).            |
 | Use this section for culvert comparisons                       |
 *================================================================*

        Conduit   Maximum      Head  Friction  Critical    Normal        HW
TW
           Name      Flow      Loss      Loss     Depth     Depth    Elevat
Elevat
 --------------- --------- --------- --------- --------- --------- ---------
---------
       NE1toEAS   19.0642    0.2545    0.1981    1.0784    1.4736  657.5452
657.0705   Max Flow
       EAStoNEC   23.9317    0.2814    0.1854    1.0351    1.3275  657.0709
656.4108   Max Flow
        NW1toP1   51.2352    0.3810    0.8194    1.3130    1.0054  653.5309
652.2842   Max Flow
      USPDtoNW1   34.6317    1.3788    2.0766    0.5011    0.3821  654.1485
653.0045   Max Flow
         P2toP1   40.3065    0.0621    0.0777    0.9225    3.0218  653.0833
652.9862   Max Flow
            S4a   33.9743    0.0000    1.5000    0.8580    1.3477  656.4188
654.9186   Max Flow
            S4b   33.9524    0.0000    1.4991    0.8577    1.3473  654.9186
653.4220   Max Flow
            S4c   33.9512    0.0000    1.4979    0.8577    1.3473  653.4220
651.8988   Max Flow
            S4d   33.9194    0.0000    0.7549    0.8573    1.3475  651.9002
651.1712   Max Flow
         P3toSE    9.7088    0.0000    1.3146    0.6506    0.9098  654.6884
652.5618   Max Flow
        SEtoSEC    9.7023    0.5034    0.6070    0.4310    0.3384  652.5618
```

```
652.2160   Max Flow
        SECtoP2    9.5786    0.0000    0.9720    0.5584    0.8024  652.2163
652.0147   Max Flow
        SWtoSWC   10.8996    0.0996    0.3538    0.4672    0.5523  652.7162
652.5860   Max Flow
             S8   10.7981    0.0000    1.3983    0.6886    1.0635  652.5860
652.0147   Max Flow
             S9   13.1935    0.0000    1.5158    0.4128    0.3328  651.8756
651.1512   Max Flow
      WEStoSESC   13.1938    0.1825    0.2657    0.5299    0.6436  652.3221
651.8756   Max Flow
      SR26toOUT   83.3047    5.3727   13.9808    1.9230    0.7275  639.4396
621.7875   Max Flow
            S3d   19.0715    0.0000    1.5196    0.7344    1.1526  658.4099
657.5451   Max Flow
            S3c   19.0904    0.0000    1.5272    0.7348    1.1532  659.8692
658.4088   Max Flow
            S3b   19.0992    0.0000    1.5291    0.7349    1.1534  661.3953
659.8692   Max Flow
            S3a   19.1071    0.0000    1.4396    0.7351    1.1525  662.8343
661.3952   Max Flow
            S1a   13.8016    0.0563    2.9110    0.5000    0.6960  662.8293
659.9248   Max Flow
            S1b   13.7954    0.0466    2.5711    0.4999    0.6958  659.9250
656.8684   Max Flow
            S1c   13.7935    0.0470    2.9129    0.4247    0.6046  656.8684
653.8950   Max Flow
            S1d   13.7780    0.0825    3.2472    0.4244    0.5838  653.8950
651.1841   Max Flow
            S2a   11.5439    0.0000    2.4298    0.7145    0.9567  658.9169
656.4874   Max Flow
            S2b   11.5453    0.0000    2.7594    0.7146    0.9571  656.4874
653.7271   Max Flow
            S2c   11.5420    0.0000    2.7470    0.7145    0.9569  653.7272
651.2523   Max Flow
            S5b    4.9379    0.0000    6.3102    0.2403    0.2833  662.0376
657.0637   Max Flow
            S5a    4.9393    0.0000    2.4766    0.2613    0.3090  664.8061
662.0376   Max Flow
           S10d   13.1929    0.0000    2.4443    0.4872    0.6340  654.6760
652.3219   Max Flow
           S10c   13.1961    0.0000    2.2039    0.5335    0.7659  657.4062
654.6760   Max Flow
           S10b   13.1961    0.0000    2.4751    0.5953    0.8409  659.9910
657.4058   Max Flow
           S10a   13.1992    0.0000    0.9981    0.5954    0.8398  660.9806
659.9910   Max Flow
           S11a   11.1332    0.0000    2.6080    0.4006    0.5623  661.9560
658.7263   Max Flow
           S11b   11.1333    0.0000    5.7828    0.4006    0.4649  658.7263
652.7836   Max Flow
           S11c   11.1287    0.0000    2.1558    0.4005    0.6126  652.7836
651.1117   Max Flow
           S12a    9.0437    0.0000    1.1026    0.3842    0.5459  662.4033
660.9115   Max Flow
           S12b    9.0448    0.0000    5.2499    0.3842    0.3984  660.9115
655.6615   Max Flow
           S12c    9.0446    0.0000    5.2092    0.3842    0.3984  655.6615
651.1314   Max Flow
           S13a   22.3211    0.0476    1.0773    0.6686    1.0585  663.7661
662.7109   Max Flow
           S13b   22.3191    0.0405    1.1039    0.6685    1.0624  662.7111
661.2615   Max Flow
```

```
            S13c   22.3162    0.0788    2.9230    0.6685    0.7784  661.2614
657.5931   Max Flow
            S13d   22.3173    0.3665    5.5075    0.6189    0.5925  657.5931
653.1581   Max Flow
       US65toUSM   37.2155    0.2024    0.1550    0.8741    2.8517  655.1173
654.4741   Max Flow
        CASNatob    4.2410    0.3033    0.5710    0.7889    0.6115  658.9570
658.1415   Max Flow
        CASNbtoc    4.2165    0.0456    0.0856    0.5884    1.6467  654.3066
654.1930   Max Flow
        CASNctod    4.0420    0.0891    0.4602    0.5596    0.7546  654.1777
654.0044   Max Flow
        CASNdtoe    3.6773    0.0065    0.3104    0.5352    0.7178  654.7709
654.7626   Max Flow
        CASNetof    3.4662    0.0036    0.1786    0.5168    0.7441  654.7622
654.7582   Max Flow
        CASNftog    3.3224    0.0023    0.1019    0.5043    1.2499  654.7786
654.7754   Max Flow
        CASNgtoH    3.1409    0.0021    0.1236    0.4885    1.0115  654.7754
654.7719   Max Flow
        CASNhtoi    2.9163    0.0017    0.1752    0.4689    0.7039  654.7715
654.7704   Max Flow
       CASNitoNW    2.8561    0.4104    0.9069    0.7244    1.0000  654.8413
653.5238   Max Flow
            Weir    4.4329    0.0325    3.6275    0.3082    0.4187  657.8396
654.1485   Max Flow
         MJRLeft   38.7504    0.2769    0.4474    1.7328    1.9000  650.7977
650.4292   Max Flow
        MJRRight   42.1099    0.2679    0.3425    1.8110    2.1022  650.7610
650.3762   Max Flow
        MJRExist   67.1293    1.6300    1.2861    2.6151    2.0810  653.0514
648.7010   Max Flow
          MjrNew   16.1738    1.9131    2.5206    1.4232    1.5000  653.0514
648.5632   Max Flow
       DSmjrExis   63.6035    2.9140    6.7591    2.5599    1.3636  648.4858
639.8336   Max Flow
        DSmjrNew   19.7012    2.8900    5.6222    1.7611    1.5000  648.4858
639.9700   Max Flow
         PRKWout    4.6420    0.0250    2.7926    0.3189    0.4668  657.0608
654.1482   Max Flow
         18exist    4.7666    0.0851    0.8033    0.8388    0.8196  651.2625
650.6128   Max Flow
          42in 1   31.6845    0.1066    0.6600    1.7396    1.4758  653.1106
652.8397   Max Flow
          42in 2   31.6845    0.1066    0.6600    1.7396    1.4758  653.1106
652.8397   Max Flow
        18inchDS    4.5927    0.1048    0.0955    0.8223    0.7986  652.8397
652.6395   Max Flow
           3x6DS   30.9014    0.1602    0.0402    1.7173    1.4511  652.8397
652.6395   Max Flow
            3ft3   30.9014    0.1602    0.0402    1.7173    1.4511  652.8397
652.6395   Max Flow

 *===========================================================*
 | Table E13a. CULVERT ANALYSIS CLASSIFICATION,              |
 | and the time the culvert was in a particular              |
 | classification during the simulation.  The time is        |
 | in minutes.  The Dynamic Wave Equation is used for        |
 | all conduit analysis but the culvert flow classification |
 | condition is based on the HW and TW depths.               |
 *===========================================================*
                              Mild      Mild     Steep                Mild      Mild
                             Slope  Slope TW  Slope TW Slug Flow     Slope     Slope
```

Conduit Name	Critical D Outlet Control	Control Outlet Control	Insignf Entrance Control	Outlet/ Entrance Control	TW > D Outlet Control	TW <= D Outlet Control	Outlet Control	Inlet Control	Inlet Configuration
NE1toEAS	0.0000	5640.0000	120.0000	0.0000	0.0000	0.0000	0.0000	0.0000	45 deg Wingwall Flares
EAStoNEC	0.0000	5222.0000	84.0000	0.0000	0.0000	0.0000	0.0000	454.0000	45 deg Wingwall Flares
NW1toP1	0.0000	0.0000	4238.0000	1024.0000	0.0000	0.0000	170.0000	328.0000	45 deg Wingwall Flares
USPDtoNW1	0.0000	0.0000	5760.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Projecting
P2toP1	6.0000	5636.0000	0.0000	118.0000	0.0000	0.0000	0.0000	0.0000	45 deg Wingwall Flares
S4a	18.0000	5658.0000	84.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S4b	10.0000	5654.0000	96.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S4c	2926.0000	2732.0000	102.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S4d	192.0000	2540.0000	3028.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
P3toSE	1874.0000	3774.0000	112.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
SEtoSEC	0.0000	0.0000	4746.0000	924.0000	0.0000	0.0000	90.0000	0.0000	45 deg Wingwall Flares
SECtoP2	2.0000	5642.0000	116.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
SWtoSWC	2.0000	5634.0000	124.0000	0.0000	0.0000	0.0000	0.0000	0.0000	45 deg Wingwall Flares
S8	0.0000	5634.0000	126.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S9	0.0000	0.0000	4354.0000	1370.0000	0.0000	0.0000	36.0000	0.0000	None
WEStoSESC	0.0000	5658.0000	102.0000	0.0000	0.0000	0.0000	0.0000	0.0000	45 deg Wingwall Flares
SR26toOUT	0.0000	0.0000	5760.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S3d	8.0000	5638.0000	114.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S3c	14.0000	5638.0000	108.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S3b	14.0000	5500.0000	246.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S3a	8.0000	4178.0000	1574.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S1a	6.0000	3282.0000	2472.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S1b	8.0000	4186.0000	1566.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S1c	16.0000	4838.0000	906.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S1d	122.0000	5400.0000	238.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S2a	10.0000	3210.0000	2540.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
S2b	14.0000	4262.0000	1484.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None

```
              S2c  148.0000 5400.0000  212.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
              S5b    0.0000 2602.0000 3158.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
              S5a   12.0000 1536.0000 4212.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S10d    4.0000 4708.0000 1048.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S10c   10.0000 4576.0000 1174.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S10b   14.0000 3730.0000 2016.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S10a   10.0000 1952.0000 3798.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S11a   10.0000 3232.0000 2518.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S11b    0.0000 3588.0000 2172.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S11c  146.0000 4820.0000  794.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S12a    4.0000 1816.0000 3940.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S12b    6.0000 1990.0000 3764.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S12c  134.0000 2250.0000 3376.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S13a    0.0000 3134.0000 2626.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S13b   10.0000 4104.0000 1646.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S13c  892.0000 3404.0000 1464.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
             S13d   74.0000 3494.0000 2192.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
        US65toUSM  282.0000 5366.0000  112.0000    0.0000    0.0000    0.0000
0.0000    0.0000 45 deg Wingwall Flares
         CASNatob    0.0000    0.0000 5760.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNbtoc   32.0000 1108.0000 4620.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNctod   22.0000 1288.0000 4450.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNdtoe   20.0000 1290.0000 4450.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNetof   24.0000 1322.0000 4414.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNftog   28.0000 1506.0000 4226.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNgtoH   18.0000 2500.0000 3242.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         CASNhtoi   34.0000 2464.0000 3262.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
        CASNitoNW  554.0000 1250.0000 3038.0000    0.0000  914.0000    0.0000
4.0000    0.0000 None
             Weir 1610.0000 2354.0000 1796.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
          MJRLeft   22.0000 5100.0000  104.0000    0.0000  534.0000    0.0000
0.0000    0.0000 45 deg Beveled Ring
         MJRRight  132.0000 4878.0000   96.0000    0.0000  654.0000    0.0000
0.0000    0.0000 45 deg Beveled Ring
         MJRExist    0.0000    0.0000 3086.0000    0.0000    0.0000    0.0000
0.0000 2674.0000 Groove End with Headwall
           MjrNew    2.0000   28.0000 2492.0000    0.0000    0.0000    0.0000
```

```
1614.0000 1624.0000 Groove End with Headwall
       DSmjrExis    0.0000    0.0000 5760.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
        DSmjrNew    0.0000   14.0000 5370.0000    0.0000    0.0000    0.0000
376.0000    0.0000 None
         PRKWout 2114.0000 2356.0000 1290.0000    0.0000    0.0000    0.0000
0.0000    0.0000 None
         18exist    0.0000   66.0000 3166.0000  332.0000    2.0000 1186.0000
92.0000  916.0000 Groove End with Headwall
          42in 1    0.0000    0.0000 3750.0000  992.0000    0.0000    0.0000
240.0000  778.0000 Square Edge with Headwall
          42in 2    0.0000    0.0000 3750.0000  992.0000    0.0000    0.0000
240.0000  778.0000 Square Edge with Headwall
        18inchDS    0.0000  574.0000  114.0000 2840.0000    6.0000 2226.0000
0.0000    0.0000 None
           3x6DS    0.0000    0.0000  114.0000 4570.0000    0.0000 1076.0000
0.0000    0.0000 None
            3ft3    0.0000    0.0000  114.0000 4570.0000    0.0000 1076.0000
0.0000    0.0000 None

   *=====================================*
   |     Kinematic Wave Approximations    |
   |  Time in Minutes for Each Condition |
   *=====================================*
```

Conduit Name	Duration of Normal Flow	Slope Criteria	Super-Critical	Roll Waves
NE1toEAS	10.5000	45.7500	0.0833	0.0000
EAStoNEC	4937.9583	5063.2917	15.7500	0.0000
NW1toP1	4019.8750	5354.5833	142.3333	0.0000
USPDtoNW1	5530.5833	5575.5000	241.2917	0.0000
P2toP1	0.0000	13.6667	0.0000	0.0000
S4a	2146.8750	5425.4583	0.0000	0.0000
S4b	2114.7917	5481.1667	0.0000	0.0000
S4c	1437.4167	2549.7083	0.0000	0.0000
S4d	0.0417	5404.8333	79.2500	0.0000
P3toSE	505.6250	719.2917	0.0000	0.0000
SEtoSEC	4503.8750	5603.9167	94.6250	0.0000
SECtoP2	3916.7917	5641.3333	0.1667	0.0000
SWtoSWC	3588.1667	5507.0417	0.0000	0.0000
S8	3901.1250	5392.5000	0.1667	0.0000
S9	4172.2917	5539.6667	208.7917	0.0000
WEStoSESC	11.0000	5541.1667	0.0000	0.0000
SR26toOUT	0.0000	0.0000	5545.4167	0.0000
S3d	76.5000	664.8333	0.0000	0.0000
S3c	5002.2917	5537.1667	0.0000	0.0000
S3b	5020.7083	5452.7083	0.0000	0.0000
S3a	5014.8750	5406.6250	0.0000	0.0000
S1a	5427.1833	5633.5000	2.4167	0.0000
S1b	4989.8750	4989.9167	10.7500	0.0000
S1c	5110.8083	5122.0000	3.5000	0.0000
S1d	5443.5417	5499.1667	58.0833	0.0000
S2a	5350.0417	5350.0417	0.0000	0.0000
S2b	5525.2083	5527.1250	1.1667	0.0000
S2c	5007.7083	5451.2500	33.0833	0.0000
S5b	5646.1667	5664.5833	18.3333	0.0000
S5a	4954.7917	4954.7917	15.8333	0.0000
S10d	2282.7500	2286.2500	5.5833	0.0000
S10c	0.0000	0.0000	1.4167	0.0000
S10b	4952.1667	4952.1667	4.4167	0.0000
S10a	4999.8333	5621.5000	1.3333	0.0000
S11a	4953.5000	4953.6250	1.6667	0.0000

S11b	5643.1667	5643.1667	18.2500	0.0000
S11c	4537.8333	5489.9167	57.1667	0.0000
S12a	0.0000	0.0000	0.1667	0.0000
S12b	5452.6667	5481.4167	12.0000	0.0000
S12c	5523.2500	5523.2500	95.3333	0.0000
S13a	4959.8750	5627.2500	7.3333	0.0000
S13b	0.0000	0.0000	8.3333	0.0000
S13c	0.0000	0.0000	11.5000	0.0000
S13d	5569.6667	5572.9167	43.0000	0.0000
US65toUSM	0.0000	0.0000	0.0000	0.0000
CASNatob	0.0000	0.0000	5620.0000	0.0000
CASNbtoc	0.0000	5055.3750	7.5833	0.0000
CASNctod	227.4583	860.7917	4644.0417	0.0000
CASNdtoe	161.5833	1133.5417	4451.3333	0.0000
CASNetof	70.7917	1170.7083	4377.4583	0.0000
CASNftog	0.0000	5471.1667	1.3333	0.0000
CASNgtoH	0.0000	5511.4167	3.1667	0.0000
CASNhtoi	0.0000	5567.5833	2.1667	0.0000
CASNitoNW	248.1667	1143.9167	0.0000	0.0000
Weir	145.1250	150.6250	0.0833	0.0000
MJRLeft	0.0000	5496.2500	1.5833	0.0000
MJRRight	0.0000	5483.7500	49.0000	0.0000
MJRExist	0.0000	0.0000	3788.6667	0.0000
MjrNew	0.0000	0.0000	3818.3750	0.0000
DSmjrExis	3380.6667	3459.4167	2196.5000	0.0000
DSmjrNew	0.0000	0.0833	5058.0333	0.0000
PRKWout	123.2500	5065.1250	0.0000	0.0000
18exist	3092.2500	5504.2500	0.0000	0.0000
42in 1	3529.6667	5514.1667	0.0000	0.0000
42in 2	3529.6667	5514.1667	0.0000	0.0000
18inchDS	0.0000	5469.0000	0.0000	0.0000
3x6DS	0.0000	5469.0000	0.0000	0.0000
3ft3	0.0000	5469.0000	0.0000	0.0000

===
| Table E15 - SPREADSHEET INFO LIST |
| Conduit Flow and Junction Depth Information for use in |
| spreadsheets. The maximum values in this table are the |
| true maximum values because they sample every time step.|
| The values in the review results may only be the |
| maximum of a subset of all the time steps in the run. |
| Note: These flows are only the flows in a single barrel.|
===

Conduit Name	Maximum Flow (cfs)	Total Flow (ft^3)	Maximum Velocity (ft/s)	Maximum Volume (ft^3)	##	Junction Name	Invert Elevation (ft)	Maximum Elevation (ft)
NE1toEAS	19.0643	417094.3880	3.3921	696.9367	##	AR4	653.1600	655.1174
EAStoNEC	23.9334	525092.6570	3.6332	965.1903	##	NW1	651.4000	653.5309
NW1toP1	51.2358	1675874.822	5.2109	2856.3286	##	MJR	647.2100	653.0514

	USPDtoNW1	34.6319 741681.9267	4.0611	1537.2500	##
USPD	653.7500	654.1485			
	P2toP1	40.3070 2787173.289	-2.1829	8188.1658	##
USM	647.3700	653.1655			
	S4a	33.9756 749200.9940	2.5074	3654.5458	##
OUT	621.0600	621.7875			
	S4b	33.9586 749551.2264	2.5054	3670.0333	##
DSMR	640.0000	648.4858			
	S4c	33.9545 750048.1762	2.5034	8086.3141	##
SR26	637.5800	639.4396			
	S4d	33.9204 749515.6566	2.6337	5456.9869	##
NE1	655.6500	657.5453			
	P3toSE	9.7091 322546.2538	2.2004	850.1667	##
P1	650.0100	653.4105			
	SEtoSEC	9.7029 322489.6559	3.3314	1271.5655	##
SWC	651.4100	653.4355			
	SECtoP2	9.5793 322436.6516	1.5972	4804.9672	##
P3	653.6900	654.6884			
	SWtoSWC	10.8998 462733.6817	1.9655	1973.7601	##
P2	650.0100	653.4339			
	S8	10.7997 463330.4981	1.6723	7765.6895	##
SEC	651.1700	653.4362			
	S9	13.1935 291239.8580	3.6363	8989.1089	##
NEC	655.0700	656.4189			
	WEStoSESC	13.1943 291318.1870	2.8213	2671.4311	##
OUT2	650.1700	650.1700			
	SR26toOUT	83.3047 7799860.907	16.0215	53.4437	##
EAS	655.3900	657.0709			
	S3d	19.0738 417064.7264	1.8447	4098.9308	##
SE	652.1300	653.4394			
	S3c	19.0925 416972.3740	2.1828	2184.4535	##
SW	651.8000	653.4365			

	S3b	19.1004	416866.9328	2.2132	1965.4825	##
WES	651.5400	653.4339				
	S3a	19.1075	416749.6956	2.2179	1944.6744	##
SESC	651.1200	653.4335				
	S1a	13.8039	288701.8921	2.4219	438.5538	##
NECa	653.5700	654.9187				
	S1b	13.7988	288706.6806	2.3330	342.8441	##
NECb	652.0700	653.4936				
	S1c	13.7948	288712.2469	2.2784	352.3084	##
NECc	650.5700	653.4346				
	S1d	13.7876	289078.9501	2.2920	7745.4196	##
NE1d	657.1800	658.4099				
	S2a	11.5458	251575.0718	2.4766	484.6404	##
NE1c	658.7100	659.8693				
	S2b	11.5453	251657.4937	2.4754	485.2120	##
NE1b	660.2400	661.3954				
	S2c	11.5432	252328.3034	2.4403	5630.0878	##
NE1a	661.6800	662.8343				
	S5b	4.9385	107990.7262	1.2272	772.5049	##
P1b	659.1900	659.9252				
	S5a	4.9394	107960.7206	2.1994	28.8583	##
P1c	656.2500	656.8684				
	S10d	13.1949	291340.4231	2.5473	1591.1069	##
P1d	653.3100	653.8952				
	S10c	13.1962	291213.6521	2.2326	390.1605	##
P1a	662.1300	662.8293				
	S10b	13.1985	291179.6814	2.3805	520.2704	##
CNEb	655.5300	656.4874				
	S10a	13.2007	291119.4599	2.4037	550.4874	##
CNEa	657.9600	658.9170				
	S11a	11.1350	240437.9558	2.1405	207.3850	##

```
CNEc   652.7700     653.7272


          S11b      11.1333 240520.6984        2.7375       420.9070   ##
EASa   664.4800     664.8062


          S11c      11.1308 240790.7659        1.9562      9442.4553   ##
EASb   661.7500     662.0377


          S12a       9.0451 196098.4732        2.0353       149.8733   ##
WESa   660.1400     660.9806


          S12b       9.0449 196105.7311        3.1268        38.7135   ##
WESb   659.1400     659.9910


          S12c       9.0446 196256.9044        2.7841      2485.4875   ##
WESc   656.5900     657.4062


          S13a      22.3215 489527.0276        2.2378      2029.9450   ##
WESd   654.0400     654.6761


          S13b      22.3194 489568.2393        2.2158      1416.6537   ##
SCWa   661.3500     661.9561


          S13c      22.3185 489586.4589        3.1358       207.5893   ##
SCWb   658.2600     658.7263


          S13d      22.3183 489709.0266        3.5044       914.7870   ##
SCWc   652.1700     653.4336


      US65toUSM     37.2182 821454.7652        3.2017      2022.0167   ##
NCWa   661.8100     662.4034


       CASNatob      4.2435  89504.4202        4.8618        35.8396   ##
NCWb   660.5100     660.9115


       CASNbtoc      4.2167  89526.8788        1.6786       732.5654   ##
NCWc   655.2600     655.6615


       CASNctod      4.0447  89607.5238        1.9784      3183.0409   ##
NW1a   662.6800     663.7661


       CASNdtoe      3.6804  89810.0010        1.6722      2671.2951   ##
NW1b   661.6000     662.7111


       CASNetof      3.4688  89914.4759        1.4347      2176.2944   ##
NW1c   660.4000     661.2615
```

	CASNftog	3.3226	90053.8914	1.0116	2019.3867	##
NW1d	657.0000	657.5931				
	CASNgtoH	3.1447	90167.7479	1.0544	3333.6087	##
CASO	657.5300	657.5300				
	CASNhtoi	2.9417	90448.6981	0.9386	3065.4380	##
CASN	658.2000	658.9573				
	CASNitoNW	2.8563	90570.7842	3.6358	116.2236	##
PRKW	656.5600	657.0609				
	Weir	4.4358	93801.1105	1.9179	72.1553	##
PRKE	657.4000	657.8399				
	MJRLeft	38.7555	3385435.204	4.0580	5349.1102	##
I65	648.1700	653.2609				
	MJRRight	42.1101	3592287.565	4.0796	5473.7052	##
CASNb	653.2000	654.8776				
	MJRExist	67.1316	5888432.384	9.7499	661.7330	##
CASNc	653.1900	654.8662				
	MjrNew	16.1739	1911453.927	9.1687	188.9549	##
CASNd	652.6000	654.8556				
	DSmjrExis	63.6036	4468206.348	13.7471	105.9839	##
CASNe	652.2500	654.8519				
	DSmjrNew	19.7012	3331648.129	11.1427	265.1497	##
CASNf	651.9300	654.8493				
	PRKWout	4.6427	97553.9832	1.7278	102.2375	##
CASNg	651.9115	654.8473				
	18exist	4.7672	446605.9926	2.9890	531.5432	##
CASNh	651.8000	654.8449				
	42in 1	31.6845	2412622.635	5.0438	2884.5865	##
CASNi	651.5900	654.8428				
	42in 2	31.6845	2412622.635	5.0438	2884.5865	##
	18inchDS	4.5929	394300.0943	2.5983	91.9605	##

3x6DS	30.9025	2438779.422	3.2118	504.1571	##
3ft3	30.9025	2438779.422	3.2118	504.1571	##
FREE # 1	83.3047	7799966.486	0.0000	0.0000	##

```
*=====================================================*
|     Table E15a - SPREADSHEET REACH LIST             |
| Peak flow and Total Flow listed by Reach or those   |
|      conduits or diversions having the same         |
|      upstream and downstream nodes.                 |
*=====================================================*
```

Upstream Node	Downstream Node	Maximum Flow (cfs)	Total Flow (ft^3)
NE1	EAS	19.0643	417094.388
EAS	NEC	23.9334	525092.657
NW1	P1	51.2358	1675874.82
USPD	NW1	34.6319	741681.927
P2	P1	40.3070	2787173.29
NEC	NECa	33.9756	749200.994
NECa	NECb	33.9586	749551.226
NECb	NECc	33.9545	750048.176
NECc	P2	33.9204	749515.657
P3	SE	9.7091	322546.254

SE	SEC	9.7029	322489.656
SEC	P2	9.5793	322436.652
SW	SWC	10.8998	462733.682
SWC	P2	10.7997	463330.498
SESC	P2	13.1935	291239.858
WES	SESC	13.1943	291318.187
SR26	OUT	83.3047	7799860.91
NE1d	NE1	19.0738	417064.726
NE1c	NE1d	19.0925	416972.374
NE1b	NE1c	19.1004	416866.933
NE1a	NE1b	19.1075	416749.696
P1a	P1b	13.8039	288701.892
P1b	P1c	13.7988	288706.681
P1c	P1d	13.7948	288712.247
P1d	P1	13.7876	289078.950
CNEa	CNEb	11.5458	251575.072

CNEb	CNEc	11.5453	251657.494
CNEc	P2	11.5432	252328.303
EASb	EAS	4.9385	107990.726
EASa	EASb	4.9394	107960.721
WESd	WES	13.1949	291340.423
WESc	WESd	13.1962	291213.652
WESb	WESc	13.1985	291179.681
WESa	WESb	13.2007	291119.460
SCWa	SCWb	11.1350	240437.956
SCWb	SCWc	11.1333	240520.698
SCWc	P2	11.1308	240790.766
NCWa	NCWb	9.0451	196098.473
NCWb	NCWc	9.0449	196105.731
NCWc	P2	9.0446	196256.904
NW1a	NW1b	22.3215	489527.028

NW1b	NW1c	22.3194	489568.239
NW1c	NW1d	22.3185	489586.459
NW1d	NW1	22.3183	489709.027
AR4	USM	37.2182	821454.765
CASN	CASNb	4.2435	89504.4202
CASNb	CASNc	4.2167	89526.8788
CASNc	CASNd	4.0447	89607.5238
CASNd	CASNe	3.6804	89810.0010
CASNe	CASNf	3.4688	89914.4759
CASNf	CASNg	3.3226	90053.8914
CASNg	CASNh	3.1447	90167.7479
CASNh	CASNi	2.9417	90448.6981
CASNi	NW1	2.8563	90570.7842
PRKE	USPD	4.4358	93801.1105
USM	MJR	80.8494	6977722.77
MJR	DSMR	83.3055	7799886.31

DSMR	SR26	83.3047	7799854.48
PRKW	USPD	4.6427	97553.9832
P1	I65	66.3904	5271851.26
I65	USM	66.3979	5271858.94

```
##########################################################
# Table E16. New Conduit Information Section             #
#            Conduit Invert (IE) Elevation and Conduit  #
#            Maximum Water Surface (WS) Elevations      #
##########################################################
```

Conduit Name	Upstream Node	Downstream Node	IE Up	IE Dn	WS Up	WS Dn	Conduit Type
NE1toEAS	NE1	EAS	655.6500	655.3900	657.5453	657.0709	Rectangle
EAStoNEC	EAS	NEC	655.3900	655.0700	657.0709	656.4189	Rectangle
NW1toP1	NW1	P1	651.4000	650.0100	653.5309	653.4105	Rectangle
USPDtoNW1	USPD	NW1	653.7500	651.4000	654.1485	653.5309	Trapezoid
P2toP1	P2	P1	650.0100	650.0100	653.4339	653.4105	Rectangle
S4a	NEC	NECa	655.0700	653.5700	656.4189	654.9187	Trapezoid
S4b	NECa	NECb	653.5700	652.0700	654.9187	653.4936	Trapezoid
S4c	NECb	NECc	652.0700	650.5700	653.4936	653.4346	Trapezoid
S4d	NECc	P2	650.5700	650.0100	653.4346	653.4339	Trapezoid

P3toSE	P3	SE	653.6900	652.1300	654.6884	653.4394	Trapezoid
SEtoSEC	SE	SEC	652.1300	651.1700	653.4394	653.4362	Rectangle
SECtoP2	SEC	P2	651.1700	650.0100	653.4362	653.4339	Trapezoid
SWtoSWC	SW	SWC	651.8000	651.4100	653.4365	653.4355	Rectangle
S8	SWC	P2	651.4100	650.0100	653.4355	653.4339	Trapezoid
S9	SESC	P2	651.5400	650.0100	653.4335	653.4339	Trapezoid
WEStoSESC	WES	SESC	651.5400	651.1200	653.4339	653.4335	Rectangle
SR26toOUT	SR26	OUT	638.4700	621.0600	639.4396	621.7875	Rectangle
S3d	NE1d	NE1	657.1800	655.6500	658.4099	657.5453	Trapezoid
S3c	NE1c	NE1d	658.7100	657.1800	659.8693	658.4099	Trapezoid
S3b	NE1b	NE1c	660.2400	658.7100	661.3954	659.8693	Trapezoid
S3a	NE1a	NE1b	661.6800	660.2400	662.8343	661.3954	Trapezoid
S1a	P1a	P1b	662.1300	659.1900	662.8293	659.9252	Trapezoid
S1b	P1b	P1c	659.1900	656.2500	659.9252	656.8684	Trapezoid
S1c	P1c	P1d	656.2500	653.3100	656.8684	653.8952	Trapezoid
S1d	P1d	P1	653.3100	650.0100	653.8952	653.4105	Trapezoid

S2a	CNEa	CNEb	657.9600	655.5300	658.9170	656.4874	Trapezoid
S2b	CNEb	CNEc	655.5300	652.7700	656.4874	653.7272	Trapezoid
S2c	CNEc	P2	652.7700	650.0100	653.7272	653.4339	Trapezoid
S5b	EASb	EAS	661.7500	655.3900	662.0377	657.0709	Trapezoid
S5a	EASa	EASb	664.4800	661.7500	664.8062	662.0377	Trapezoid
S10d	WESd	WES	654.0400	651.5400	654.6761	653.4339	Trapezoid
S10c	WESc	WESd	656.5900	654.0400	657.4062	654.6761	Trapezoid
S10b	WESb	WESc	659.1400	656.5900	659.9910	657.4062	Trapezoid
S10a	WESa	WESb	660.1400	659.1400	660.9806	659.9910	Trapezoid
S11a	SCWa	SCWb	661.3500	658.2600	661.9561	658.7263	Trapezoid
S11b	SCWb	SCWc	658.2600	652.1700	658.7263	653.4336	Trapezoid
S11c	SCWc	P2	652.1700	650.0100	653.4336	653.4339	Trapezoid
S12a	NCWa	NCWb	661.8100	660.5100	662.4034	660.9115	Trapezoid
S12b	NCWb	NCWc	660.5100	655.2600	660.9115	655.6615	Trapezoid
S12c	NCWc	P2	655.2600	650.0100	655.6615	653.4339	Trapezoid
S13a	NW1a	NW1b	662.6900	661.6000	663.7661		

662.7111 Trapezoid

S13b	NW1b	NW1c	661.6000	660.4000	662.7111
661.2615 Trapezoid					
S13c	NW1c	NW1d	660.4000	657.0000	661.2615
657.5931 Trapezoid					
S13d	NW1d	NW1	657.0000	651.4000	657.5931
653.5309 Trapezoid					
US65toUSM	AR4	USM	653.6000	653.6000	655.1174
654.4742 Rectangle					
CASNatob	CASN	CASNb	658.2000	657.5300	658.9573
658.1417 Circular					
CASNbtoc	CASNb	CASNc	653.2000	653.1900	654.8776
654.8662 Circular					
CASNctod	CASNc	CASNd	653.1900	652.6500	654.8662
654.8556 Circular					
CASNdtoe	CASNd	CASNe	652.6000	652.2500	654.8556
654.8519 Circular					
CASNetof	CASNe	CASNf	652.2500	652.0600	654.8519
654.8493 Circular					
CASNftog	CASNf	CASNg	651.9300	651.9115	654.8493
654.8473 Circular					
CASNgtoH	CASNg	CASNh	651.9115	651.8500	654.8473
654.8449 Circular					
CASNhtoi	CASNh	CASNi	651.8000	651.6000	654.8449
654.8428 Circular					
CASNitoNW	CASNi	NW1	651.5900	651.4700	654.8428
653.5309 Circular					
Weir	PRKE	USPD	657.4000	653.7500	657.8399
654.1485 Trapezoid					
MJRLeft	USM	MJR	647.9800	647.3700	653.1655
653.0514 Circular					

```
       MJRRight            USM            MJR  647.7200  647.2100  653.1655
653.0514 Circular


       MJRExist            MJR           DSMR  648.2200  646.6200  653.0514
648.7010 Circular


         MjrNew            MJR           DSMR  648.2200  647.1400  653.0514
648.5632 Circular


      DSmjrExis           DSMR           SR26  646.5600  638.4700  648.4858
639.8336 Circular


       DSmjrNew           DSMR           SR26  640.0700  638.4700  648.4858
639.9700 Circular


        PRKWout           PRKW           USPD  656.5600  653.7500  657.0609
654.1485 Trapezoid


        18exist             P1            I65  650.0100  648.1700  653.4105
653.2609 Circular


         42in 1             P1            I65  650.0100  648.1700  653.4105
653.2609 Circular


         42in 2             P1            I65  650.0100  648.1700  653.4105
653.2609 Circular


       18inchDS            I65            USM  648.1700  647.8600  653.2609
653.1655 Circular


          3x6DS            I65            USM  648.1700  647.8600  653.2609
653.1655 Circular


           3ft3            I65            USM  648.1700  647.8600  653.2609
653.1655 Circular


 *==============================================================================*
 |     Table E18 - Junction Continuity Error.   Division by Volume added 11/96   |
 |                                                                              |
 |   Continuity Error = Net Flow + Beginning Volume - Ending Volume             |
 |                      -------------------------------------------------       |
 |                      Total Flow + (Beginning Volume + Ending Volume)/2       |
 |                                                                              |
 |   Net Flow   = Node Inflow - Node Outflow                                    |
 |   Total Flow = absolute (Inflow + Outflow)                                   |
 |   Intermediate column is a judgement on the node continuity error.           |
 |                                                                              |
 |   Excellent  < 1 percent    Great  1 to  2 percent  Good  2 to  5 percent    |
 |   Fair  5 to 10  percent    Poor  10 to 25 percent  Bad  25 to 50 percent    |
 |   Terrible > 50  percent                                                     |
```

==

Junction Name	Continuity Error Volume	Continuity Error % of Node	Continuity Error % of Inflow	Remaining Volume	Beginning Volume	Net Flow Thru Node	Total Flow Thru Node	Failed to Converge
AR4	-26.2650	-0.0016	0.0003	240.6732	0.0000	214.4082	1643154.110	0
NW1	62.9419	0.0019	0.0007	725.1801	0.0000	788.1220	3352578.658	0
MJR	-161.6285	-0.0010	0.0019	238063.2663	0.0000	237901.6377	15837807.39	3231
USPD	-36.8152	-0.0025	0.0004	0.6309	0.0000	-36.1844	1483282.330	0
USM	388.5419	0.0028	0.0045	738.9032	0.0000	1127.4451	13956907.32	0
OUT	-121.6772	-0.0008	0.0014	23.5992	0.0000	-98.0780	15599827.39	0
DSMR	-101.0372	-0.0006	0.0012	38.8114	0.0000	-62.2258	15599740.79	3385
SR26	-111.7895	-0.0007	0.0013	54.8427	0.0000	-56.9469	15599715.38	0
NE1	-62.7054	-0.0075	0.0007	0.0186	0.0000	-62.6868	834159.1144	0
P1	57.6540	0.0005	0.0007	42207.9269	0.0000	42265.5809	10586069.99	241
SWC	-652.7221	-0.0705	0.0076	34.8460	0.0000	-617.8760	926064.1798	0
P3	-17.9587	-0.0028	0.0002	4401.0870	0.0000	4383.1283	649487.9453	0
P2	339.9783	0.0059	0.0040	115214.8873	0.0000	115554.8656	5689937.331	0
SEC	34.9893	0.0054	0.0004	26.8158	0.0000	61.8051	644926.3075	0

```
              NEC    -95.2069     -0.0064      0.0011      0.0366      0.0000
-95.1703 1498344.481         0


             OUT2  90250.3954    100.0000      1.0534      0.0000      0.0000
90250.3954  90250.3954         0


              EAS    -35.9253     -0.0034      0.0004      0.0212      0.0000
-35.9042 1050177.771         0


               SE     54.1922      0.0084      0.0006      9.0772      0.0000
63.2694 645035.9096         0


               SW     86.1201      0.0093      0.0010   1216.1592      0.0000
1302.2793 926786.8881         0


              WES    -92.4117     -0.0159      0.0011     89.4821      0.0000
-2.9297 582658.6100         0


             SESC    -77.5221     -0.0133      0.0009    147.3049      0.0000
69.7827 582558.0449         0


             NECa   -376.1879     -0.0251      0.0044      0.0706      0.0000
-376.1172 1498752.220         0


             NECb   -531.8400     -0.0355      0.0062      0.0640      0.0000
-531.7760 1499599.403         0


             NECc    483.8591      0.0323      0.0056     21.4873      0.0000
505.3464 1499563.833         0


             NE1d   -117.1418     -0.0140      0.0014      0.0271      0.0000
-117.1147 834037.1004         0


             NE1c   -131.4922     -0.0158      0.0015      0.0176      0.0000
-131.4745 833839.3068         0


             NE1b   -128.8527     -0.0155      0.0015      0.0064      0.0000
-128.8463 833616.6284         0


             NE1a    -60.1793     -0.0072      0.0007      0.0014      0.0000
-60.1779 833452.4728         0


              P1b     -7.8266     -0.0014      0.0001      0.0030      0.0000
-7.8236 577408.5727         0


              P1c     -7.3420     -0.0013      0.0001      0.0030      0.0000
-7.3390 577418.9275         0
```

P1d -444.0403 -0.0768 0.0052 57.3065 0.0000
-386.7338 577791.1970 0

P1a -19.5538 -0.0034 0.0002 0.0015 0.0000
-19.5523 577392.2763 0

CNEb -83.3724 -0.0166 0.0010 0.0028 0.0000
-83.3696 503232.5655 0

CNEa -30.5639 -0.0061 0.0004 0.0013 0.0000
-30.5626 503129.1940 0

CNEc -710.8305 -0.1410 0.0083 22.2359 0.0000
-688.5946 503985.7971 0

EASa -3.9300 -0.0018 0.0000 0.0006 0.0000
-3.9294 215919.1812 0

EASb -29.5676 -0.0137 0.0003 0.0098 0.0000
-29.5578 215951.4468 0

WESa -17.9735 -0.0031 0.0002 0.0006 0.0000
-17.9730 582232.2848 0

WESb -64.8839 -0.0111 0.0008 0.0021 0.0000
-64.8818 582299.1413 0

WESc -47.1083 -0.0081 0.0005 0.0030 0.0000
-47.1053 582393.3335 0

WESd -138.3081 -0.0237 0.0016 0.0047 0.0000
-138.3034 582554.0751 0

SCWa -10.0287 -0.0021 0.0001 0.0015 0.0000
-10.0272 480869.9438 0

SCWb -81.6389 -0.0170 0.0010 0.0030 0.0000
-81.6359 480958.6542 0

SCWc -337.1916 -0.0701 0.0039 61.7117 0.0000
-275.4799 481311.4643 0

NCWa -6.0807 -0.0016 0.0001 0.0007 0.0000
-6.0800 392195.1310 0

NCWb -8.8824 -0.0023 0.0001 0.0015 0.0000

```
-8.8809 392204.2043         0

            NCWc   -192.4900     -0.0491      0.0022     33.4516      0.0000
-159.0384 392362.6355         0

            NW1a    -68.3251     -0.0070      0.0008      0.1268      0.0000
-68.1983 979005.1893         0

            NW1b    -64.9553     -0.0066      0.0008      0.0021      0.0000
-64.9532 979095.2668         0

            NW1c    -35.7769     -0.0037      0.0004      0.0021      0.0000
-35.7748 979154.6981         0

            NW1d   -138.6707     -0.0142      0.0016      0.5998      0.0000
-138.0709 979295.4855         0

            CASO 277336.8057    100.0000      3.2372      0.0000      0.0000
277336.8057 277336.8057         0

            CASN     -1.2237     -0.0007      0.0000      0.0006      0.0000
-1.2231 179009.2781         0

            PRKW      7.1197      0.0036      0.0001      0.0015      0.0000
7.1212 195116.3938         0

            PRKE      3.3786      0.0018      0.0000      0.0015      0.0000
3.3801 187606.8377         0

             I65   -314.2660     -0.0030      0.0037    116.5239      0.0000
-197.7421 10543710.20       555

           CASNb    -28.4666     -0.0159      0.0003      0.0010      0.0000
-28.4656 179031.2989         0

           CASNc    -92.2254     -0.0515      0.0011      0.0032      0.0000
-92.2223 179134.4025         4

           CASNd   -215.1363     -0.1199      0.0025      0.0040      0.0000
-215.1324 179417.5248         0

           CASNe   -122.8413     -0.0683      0.0014      0.0026      0.0000
-122.8386 179724.4769         0

           CASNf   -163.4687     -0.0908      0.0019      0.0020      0.0000
-163.4667 179968.3673         0
```

```
           CASNg   -137.3073     -0.0762      0.0016      0.0024      0.0000
-137.3049 180221.6393         0


           CASNh   -304.2062     -0.1684      0.0036      0.0028      0.0000
-304.2034 180616.4460         0


           CASNi   -136.3086     -0.0753      0.0016      0.0025      0.0000
-136.3061 181019.4824         0


 The total continuity error was  3.62102E+05 cubic feet
 The remaining total volume was  4.03547E+05 cubic feet
 Your mean node continuity error was   Excellent
 Your worst node continuity error was  Good

   *====================================================*
   |  Table E19 - Junction Inflow & Outflow Listing    |
   |               Units are either ft^3 or m^3         |
   |               depending on the units in your model.|
   *====================================================*

                  Constant       User       Interface       DWF         Inflow
RNF Layer     Inflow
        Junction     Inflow      Inflow        Inflow       Inlow       through
Inflow       from          Outflow    Evaporation       Basin
            Name    to Node     to Node       to Node      to Node      Outfall
to Node    2D Layer     from Node    from Node        Infil.
 ---------------  ----------  -----------  -----------  -----------  -----------
-----------  -----------  -----------  -----------  -----------
             AR4      0.0000       0.0000       0.0000       0.0000       0.0000
821620.1680       0.0000       0.0000       0.0000       0.0000


             NW1      0.0000       0.0000       0.0000       0.0000       0.0000
354705.6116       0.0000       0.0000       0.0000       0.0000


             MJR      0.0000       0.0000       0.0000       0.0000       0.0000
1.0601E+06       0.0000       0.0000       0.0000       0.0000


            USPD      0.0000       0.0000       0.0000       0.0000       0.0000
550186.9244       0.0000       0.0000       0.0000       0.0000


             USM      0.0000       0.0000       0.0000       0.0000       0.0000
885782.1778       0.0000       0.0000       0.0000       0.0000


             OUT      0.0000       0.0000       0.0000       0.0000       0.0000
  0.0000       0.0000   7.8000E+06       0.0000       0.0000


              P1      0.0000       0.0000       0.0000       0.0000       0.0000
562042.3780       0.0000       0.0000       0.0000       0.0000


              P3      0.0000       0.0000       0.0000       0.0000       0.0000
326906.8564       0.0000       0.0000       0.0000       0.0000
```

```
              P2      0.0000      0.0000      0.0000      0.0000      0.0000
386823.4455      0.0000      0.0000      0.0000      0.0000


             NEC      0.0000      0.0000      0.0000      0.0000      0.0000
224026.8362      0.0000      0.0000      0.0000      0.0000


            OUT2      0.0000      0.0000      0.0000      0.0000      0.0000
90241.9418      0.0000      0.0000      0.0000      0.0000


              SW      0.0000      0.0000      0.0000      0.0000      0.0000
464006.4947      0.0000      0.0000      0.0000      0.0000


            NE1a      0.0000      0.0000      0.0000      0.0000      0.0000
416663.1588      0.0000      0.0000      0.0000      0.0000


             P1a      0.0000      0.0000      0.0000      0.0000      0.0000
288658.9731      0.0000      0.0000      0.0000      0.0000


            CNEa      0.0000      0.0000      0.0000      0.0000      0.0000
251531.1603      0.0000      0.0000      0.0000      0.0000


            EASa      0.0000      0.0000      0.0000      0.0000      0.0000
107947.7835      0.0000      0.0000      0.0000      0.0000


            WESa      0.0000      0.0000      0.0000      0.0000      0.0000
291084.2912      0.0000      0.0000      0.0000      0.0000


            SCWa      0.0000      0.0000      0.0000      0.0000      0.0000
240406.7988      0.0000     -0.0517      0.0000      0.0000


            NCWa      0.0000      0.0000      0.0000      0.0000      0.0000
196076.6826      0.0000      0.0000      0.0000      0.0000


            NW1a      0.0000      0.0000      0.0000      0.0000      0.0000
489432.9603      0.0000      0.0000      0.0000      0.0000


            CASO      0.0000      0.0000      0.0000      0.0000      0.0000
277314.1966      0.0000      0.0000      0.0000      0.0000


            CASN      0.0000      0.0000      0.0000      0.0000      0.0000
89496.1704      0.0000      0.0000      0.0000      0.0000


            PRKW      0.0000      0.0000      0.0000      0.0000      0.0000
97551.7399      0.0000      0.0000      0.0000      0.0000


            PRKE      0.0000      0.0000      0.0000      0.0000      0.0000
93795.5698      0.0000      0.0000      0.0000      0.0000
```

```
*=====================================================*
| Table E20 - Junction Flooding and Volume Listing.   |
|             The maximum volume is the total volume  |
|             in the node including the volume in the |
|             flooded storage area. This is the max   |
|             volume at any time. The volume in the   |
|             flooded storage area is the total volume|
|             above the ground elevation, where the   |
|             flooded pond storage area starts.       |
| The fourth column is instantaneous, the fifth is the|
| sum of the flooded volume over the entire simulation|
| Units are either ft^3 or m^3 depending on the units.|
*=====================================================*
```

Junction Name	Surcharged Time (min)	Flooded Time(min)	Out of 1D-System (Flooded Volume)	Maximum Volume	Passed to 2D cell OR Volume Stored in allowed Flood Pond of 1D-System
AR4	0.0000	0.0000	0.0000	13089.5396	0.0000
NW1	0.0000	0.0000	0.0000	521811.3966	0.0000
MJR	532.6250	0.0000	0.0000	1249213.039	0.0000
USPD	0.0000	0.0000	0.0000	184.6956	0.0000
USM	0.0000	0.0000	0.0000	8951.0186	0.0000
OUT	0.0000	0.0000	0.0000	9.1414	0.0000
DSMR	0.0000	0.0000	0.0000	106.6329	0.0000
SR26	0.0000	0.0000	0.0000	23.3676	0.0000
NE1	0.0000	0.0000	0.0000	23.8168	0.0000
P1	0.0000	0.0000	0.0000	1170579.935	

0.0000					
	SWC	0.0000	0.0000	0.0000	25.4524
0.0000					
	P3	0.0000	0.0000	0.0000	130816.5270
0.0000					
	P2	0.0000	0.0000	0.0000	2518392.364
0.0000					
	SEC	0.0000	0.0000	0.0000	28.4770
0.0000					
	NEC	0.0000	0.0000	0.0000	16.9499
0.0000					
	OUT2	0.0000	0.0000	0.0000	0.0000
0.0000					
	EAS	0.0000	0.0000	0.0000	21.1224
0.0000					
	SE	0.0000	0.0000	0.0000	16.4540
0.0000					
	SW	0.0000	0.0000	0.0000	330063.8436
0.0000					
	WES	0.0000	0.0000	0.0000	23.7981
0.0000					
	SESC	0.0000	0.0000	0.0000	29.0715
0.0000					
	NECa	0.0000	0.0000	0.0000	16.9481
0.0000					
	NECb	0.0000	0.0000	0.0000	17.8885
0.0000					
	NECc	0.0000	0.0000	0.0000	35.9961
0.0000					
	NE1d	0.0000	0.0000	0.0000	15.4550
0.0000					

NE1c	0.0000	0.0000	0.0000	14.5676	0.0000
NE1b	0.0000	0.0000	0.0000	14.5185	0.0000
NE1a	0.0000	0.0000	0.0000	14.5044	0.0000
P1b	0.0000	0.0000	0.0000	9.2383	0.0000
P1c	0.0000	0.0000	0.0000	7.7703	0.0000
P1d	0.0000	0.0000	0.0000	7.3542	0.0000
P1a	0.0000	0.0000	0.0000	8.7874	0.0000
CNEb	0.0000	0.0000	0.0000	12.0304	0.0000
CNEa	0.0000	0.0000	0.0000	12.0260	0.0000
CNEc	0.0000	0.0000	0.0000	12.0284	0.0000
EASa	0.0000	0.0000	0.0000	4.0985	0.0000
EASb	0.0000	0.0000	0.0000	3.6147	0.0000
WESa	0.0000	0.0000	0.0000	10.5633	0.0000
WESb	0.0000	0.0000	0.0000	10.6933	0.0000
WESc	0.0000	0.0000	0.0000	10.2560	0.0000
WESd	0.0000	0.0000	0.0000	7.9930	0.0000

SCWa	0.0000	0.0000	0.0000	7.6165	0.0000
SCWb	0.0000	0.0000	0.0000	5.8592	0.0000
SCWc	0.0000	0.0000	0.0000	15.8783	0.0000
NCWa	0.0000	0.0000	0.0000	7.4564	0.0000
NCWb	0.0000	0.0000	0.0000	5.0455	0.0000
NCWc	0.0000	0.0000	0.0000	5.0453	0.0000
NW1a	0.0000	0.0000	0.0000	13.6484	0.0000
NW1b	0.0000	0.0000	0.0000	13.9621	0.0000
NW1c	0.0000	0.0000	0.0000	10.8255	0.0000
NW1d	0.0000	0.0000	0.0000	7.4528	0.0000
CASO	0.0000	0.0000	0.0000	0.0000	0.0000
CASN	0.0000	0.0000	0.0000	9.5167	0.0000
PRKW	0.0000	0.0000	0.0000	6.2938	0.0000
PRKE	0.0000	0.0000	0.0000	5.5277	0.0000
I65	1111.7083	0.0000	0.0000	63.9726	0.0000
CASNb	0.0000	0.0000	0.0000	21.0813	0.0000

```
            CASNc        0.0000     0.0000       0.0000     21.0633
0.0000

            CASNd        0.0000     0.0000       0.0000     28.3435
0.0000

            CASNe        0.0000     0.0000       0.0000     32.6952
0.0000

            CASNf        0.0000     0.0000       0.0000     36.6845
0.0000

            CASNg        0.0000     0.0000       0.0000     36.8911
0.0000

            CASNh        0.0000     0.0000       0.0000     38.2617
0.0000

            CASNi        0.0000     0.0000       0.0000     40.8750
0.0000


 *===================================*
 | Simulation Specific Information  |
 *===================================*
 Number of Input Conduits..........       68 Number of Simulated Conduits......
   69
 Number of Natural Channels........        0 Number of Junctions...............
   64
 Number of Storage Junctions.......        9 Number of Weirs...................
    0
 Number of Orifices................        0 Number of Pumps...................
    0
 Number of Free Outfalls...........        1 Number of Tide Gate Outfalls......
    0


 *=========================================================*
 | Average % Change in Junction or Conduit is defined as:  |
 | Conduit  % Change ==> 100.0 ( Q(n+1) - Q(n) ) / Qfull   |
 | Junction % Change ==> 100.0 ( Y(n+1) - Y(n) ) / Yfull   |
 *=========================================================*

 The Conduit with the largest average change was..FREE # 1   with     0.033 percent
 The Junction with the largest average change was.DSMR       with     0.032 percent
 The Conduit with the largest sinuosity was.......P2toP1     with    12.075


 *=====================================================================*
 | Table E21. Continuity balance at the end of the simulation         |
 |            Junction Inflow, Outflow or Street Flooding              |
 | Error = Inflow  + Initial Volume - Outflow - Final   Volume        |
 *=====================================================================*
```

Inflow Junction	Inflow Volume,ft^3	Average Inflow, cfs
AR4	821699.3449	2.3776
NW1	354742.0992	1.0265
MJR	1.06020E+06	3.0677
USPD	550245.3092	1.5921
USM	885870.8502	2.5633
P1	562091.6654	1.6264
P3	326941.6915	0.9460
P2	386865.4038	1.1194
NEC	224050.8299	0.6483
OUT2	90250.3954	0.2611
SW	464053.2064	1.3427
NE1a	416702.7773	1.2057
P1a	288690.3842	0.8353
CNEa	251554.1221	0.7279
EASa	107958.4606	0.3124

WESa	291112.8249	0.8423
SCWa	240431.9880	0.6957
NCWa	196096.6578	0.5674
NW1a	489478.1617	1.4163
CASO	277336.8057	0.8025
CASN	89504.8579	0.2590
PRKW	97562.4106	0.2823
PRKE	93805.7272	0.2714
OUT	-7.800E+06	-22.5693

Outflow Junction	Outflow Volume,ft^3	Average Outflow, cfs
OUT	7.79997E+06	22.5693

```
*=======================================================*
| Initial system volume        =         0.0000 Cu Ft |
| Total system inflow volume   =   8.566387E+06 Cu Ft |
| Inflow + Initial volume      =   8.566387E+06 Cu Ft |
*=======================================================*
```

```
| Total system outflow         =   7.799966E+06 Cu Ft |

| Volume left (Final volume)   =    403547.2674 Cu Ft |

| Evaporation                  =         0.0000 Cu Ft |

| Basin Infiltration           =         0.0000 Cu Ft |

| Outflow + Final Volume       =   8.203514E+06 Cu Ft |

*=====================================================*


*================================================*
| Total Model Continuity Error                   |
| Error in Continuity, Percent =         4.2360 |
| Error in Continuity, ft^3    =     362873.327 |
| + Error means a continuity loss, - a gain      |
*================================================*

###################################################
# Table E22. Numerical Model judgement section    #
###################################################

Overall error was (minimum of Table E18 & E21)              4.2270 percent



Worst nodal error was in node CASO            with       100.0000 percent



Of the total inflow this loss was                           3.2375 percent



Your overall continuity error was                  Good
```

```
                                                    Excellent Efficiency

 Efficiency of the simulation                         1.90

 Most Number of Non Convergences at one Node     3385.

 Total Number Non Convergences at all Nodes      7416.

 Total Number of Nodes with Non Convergences        5.

 #########################################################
 # Table E23. New Basin Design Information               #
 #            Maximum Hydraulic Grade Line,              #
 #            Out Conduit Sizes and Maximum Flow         #
 #########################################################

 A) Resize d/s Pipes based on given HGL
 B) Resize Basin based on given HGL
 C) Resize d/s Pipes and Basin based on HGL and max discharge
 D) Resize d/s pipes based on given max discharge

    Basin Name    Type    Max.HGL   Conduit         Depth   Width   Barrels
Max.Flow
                            (ft)                     (ft)    (ft)
(ft^3/s)
 --------------- ------  --------- -------------- ------- ------- ---------
---------

 ===> Hydraulic model simulation ended normally.
 ===> XP-SWMM Simulation ended normally.
```

```
 ===> Your input file was named  :
R:\2014\14-0041.00000\Models\XPModel\Proposed\April2016\Twin42SteelPipes_100yr 12hr
Huff.DAT


 ===> Your output file was named :
R:\2014\14-0041.00000\Models\XPModel\Proposed\April2016\Twin42SteelPipes_100yr 12hr
Huff.out



 *==============================================================*
 |             SWMM Simulation Date and Time Summary            |
 *==============================================================*
 | Starting Date... December   20, 2016  Time...   18: 9:54:26  |
 |   Ending Date... December   20, 2016  Time...   18:11:48:60  |
 |  Elapsed Time...    1.90567 minutes or    114.34000 seconds  |
 *==============================================================*
```

Appendix 2
(Wetland/"Waters" Delineation Report)

A. ROSS MASTERPLAN

Tippecanoe County Surveyor's Office
20 North Third Street
Lafayette, Indiana 47901

PREPARED BY

CHRISTOPHER B. BURKE ENGINEERING, LLC
PNC Center
115 W. Washington St.
Suite 1368 South Tower
Indianapolis, IN 46204

May 2014

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TABLES

EXHIBITS

APPENDICES

JURISDICTIONAL WATERS AND WETLAND DELINEATION REPORT
A. ROSS MASTERPLAN
TIPPECANOE COUNTY, INDIANA

EXECUTIVE SUMMARY

Christopher B. Burke Engineering, LLC (CBBEL) staff conducted an onsite field investigation of the A. Ross Masterplan project site, Tippecanoe County, Indiana. Field work was conducted on May 22nd & 27th, 2014 during which time eight (8) wetlands were identified and delineated (**Exhibit 6**).

Wetland delineations were conducted using methods identified in the Regional Supplement to the Corps of Engineers Delineation Manual: Midwest Region (Version 2.0) (August 2010), and wetland boundaries were mapped using current aerial photography (c. 2005) and a sub-meter accurate GPS unit.

Table 1 is a summary of the waters/wetland sites identified, including acreage or linear footage (within the project limits) and our opinion of federal regulatory jurisdiction.

Table 1: Summary of Waters/Wetlands in Project Area

Site	Wetland/Stream Type	Acreage/Liner Footage (within project limits)	Jurisdiction
Wetland 1	Forested (PFO)	0.06 Acre	State/Federal
Wetland 2	Palustrine Emergent (PEM)	0.14 Acre	State/Federal
Wetland 3	Palustrine Unconsolidated Bottom/ Paustrine Emergent (PUB/PEM)	1.93 Acre	State/Federal
Wetland 4	Forested (PFO)	0.05 Acre	State
Wetland 5	Palustrine Emergent (PEM)	10.84 Acre	Exempt – Manmade detention area
Wetland 6	Palustrine Emergent (PEM)	0.13 Acre	State
Wetland 7	Palustrine Emergent/Forested (PEM/PFO)	3.16 Acre	State
Wetland 8	Palustrine Emergent/Forested (PEM/PFO)	0.47 Acre	State
UNT 1	Intermittent	1,401 LF	State/Federal
UNT 2	Intermittent	128 LF	State/Federal
UNT 3	Intermittent	1,293 LF	State/Federal

1.0 STUDY AREA

On May 22nd & 27th, 2014 Christopher B. Burke Engineering, LLC (CBBEL) completed a "Waters of the U.S."("Waters")/Wetland field investigation of the A. Ross Masterplan project site in Tippecanoe County, Indiana (**Exhibit 1**). This report was prepared to document our findings and to determine if the on-site "waters"/wetland areas are jurisdictional under Sections 404/401 of the Clean Water Act (CWA) or under current Indiana Regulations. The project site includes an approximate 395 acre parcel of land that is bordered by McCarty Lane to the south, Veterans Memorial Parkway and I-65 to the east, and Park E Boulevard to the west. The project site consists of open farm fields with several private residences and a wooded lot located in the southeast corner of the site. Specifically, the project is located in Section 25 of Township 23 North, Range 4 West on the Lafayette East 7.5 Minute Quadrangle. The wetlands, jurisdictional waters, data points, and photo stations are shown on **Exhibit 6 and Exhibit 7**. Information collected on site is listed in the attached data forms (**Appendix 2**).

2.0 METHODOLOGY

2.1 WETLAND DETERMINATION METHODOLOGY

Wetland determinations were conducted using the methodology from the *Regional Supplement to the Corps of Engineers Delineation Manual: Midwest Region (Version 2.0),* dated August 2010. The Midwest Regional Supplement identifies the mandatory technical criteria for wetland identification. The three essential characteristics of a wetland are hydrophytic vegetation, hydric soils and wetland hydrology as described below:

Hydrophytic Vegetation: The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

(1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;

(2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in non-wetlands;

(3) Facultative plants (FAC) are equally likely to occur in wetlands or nonwetlands (estimated probability 34-66%);

(4) Facultative upland plants (FACU) usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands (estimated probability 1-33%); and

(5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in non-wetlands under natural conditions.

Indicator 1 - Rapid Test for Hydrophytic Vegetation**:** The rapid test for hydrophytic vegetation is met if all dominant species across all strata are OBL or FACW, or a combination of the two, based on a visual assessment.

Indicator 2 - Dominance Test: If greater than 50% of the plants present are FAC, FACW, or OBL the subject area is considered to be wetland in terms of vegetation, and no further vegetation analysis is required.

Indicator 3 - Prevalence Index: This test is conducted if the plant community fails the Dominance Test, but indicators of hydric soil and wetland hydrology are both present. The Prevalence Index is a weighted-average (based on percent cover) wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric value (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5). If the Prevalence Index is less than or equal to 3.0, then the hydrophytic vegetation criteria has been met.

Indicator 4 - Morphological Adaptations: This test is conducted if the plant community fails the prevalence test, but indicators of morphological adaptations for life in wetlands, on otherwise upland plant species, are present. If more than 50 percent of FACU species have morphological adaptations for life in wetlands, this species is considered a hydrophyte and is re-assigned an indicator of FAC. The Dominance Test and Prevalence Test should be re-calculated, and the hydrophytic vegetation criteria is satisfied if either test is satisfied.

Hydric Soils: Hydric soils are defined in the Midwest Regional Supplement as "soils that have formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators include matrix color, redox depletions and concentrations, sulfate reduction and resultant odor, organic matter accumulation, gleying, and soil texture. Specific types of hydric soils in the Midwest Region include, Histosols, Sandy Soils, Muck or Peat, and Loam or Clay Soils. Within these soil groups, there are many indicators specific to each type of soil.

Wetland Hydrology: The wetland hydrology criterion is often the most difficult to determine. Typically, the presence of water for a week or more during the growing season creates anaerobic conditions. Anaerobic conditions lead to the prevalence of wetland plants and soils. In the Midwest Regional Supplement, hydrology indicators are divided into four groups; Group A. Observation of Surface Water or Saturated Soils, Group B. Evidence of Recent Inundation, Group B. Evidence of Current or Recent Soil Saturation, and Group D. Evidence from Other Site Conditions or Data. Within each group, indicators are divided into two categories, *Primary* and *Secondary*. In the absence of a primary indicator, two or more secondary indicators from any group are required to conclude that wetland hydrology is present. Some indicators of wetland hydrology are surface water, saturation, water marks, sediment deposits, water stained leaves, drainage patterns, sulfide odor, crayfish burrows, stunted or stressed plants, or geomorphic position.

2.2 STREAM METHODOLOGY

The location of potentially jurisdictional channels was determined using the Tippecanoe County Soil Survey, the USGS Quadrangle Map, and aerial photography. An onsite evaluation determined if additional channels, not shown on any existing mapping, were present within the project limits. Several jurisdictional small streams were documented, and a discussion can be found in the results section below.

3.0 RESULTS AND DISCUSSION

3.1 IDENTIFIED WETLAND AREAS

Wetland Site 1 (DP 3): Wetland Site 1 (PFO) is a small forested area located adjacent to a UNT located in the southeast wooded lot within the project limits. This delineated forested wetland is 0.06 acre in size. Dominant vegetation includes common hackberry (*Celtis occidentalis*, FAC), swamp white oak (*Quercus bicolor*, FACW), spicebush (*Lindera benzoin*, FACW), jewelweed (*Impatiens capensis*, FACW), fowl manna grass (*Glyceria striata*, OBL), and water smartweed (*Persicaria amphibian*, OBL). Hydrology for this wetland includes up to 3-inches of standing water, saturation at the surface, appropriate geomorphic position, and the FAC neutral test.

Soil sampled for Wetland Site 1 is a clay loam with a color of 10YR 2/1 (Hydric Soil Indicator A12. Thick Dark Surface). The soil mapped for this area is a Starks-Fincastle Complex (SwA). The boundaries of Site 1 are defined by an UNT to the east and a change in topography to the west, north and south.

Wetland Site 1 is adjacent to a UNT 1. This stream should be considered a “Waters of the U.S.”, and it is our opinion that Wetland Site 1 would fall under the jurisdiction of the USACE, if impacted. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 2 (DP 5 & 6): Wetland Site 2 (PEM) is a low lying area north of Wetland Site 1. This delineated emergent wetland is 0.14 acre in size and within the project limits. Dominant vegetation includes swamp milkweed (*Asclepias incarnata*, OBL), common fox sedge (*Carex vulpinoidea*, FACW), common boneset (*Eupatorium perfoliatum*, OBL), water smartweed (OBL), reed canary grass (*Phalaris arundinacea*, FACW), and Aster simplex (*Symphyotrichum lanceolatum*, FAC). Hydrology for this wetland includes up to 2 inches of standing water, saturation, drainage patterns, appropriate geomorphic position, and the FAC neutral test.

Soil sampled for Wetland Site 2 is a clay loam with a matrix color of 10YR 2/1 and redox concentrations of 2.5YR 4/8 (Hydric Soil Indicator F3. Deleted Matrix). The soil mapped for this area is Mahalasville-Treaty Complex (Md) and is considered a hydric soil. The boundaries of Site 2 are defined by an open water wetland to the north and change in topography to the south, west, and east.

Wetland Site 2 is adjacent to UNT 1. This stream should be considered a "Waters of the U.S.", and it is our opinion that Wetland Site 2 would fall under the jurisdiction of the USACE, if impacted. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 3 (DP 7 & 8): Wetland Site 3 is an open water pond connected to Wetland Site 2. This emergent wetland/pond is approximately 1.93 acre in size and located within the project limits. Dominant vegetation at this site consists of reed canary grass (FACW). Hydrology for this wetland includes up to 12 inches of standing water, saturation, saturation visible on aerial imagery, appropriate geomorphic position, and the FAC neutral test.

Soil sampled for Wetland Site 3 is a clay loam with a matrix color of 10YR 2/1 and no redox concentrations (Hydric Soil Indicator A12. Thick Dark Surface). The soil mapped for this area is Milford Silty Clay Loam; Pothole (Mu) and soil sampled in the field matches this soil description. The boundaries of Site 3 are defined by an emergent wetland to the south and change in topography to the north, west, and east.

Wetland Site 3 is connected to Wetland Site 2, and adjacent to UNT 1 This wetland should be considered a "Waters of the U.S.", and it is our opinion that Wetland Site 3 would fall under the jurisdiction of the USACE, if impacted. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 4 (DP 12): Wetland Site 4 is a small forested wetland located south of Wetland Site 3. This wetland is approximately 0.05 acre in size and located within the project limits. Dominant vegetation at this site consists of silver maple (*Acer saccharinum*, FACW), shagbark hickory (*Carya ovata*, FACU), and fowl manna grass (OBL). Hydrology for this wetland consists of up to 2 inches of standing water, saturation, appropriate geomorphic position, and the FAC neutral test.

Soil sampled for Wetland Site 4 is a clay loam with a matrix color of 10YR 4/1 from 0-10 inches and 2.5YR 8/2 from 10-16 inches. Both matrices had a redox concentration of 7.5YR 5/8 (Hydric Soil Indicator F3. Deleted Matrix). The soil mapped for this area is a Crosby-Miami Complex (CwB2). The boundaries of Site 4 are defined by a change in topography to the north, south, east, and west.

Wetland Site 4 does not appear to be connected to a “Waters of the U.S.,” and it is our opinion that this wetland should be considered isolated. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 5: (DP 24, 25, 26, & 27): Wetland Site 5 is a linear, man-made detention basin located in the northern section of the project limits. This delineated emergent wetland is approximately 10.84 acre in size. Dominant vegetation at this site consists of sandbar willow (*Salix interior*, FACW), tall scouring-rush (*Equisetum hyemale*, FACW), lamp rush (*Juncus effusus*, OBL), common reed (*Phragmites australis*, FACW), and broad-leaved cattail (*Typha latifolia*, OBL). Hydrology for this wetland consists of up to 2 inches of standing water, saturation, appropriate geomorphic position, and the FAC neutral test.

Soil sampled for Wetland Site 5 is a clay loam. The matrix color from 0-2 inches is 10 YR 3/1; from 2-16 inches the matrix color is 10 YR 5/1. From 0-5 inches a redox concentration of 5 YR 5/6 exists; from 5-16 inches a redox concentration of 10 YR 3/1 exists (Hydric Soil. Indicator F3. Deleted Matrix). The soil mapped for this area is a Crosby Silt Loam (CtA) and Mahalasville-Treaty Complex (Md) which matches the soil description found in the field. The boundaries of Site 5 are defined by an change in topography to the north, south, east, and west.

Wetland Site 5 is a man-made detention basin, dug in a prior upland area fro the purpose of retaining storm water, and it is our opinion that it is exempt and a non-regulated wetland. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 6 (DP 31): Wetland Site 6 is an emergent wetland located west of Wetland Site 5 and is approximately 0.13 acre in size. Dominant vegetation at this site consists of redtop (*Agrostis gigantea*, FACW), bebb’s sedge (*Carex bebbii*, OBL), common fox sedge (FACW), blunt spike-rush (*Eleocharis obtusa*, OBL), reed canary grass (FACW), and late goldenrod (*Solidago gigantea*, FACW). Hydrology at this site consists of up to 2 inches of standing water, saturation, and the FAC neutral test.

Soil sampled for Wetland Site 6 is a clay loam with a matrix color of 10YR 2/1 and no redox concentrations (Hydric Soil Indicator A12. Thick Dark Surface). The soil mapped for this area is Mahalasville-Treaty Complex (Md) and soil sampled in the field matches this soil description. The boundaries of Site 6 are defined by a change in topography to the north, south, east, and west.

Wetland Site 6 does not appear to be connected to a "Waters of the US.," and it is our opinion that this wetland is isolated. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 7 (DP 34, 35, 36, 37, & 38): Wetland Site 7 is a large forested/emergent wetland complex that is approximately 3.16 acre in size within the project limits. Dominant vegetation located throughout this wetland consists of silver maple (FACW), red mulberry (*Morus rubra*, FACU), pin oak (*Quercus palustris*, FACW), bur oak (*Quercus macrocarpa*, FAC), buttonbush (*Cephalanthus occidentalis*, OBL), redtop (FACW), creeping bent-grass (*Agrostis stolonifera*, FACW), water plantain (*Alisma subcordatum*, OBL), bebbs sedge (OBL), common fox sedge (FACW), blunt spike-rush (OBL), common spike-rush (*Eleocharis palustris*, OBL), lamp rush (OBL), water horehound (*Lycopus americanus*, OBL), reed canary grass (FACW), curlydock (*Rumex crispus*, FAC), and cocklebur (*Xanthium strumarium*, FAC). Hydrology throughout this site consists of up to 2 inches of standing water, saturation, drainage patterns, saturation visible on aerial imagery, geomorphic position, and the FAC-neutral test. There was a tile drain located near Data Point 34 which drained that portion of the wetland.

Soil sampled for Wetland Site 7 is a clay loam with a matrix color of 10YR 2/1 and no redox concentrations (Hydric Soil Indicator A12. Thick Dark Surface). The soil mapped for this area is Mahalasville-Treaty Complex (Md) and Milford Silty Clay Loam; Pothole (Mu). The soil that was found throughout this wetland matches this soil description. The boundaries of Site 7 are defined by a change in topography to the north, south, east, and west.

Wetland Site 7 does not appear to be connected to a "Waters of the US.," and it is our opinion that this wetland is isolated. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

Wetland Site 8 (DP 40 & 41): Wetland Site 8 is a depressional bowl-shaped area located west of Wetland Site 7. This delineated forested/emergent wetland is approximately 0.47 acre in size and located within the project limits. Dominant vegetation at this site consists of silver maple (FACW), quaking aspen (*Populus tremuloides*, FAC), great ragweed (*Ambrosia trifida*, FAC), bebbs sedge (OBL), common fox sedge (FACW), and water knotweed (OBL). Hydrology at this site consists of saturation, geomorphic position, and the FAC-neutral test.

Soil sampled for Wetland Site 8 is a clay loam with a matrix color of 10YR 2/1 and no redox concentrations (Hydric Soil Indicator A12. Thick Dark Surface). The soil mapped for this area is Milford Silty Clay Loam; Pothole (Mu), and the soil found in the field matches this soil description. The boundaries of Site 8 are defined by a change in topography to the north, south, east, and west.

Wetland Site 8 does not appear to be connected to a "Waters of the US.," and it is our opinion that this wetland is isolated. Final jurisdictional determination must be made by the USACE. The State of Indiana retains jurisdiction over isolated wetlands and would need to be notified prior to any work in the wetland if it is determined to be outside of federal jurisdiction.

3.2 NON-WETLAND DATA POINTS

Data Point 1: Data Point 1 is located in a forested area in the southeastern portion of the project limits. Vegetation at this data point includes honey locust (*Gleditsia triacanthos*, FACU), black cherry (*Prunus serotina*, FACU), pin oak (FACW), and bush honeysuckle (*Lonicera maackii*, FACU) The soil at this site has a matrix color of 10 YR 3/3, and did not exhibit any redox features. There were no hydrological indicators at this data point. Since all three wetland criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 2: Data Point 2 is located east of Data Point 1 in the southeastern section of the wooded lot within the project limits. Vegetation at this data point includes bush honeysuckle (FACU), garlic mustard (*Alliaria petiolata*, FAC), and fragrant bedstraw (*Galium triflorum*, FACU). The soil at this site has a matrix color of 10 YR 4/3, and did not exhibit any redox features. This area only did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 4: Data Point 4 is located in a forested area located northwest of Wetland Site 1. Dominant vegetation at this data point includes common hackberry (FAC), black walnut (*Juglans nigra*, FACU), bush honeysuckle (FACU), garlic mustard (FAC), and mayapple (*Podophyllum peltatum*, FACU). The soil at this site has a matrix color of 10 YR 3/3, and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 9: Data Point 9 is located in a forested area at the northern end of the wooded lot within the project limits. Dominant vegetation at this data point includes common hackberry (FAC), honey locust (FACU), black walnut (FACU), bush honeysuckle (FACU), and garlic mustard (FAC). The soil at this site has a matrix color of 10 YR 3/3, and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 10: Data Point 10 is located in a forested area west of Data Point 9. The dominant vegetation at this data point includes common hackberry (FAC), black walnut (FACU), bush honeysuckle (FACU), and fragrant bedstraw (FACU). The soil at this site has a matrix color of 10 YR 3/3, and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 11: Data Point 11 is located in a forested area north of Wetland Site 4. Vegetation at this data point includes shagbark hickory (FACU), common hackberry (FAC), black walnut (FACU), and bush honeysuckle (FACU). The soil at this site has a matrix color of 10 YR 4/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 13: Data Point 13 is located in a forested area south of Wetland Site 4. Vegetation at this data point includes common hackberry (FAC), honey locust (FACU) bush honeysuckle (FACU), and whiteflower leafcup (*Polymnia Canadensis*, UPL). The soil at this site has a matrix color of 10 YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Points 14, 15, & 16: Data Points 14, 15, & 16 are all located in a pasture located in the southeastern portion of the project limits. Dominant vegetation located throughout this field consists of meadow fescue (*Festuca pratensis*, FACU), Kentucky blue grass (*Poa pratensis*, FAC), and common dandelion (*Taraxacum officinale*, FAC). The soil located at these points ranges in color from 10YR 3/3 to 10YR 4/3 and did not exhibit any redox features. These areas did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the areas represented by these data points does not qualify as wetland.

Data Points 17 & 18: Data Points 17 & 18 are located in a farmed field within the southern half of the project limits. The dominant vegetation located at these points consists of soybeans (*Glycine max*, UPL). The soil color ranged from 10YR 4/3 to 10YR 4/4 and did not exhibit any redox features. Although saturation was visible on aerial imagery, not all three wetland criteria were met. Therefore the areas represented by these data points does not qualify as wetland.

Data Point 19: Data Point 19 is located in a farm field west of Data Points 17 & 18. Dominant vegetation at this data point consists of corn (Zea mays, UPL). The soil at this site has a matrix color of 10YR 4/4 and did not exhibit any redox features. Although saturation was visible on aerial imagery, not all three wetland criteria were met. Therefore the area represented by this data point does not qualify as wetland.

Data Point 20: Data Point 20 is located in a farm field northwest of Data Point 19. Dominant vegetation at this data point consists of red mulberry (FACU), bush honeysuckle (FACU), orchard grass (*Dactylis glomerata*, FACU), tall goldenrod (*Solidago altissima*, FACU), and eastern poison ivy (*Toxicodendron radicans*, FAC). The soil at this site had a matrix color of 10YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 21: Data Point 21 is located in a farm field southwest of Data Point 20. Dominant vegetation at this data point consists of red mulberry (FACU), orchard grass (FACU), Kentucky blue grass (FAC), tall goldenrod (FACU), and eastern poison ivy (FAC). The soil at this site had a matrix color of 10YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Points 22 & 23: Data Points 22 and 23 are located in a farm field in the north section of the project limits. Dominant vegetation at these points consists of corn (UPL). The soil at this site has a matrix color of 10YR 2/1 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology. Although hydric soil is found at these data points, not all three wetland criteria were met; therefore this site does not qualify as wetland.

Data Points 28 & 29: Data Points 28 and 29 are located in a farm field south of Wetland Site 5 in the eastern portion of the project limits. Dominant vegetation found at this site consists of corn (UPL). The soil at this site had a matrix color of 10YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 30: Data Point 30 is located in a farm field south of Wetland Site 6. Dominant vegetation at this data point consists of corn (UPL). The soil had a matrix color of 10YR 2/1 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology. Although hydric soil is found at this data point, not all three wetland criteria were met; therefore this data point does not qualify as wetland.

Data Point 32: Data Point 32 is in an upland forest/field located west of Wetland Site 6. Dominant vegetation at this data point consists of eastern red cedar (*Juniperus virginiana*, FACU), quaking aspen (FAC), Canadian field thistle (*Cirsium arvense*, FACU), meadow fescue (FACU), and eastern poison ivy (FAC). The soil at this site had a matrix color of 10YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 33: Data Point 33 is located south of Data Point 32 in a forested section in the western portion of the project limits. Dominant vegetation at this point consists of American sycamore (*Platanus occidentalis*, FACW), black cherry (FACU), Canadian field thistle (FACU), meadow fescue (FACU), and late goldenrod (FACU). The soil at this site had a matrix color of 10YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

Data Point 39: Data Point 39 is located on a hill in between Wetland Site 7 and Wetland Site 8. Dominant vegetation at this point consists of Canadian field thistle (FACU), Queen Anne's lace (*Daucus carota*, UPL), and meadow fescue (FACU). The soil at this site had a matrix color of 10YR 3/3 and did not exhibit any redox features. This area did not exhibit any indicators of wetland hydrology; therefore, since all three criteria were not met, the area represented by this data point does not qualify as wetland.

3.3 OTHER JURISDICTIONAL WATERS

There were three (3) unnamed tributaries found within the project limits. UNT1, 2, and 3 should all be classified as intermittent streams. These channels exhibit defined beds and banks as well as Ordinary High Water Marks (OHWM), and, at the time of this visit, were actively conveying water. In general, the above mentioned streams are typical, channelized, agricultural ditches, with a trapezoidal shape, grassed banks, and few meanders.

It is our opinion that UNT 1, 2, and 3 should be considered "Waters of the U.S." and, therefore, under federal jurisdiction. Any work within the channels will require Clean Water Act approval from the USACE and the IDEM. These streams do not drain more than one square mile (640 acres), therefore a Construction in a Floodway Permit will not be required from the Indiana Department of Natural Resources (IDNR) for any work within the regulatory floodway.

4.0 REFERENCE MATERIALS

4.1 EXHIBIT REFERENCES

The following reference materials were reviewed and used to assist in the "Waters"/Wetland field reconnaissance. They are included as Exhibits 1-6.

EXHIBIT 1 –Site Location Map

The project site includes an approximate 395 acre parcel of land that is bordered by McCarty Lane to the south, Veterans Memorial Parkway and I-65 to the east, and Park E Boulevard to the west. Specifically, the project is located in Section 25 of Township 23 North, Range 4 West on the Lafayette East 7.5 Minute Quadrangle.

EXHIBIT 2- National Wetlands Inventory Map

The National Wetland Inventory (NWI) indicates several wetlands within the project limits; however, the NWI serves only as a large-scale guide; actual wetland locations and types often vary from that mapped. The NWI map may also predate the development of the subject wetland.

EXHIBIT 3 – Soils Map

The Soil Survey of Tippecanoe County, Indiana (1998) was reviewed to determine the location of hydric soils on site. Mapped hydric soil can be indicative of wetland conditions. Starks-Fincastle Complex (SwA), Crosby Silt Loam (CtA), Toronto-Millbrook Complex (TmA), Richardville Silt Loam (RdB2), Crosby-Miami Complex (CwB2), Whitaker Loam, till substratum (WuA), Rockfield Silt Loam (RdB), Camden Silt Loam (CaA), Mahalasville-Treaty Complex (Md), and Milford Silty Clay Loam, pothole (Mu) are found throughout the project limits. Mahalasville-Treaty Complex and Milford Silty Clay Loam are considered hydric soils.

EXHIBIT 4 –Topography Map

U.S.G.S. Lafayette East Quadrangle map (1987) was reviewed to determine the local drainage pattern. The map indicates relatively flat terrain throughout the project limits.

EXHIBIT 5 – DFIRM

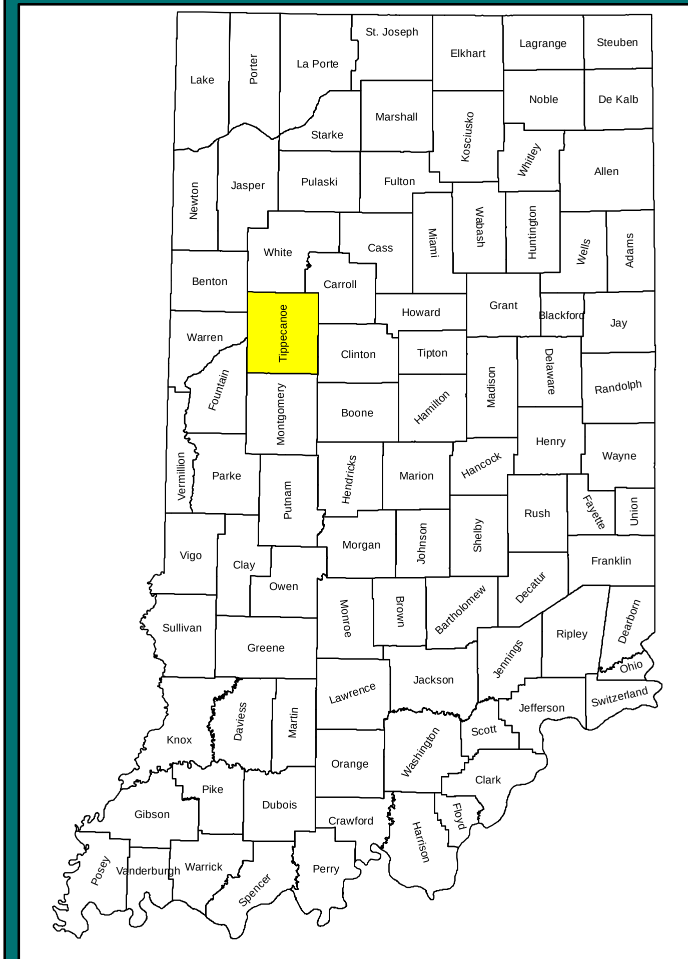
The Digital Flood Insurance Rate Map (DFIRM), Tippecanoe County, Indiana, effective 2009, was reviewed to determine the location of floodplain or floodway within the study area. Mapped floodplains can be indicative of wetland hydrology. The DFIRM does not indicate regulatory floodway throughout the project limits.

EXHIBIT 6, 6A, 6B –Wetlands and Data Points

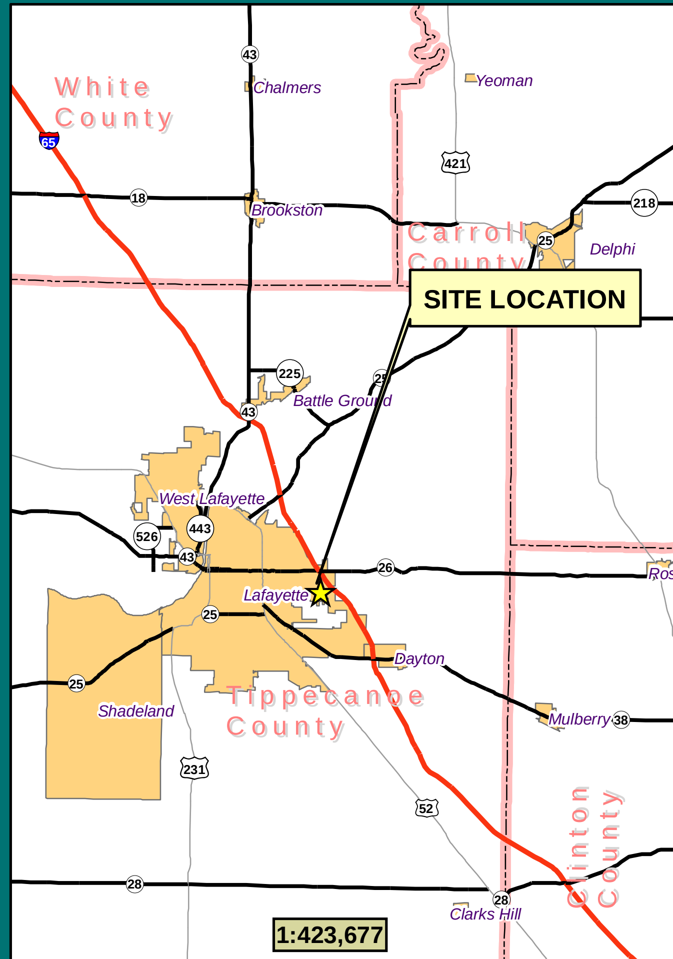
The aerial photograph of the site was reviewed to determine drainage patterns and identify poorly drained areas, or note changes in vegetation. Forested areas and potential small streams in particular were noted and closely investigated in the field. The wetlands, jurisdictional waters, and data points are overlaid on the aerial photograph.

EXHIBIT 7, 7A, 7B- Wetlands and Photo Stations

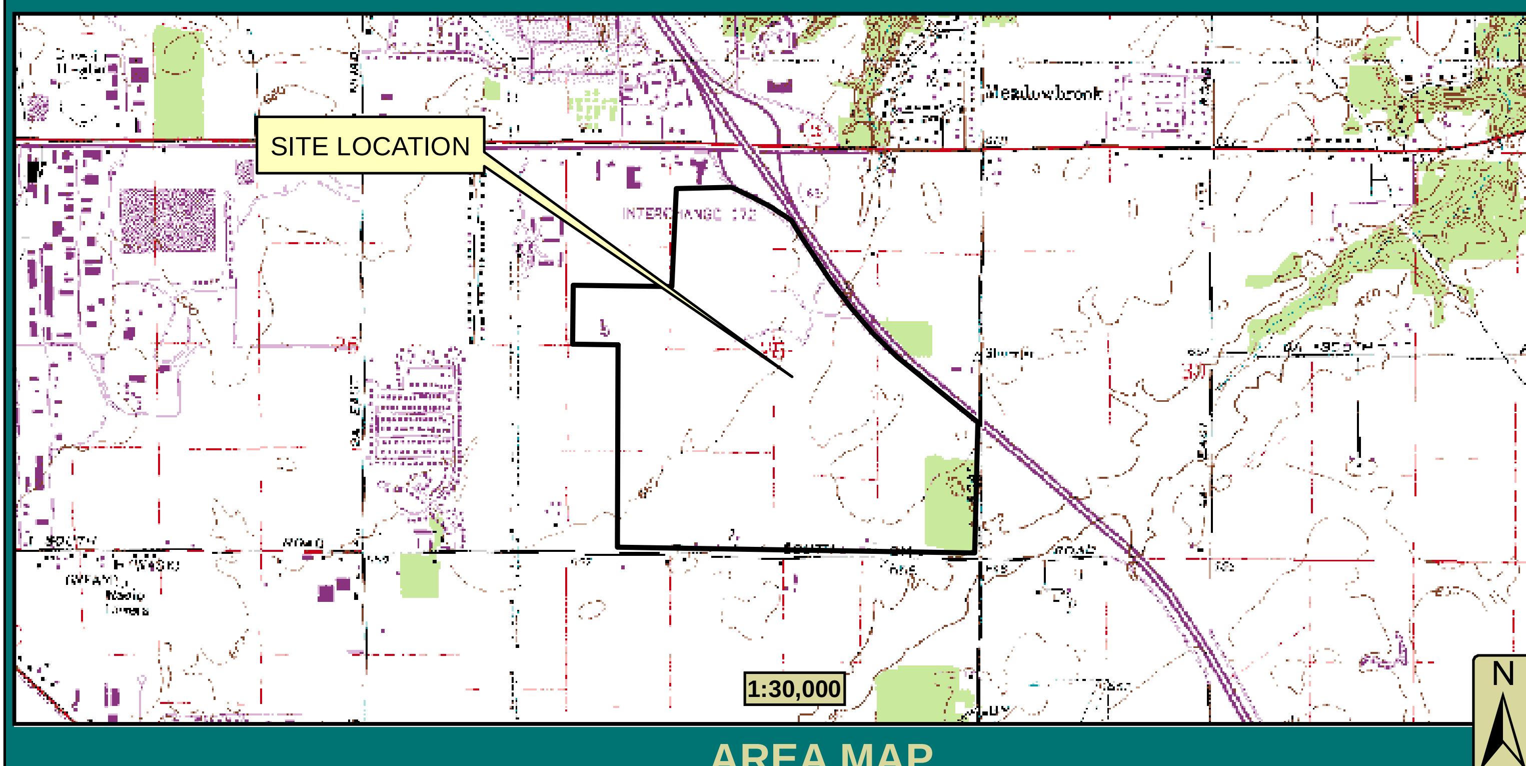
The wetlands, jurisdictional waters, and data points are overlaid on the aerial photograph.



STATE MAP

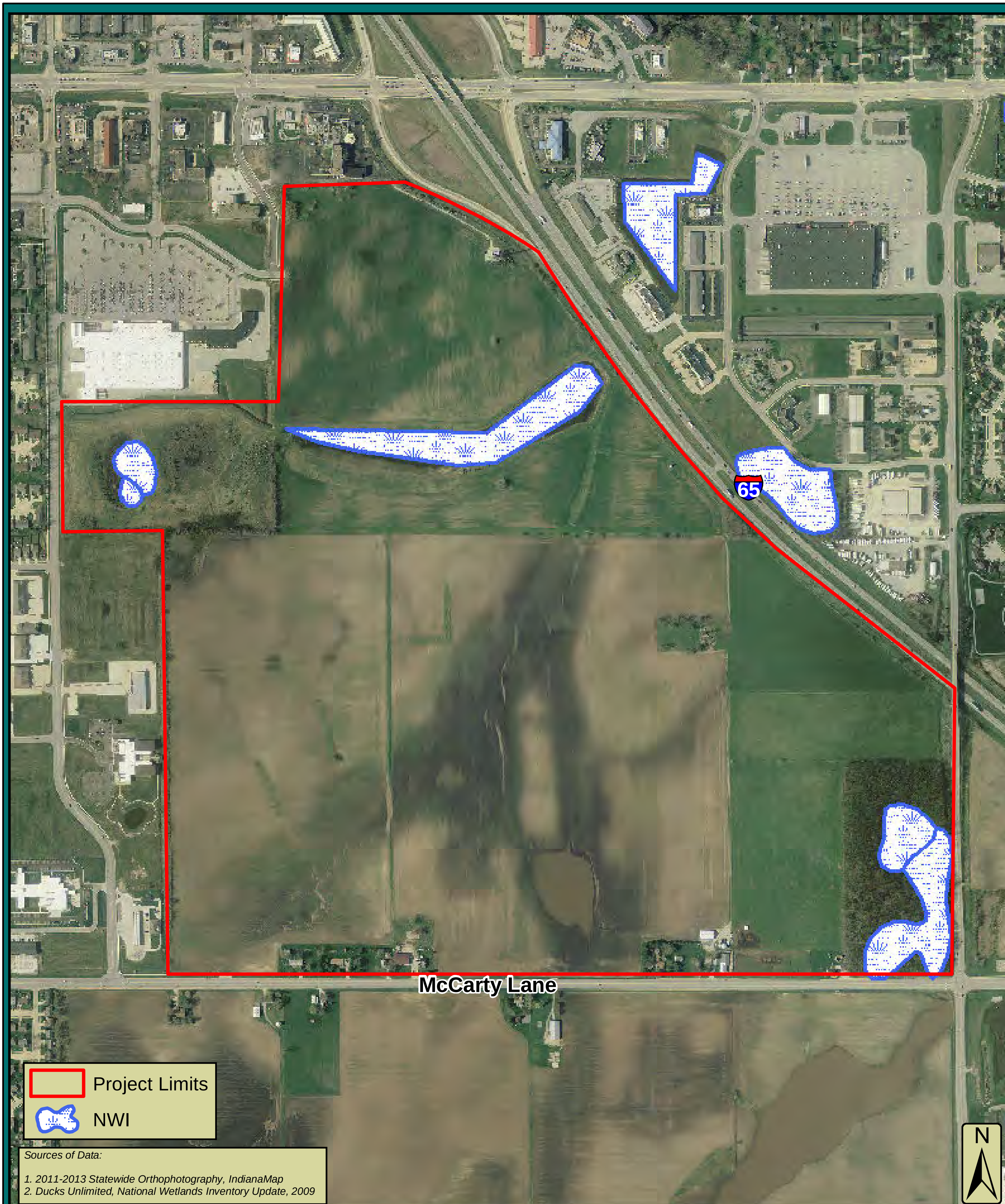


VICINITY MAP



AREA MAP

Christopher B. Burke Engineering, LLC PNC Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 (t) 317.266.8000 (f) 317.632.3306	PROJECT: **A. Ross Masterplan-Wetland Delineation**	PROJECT NO. **14-0041**	APPROX. SCALE **as shown**
	TITLE: **SITE LOCATION**		DATE: **06/2014** EXHIBIT **1**



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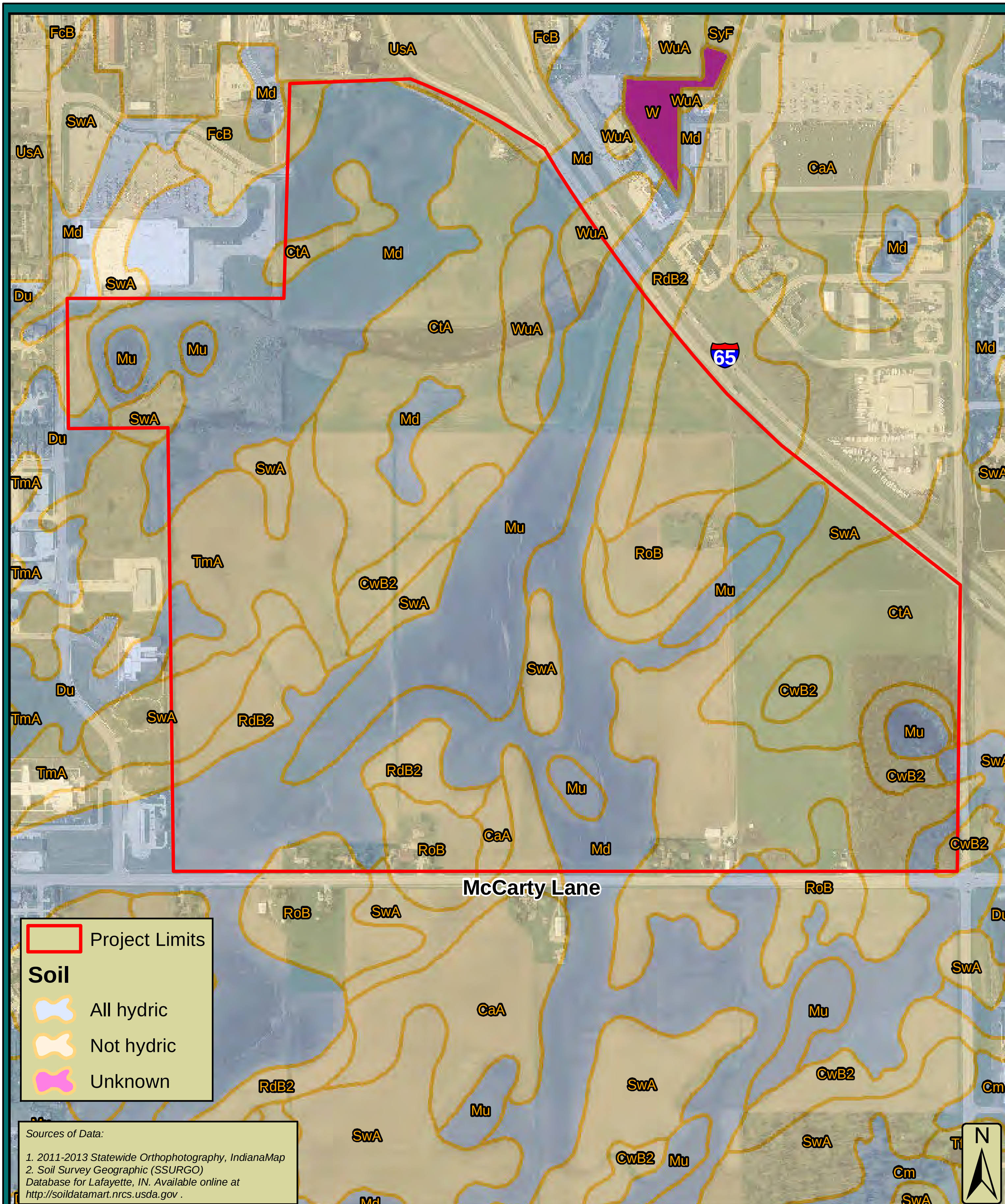
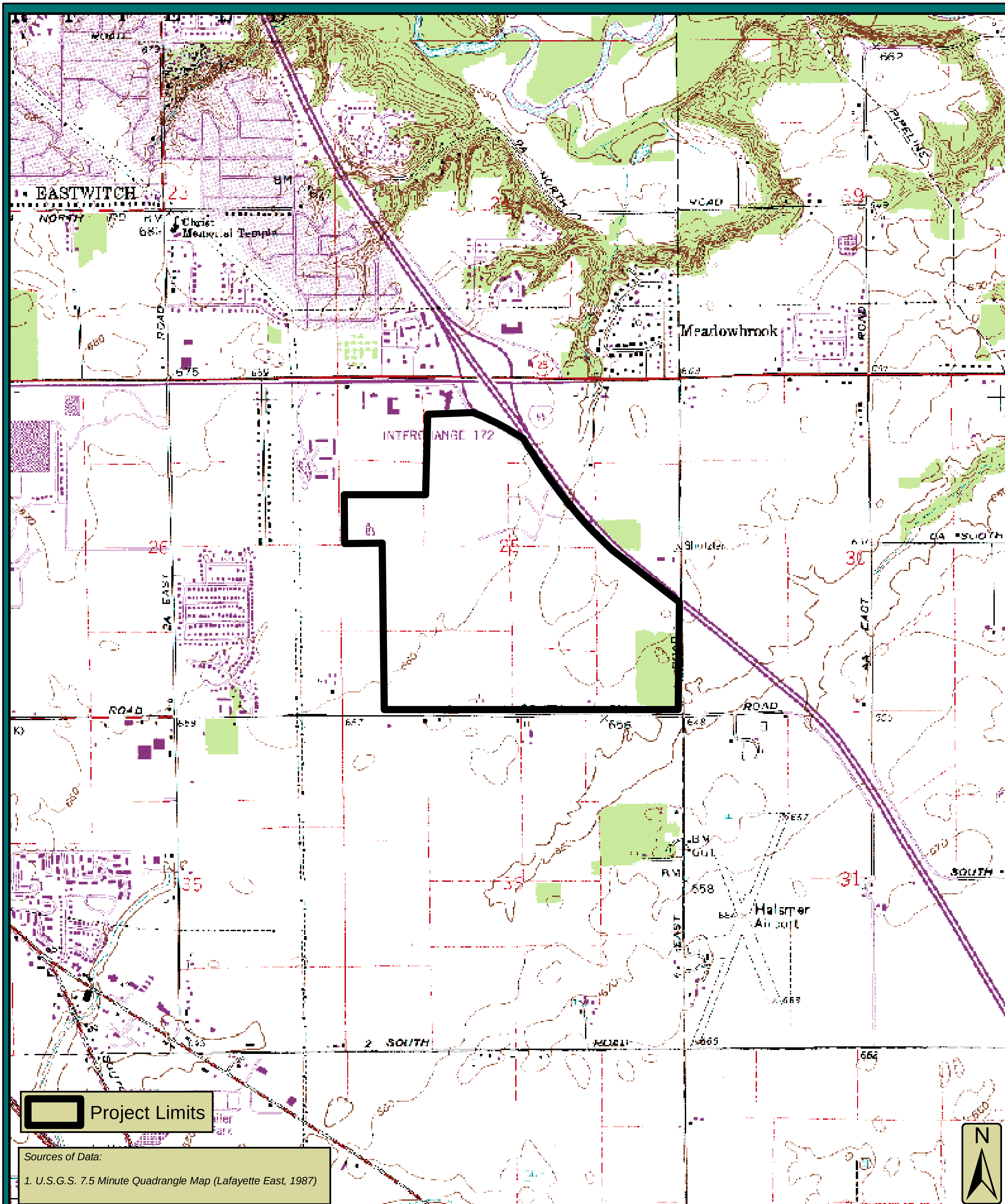
115 West Washington Street
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306

PROJECT: **A. Ross Masterplan-Wetland Delineation**	PROJECT NO. **14-0041**	APPROX. SCALE 1 " = 750 '	
TITLE: **NWI**		DATE: 06/2014	EXHIBIT 2



Christopher B. Burke Engineering, LLC PNC Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 (t) 317.266.8000 (f) 317.632.3306	PROJECT: **A. Ross Masterplan-Wetland Delineation**	PROJECT NO. **14-0041**	APPROX. SCALE **1 " = 750 '**
	TITLE: **SOIL**		DATE: **06/2014**
			EXHIBIT **3**



Sources of Data:

1. U.S.G.S. 7.5 Minute Quadrangle Map (Lafayette East, 1987)

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115 West Washington Street
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306

PROJECT:	A. Ross Masterplan- Wetland Delineation
PROJECT NO.	14-0041
APPROX. SCALE	1 " = 2,000 '
TITLE:	TOPO
DATE:	06/2014
EXHIBIT	4

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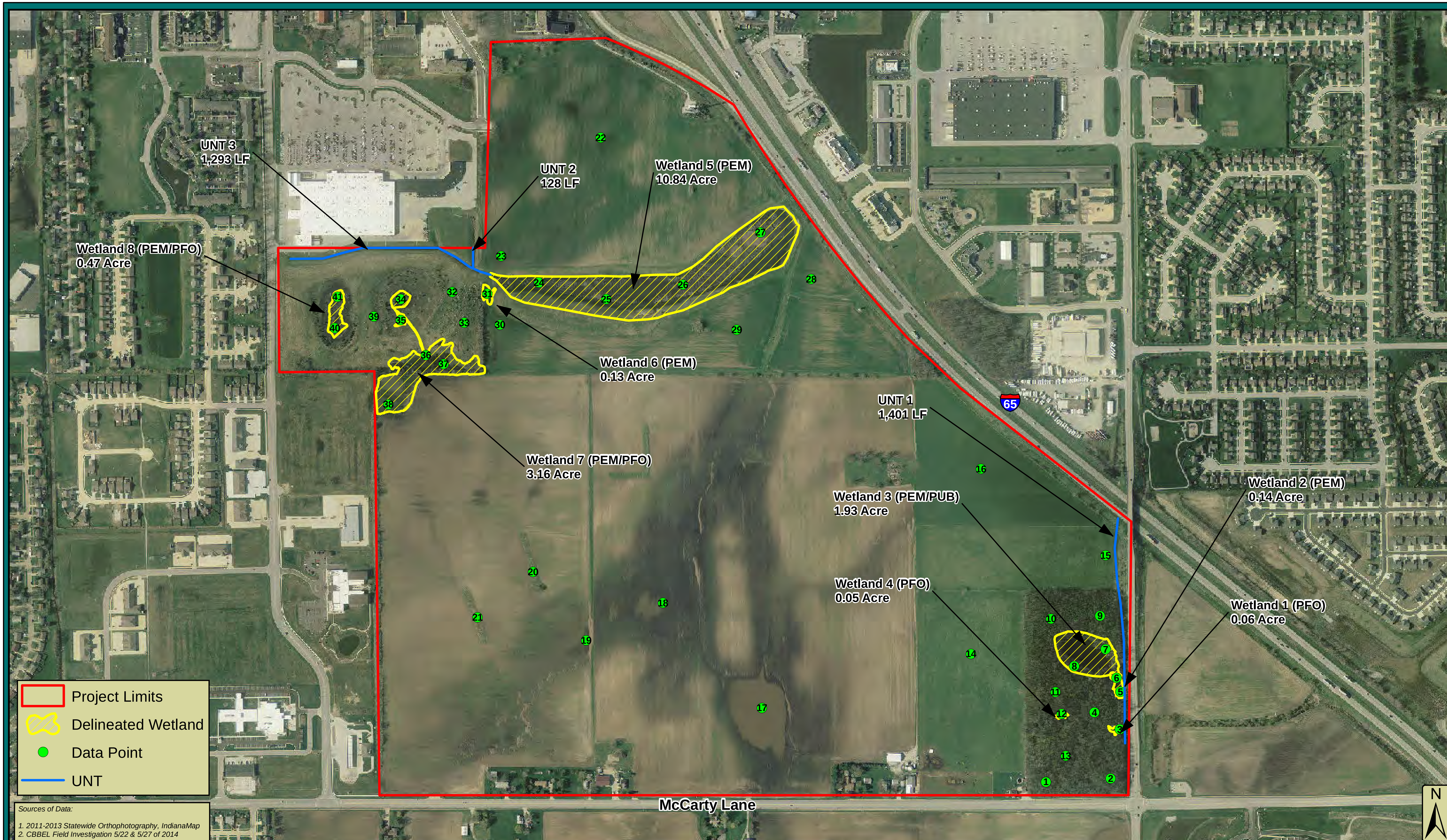
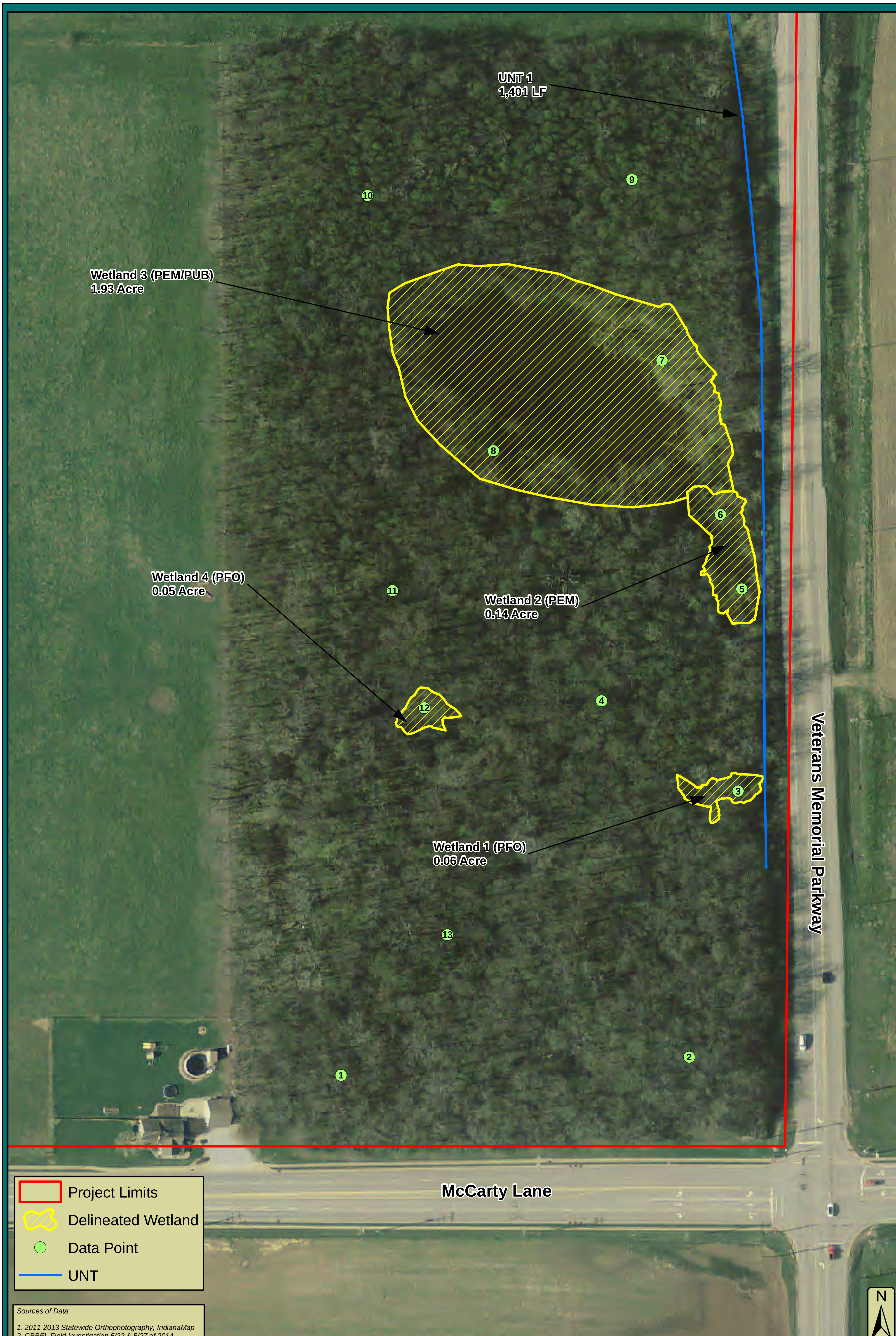
115 West Washington Street
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306

PROJECT: A. Ross Masterplan-Wetland Delineation	PROJECT NO. 14-0041	APPROX. SCALE 1 " = 750 '
		DATE: 06/2014
TITLE: DFIRM		EXHIBIT 5



Christopher B. Burke Engineering, LLC PNC Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 (t) 317.266.8000 (f) 317.632.3306	PROJECT: **A. Ross Masterplan-Wetland Delineation**	PROJECT NO. **14-0041**	APPROX. SCALE 1 " = 550 '
			DATE: **06/2014**
	TITLE: **DELINEATED WETLANDS/"WATERS" & DATA POINTS**		EXHIBIT **6**



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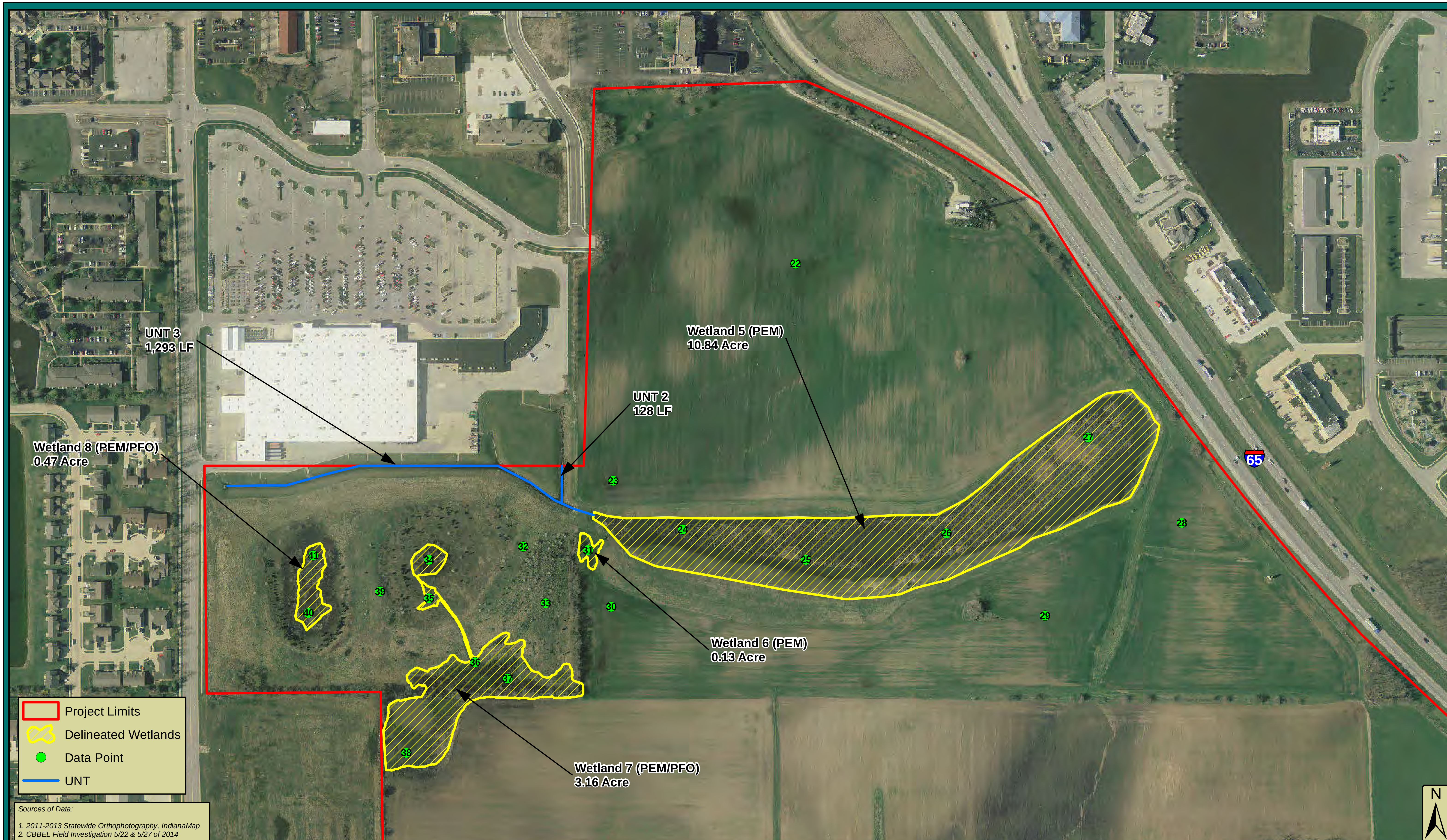
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306

PROJECT:	**A. Ross Masterplan- Wetland Delineation**	PROJECT NO. **14-0041**	APPROX. SCALE 1 " = 100 '
			DATE: **06/2014**
TITLE:	**DELINEATED WETLANDS/"WATERS" & DATA POINTS**		EXHIBIT **6A**



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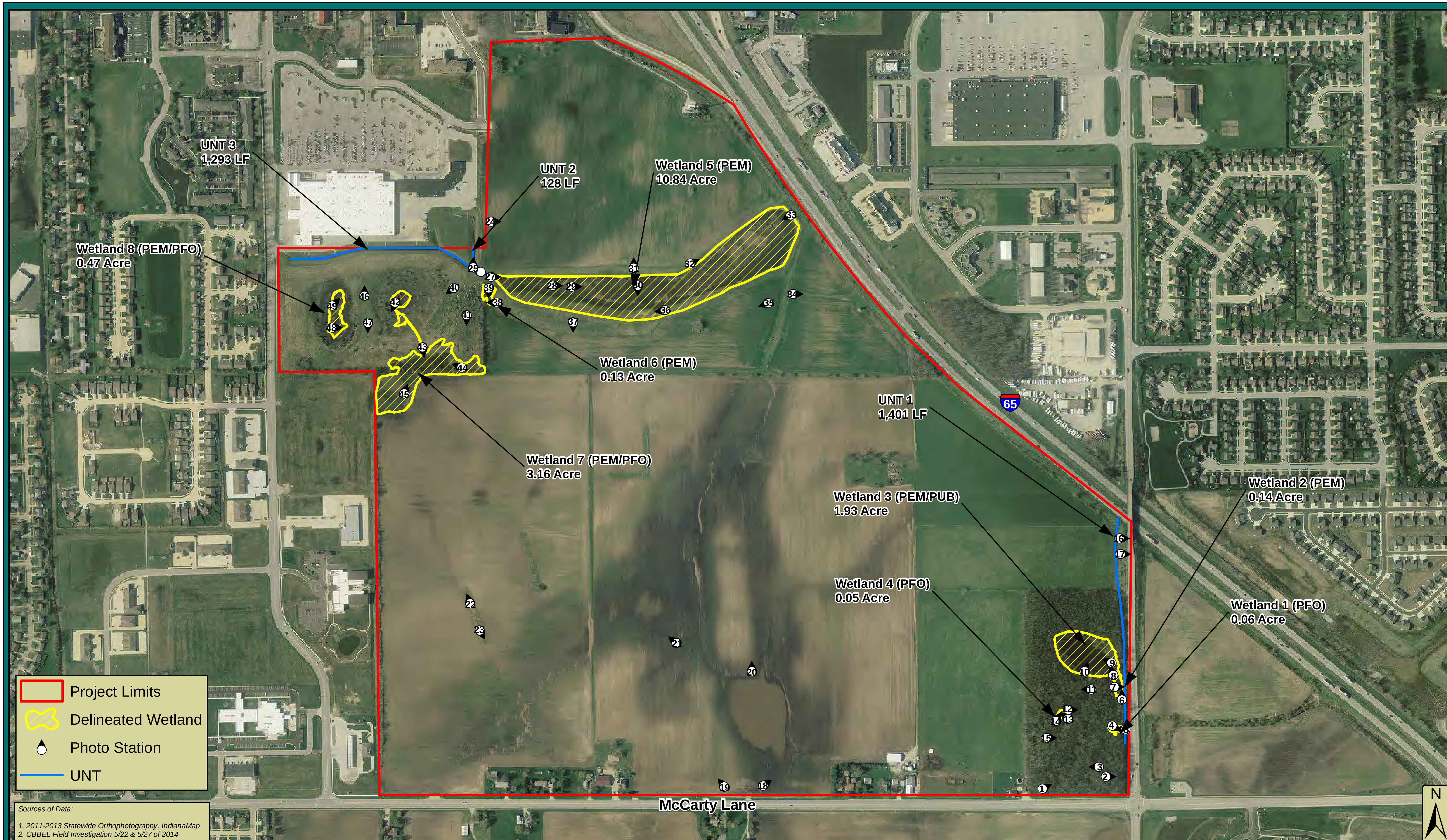
PROJECT: A. Ross Masterplan- Wetland Delineation	PROJECT NO. 14-0041	APPROX. SCALE 1 " = 300 '	DATE: 06/2014
TITLE: DELINEATED WETLANDS/"WATERS" & DATA POINTS		EXHIBIT 6B	



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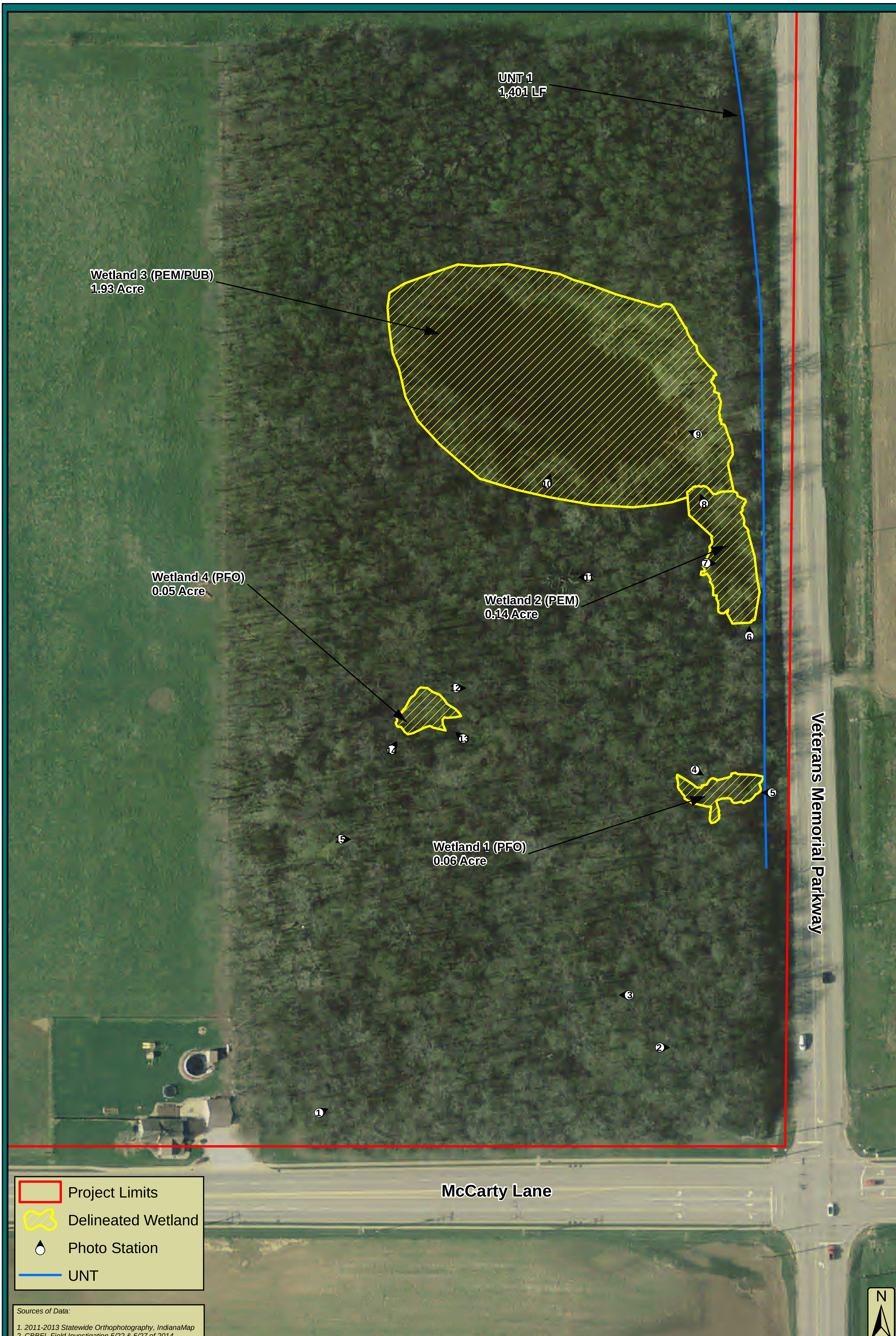
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306

PROJECT: A. Ross Masterplan- Wetland Delineation	PROJECT NO. 14-0041	APPROX. SCALE 1 " = 550 '
TITLE: DELINEATED WETLANDS/"WATERS" & PHOTO STATIONS		DATE: 06/2014
		EXHIBIT 7



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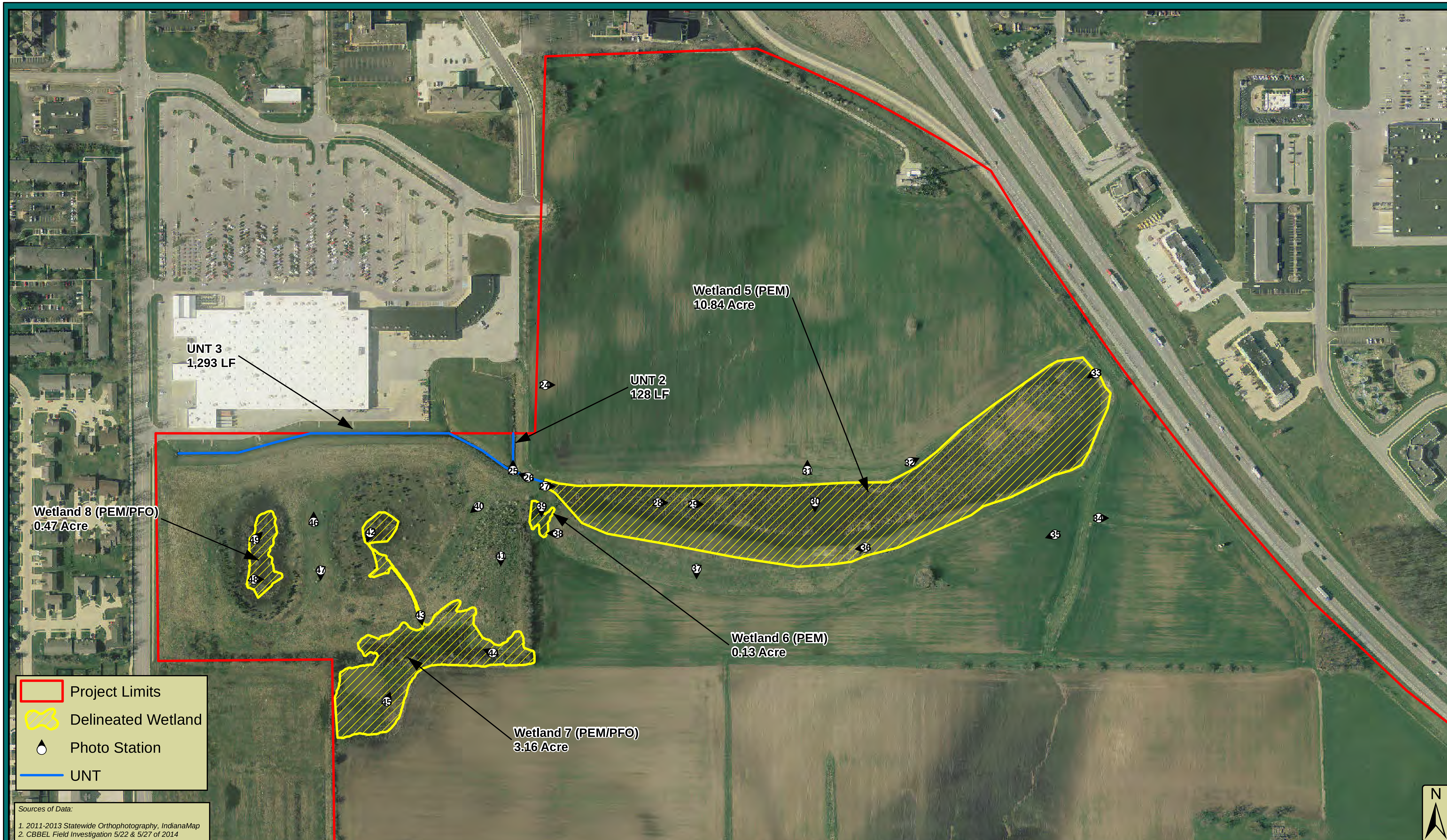
(t) 317.266.8000 (f) 317.632.3306

PROJECT:	A. Ross Masterplan- Wetland Delineation	PROJECT NO. 14-0041	APPROX. SCALE 1 " = 100 '
TITLE:	DELINEATED WETLANDS/"WATERS" & PHOTO STATIONS		DATE: 06/2014
			EXHIBIT 7A



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(t) 317.266.8000 (f) 317.632.3306

PROJECT:	A. Ross Masterplan- Wetland Delineation	PROJECT NO. 14-0041	APPROX. SCALE 1 " = 300 '
TITLE:	DELINEATED WETLANDS/"WATERS" & PHOTO STATIONS		DATE: 06/2014 EXHIBIT 7B

Appendix A - Photographs

CHRISTOPHER B. BURKE ENGINEERING, LLC. National City Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 TEL (317)266-8000 FAX (317)632-3306	**PROJECT:** A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
	TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14 **SITE 1**

CHRISTOPHER B. BURKE ENGINEERING, LLC.
National City Center, Suite 1368 South
115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 2&3

CHRISTOPHER B. BURKE ENGINEERING, LLC. National City Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 TEL (317)266-8000 FAX (317)632-3306	**PROJECT:** A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
			DATE: 05/14
	TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**SITE 4&5**

CHRISTOPHER B. BURKE ENGINEERING, LLC.
National City Center, Suite 1368 South
115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT: A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14
		SITE 6&7

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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	A. Ross Masterplan Wetland Delineation
PROJECT NO:	14-0041
APPROX. SCALE:	N/A
DATE:	05/14
TITLE:	PROJECT PHOTOGRAPHS May 22nd & 27th, 2014
	SITE 8&9

CHRISTOPHER B. BURKE ENGINEERING, LLC. National City Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 TEL (317)266-8000 FAX (317)632-3306	**PROJECT:** A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
	TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14 **SITE 10&11**

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PROJECT: A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A	
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14	**SITE 12&13**

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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 14&15

CHRISTOPHER B. BURKE ENGINEERING, LLC. National City Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 TEL (317)266-8000 FAX (317)632-3306	**PROJECT:** A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
	TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14 **SITE 16&17**

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 18&19

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 20&21

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT: A. Ross Masterplan Wetland Delineation	PROJECT NO: 14-0041	APPROX. SCALE: N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 22&23

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 24

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT: A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14
		SITE 25&26

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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT: A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14
		SITE 27

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 28&29

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 30&31

CHRISTOPHER B. BURKE ENGINEERING, LLC.
National City Center, Suite 1368 South
115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 32&33

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 34&35

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 36&37

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 38&39

CHRISTOPHER B. BURKE ENGINEERING, LLC. National City Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 TEL (317)266-8000 FAX (317)632-3306	**PROJECT:** A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
	TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14 **SITE 40&41**

CHRISTOPHER B. BURKE ENGINEERING, LLC. National City Center, Suite 1368 South 115 West Washington Street Indianapolis, Indiana 46204 TEL (317)266-8000 FAX (317)632-3306	**PROJECT:** A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
	TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14
			SITE 42&43

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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT: A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14
		SITE 44&45

CHRISTOPHER B. BURKE ENGINEERING, LLC.
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115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT:	PROJECT NO:	APPROX. SCALE:
A. Ross Masterplan Wetland Delineation	14-0041	N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		DATE: 05/14
		SITE 46&47

CHRISTOPHER B. BURKE ENGINEERING, LLC.
National City Center, Suite 1368 South
115 West Washington Street
Indianapolis, Indiana 46204
TEL (317)266-8000 FAX (317)632-3306

PROJECT: A. Ross Masterplan Wetland Delineation	**PROJECT NO:** 14-0041	**APPROX. SCALE:** N/A
TITLE: PROJECT PHOTOGRAPHS May 22nd & 27th, 2014		**DATE:** 05/14
		SITE 48&49

Appendix B – Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP1

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23 North, Range 4 West

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4032 Long: -86.8118 Datum: NAD83

Soil Map Unit Name: SwA- Starks Fincastle Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ⦿	Is the Sampled Area within a Wetland?	Yes ○ No ⦿
Hydric Soil Present?	Yes ○ No ⦿		
Wetland Hydrology Present?	Yes ○ No ⦿		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Gleditsia triacanthos	30	Yes	FACU
2. Prunus serotina	30	Yes	FACU
3. Quercus palustris	30	Yes	FACW
4.			
5.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. Lonicera maackii	25	Yes	FACU
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 5ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 5ft)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ◯ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◯ No ◉ Depth (inches): ____________

Water Table Present? Yes ◯ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ◯ No ◉ Depth (inches): ____________

Wetland Hydrology Present? Yes ◯ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP2

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4035 Long: -86.8104 Datum: NAD83

Soil Map Unit Name: CwB2- Crosby-Miami Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ●	Is the Sampled Area within a Wetland? Yes ○ No ●
Hydric Soil Present?	Yes ○ No ●	
Wetland Hydrology Present?	Yes ○ No ●	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera Maackii	90	Yes	FACU
2.			
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Alliaria petiolata	10	No	FAC
2. Galium triflorum	25	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ●

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP3

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4042 Long: -86.8102 Datum: NAD83

Soil Map Unit Name: SwA-Starks-Fincastle Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ⦿ No ○	Is the Sampled Area within a Wetland?	Yes ⦿ No ○
Hydric Soil Present?	Yes ⦿ No ○		
Wetland Hydrology Present?	Yes ⦿ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis occidentalis	25	Yes	FAC
2. Quercus bicolor	25	Yes	FACW
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lindera benzoin	25	Yes	FACW
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Impatiens capensis	30	Yes	FACW
2. Glyceria striata	35	Yes	OBL
3. Persicaria amphibia	20	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ⦿ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 3

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP4

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4044 Long: -86.8107 Datum: NAD83

Soil Map Unit Name: SwA- Starks-Fincastle Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ⦿
Hydric Soil Present?	Yes ○	No ⦿
Wetland Hydrology Present?	Yes ○	No ⦿

Is the Sampled Area within a Wetland? Yes ○ No ⦿

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1. Celtis occidentalis	25	Yes	FAC
2. Juglans nigra	30	Yes	FACU
3.			
4.			
5.			
	55 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera Maackii	50	Yes	FACU
2.			
3.			
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Alliaria petiolata	20	Yes	FAC
2. Podophyllum peltatum	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP5

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4048 Long: -86.8102 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○
Hydric Soil Present?	Yes ◉	No ○
Wetland Hydrology Present?	Yes ◉	No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Asclepias incarnata	20	Yes	OBL
2. Glyceria striata	45	Yes	OBL
3. Phalaris arundinacea	20	Yes	FACW
4. Symphyotrichum lanceolatum	15	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP6

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4051 Long: -86.8103 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ⦿ No ○	Is the Sampled Area within a Wetland?	Yes ⦿ No ○
Hydric Soil Present?	Yes ⦿ No ○		
Wetland Hydrology Present?	Yes ⦿ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Cx vulpinoidea	15	No	FACW
2. Eupatorium perfoliatum	25	Yes	OBL
3. Persicaria amphibia	20	Yes	OBL
4. Phalaris arundinacea	35	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ⦿ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100	2.5YR 4/8	5			Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP7

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4056 Long: -86.8106 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ●	No ○
Hydric Soil Present?	Yes ●	No ○
Wetland Hydrology Present?	Yes ●	No ○

Is the Sampled Area within a Wetland? Yes ● No ○

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Phalaris arundinacea	60	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ● No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP8

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4054 Long: -86.8110 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●) No ( )	Is the Sampled Area within a Wetland?	Yes (●) No ( )
Hydric Soil Present?	Yes (●) No ( )		
Wetland Hydrology Present?	Yes (●) No ( )		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Phalaris arundinacea	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP9

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4062 Long: -86.8106 Datum: NAD83

Soil Map Unit Name: CtA- Crosby Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉		
Wetland Hydrology Present?	Yes ○ No ◉		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis occidentalis	25	Yes	FAC
2. Gleditsia triacanthos	30	Yes	FACU
3. Juglans nigra	35	Yes	FACU
4.			
5.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera Maackii	45	Yes	FACU
2.			
3.			
4.			
5.			
	45	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Alliaria petiolata	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ⦿

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ⦿ Depth (inches): ______

Water Table Present? Yes ○ No ⦿ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ⦿ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ⦿

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP10

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4062 Long: -86.8116 Datum: NAD83

Soil Map Unit Name: CtA- Crosby Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⊙ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⊙ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ⊙
Hydric Soil Present?	Yes ○	No ⊙
Wetland Hydrology Present?	Yes ○	No ⊙

Is the Sampled Area within a Wetland? Yes ○ No ⊙

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis occidentalis	35	Yes	FAC
2. Juglans nigra	35	Yes	FACU
3.			
4.			
5.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera Maackii	55	Yes	FACU
2.			
3.			
4.			
5.			
	55	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Galium triflorum	25	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ⊙

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____________

Water Table Present? Yes ○ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____________

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP11

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4050 Long: -86.8114 Datum: NAD83

Soil Map Unit Name: CwB2- Crosby Miami Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ⦿	Is the Sampled Area within a Wetland?	Yes ○ No ⦿
Hydric Soil Present?	Yes ○ No ⦿		
Wetland Hydrology Present?	Yes ○ No ⦿		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya ovata	25	Yes	FACU
2. Celtis occidentalis	25	Yes	FAC
3. Juglans nigra	25	Yes	FACU
4.			
5.			
	75 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera Maackii	35	Yes	FACU
2.			
3.			
4.			
5.			
	35 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____

Water Table Present? Yes ○ No ◉ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP12

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4045 Long: -86.8114 Datum: NAD83

Soil Map Unit Name: CwB2- Crosby-Miami Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ⦿ No ○	Is the Sampled Area within a Wetland?	Yes ⦿ No ○
Hydric Soil Present?	Yes ⦿ No ○		
Wetland Hydrology Present?	Yes ⦿ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	25	Yes	FACW
2. Carya ovata	30	Yes	FACU
3.			
4.			
5.			
	55	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Glyceria striata	40	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ⦿ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	100	7.5YR 5/8	10			Clay/Loam	
10-16	2.5 YR 8/2	100	7.5YR 5/8	40			Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] 2 cm Muck (A10)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] 5 cm Mucky Peat or Peat (S3)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Loamy Mucky Mineral (F1)
- [ ] Loamy Gleyed Matrix (F2)
- [x] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- [ ] Coast Prairie Redox (A16)
- [ ] Dark Surface (S7)
- [ ] Iron-Manganese Masses (F12)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes (selected) No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Gauge or Well Data (D9)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Drainage Patterns (B10)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [x] Geomorphic Position (D2)
- [x] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes (selected) / No	Depth (inches): 2
Water Table Present?	Yes / No (selected)	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes (selected) / No	Depth (inches):

Wetland Hydrology Present? Yes (selected) No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP13

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4040 Long: -86.8114 Datum: NAD83

Soil Map Unit Name: CwB2- Crosby Miami Complex NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ⦿		
Hydric Soil Present?	Yes ○ No ⦿	Is the Sampled Area	
Wetland Hydrology Present?	Yes ○ No ⦿	within a Wetland?	Yes ○ No ⦿

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis occidentalis	35	Yes	FAC
2. Gleditsia triacanthos	25	Yes	FACU
3.			
4.			
5.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera Maackii	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Polymnia canadensis	40	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	0 (A)		(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____________

Water Table Present? Yes ○ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____________

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP14

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4054 Long: -86.8136 Datum: NAD83

Soil Map Unit Name: CtA- Crosby Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland? Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Festuca pratensis	60	Yes	FACU
2. Poa pratensis	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species	40	x 3 = 120
FACU species	60	x 4 = 240
UPL species		x 5 =
Column Totals:	100 (A)	360 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ○ No ●

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ● Depth (inches): ____________

Water Table Present? Yes ○ No ● Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches): ____________

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP15

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4072 Long: -86.8104 Datum: NAD83

Soil Map Unit Name: CtA- Crosby Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉		
Wetland Hydrology Present?	Yes ○ No ◉		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Festuca pratensis	75	Yes	FACU
2. Taraxacum officinale	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species	20	x 3 = 60
FACU species	75	x 4 = 300
UPL species		x 5 =
Column Totals:	95 (A)	360 (B)

Prevalence Index = B/A = 3.79

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP16

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4084 Long: -86.8131 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( ) No (•)	Is the Sampled Area within a Wetland?	Yes ( ) No (•)
Hydric Soil Present?	Yes ( ) No (•)		
Wetland Hydrology Present?	Yes ( ) No (•)		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Festuca pratensis	75	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (•)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP17

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4045 Long: -86.8182 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (•)	Is the Sampled Area within a Wetland? Yes ( ) No (•)
Hydric Soil Present?	Yes ( )	No (•)	
Wetland Hydrology Present?	Yes ( )	No (•)	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Glycine max	50	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (•)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP18

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4060 Long: -86.8204 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland? Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Glycine max	50	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/4	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP19

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4060 Long: -86.8221 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉		
Wetland Hydrology Present?	Yes ○ No ◉		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Zea mays	50	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/4	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP20

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4069 Long: -86.8231 Datum: NAD83

Soil Map Unit Name: TmA- Toronto-Millbrook Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ☉	Is the Sampled Area within a Wetland? Yes ○ No ☉
Hydric Soil Present?	Yes ○ No ☉	
Wetland Hydrology Present?	Yes ○ No ☉	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus rubra	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera maackii	10	No	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Dactylis glomerata	70	Yes	FACU
2. Solidago altissima	5	No	FACU
3. Toxicodendron radicans	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ☉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____________

Water Table Present? Yes ○ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____________

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/22/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP21

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4061 Long: -86.8244 Datum: NAD83

Soil Map Unit Name: RdB2- Rockfield Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( ) No (•)	Is the Sampled Area within a Wetland?	Yes ( ) No (•)
Hydric Soil Present?	Yes ( ) No (•)		
Wetland Hydrology Present?	Yes ( ) No (•)		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus rubra	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Dactylis glomerata	40	Yes	FACU
2. Poa pratensis	10	No	FAC
3. Solidago altissima	20	Yes	FACU
4. Toxicodendron radicans	15	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (•)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ⦿

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ⦿ Depth (inches): ______

Water Table Present? Yes ○ No ⦿ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ⦿ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ⦿

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP22

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4147 Long: -86.8216 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ◉ No ○		
Wetland Hydrology Present?	Yes ○ No ◉		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Zea mays	25	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____

Water Table Present? Yes ○ No ◉ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP23

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4125 Long: -86.8238 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )
Wetland Hydrology Present?	Yes ( )	No (●)

Is the Sampled Area within a Wetland? Yes ( ) No (●)

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Zea mays	25	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____________

Water Table Present? Yes ○ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____________

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP24

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4119 Long: -86.8229 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ◉ No ○		
Hydric Soil Present? Yes ◉ No ○	Is the Sampled Area within a Wetland?	Yes ◉ No ○
Wetland Hydrology Present? Yes ◉ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Equisetum hyemale	20	Yes	FACW
2. Juncus effusus	10	No	OBL
3. Typha latifolia	60	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					Clay/Loam	
2-16	10YR 5/1	100	5YR 5/6	30			Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP25

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4116 Long: -86.8211 Datum: NAD83

Soil Map Unit Name: CtA- Crosby Silt Loam NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•) No ( )	Is the Sampled Area within a Wetland? Yes (•) No ( )
Hydric Soil Present?	Yes (•) No ( )	
Wetland Hydrology Present?	Yes (•) No ( )	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Salix interior	20	Yes	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Phragmites australis	60	Yes	FACW
2. Typha latifolia	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (•) No ( )

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					Clay/Loam	
5-16	10YR 4/1	100	5YR 5/6	20			Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP26

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ____ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4119 Long: -86.8196 Datum: NAD83

Soil Map Unit Name: CtA- Crosby Silt Loam NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	Is the Sampled Area within a Wetland?	Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○		
Wetland Hydrology Present?	Yes ◉ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Salix interior	35	Yes	FACW
2.			
3.			
4.			
5.			
	35 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Phragmites australis	70	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					Clay/Loam	
5-16	10YR 4/1	100	5YR 5/6	20			Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ____________

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP27

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4128 Long: -86.8180 Datum: NAD83

Soil Map Unit Name: WuA- Whitaker Loam, Till Substratum NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•) No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•) No ( )		
Wetland Hydrology Present?	Yes (•) No ( )		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Phragmites australis	65	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (•) No ( )

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					Clay/Loam	
5-16	10YR 4/1	100	5YR 5/6	10			Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP28

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4121 Long: -86.8170 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (•)
Hydric Soil Present?	Yes ( )	No (•)
Wetland Hydrology Present?	Yes ( )	No (•)

Is the Sampled Area within a Wetland? Yes ( ) No (•)

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Zea mays	20	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (•)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP29

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4113 Long: -86.8183 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ◯

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯ No ⦿	Is the Sampled Area within a Wetland?	Yes ◯ No ⦿
Hydric Soil Present?	Yes ◯ No ⦿		
Wetland Hydrology Present?	Yes ◯ No ⦿		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Zea mays	20	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ◯ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP30

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4111 Long: -86.8239 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ◯

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯ No ⦿	Is the Sampled Area within a Wetland?	Yes ◯ No ⦿
Hydric Soil Present?	Yes ⦿ No ◯		
Wetland Hydrology Present?	Yes ◯ No ⦿		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Zea mays	25	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ◯ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ____________

Water Table Present? Yes ○ No ◉ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ____________

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP31

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4118 Long: -86.8241 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ⦿ No ○	Is the Sampled Area within a Wetland?	Yes ⦿ No ○
Hydric Soil Present?	Yes ⦿ No ○		
Wetland Hydrology Present?	Yes ⦿ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Agrostis gigantea	20	Yes	FACW
2. Carex bebbii	20	Yes	OBL
3. Carex vulpinoidea	5	No	FACW
4. Eleocharis obtusa	20	Yes	OBL
5. Phalaris arundinacea	5	No	FACW
6. Solidago gigantea	10	No	FACW
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ⦿ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP31

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan   City/County: Lafayette/Tippecanoe   Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette   State: IN   Sampling Point: DP32

Investigator(s): Sarah Wright; Jamie Cook   Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______   Local relief (concave, convex, none): none

Slope (%): 0.0   Lat: 40.4118   Long: -86.8247   Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex   NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?   Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( ) No (●)	Is the Sampled Area within a Wetland?	Yes ( ) No (●)
Hydric Soil Present?	Yes ( ) No (●)		
Wetland Hydrology Present?	Yes ( ) No (●)		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1. Juniperus virginiana	20	Yes	FACU
2. Populus tremuloides	30	Yes	FAC
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Cirsium arvense	20	Yes	FACU
2. Festuca pratensis	60	Yes	FACU
3. Toxicodendron radicans	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP32

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP33

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4112 Long: -86.8248 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( ) No (●)	Is the Sampled Area within a Wetland?	Yes ( ) No (●)
Hydric Soil Present?	Yes ( ) No (●)		
Wetland Hydrology Present?	Yes ( ) No (●)		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Platanus occidentalis	35	Yes	FACW
2. Prunus serotina	25	Yes	FACU
3.			
4.			
5.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Cirsium arvense	25	Yes	FACU
2. Festuca pratensis	45	Yes	FACU
3. Solidago altissima	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP33

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP34

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4116 Long: -86.8261 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●) No ( )	Is the Sampled Area within a Wetland?	Yes (●) No ( )
Hydric Soil Present?	Yes (●) No ( )		
Wetland Hydrology Present?	Yes (●) No ( )		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus rubra	30	Yes	FACU
2.			
3.			
4.			
5.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Persicaria amphibia	40	Yes	OBL
2. Xanthium strumarium	30	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP34

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ⦿ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ⦿ Depth (inches): ____________

Water Table Present? Yes ○ No ⦿ Depth (inches): ____________

Saturation Present? (includes capillary fringe) Yes ○ No ⦿ Depth (inches): ____________

Wetland Hydrology Present? Yes ⦿ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP35

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4113 Long: -86.8262 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•) No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•) No ( )		
Wetland Hydrology Present?	Yes (•) No ( )		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1. Quercus palustris	25	Yes	FACW
2.			
3.			
4.			
5.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Agrostis gigantea	30	Yes	FACW
2. Agrostis stolonifera	25	Yes	FACW
3. Carex vulpinoidea	5	No	FACW
4. Juncus effusus	40	Yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (•) No ( )

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP35

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan | City/County: Lafayette/Tippecanoe | Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette | State: IN | Sampling Point: DP36

Investigator(s): Sarah Wright; Jamie Cook | Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4106 Long: -86.8257 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☉ No ○	Is the Sampled Area within a Wetland?	Yes ☉ No ○
Hydric Soil Present?	Yes ☉ No ○		
Wetland Hydrology Present?	Yes ☉ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	30	Yes	FACW
2.			
3.			
4.			
5.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Agrostis gigantea	20	Yes	FACW
2. Carex bebbii	25	Yes	OBL
3. Phalaris arundinacea	30	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP36

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP37

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4104 Long: -86.8254 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	Is the Sampled Area within a Wetland? Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30ft.)			
1. Acer saccharinum	35	Yes	FACW
2. Quercus macrocarpa	20	Yes	FAC
3.			
4.			
5.			
	55	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Cephalanthus occidentalis	25	Yes	OBL
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Carex bebbii	20	Yes	OBL
2. Lycopus americanus	25	Yes	OBL
3. Phalaris arundinacea	40	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP37

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP38

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4099 Long: -86.8264 Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ( )

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )
Hydric Soil Present?	Yes (•)	No ( )
Wetland Hydrology Present?	Yes (•)	No ( )

Is the Sampled Area within a Wetland? Yes (•) No ( )

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Alisma subcordatum	15	No	OBL
2. Asclepias incarnata	20	Yes	OBL
3. Eleocharis obtusa	25	Yes	OBL
4. Eleocharis palustris	20	Yes	OBL
5. Rumex crispus	15	No	FAC
6.			
7.			
8.			
9.			
10.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (•) No ( )

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP38

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?	◉	○	2
Water Table Present?	○	◉	
Saturation Present? (includes capillary fringe)	◉	○	

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan   City/County: Lafayette/Tippecanoe   Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette   State: IN   Sampling Point: DP39

Investigator(s): Sarah Wright; Jamie Cook   Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______   Local relief (concave, convex, none): none

Slope (%): 0.0   Lat: 40.4114   Long: -86.8269   Datum: NAD83

Soil Map Unit Name: Md- Mahalasville-Treaty Complex   NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⦿ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?   Are "Normal Circumstances" present? Yes ⦿ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ⦿	Is the Sampled Area within a Wetland?	Yes ○ No ⦿
Hydric Soil Present?	Yes ○ No ⦿		
Wetland Hydrology Present?	Yes ○ No ⦿		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft.)			
1. Cirsium arvense	20	Yes	FACU
2. Daucus carota	30	Yes	UPL
3. Festuca pratensis	50	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ○ No ⦿

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP39

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ⦿

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ⦿ Depth (inches):

Water Table Present? Yes ○ No ⦿ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ⦿ Depth (inches):

Wetland Hydrology Present? Yes ○ No ⦿

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP40

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4111 Long: -86.8276 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (•) No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (•) No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•) No ○	Is the Sampled Area within a Wetland?	Yes (•) No ○
Hydric Soil Present?	Yes (•) No ○		
Wetland Hydrology Present?	Yes (•) No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus tremuloides	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Ambrosia trifida	20	Yes	FAC
2. Carex bebbii	15	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes (•) No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP40

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: A. Ross Masterplan City/County: Lafayette/Tippecanoe Sampling Date: 5/27/14

Applicant/Owner: Tippecanoe County/City of Lafayette State: IN Sampling Point: DP41

Investigator(s): Sarah Wright; Jamie Cook Section, Township, Range: Section 25, Township 23N, Range 4W

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): none

Slope (%): 0.0 Lat: 40.4117 Long: -86.8276 Datum: NAD83

Soil Map Unit Name: Mu- Milford Silty Clay Loam; Pothole NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⊙ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ⊙ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ⊙ No ○		
Hydric Soil Present? Yes ⊙ No ○	Is the Sampled Area within a Wetland?	Yes ⊙ No ○
Wetland Hydrology Present? Yes ⊙ No ○		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	25	Yes	FACW
2.			
3.			
4.			
5.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. Ambrosia trifida	25	Yes	FAC
2. Carex vulpinoidea	15	No	FACW
3. Persicaria amphibia	20	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 5ft.)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	0 (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ⊙ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP41

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: __________

Depth (inches): __________

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): ______

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C –Permitting Summary and Jurisdictional Guidance

Permitting Summary

The following discussion includes information on USACE Section 404, IDEM Section 401 and IDNR Construction in a Floodway permitting processes. Permits are only necessary if the water resources (wetlands, other jurisdictional waters, and floodway areas) are impacted. If temporary impacts occur, the USACE and IDEM will require notification; however, mitigation might not be required if the water resources can be returned to their original condition. IDNR typically deals with temporary impacts on a case-by-case basis if the impacts are not part of a larger overall project. The following sections summarize the current permitting mechanisms used by the USACE, IDEM, and IDNR for the above mentioned permits. Other federal, state, and local permits may be required for work in and around wetlands, Waters of the U.S. (Waters) and floodway areas depending on the nature of the work.

U.S. Army Corps of Engineers and the Indiana Department of Environmental Management

Regional General Permit: The Regional General Permit (RGP) is a permitting process for Section 401 and Section 404 permits that replaced most of the nationwide permits in Indiana. The RGP was developed by the USACE and IDEM to speed up the permitting process for projects in Indiana that obviously do not involve more than minimal impacts to Waters. To qualify as an RGP with the USACE, the project can not involve cumulative discharges of dredged or fill material to more than 1 acre of Waters of the United States, including wetlands. To qualify as an RGP with IDEM, the project can't have cumulative impacts to more than 0.1 acre of wetlands, Special Aquatic Sites, or open water areas. In addition, IDEM specifies that the project cannot impact more than 300 linear feet of stream channel beneath the Ordinary High Water Mark (OHWM), and cannot involve any stream channel relocation. IDEM and the USACE require that notification be provided by the permittee at least 30 working days prior to the proposed waterbody impact for all activities in which an Individual Permit is not required. After 30 days, if there are no objections from IDEM, the project is approved and the application/notification form is the permit. Within 30 – 45 days, the USACE should respond in writing that the project qualifies for their Regional General Permit (RGP). As long as the 401 WQC is obtained from IDEM, the project is approved.

Individual Permit: Individual Section 401 and Section 404 permit applications are more involved than Regional General Permits. This type of permit covers projects that are larger in scope and/or typically cause more than minimal impacts to Waters of the United States. These projects are subjected to public review and comment as part of the permit process. Comments from the general public as well as other agencies are taken into consideration when applications are being reviewed. After the application is received by the USACE, a Public Notice is issued to the general public, special interest groups, local and state agencies, and other federal agencies, giving them 15 to 30 days to comment on the proposed action. The USACE then considers all comments received (including the results of the IDEM Water Quality Certification review), consults with other federal agencies, and may request additional information from the applicant. A public hearing may also be required in order to present further details on the proposed activity to the public and give them an opportunity to voice their concerns. Following the public hearing, the USACE will decide whether to issue or deny the permit. If the permit is denied, the applicant will be given justification for the denial. The entire individual permit process for both IDEM and the USACE takes a minimum of 4 months, if no problems are encountered, but can legally take up to a year.

The following table summarizes the mitigation ratios that are typically used for impacts to wetlands under the USACE jurisdiction.

Table 1: USACE Mitigation Ratios

Wetland Type	**Mitigation Ratio**
Emergent	1:1 – 2:1
Scrub-Shrub/Immature Forest	2:1 – 3:1
Mature Forest	3:1 – 4:1
Unique and Rare Wetlands	4:1 and above

State Regulated Wetlands: The State of Indiana, through IDEM, retains jurisdiction over isolated (non-USACE jurisdictional) wetlands through recently passed legislation and administrative rules. The State Regulated Wetland rule identifies "Exempt Activities" and divides wetlands into three (3) classes: Class I includes wetlands of lower quality which are provided less protection. Class III includes wetlands of high quality which are provided a high level of protection. Class II, by definition, includes wetlands that are not Class I or Class III. Class III wetlands do not qualify for any permitting exemptions.

Key Exemptions for State Regulated Wetlands:

A.) Class I Size Exemption: A Class I isolated wetland with an area of one-half (1/2) acre or less is exempt from regulation if it is the only wetland on the tract. If more than one Class I wetland is found on the tract, then the total exempt acreage is limited to the larger of the following:

- The acreage of the largest individual isolated wetland on the tract that qualifies for the exemption;
- Fifty percent (50%) of the cumulative acreage of all individual isolated wetlands on the tract that would qualify for the exemption.

B.) Class II Size Exemption: A Class II isolated wetland with an area of one-quarter (1/4) acre or less is exempt from regulation if it is the only wetland on the tract. If more than one Class II wetland is found on the tract, then the total exempt acreage is limited to the larger of the following:

- The acreage of the largest individual isolated wetland on the tract that qualifies for the exemption;
- Thirty three percent (33%) of the cumulative acreage of all individual isolated wetlands on the tract that would qualify for the exemption.

The following table summarizes the mitigation requirements for state regulated wetlands:

Table 2: State Regulated Wetland Mitigation Ratios

Wetland Class	Replacement Class	On-Site Ratio	Off-Site Ratio
Class I	Class II or III	1:1	1:1
Class I	Class I	1.5:1	1.5:1
Class II	Class II or III	1.5:1 Not Forested 2:1 Forested	2:1 Not Forested 2.5:1 Forested
Class III	Class III	2:1 Not Forested 2.5:1 Forested	2.5:1 Not Forested 3:1 Forested

Indiana Department of Natural Resources

Construction in a Floodway Permit: In order to control damage to property and protect against loss of life due to flooding, the State of Indiana has charged the IDNR with the responsibility of regulating all work conducted in Indiana's floodways to ensure that proposed work will not restrict the flow of flood waters and increase flood stages.

The IDNR generally requires a Construction in a Floodway Permit for any activity in or along a stream which drains over one (1) square mile, or 640 acres. Some types of projects, including state or county road bridges with a drainage area of less than 50 square miles, regulated drains less than 10 miles in total length, log jam removal, utility lines, outfall structures, and wetland restoration in a floodway are exempted from the IDNR permitting process either by state law or administrative code.

Jurisdictional Guidance

On December 2, 2008, the USEPA and USACE jointly issued a guidance memorandum regarding their jurisdiction in light of the Rapanos/Carabell Supreme Court Decision. With respect to isolated wetlands, the memo identified "significant nexus" to include consideration of hydrologic factors including the following:

- proximity to the traditional navigable water,
- size of the watershed,
- average annual rainfall, and
- average annual winter snow pack.

The memo also identified “significant nexus” to include consideration of ecologic factors including the following:

- provision of aquatic habitat that supports a traditional navigable water,
- potential of wetlands to trap and filter pollutants or store flood waters, and
- maintenance of water quality in traditional navigable waters.

Based on the guidance, the agencies will assert jurisdiction over the following waters:

- Traditional Navigable Waters (TNWs)
- Wetlands adjacent to TNWs
- Non-Navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally Relatively Permanent Waters (RPWs)
- Wetlands that directly abut RPWs

The agencies will decide jurisdiction over the following waters based on a fact specific analysis:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but not directly abutting an RPW

The agencies will generally not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

Wetlands are considered to have a significant nexus to other Waters if the subject wetland was found to be positioned immediately adjacent to a jurisdictional channel or within the floodplain of a jurisdictional channel. Wetlands found in these positions are assumed to have a surface water exchange with other Waters that could affect the flow quality and quantity within those Waters.

Appendix 3

(Preliminary Design Plans – Provided Under Separate Cover)