

Preliminary Stormwater Management Plan

SOUTH CLOVERLEAF POND



Prepared For The
VILLAGE OF ALLOUEZ
VILLAGE OF ALLOUEZ | BROWN COUNTY, WISCONSIN

DECEMBER 28, 2012
JMH

McMAHON
ENGINEERS ARCHITECTS

1445 MCMAHON DRIVE | P.O. BOX 1025 - NEENAH, WI 54957-1025
PH. 920.751.4200 | FX. 920.751.4284
WWW.MCMGRP.COM

Preliminary Stormwater Management Plan

South Cloverleaf Pond



Prepared For The

VILLAGE OF ALLOUEZ

VILLAGE OF ALLOUEZ | BROWN COUNTY, WISCONSIN

Prepared By

McMAHON

NEENAH, WISCONSIN

DECEMBER 28, 2012

McM. No. A0012-900458.22

TABLE OF CONTENTS

- I. INTRODUCTION
- II. STUDY AREA
- III. HYDROLOGIC & HYDRAULIC ANALYSIS
- IV. WATER QUALITY ANALYSIS
- V. INFILTRATION
- VI. PROTECTIVE AREAS
- VII. FUELING & VEHICLE MAINTENANCE
- VIII. SUMMARY

Preliminary Stormwater Management Plan

South Cloverleaf Pond



Prepared For The

VILLAGE OF ALLOUEZ

VILLAGE OF ALLOUEZ | BROWN COUNTY, WISCONSIN

Prepared By

McMAHON

NEENAH, WISCONSIN

DECEMBER 28, 2012

McM. No. A0012-900458.22

I. INTRODUCTION

The Village of Allouez and/or Wisconsin Department of Transportation (WisDOT) desire to construct the South Cloverleaf Pond, which is a regional wet detention pond. The South Cloverleaf Pond is located south of State Highway 172 and east of Riverview Drive (State Highway 57) in the Village of Allouez, Brown County, Wisconsin (NE 1/4 of the NE 1/4, SEC. 14, T23N, R20E). NR 216 and TRANS 401 require that the Village and WisDOT reduce urban non-point source pollutants discharging from their municipal separate storm sewer systems (MS4). The primary purpose of the South Cloverleaf Pond is to reduce total suspended solids (TSS) and total phosphorus (TP) pollutant discharges. The water quality improvements will assist the Village and WisDOT with NR 216, TRANS 401 and Total Maximum Daily Load (TMDL) compliance.

The WisDOT plans to reconstruct Riverside Drive (State Highway 57) in the next few years. TRANS 401.106(3)(b) requires a 40% TSS reduction for highway and street reconstruction projects. The South Cloverleaf Pond will likely be constructed as part of the Riverside Drive (State Highway 57) reconstruction project.

The Village and/or WisDOT will own the South Cloverleaf Pond property, construct the pond, and be responsible for future operation and maintenance. Specific goals for the South Cloverleaf Pond and the Storm Water Management Plan include the following:

- A. Reduce average annual Total Suspended Solids (TSS) by 40% for re-development projects within the pond's watershed and contribute to the 40% TSS reduction requirement for the Riverside Drive reconstruction project.
- B. Reduce average annual Total Suspended Solids (TSS) and Total Phosphorus (TP) loads in runoff to the Fox River, a 303 (d) listed water body. The Total Maximum Daily Load (TMDL) developed for the Lower Fox River Basin identifies a TSS load reduction and a TP load reduction for NR 216 Municipal Stormwater Dischargers located within the Fox River Watershed.
- C. Provide non-erosive discharge velocities at stormwater outfalls and receiving streams. Reduce stream erosion potential.

II. STUDY AREA

The study area is depicted in Figure 1. The study area contains 125 acres or 0.20 square miles of property located within the Village of Allouez, Brown County, Wisconsin. The South Cloverleaf Pond study area is generally located east of Riverside Drive, south of State Highway 172, west of Waubenoor Drive/Waubenoor Court and north of portions of W. Taft Street and W. Coolidge Street. The study area is urbanized and consists primarily of state institutional facilities, state freeways, residential and commercial land uses. The study area is currently drained by five separate storm sewer systems, each of which discharge either directly to the Fox River or to swales that are tributary to the Fox River. A portion of the study area currently drains to the Heritage Hill Pond. The South Cloverleaf Pond project will divert this water away from the Heritage Hill Pond and into the South Cloverleaf Pond. The outfalls impacted by the South Cloverleaf Pond include a 30" pipe that discharges to a channel located beneath the raised portion of the Highway 172 bridge (Outfall DOT), a 30" pipe that discharges directly to the Fox River approximately 200' south of the bridge (Outfall F070), an 18" pipe that discharges into the Heritage Hill Pond (Outfall F060), a 30" culvert located on Riverside Drive 250' north of W. Taft Street (Outfall F050), and a 60" pipe that discharges to a channel on the Skogg property that drains through the Heritage Hill Pond (Outfall F041). The South Cloverleaf Pond will divert all of the water from the impacted outfalls to the proposed pond with the exception of the 60" pipe that discharges to the Skogg property. Only a portion of the water in the 60" pipe will be diverted to the South Cloverleaf Pond.

A new storm sewer will be constructed during the Riverside Drive reconstruction project that will collect runoff from the existing independent storm sewer systems and combine them in the new Riverside Drive storm sewer which will discharge into the South Cloverleaf Pond.

III. HYDROLOGIC ANALYSIS

A. Methodology

A hydrologic computer model was used to develop the rainfall / runoff relationship within the study area. The XP-SWMM (V13.0) computer model was used for this study. The SWMM computer model was used to generate surface runoff hydrographs for each sub-basin within the study area. The hydrographs include information such as peak flow rates, time of peak flow rates, and runoff volumes. The SWMM model was also used to combine, split, and route hydrographs within the study area.

The U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS or formerly SCS), Technical Release 55 methodology was also used to develop the rainfall / runoff relationship within the study area. The TR-55 methodology requires that various hydrologic parameters be input into the computer model. These hydrologic parameters generally include rainfall, sub-basin area, percent imperviousness, runoff curve number, and time of concentration.

B. Rainfall

Rainfall information was obtained from the U.S. Department of Commerce Technical Paper No. 40, *Rainfall Frequency Atlas of the United States*. The 24-hour rainfall depths are summarized below in Table #1. The SCS 24-hour, type II rainfall distribution was used in this study.

Table #1
24-Hour Rainfall Depth

Rainfall Event	Depth (inches)
1-Year	2.2
2-Year	2.5
10-Year	3.7
100-Year	5.1

C. Drainage Area

The contributing watershed to the South Cloverleaf Pond is 125 acres in size and is based upon a recent topographic survey, Brown County 2-foot contour maps, existing development site plans, and Village of Allouez drainage system maps. The pre-development watershed and the South Cloverleaf Pond (post-development) watershed are depicted in Figures 2 and 3 respectively.

D. Soil Types

Soil information was obtained from the U.S. Department of Agriculture *Soil Survey of Brown County, Wisconsin*. A copy of the NRCS / SCS Soil Map is provided in Figure 4. The predominant soil types within the study area are summarized below in Table #2. The Department of Agriculture has classified soil types into four hydrologic soil groups (HSG). The four hydrologic soil groups (i.e. A, B, C and D) are classified according to the minimum infiltration rate of the soil column. Group A soils have the highest permeability rate or lowest runoff potential, whereas Group D soils have the lowest permeability rate or highest runoff potential.

Table #2
Soil Information

Soil Name	Map Symbol	Soil Texture	Feet to Water Table	Inches to Bedrock	Permeability (in/hr)	HSG
Kewaunee	KhB2	Eroded	>5	>60	0.06	C
Oshkosh	OnB	Silt Loam	>5	>60	0.08	C
Allendale	AeA	Fine Sandy Loam	0-1.5	>60	0.2-0.6	C

E. Land Uses

The study area has experienced urbanization in years prior and will be completely developed with construction of the South Cloverleaf Pond. Since the project is not required to satisfy NR 151.121, and has no peak flow requirements, existing (2004) land uses were used for the hydrologic analysis. However, for purposes of the water quality analysis, future land uses were used. The land uses within the watershed include strip commercial, freeway, open space, medium density residential, multi-family residential, miscellaneous institutional, office park commercial, and park. A map of the existing and future land uses are depicted in Figures 5 and 6, respectively. Land uses are summarized in Table #3.

Table #3
Land Uses

Land Use	Existing Land Use		Future Land Use	
	Area (acres)	Percent (%)	Area (acres)	Percent (%)
Strip Commercial	0.3	0.2%	0.3	0.2%
Freeway	22.6	18.1%	22.6	18.1%
Open Space	0.4	0.3%	0.0	0.0%
Medium Density Residential	34.9	27.9%	34.8	27.8%
Multi-Family Residential	1.5	1.2%	1.4	1.1%
Miscellaneous Institutional	52.9	42.3%	52.1	41.7%
Office Park	12.4	9.9%	12.4	9.9%
Park	0.0	0.0%	1.4	1.1%
Total:	125.0	100.0%	125.0	100.0%

F. Runoff Curve Number

A composite runoff curve number was computed for each sub-basin and land use condition. Runoff curve number computations are based on land uses, vegetation, percent imperviousness, and hydrologic soil groups within each sub-basin. For this study, the following assumptions were used to compute each composite runoff curve number: average antecedent moisture condition, average runoff condition, good hydrologic condition for pervious areas, and directly connected impervious areas. Pre-development areas were assumed to have a runoff curve number of 71 (HSG C). Impervious areas were assumed to have a runoff curve number of 98 and pervious grass areas were assumed to have a runoff curve number of 74 (HSG C). See Tables #4 and #5 for values.

G. Time of Concentration

Existing and future time of concentrations were computed for each sub-basin. Times of concentration calculations include sheet flow, shallow concentrated flow, and open channel flow. Time of concentration values can be found in Tables #4 and #5.

H. Hydrologic Parameters

The existing land use condition refers to watershed conditions on October 1, 2004. The future land use condition refers to ultimate development of the watershed. The hydrologic parameters for each drainage area and land use condition are summarized in Tables #4 and #5.

Table #4
Hydrologic Parameters
Existing Land Use Condition

Drainage Area ID	Drainage Area (acres)	Impervious (%)	Curve Number	Tc (minutes)
F042M19	10.12	39.5%	83.5	45
F042M24	7.84	51.9%	86.4	54
F042M32	1.73	39.5%	83.5	16
F042M33	7.87	37.6%	83.0	16
F042M39	11.03	69.7%	90.7	14
F042M61	1.64	40.8%	83.8	19
F050I04	3.06	43.1%	84.3	15
F050M01	2.44	44.0%	84.6	22
F050M100	1.47	57.3%	87.8	12
F060M02	54.76	60.8%	88.6	51
F070M02	3.16	50.1%	86.0	21
F070M04	13.86	53.4%	86.8	30
PBMPF070	9.07	50.5%	86.0	49
Totals	124.98	55.1%	87.2	

Table #5
Hydrologic Parameters
Future Land Use Condition

Drainage Area ID	Drainage Area (acres)	Impervious (%)	Curve Number	Tc (minutes)
F042M19	10.12	39.5%	83.5	45
F042M24	7.84	51.9%	86.4	54
F042M32	1.73	39.5%	83.5	16
F042M33	7.87	37.6%	83.0	16
F042M39	11.03	69.7%	90.7	14
F042M61	1.64	40.8%	83.8	19
F050I04	3.06	43.1%	84.3	15
F050M01	2.44	43.9%	84.5	22
F050M100	1.47	58.2%	88.0	12
F060M02	54.76	60.7%	88.6	51
F070M02	3.16	50.5%	86.1	21
F070M04	13.86	53.4%	86.8	30

PBMPF070	9.07	50.5%	86.0	6
Totals	124.98	55.1%	87.2	

I. Hydrologic Results

The “pre-pond construction” condition refers to hydraulic conditions before construction of the South Cloverleaf Pond. The “existing land use condition” refers to the hydrologic parameters on October 1, 2004. Hydrologic and hydraulic results for the “pre-pond construction / existing land use” condition are provided in Appendix B and summarized in Table #6.

Table #6
Peak Water Surface Elevations
Pre-Pond Construction & Existing Land Use Condition

No.	Outfall (Node)	Location	Ground Elevation	Peak Water Surface Elevation			
				1-yr	2-yr	10-yr	100-yr
1	F042M19	W Coolidge St. / Linck Ct.	607.33	607.30	607.97	608.23	608.43
2	F042M24	W Coolidge St. / S Webster Ave.	650.32	649.65	650.04	650.46	650.55
3	F042M32	S Clay St. 220' Southwest of Hickory Cr.	650.88	651.68	651.72	651.81	651.88
4	F042M33	S Clay St. / E Auburn Dr.	650.85	651.68	651.72	651.81	651.88
5	F042M39	Broadview Dr. / S Webster Ave.	649.65	650.48	650.67	651.05	651.25
6	F042M61	End of Hickory Cr.	649.35	650.70	650.84	651.13	651.22
7	F050M01	Riverside Dr. / W Taft St.	603.18	599.81	599.89	601.26	603.30
8	F050M10 0	Riverside Dr. 250' North of W Taft St.	600.72	594.69	594.76	594.99	595.42
9	F060M02	Riverside Dr. @ Entrance to Prison	601.56	601.43	601.49	601.67	601.80
10	F070M02	Riverside Dr. / Exit Ramp from Southbound STH 172	602.94	598.81	599.00	601.21	603.24

The “post-pond construction” condition refers to hydraulic conditions after construction of the South Cloverleaf Pond. The “future land use condition” refers to the hydrologic parameters after ultimate development. Hydrologic and hydraulic results for the “post-pond construction / future land use” condition are provided in Appendix C and summarized in Table #7.

Table #7
Peak Water Surface Elevations
Post-Pond Construction & Future Land Use Condition

No.	SWMM (Node)	Location	Ground Elevation	Peak Water Surface Elevation			
				1-yr	2-yr	10-yr	100-yr
1	F042M19	W Coolidge St. / Linck Ct.	607.33	605.06	605.70	608.24	608.44
2	F042M24	W Coolidge St. / S Webster Ave.	650.32	649.59	650.03	650.45	650.55
3	F042M32	S Clay St. 220' Southwest of Hickory Cr.	650.88	651.67	651.72	651.81	651.88
4	F042M33	S Clay St. / E Auburn Dr.	650.85	651.67	651.72	651.81	651.88
5	F042M39	Broadview Dr. / S Webster Ave.	649.65	650.47	650.65	651.03	651.25
6	F042M61	End of Hickory Cr.	649.35	650.57	650.82	651.12	651.22
7	F050M01	Riverside Dr. / W Taft St.	603.18	599.09	600.33	603.29	603.38
8	F050M100	Riverside Dr. 250' North of W Taft St.	600.72	598.40	599.48	602.52	602.69
9	F060M02	Riverside Dr. @ Entrance to Prison	601.56	597.22	598.33	601.40	601.70
10	F070M02	Riverside Dr. / Exit Ramp from Southbound STH 172	602.94	595.87	596.51	598.67	599.90
15	BMP-F070B	South Cloverleaf Pond	-	595.37	596.00	597.67	598.99

A comparison of Tables #6 and #7 indicate that the peak water surface elevations for the “post-pond construction /existing land use” condition are either less than the ground surface elevation or less than the peak water surface elevations for the “pre-pond construction / future land use” condition with a few exceptions. The node “M100M01” located at the intersection of Riverside Drive and Iroquois Avenue shows a slight increase in water surface elevation during the 10 and 100 year storms. This report is preliminary and is based on the best available data, which does not include any proposed plans for the reconstruction of Riverside Drive. When the final designs of Riverside Drive and the South Cloverleaf Pond are completed, this area will be reanalyzed and any needed changes will be made then.

The South Cloverleaf Pond has a 125 acre watershed and a permanent pool surface area of 1.59 acres. Performance of the South Cloverleaf wet detention pond is summarized below in Table #8. Construction plans for the South Cloverleaf Pond are provided in Appendix A.

Table #8
South Cloverleaf Pond Summary

Design Storm	SWMM (Node/Link)	Peak Outflow (cfs)	Storage Volume (ac-ft)	Normal Water Elevation (feet)	Peak Water Elevation (feet)
1-year	PBMP F070 / NCP Outfal	4.0	2.76	592.00	595.37
2-year	PBMP F070 / NCP Outfal	7.0	3.13	592.00	596.00
10-year	PBMP F070 / NCP Outfal	17.0	4.09	592.00	597.67
100-year	PBMP F070 / NCP Outfal	20.2	4.67	592.00	598.99

IV. WATER QUALITY ANALYSIS

A. Methodology

The water quality analysis for the study area was prepared using the Source Loading and Management Model (SLAMM) (v9.4.0). SLAMM is an urban water quality model that predicts runoff volumes and non-point source pollution within a watershed. SLAMM calculates mass balances for both particulate and filterable pollutants. SLAMM also calculates the amount of pollutant removal provided by Best Management Practices (BMP), including wet detention ponds.

No historical water quality information was available for the study area. As such, water quality within the study area was predicted using historical data collected during the National Urban Runoff Project (NURP).

B. Rainfall

SLAMM computes pollutant loads from one or more rainfall events. For this study, the series of small rainfall events that occurred between March 29, 1969 and November 25, 1969 in Green Bay, Wisconsin were used to compute pollutant loads. The 1969 historic rainfall series was determined to represent an average year of rainfall within northeast Wisconsin by the WDNR.

C. Drainage Area

The post-development watershed was used to prepare the SLAMM water quality model. The post-development watershed and sub-basins are shown in Figure 3. Drainage areas for the post-development watershed and each sub-basin are tabulated in Table #5.

D. Land Use

The future land uses, depicted in Figure 6, and tabulated in Table #3 were used to prepare the SLAMM water quality model.

E. Water Quality Results

The NR 151 storm water regulations require 80 percent total suspended solids (TSS) removal for new development and 40 percent removal for re-development as compared to no water quality controls. However, due to the South Cloverleaf Pond being an urban retrofit project, TSS is required to be reduced to the maximum extent possible (MEP).

The total suspended solids (TSS) reduction provided for the post-development condition is summarized below in Table #9. The removal rate provided by the South Cloverleaf Pond is 80.8 percent or 17,653 pounds of TSS.

Table #9
Total Suspended Solids (TSS)
Reduction Provided

	Drainage Area (acres)	TSS Inflow (lbs.)	TSS Removed (lbs.)	TSS Outflow (lbs.)	Removal Rate (%)
South Cloverleaf Pond	103.0	21,843	17,653	4,190	80.8

In addition to TSS removal, the South Cloverleaf Pond will also provide total phosphorous (TP) reduction for the post-development condition. The determined percent removal will assist the Village in meeting their Lower Fox River Total Phosphorous TMDL for the Fox River. The removal rate provided by the South Cloverleaf Pond is 57.1 percent or 47.9 pounds of total phosphorous. The total phosphorous reduction provided is summarized in Table #10.

Table #10
Total Phosphorus (TP)
Reduction Provided

	Drainage Area (acres)	TP Inflow (lbs.)	TP Removed (lbs.)	TP Outflow (lbs.)	Removal Rate (%)
South Cloverleaf Pond	103.0	83.9	47.9	36.0	57.1

No street sweeping, catch basin cleaning or other Best Management Practices (BMP) are included in the SLAMM water quality model. The only Best Management

Practices within the study area is the South Cloverleaf Pond. For reference, the results of the SLAMM water quality analysis are provided in Appendix D.

V. INFILTRATION

NR 151 stormwater regulations contain infiltration performance standards for new development areas. As shown in Figure 5, the watershed is developed. Redevelopment areas located in the watershed are exempt from the NR 151 infiltration requirements. As such, infiltration does not appear to be required for the watershed. In the future, if a portion of the watershed is determined to be “new development”, the property owner will be responsible for satisfying the NR 151 infiltration requirements for the new development area at the time of development.

VI. PROTECTIVE AREAS

NR 151 stormwater regulations contain protective area performance standards for new development areas. As shown in Figure 5, the watershed is developed. Redevelopment areas located in the watershed are exempt from the NR 151 protective area requirements. As such, protective areas do not appear to be required for the watershed. In the future, if a portion of the watershed is determined to be “new development”, the property owner will be responsible for satisfying the NR 151 protective area requirements for the new development area at the time of development.

VII. FUELING & VEHICLE MAINTENANCE

The South Cloverleaf Pond does not satisfy NR 151 petroleum sheen requirements for fueling and vehicle maintenance areas located within the pond’s 103 acre watershed. As such, each property owner will need to satisfy petroleum sheen requirements for their site at the time of development. The South Cloverleaf Pond project does not involve any fueling or vehicle maintenance areas.

VIII. SUMMARY

In summary, the South Cloverleaf Pond satisfies the storm water management goals for the 103 acre study area. The intent of this Storm Water Management Plan is not to provide erosion and sediment control for construction sites within the watershed.

The Village of Allouez or State of Wisconsin will own the South Cloverleaf Pond property, construct the pond, and will be responsible for its future operation and maintenance.

W:\PROJECTS\A0012\900458\22 - Taft Pond\MSWord\SWM-SOUTH CLOVERLEAF.doc



Study Area

Other Mapped Features

Municipal Boundary

Right-of-Way or Parcel Lines

Rivers and Streams

Surface Water

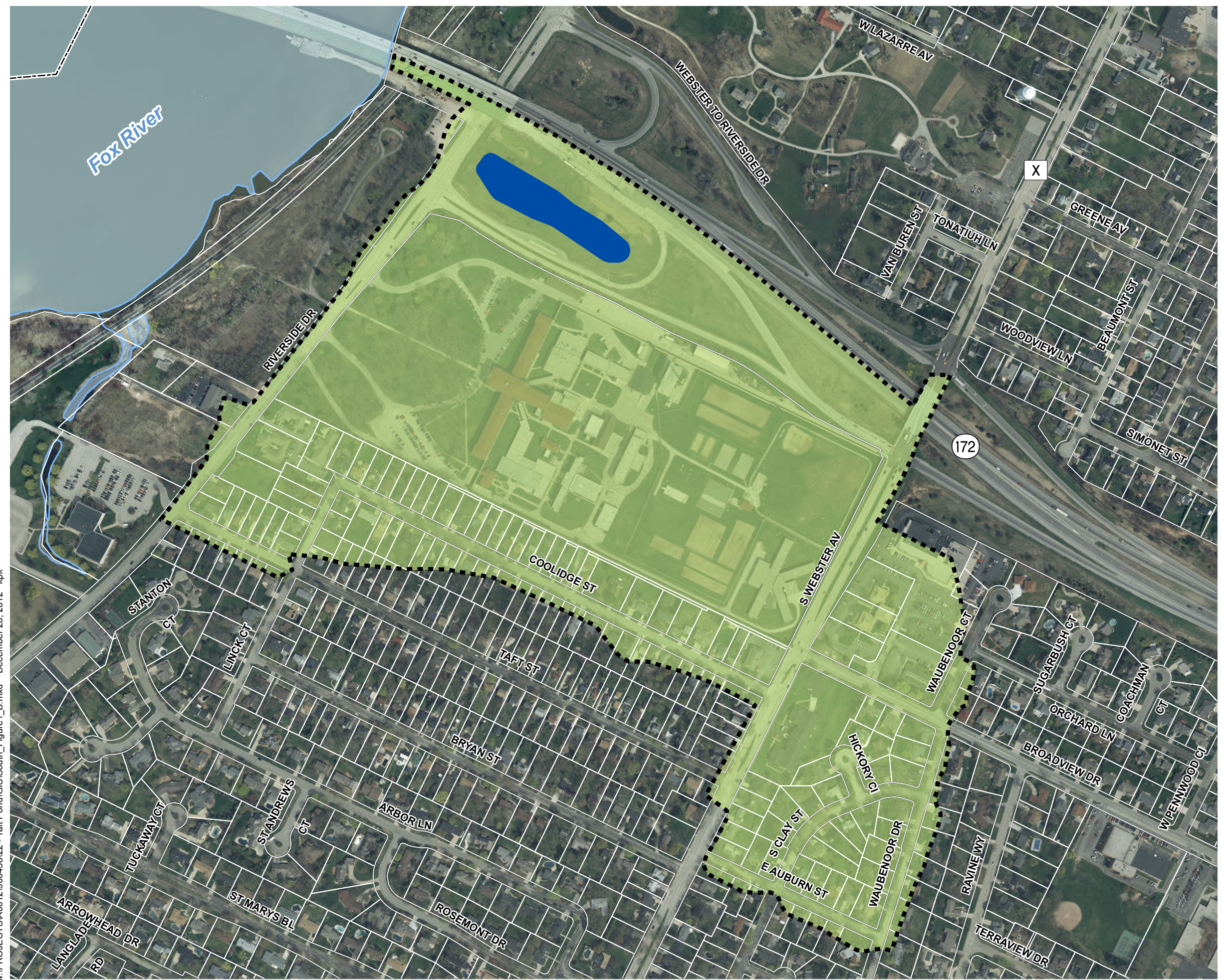
Pond Location

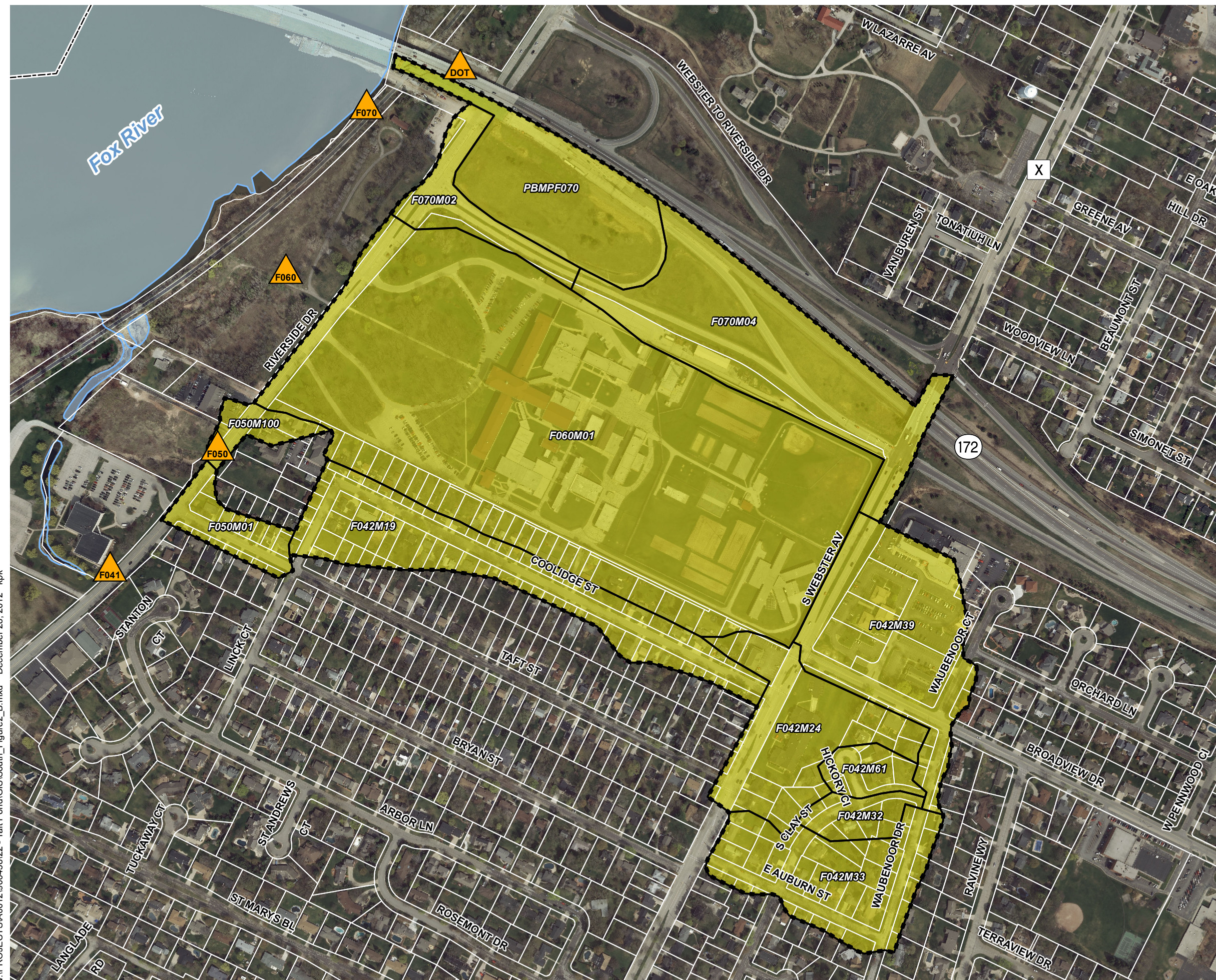
Source: Brown County, 2010-2012.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



FIGURE 1
STUDY AREA
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN





- Pre-Development Watershed
- Other Mapped Features**
- Municipal Boundary
 - Right-of-Way or Parcel Lines
 - Rivers and Streams
 - Surface Water
 - Pre-Development Drainage Area and ID
 - Outfall and ID

Source: Brown County, 2010-2012.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



0 400 800
Feet

McMAHON
ENGINEERS ARCHITECTS

FIGURE 2
PRE-DEVELOPMENT WATERSHED
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN



Post-Development Watershed

Other Mapped Features

Municipal Boundary

Right-of-Way or Parcel Lines

Rivers and Streams

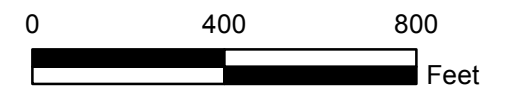
Surface Water

Post-Development Drainage Area and ID

Outfall and ID

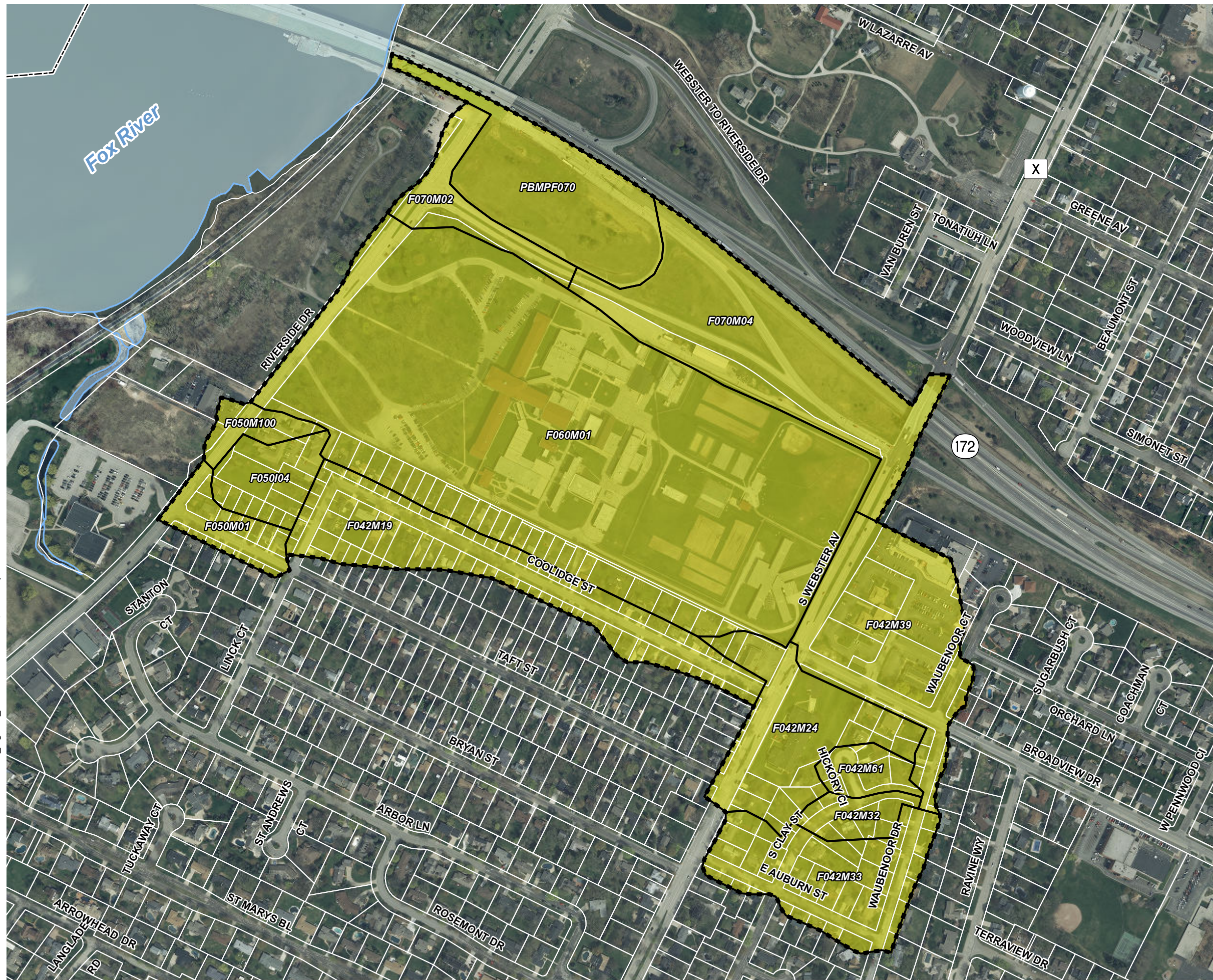
Source: Brown County, 2010-2012.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



McMAHON
ENGINEERS ARCHITECTS

FIGURE 3
POST-DEVELOPMENT WATERSHED
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN





Hydrologic Soil Group (HSG)

- HSG A
- HSG B
- HSG C
- HSG D (NA)

Other Mapped Features

- South Cloverleaf Pond Watershed Boundary
- Municipal Boundary
- Right-of-Way or Parcel Lines
- Rivers and Streams
- Surface Water
- Soil Type

Source: Brown County, 2010-2012.

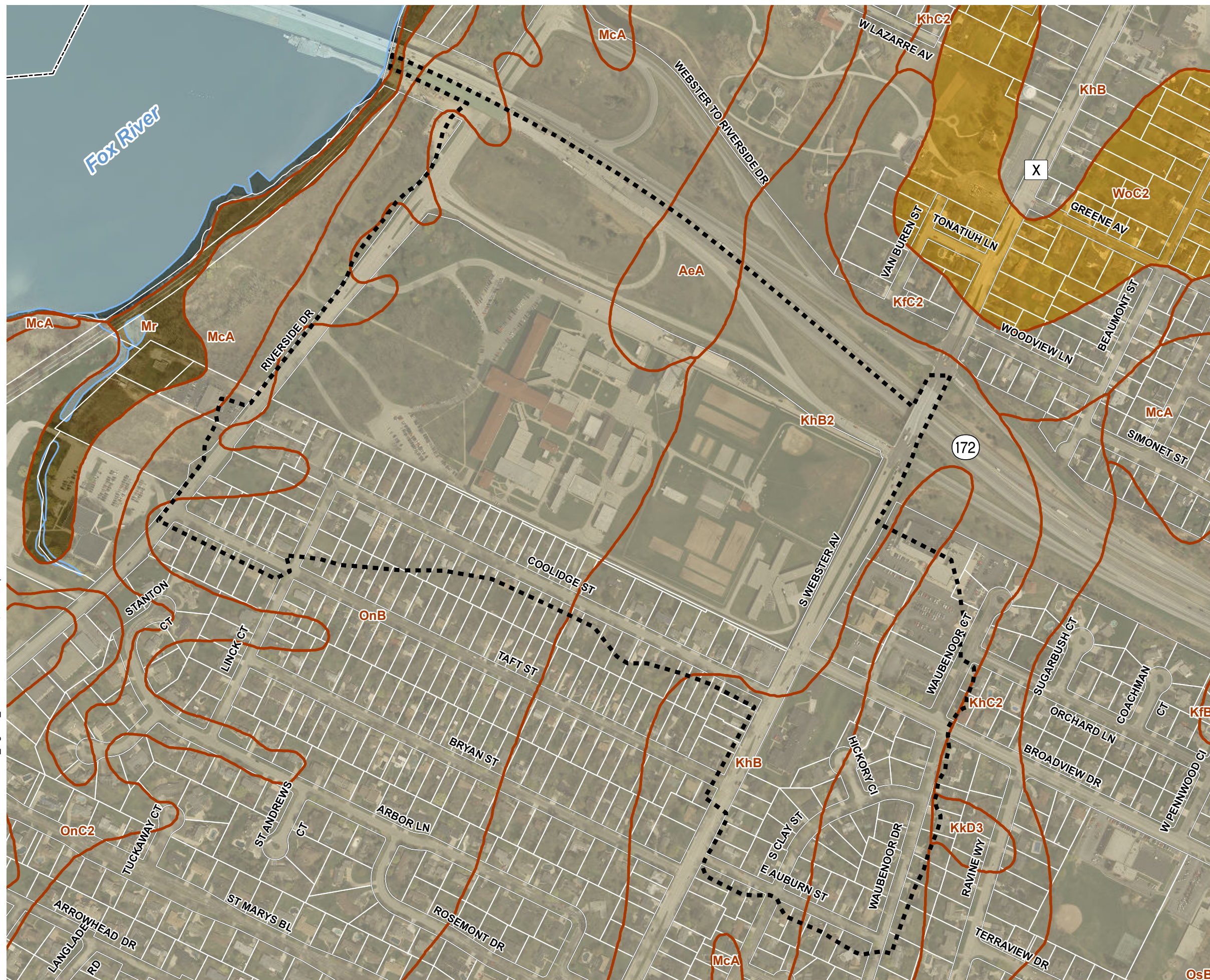
Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



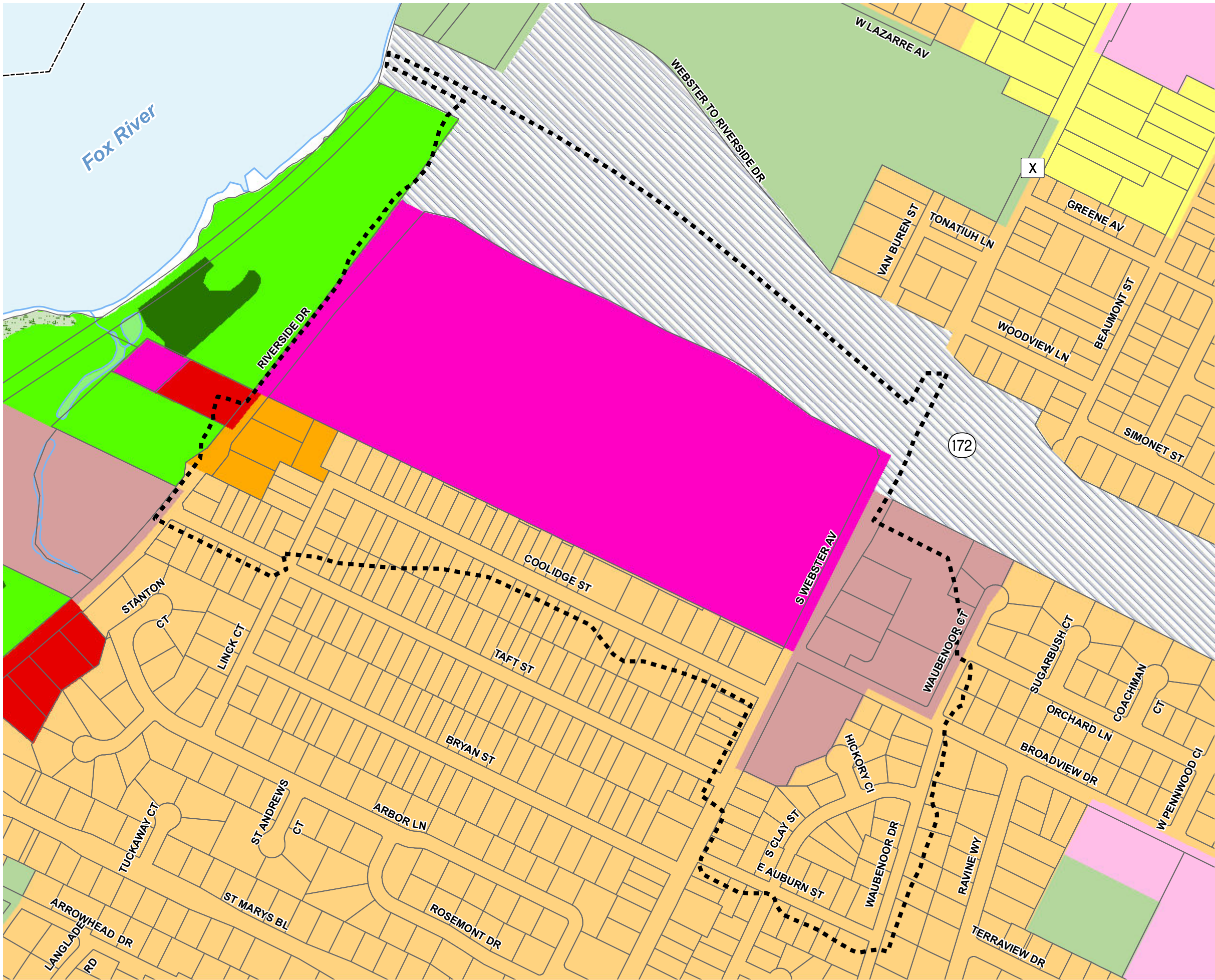
0 400 800 Feet

McMAHON
ENGINEERS ARCHITECTS

FIGURE 4
SOILS
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN



w:\PROJECTS\A00121900458\22 - Taft Pond\GIS\South_Figure5_B.mxd December 28, 2012 kpk



- SLAMM Standard Land Uses**
- Residential**
- LDR - Low Density Single Family Residential (0.5 acre to 1.5 acre lots)
 - MDR - Medium Density Single Family Residential (0.25 acre to 0.5 acre lots)
 - HDR - High Density Single Family Residential (0.125 acre lots or smaller)
 - MFR - Multi-Family Residential (3 or more families, 1-3 story height)
 - HRR - High Rise Residential (1.5 acre to 5 acre lots, > 3 story)
 - SUBR - Suburban Residential (1.5 acre to 5 acre lots)
 - MOBR - Mobile Home or Trailer Park Residential
- Institutional**
- SCHOOL - Public or Private School
 - UNIV - University, College, Technical School, etc.
 - HOSP - Medical Facilities including Nursing Homes, Hospitals, etc.
 - MISC - Miscellaneous Facilities (Churches, Institutional Property)
- Commercial**
- CDNTN - Downtown Commercial and Institutional Areas
 - CSTRIP - Strip Commercial Areas (Courthouses, Police Stations, etc.)
 - SHCNTR - Shopping Centers (parking lot is 2.5 times building area)
 - OFFPRK - Office Parks (non-retail, multi-story, insurance, government)
- Industrial**
- LIGHTI - Light Industrial Areas (storage and distribution of goods for retail or sale)
 - MEDI - Medium Industrial Areas (lumber, junk, or auto salvage yard, ag., co-op, oil tank farm, coal and salt storage, slaughter house)
 - AIRPRT - Airport Facilities
- Open Space**
- CEM - Cemeteries, including grounds, roads, and buildings
 - PARK - Outdoor Recreational Areas (golf course, arboretums, botanical gardens, municipal playgrounds, and natural areas)
 - AGRIC - Agriculture, including limited roads and buildings
 - GRASS - Undeveloped Land that is Vegetated with Grass
 - WOODS - Undeveloped Land that is Vegetated with Woods
 - WETLND - DNR Wetland Inventory Map
 - WATER - Waters of the State and Other Open Waters
- Freeways**
- FREE - Limited Access Highways and Interchanges, including vegetated ROW
- Other Mapped Features**
- Streams
 - Right-of-Way or Parcel Line
 - Municipal Boundary
 - South Cloverleaf Pond Watershed Boundary

Source: Brown County, 2010-2012.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.

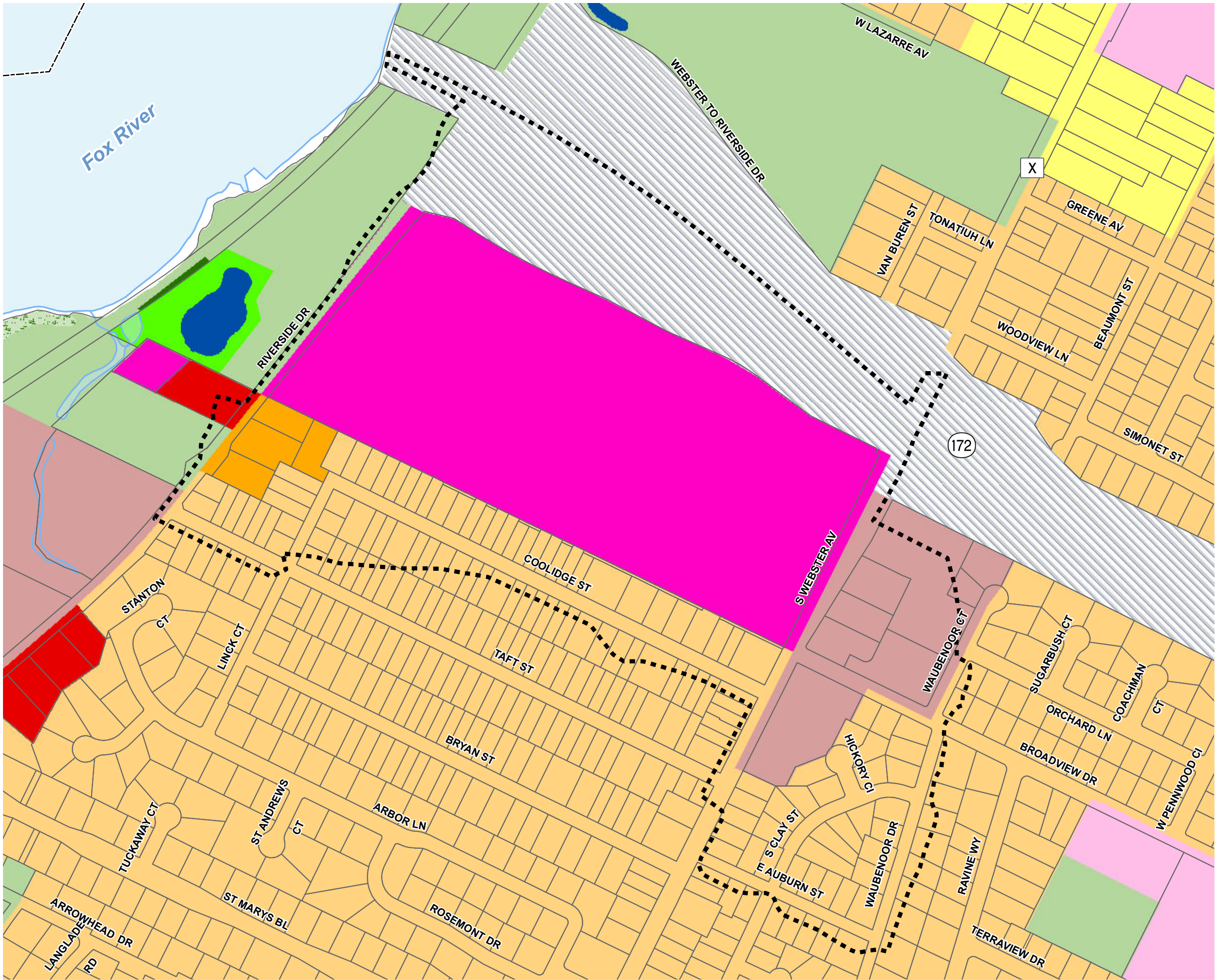


0 400 800 Feet

McMAHON
ENGINEERS ARCHITECTS

FIGURE 5
EXISTING LAND USE
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

w:\PROJECTS\A00121900458\22 - Tat Pond\GIS\South_Figure6_B.mxd December 28, 2012 kpk



- SLAMM Standard Land Uses**
- Residential**
- LDR - Low Density Single Family Residential (0.5 acre to 1.5 acre lots)
 - MDR - Medium Density Single Family Residential (0.25 acre to 0.5 acre lots)
 - HDR - High Density Single Family Residential (0.125 acre lots or smaller)
 - MFR - Multi-Family Residential (3 or more families, 1-3 story height)
 - HRR - High Rise Residential (1.5 acre to 5 acre lots, > 3 story)
 - SUBR - Suburban Residential (1.5 acre to 5 acre lots)
 - MOBR - Mobile Home or Trailer Park Residential
- Institutional**
- SCHOOL - Public or Private School
 - UNIV - University, College, Technical School, etc.
 - HOSP - Medical Facilities including Nursing Homes, Hospitals, etc.
 - MISC - Miscellaneous Facilities (Churches, Institutional Property)
- Commercial**
- CDNTN - Downtown Commercial and Institutional Areas
 - CSTRIP - Strip Commercial Areas (Courthouses, Police Stations, etc.)
 - SHCNTR - Shopping Centers (parking lot is 2.5 times building area)
 - OFFPRK - Office Parks (non-retail, multi-story, insurance, government)
- Industrial**
- LIGHTI - Light Industrial Areas (storage and distribution of goods for retail or sale)
 - MEDI - Medium Industrial Areas (lumber, junk, or auto salvage yard, ag., co-op, oil tank farm, coal and salt storage, slaughter house)
 - AIRPRT - Airport Facilities
- Open Space**
- CEM - Cemeteries, including grounds, roads, and buildings
 - PARK - Outdoor Recreational Areas (golf course, arboretums, botanical gardens, municipal playgrounds, and natural areas)
 - AGRIC - Agriculture, including limited roads and buildings
 - GRASS - Undeveloped Land that is Vegetated with Grass
 - WOODS - Undeveloped Land that is Vegetated with Woods
 - WETLND - DNR Wetland Inventory Map
 - WATER - Waters of the State and Other Open Waters
 - SW POND - Storm Water Pond
- Freeways**
- FREE - Limited Access Highways and Interchanges, including vegetated ROW
- Other Mapped Features**
- Streams
 - Right-of-Way or Parcel Line
 - Municipal Boundary
 - South Cloverleaf Pond Watershed Boundary

Source: Brown County, 2010-2012.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



McMAHON
ENGINEERS ARCHITECTS

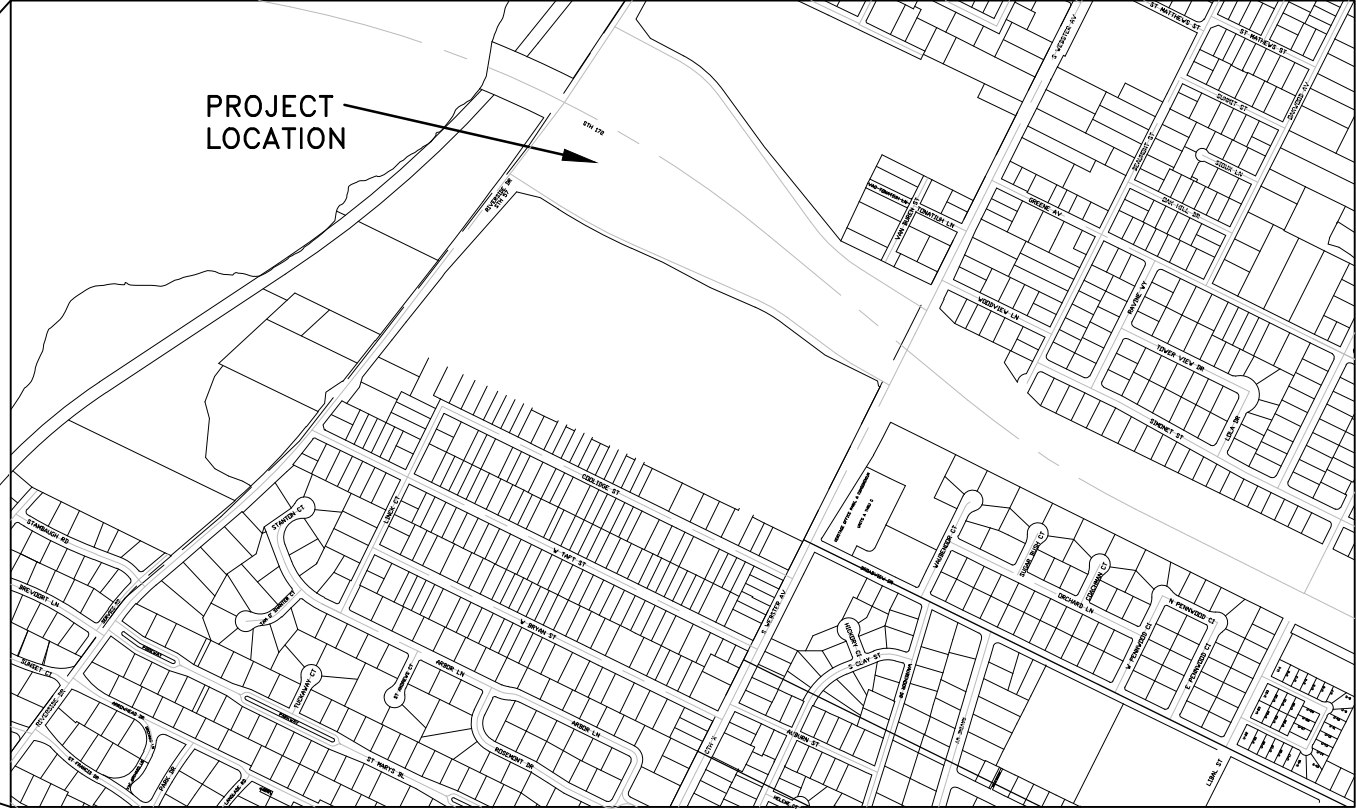
FIGURE 6
FUTURE LAND USE
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

APPENDIX A

CONSTRUCTION PLANS

TH CLOVERLEAF POND VILLAGE OF ALLOUEZ

BROWN COUNTY, WISCONSIN



LEGEND

-  MANHOLE
 INLET
 ROUND INLET
 HYDRANT
 TEE
 CROSS
 VALVE
 REDUCER
 TELEPHONE PEDESTAL
 POWER POLE WITH GUY
 LIGHT POLE
 ROCK
 FENCE LINE
 UNDERGROUND GAS LINE
 UNDERGROUND TELEPHONE
 UNDERGROUND ELECTRIC

SHEET INDEX

- 1 STORMWATER POND PLAN
2 STORM SEWER PLAN
3 POND OUTLET STRUCTURE DETAILS
4 MISCELLANEOUS DETAILS
5 EROSION & SEDIMENT CONTROL DETAILS
6 EROSION & SEDIMENT CONTROL DETAILS

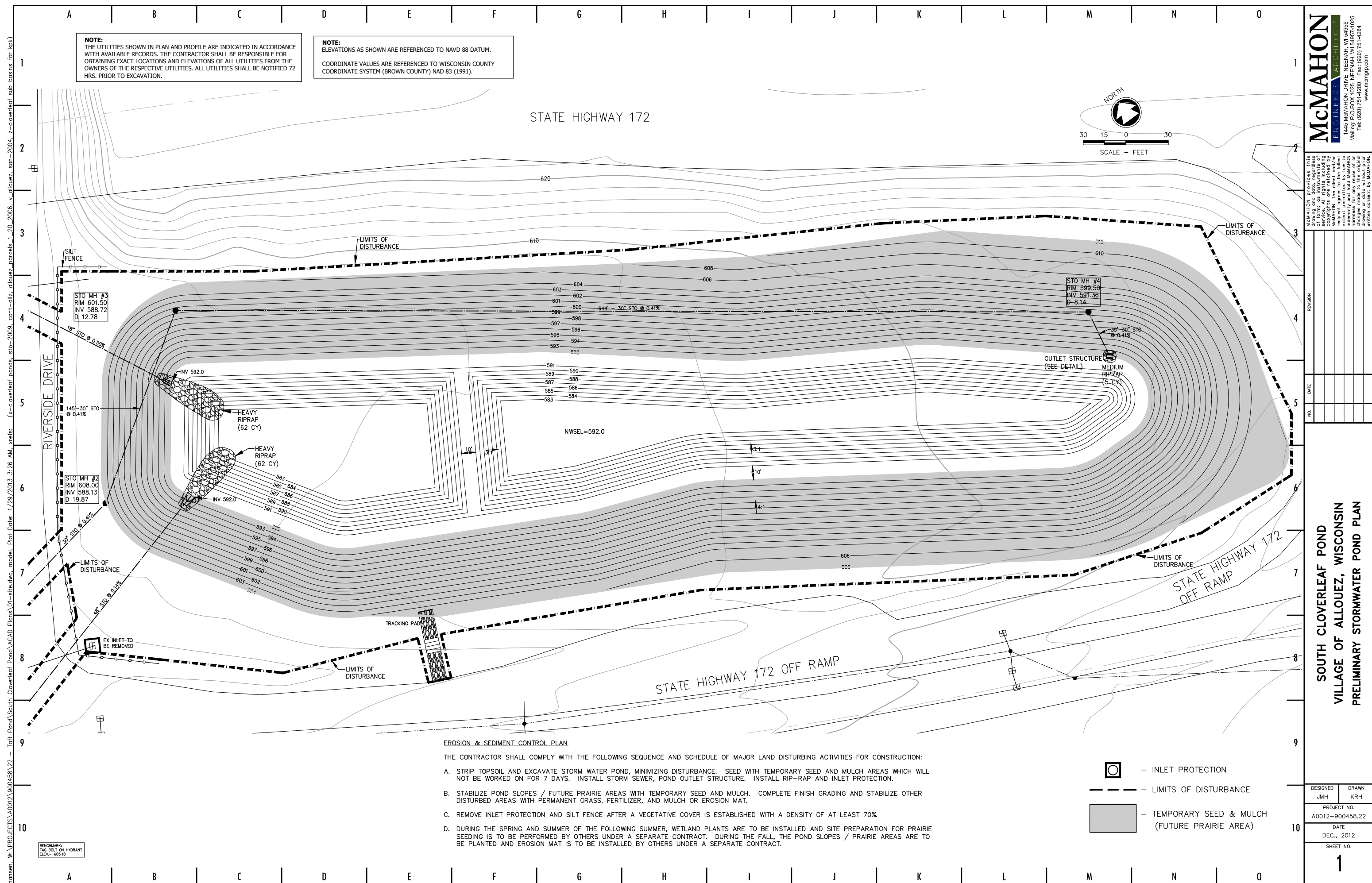
McMAHON
ENGINEERS ARCHITECTS

1445 McMAHON DRIVE NEENAH, WI 54956
Mailing: P.O.BOX 1025 NEENAH, WI 54957-1025
Tel: (920) 751-4200 Fax: (920) 751-4284
www.mcmgrp.com

DATE
DECEMBER 2012

PROJECT NO.
A0012-900458.22

FILE NO.
CAD



1
2
3
4
5
6
7
8
9
10

A B C D E F G H I J K L M N O

NOTE:
THE UTILITIES SHOWN IN PLAN AND PROFILE ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES SHALL BE NOTIFIED 72 HRS. PRIOR TO EXCAVATION.

NOTE:
ELEVATIONS AS SHOWN ARE REFERENCED TO NAVD 88 DATUM.
COORDINATE VALUES ARE REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM (BROWN COUNTY) NAD 83 (1991).

McMAHON
ENGINEERS ARCHITECTS
1445 McMAHON DRIVE NEENAH, WI 54956
Mailing: P.O. BOX 1025 NEENAH, WI 54957-1025
Tel: (920) 751-4200 Fax: (920) 751-4284
www.mcmahoninc.com

McMAHON provides this drawing and data, regardless of the source, for the project and service for which it was prepared. All rights including copyright are retained by McMAHON. No part of this drawing may be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written consent of McMAHON.

REVISION
DATE
NO.

SOUTH CLOVERLEAF POND
VILLAGE OF ALLOUEZ, WISCONSIN
STORM SEWER PLAN

DESIGNED
JMH

DRAWN
KRH

PROJECT NO.
A0012-900458.22

DATE
DEC., 2012

SHEET NO.
2

STATE HIGHWAY 172
STATE HIGHWAY 172 OFF RAMP
RIVERSIDE DRIVE
FOX RIVER
GREEN BAY CORRECTIONAL INSTITUTE PROPERTY
W. COOLIDGE STREET
LINCK COURT
W. TAIT STREET
STORM SEWER PLAN

STO MH #1
RIM 602.08
INV 587.32
D 14.76

STO MH #2
RIM 608.00
INV 588.13
D 19.87

STO MH #3
RIM 601.50
INV 588.72
D 12.78

STO MH #4
RIM 602.5 +/-
INV 592.29
D 10.21

STO MH #5
RIM 602.5 +/-
INV 592.29
D 10.21

STO MH #6
RIM 601.56
INV 593.03
D 8.53

STO MH #7
RIM 600.60
INV 594.29
D 6.31

STO MH #8
RIM 600.20
INV 595.06
D 5.14

STO MH #9
RIM 602.79
INV 596.46
D 6.32

STO MH #10
RIM 603.18
INV 596.91
D 6.27

STO MH #11
RIM 606.93
INV 599.47
D 7.46

STO MH #12
RIM 607.33
INV 601.02
D 6.31

EX SAN MH
RIM 607.40
INV 597.58

EX SAN MH
RIM 606.90
INV 596.47

EX SAN MH
RIM 602.68
INV 594.76

REPLACE EXIST 50" CONC CULVERT
W INV 592.00
E INV 590.36

90'-27"x42" H.E. STO
0.86%

52'-27"x42" H.E. STO
0.86%

163'-27"x42" H.E. STO
0.86%

408'-27" STO
0.38%

502'-30" STO
0.51%

530'-48" STO @ 0.14%

900'-48" STO @ 0.14%

OUTFALL ELEV 582.29

--- LIMITS OF DISTURBANCE

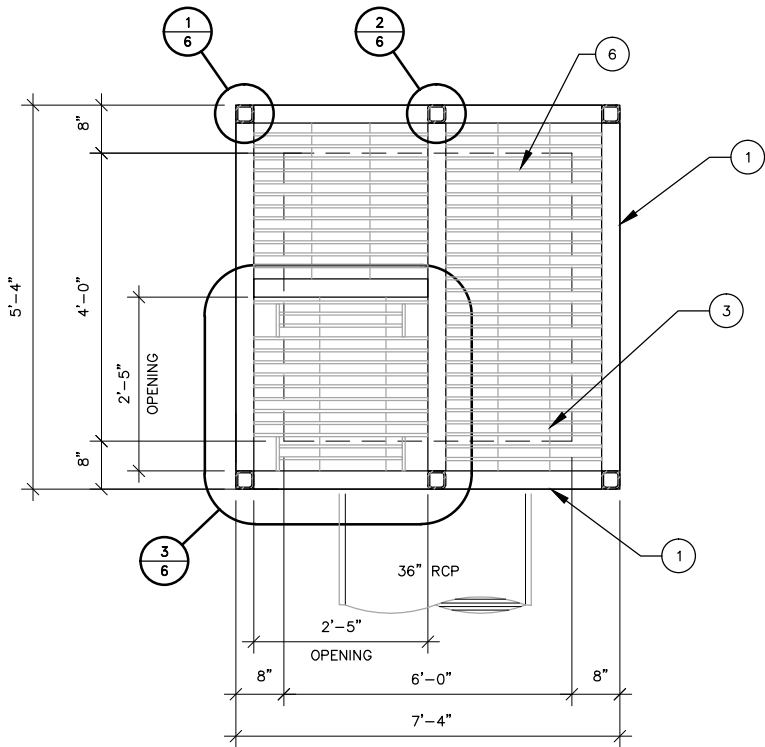
NOTE:
ELEVATIONS AS SHOWN ARE REFERENCED TO NAVD 88 DATUM.

COORDINATE VALUES ARE REFERENCED TO WISCONSIN COUNTY
COORDINATE SYSTEM (BROWN COUNTY) NAD 83 (1991).



SOUTH CLOVERLEAF POND VILLAGE OF ALLOUEZ, WISCONSIN STORM SEWER PLAN		NO.	DATE	REVISION
DESIGNED JMH	DRAWN KRH	McMAHON provides this document as a professional service to the client and its intended users. It is not to be used for any other purpose without the written consent of McMAHON. McMAHON, the client and/or its intended users shall retain all rights in and to the design, including but not limited to, the right to make changes to the design for any reason or to use the design for any other purpose without the written consent of McMAHON.		
PROJECT NO. A0012-900458.22		SHEET NO. 2		
DATE DEC., 2012				

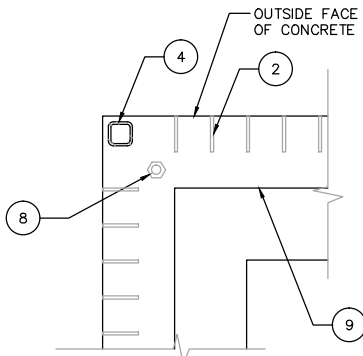
J:\Users\W:\PROJECTS\A0012\900458\22 - Taft Pond\South Cloverleaf Pond\ACAD Plans\03-OUTLET DET.dwg, model, Plot Date: 1/28/2013 10:17 AM, xref:none



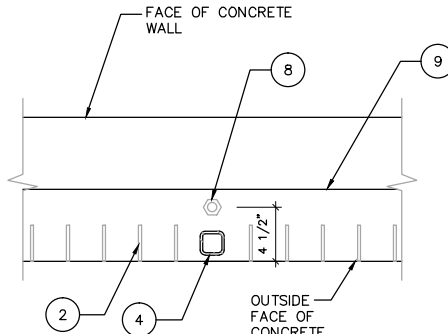
TOP TRASH RACK DETAIL PLAN VIEW

ELEMENT KEY

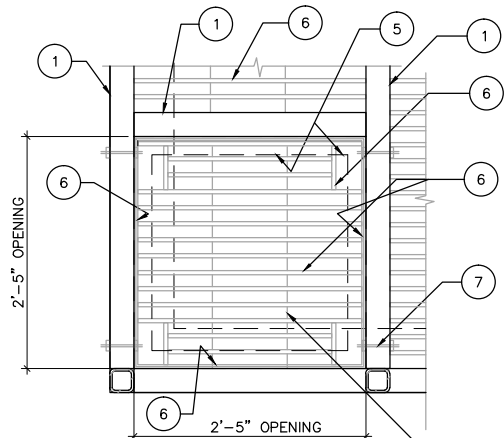
- 1 HSS 3x3x1/4
- 2 1/4"x3" PLATE @ 3"o.c. MAXIMUM
- 3 1/2" DIA BAR @ 10"o.c. MAXIMUM
- 4 HSS2x2x1/4
- 5 1/4"x2" HORIZONTAL PLATE WELDED TO SIDE OF HSS3x3x1/4
- 6 1/4"x2" PLATE @ 2"o.c. MAXIMUM
- 7 3/8" DIA. SST BOLT
- 8 3/8" DIA. SST ADHESIVE ANCHOR @ 24"o.c. MAXIMUM
- 9 3/8"x5 1/2"x CONT. PLATE



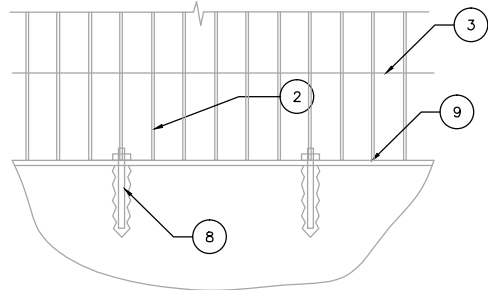
CORNER DETAIL



EDGE DETAIL



OPENING PLAN



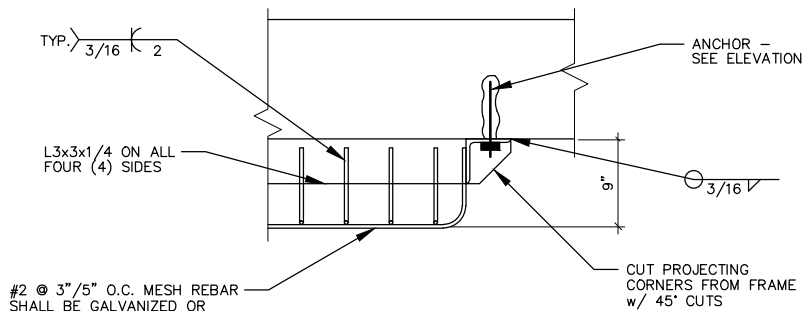
GRATE SUPPORT DETAIL

STRUCTURAL STEEL

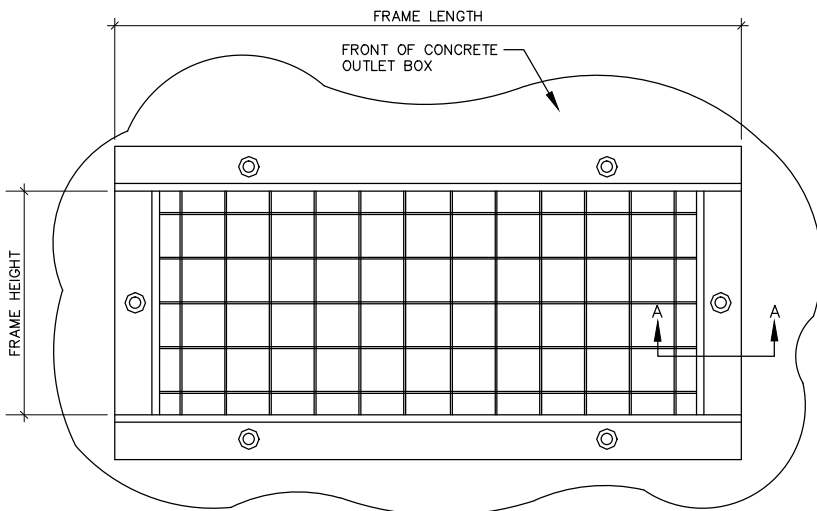
1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
BARS & PLATES - ASTM A36
ANCHOR BOLTS - ASTM A36
WELDS - E70 XX
ALL STEEL SHALL BE GALVANIZED
2. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES", CURRENT EDITION.
3. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER IN ACCORDANCE WITH A.W.S. CODE FOR WELDING IN BUILDING CONSTRUCTION. SURFACES FOR FIELD WELDED MATERIAL SHALL BE PROPERLY PREPARED PRIOR TO BEING WELDED TO ASSURE A GOOD QUALITY WELD. REMOVE PAINT, GREASE, DIRT, ETC.
4. ALL STEEL MEMBERS SHALL BE WELDED WITH A 3/16" CONTINUOUS FILLET WELD (UNLESS OTHERWISE NOTED)
5. ALL WELDS SHALL BE TOUCHED UP WITH GALVANIZING COMPOUND.

PAINT:

SURFACE	TNEMEC COATING SYSTEM	COVERAGE SQ. FT./GAL	THICKNESS /COAT DMT	COLOR
STEEL (OUTDOORS)	SHOP PRIMER 69-1255 BEIGE	277	4.0	BEIGE
	1 COAT 69 H.B. EPOXY	221	5.0	BLACK
	1 COAT 74 ENDURA-SHIELD IV	310	3.0	BLACK



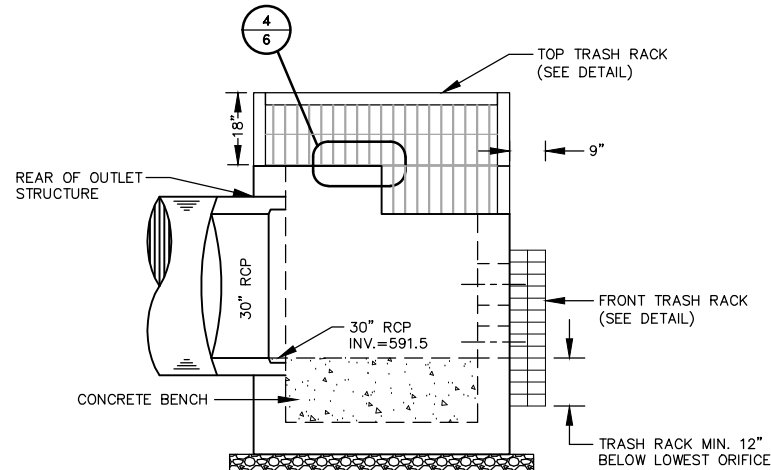
SECTION A-A



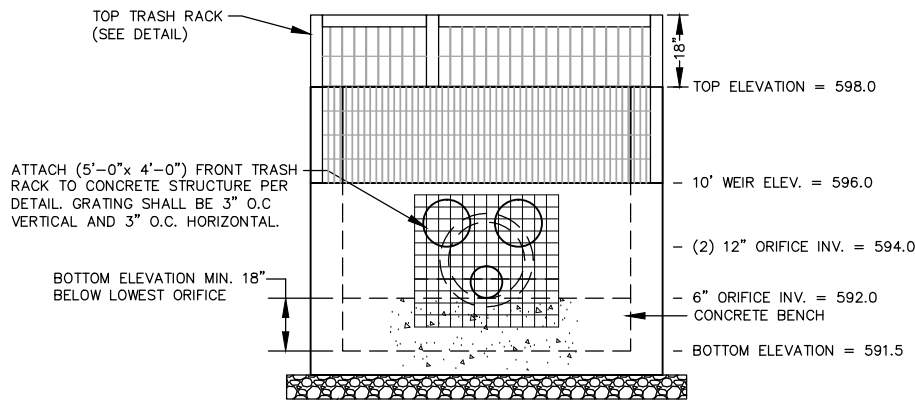
NOTES:

1. WHEN FRAME HEIGHT IS 24 INCHES OR LESS, PROVIDE (1) ANCHOR PER VERTICAL LEG, OTHERWISE PROVIDE TWO OR MORE ANCHORS @ 24" O.C. MAX.
2. WHEN FRAME LENGTH IS 12" OR LESS, PROVIDE (1) ANCHOR PER HORIZONTAL LEG, OTHERWISE PROVIDE TWO OR MORE ANCHORS @ 24" O.C. MAX.
3. PROVIDE 1/2" EPOXY ANCHOR EMBEDDED 4" MIN. INTO CONCRETE WHERE REQUIRED BY THIS DRAWING OR NOTES.
4. SEE OUTLET STRUCTURE DETAIL FOR TRASH RACK FRAME SIZE.

FRONT TRASH RACK DETAIL-ELEVATION VIEW



4" GRAVEL BASE (SEE CLAY LINER SPECIFICATION, ON SHEET 6)

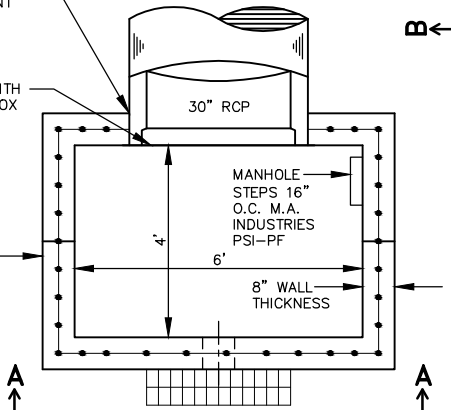


4" GRAVEL BASE (SEE CLAY LINER SPECIFICATION, ON SHEET 6)

INSTALL SWELLABLE WATERSTOP BETWEEN PIPE AND OUTLET BOX, USE SIKASWELL OR EQUIVALENT

30" PIPE SHALL BE FLUSH WITH INSIDE WALL OF CONCRETE BOX

PRE-CAST STRUCTURE

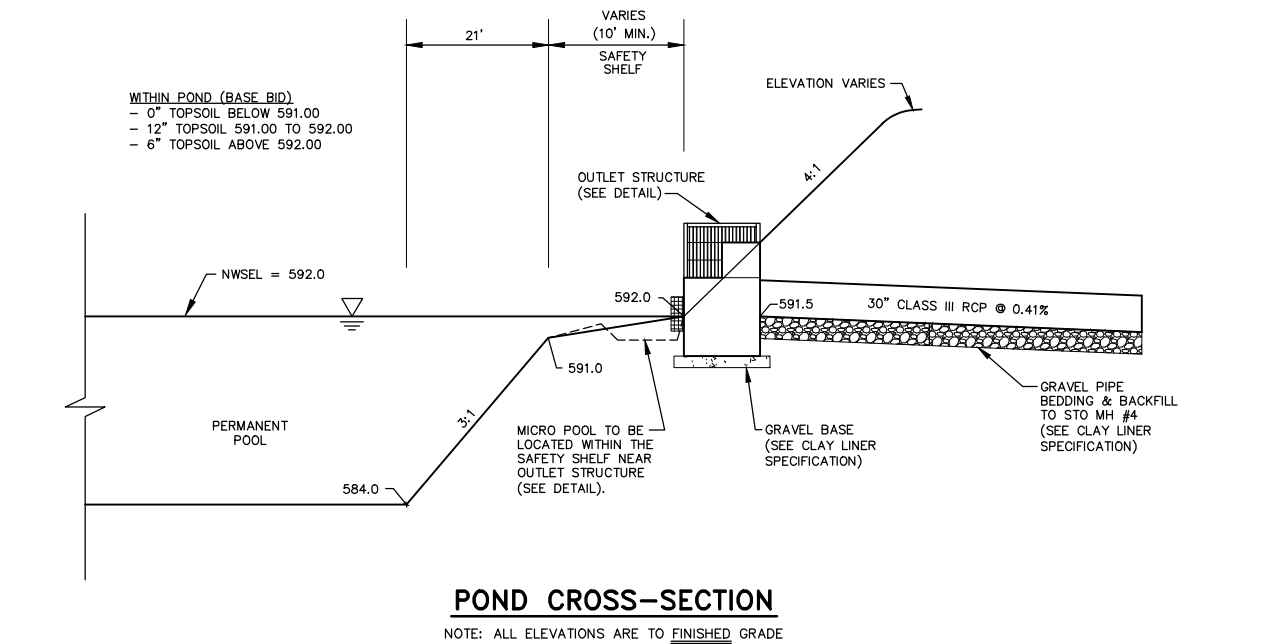


PLAN VIEW

POND OUTLET STRUCTURE

REVISION	DATE	NO.

hansen, W:\PROJECTS\A0012\900458\22 - Taffi Pond\South Cloverleaf Pond\ACAD_Plans\04-DET.dwg, model, Plot Date: 1/29/2013 3:36 AM, xrefs:none



CLAY LINER SPECIFICATIONS (TYP.)

LINER THICKNESS = 4 FEET
IN PLACE HYDRAULIC CONDUCTIVITY = 1×10^{-7} CM/SEC OR LESS
MINIMUM OF 50% BY WEIGHT WHICH PASSES THE 200 SIEVE
AVERAGE LIQUID LIMIT OF 25 OR GREATER, NONE LESS THAN 20
AVERAGE PLASTICITY INDEX OF 12 OR GREATER, NONE LESS THAN 10

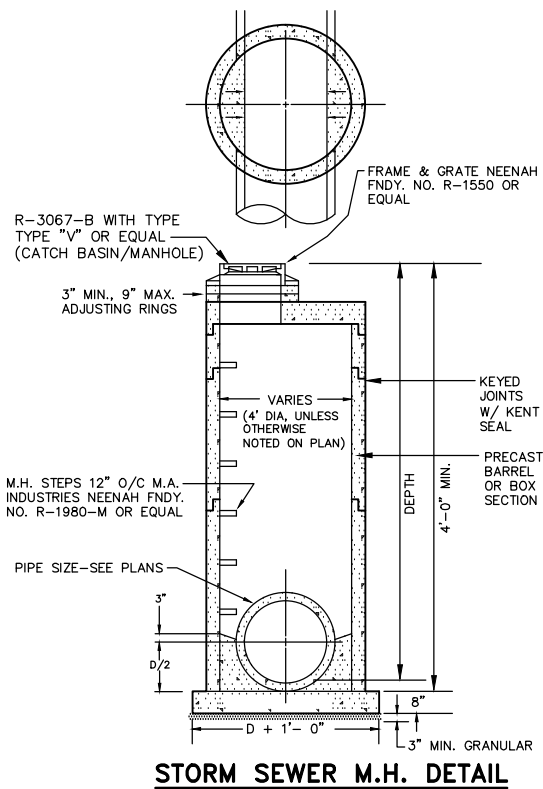
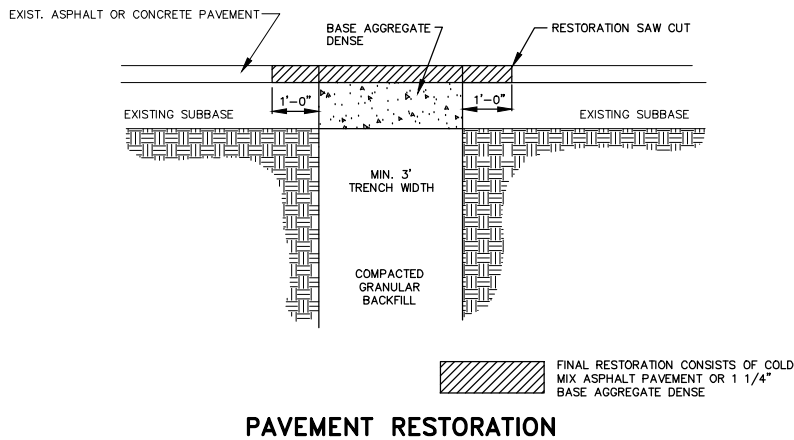
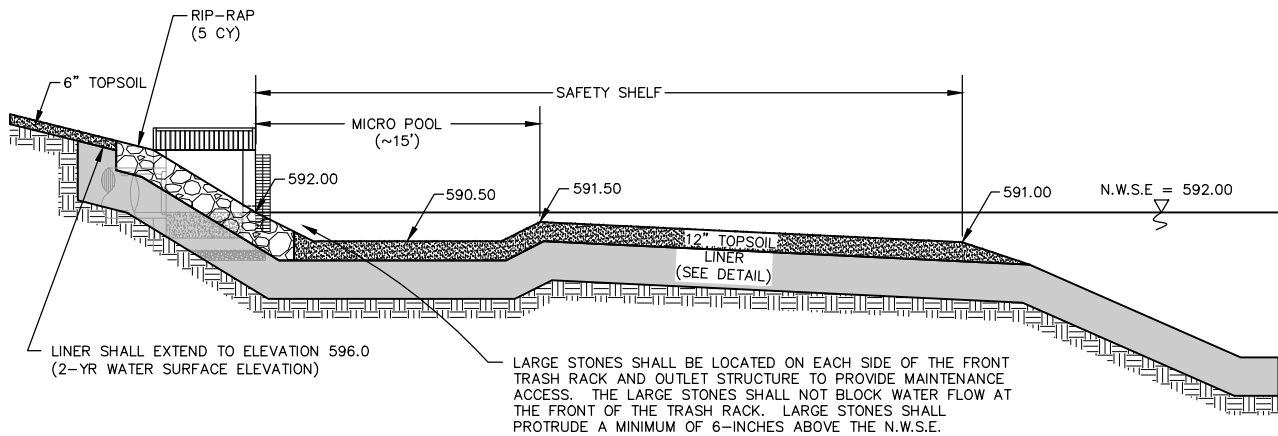
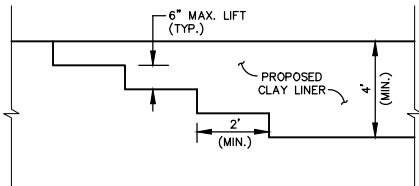
ALL CLAY LAYERS IN THE LINER TO BE CONSTRUCTED IN LIFT HEIGHTS NO GREATER THAN 6 INCHES AFTER COMPACTION USING FOOTED COMPACTION EQUIPMENT HAVING FEET AT LEAST AS LONG AS THE LOOSE LIFT HEIGHT. CLAY IS TO BE DISKED OR OTHERWISE MECHANICALLY PROCESSED BEFORE COMPACTION TO BREAK UP CLODS AND ALLOW FOR MOISTURE ADJUSTMENT. CLOD SIZE TO BE NO GREATER THAN 4 INCHES.

A SUFFICIENT NUMBER OF PASSES OF THE COMPACTION EQUIPMENT IS TO BE MADE OVER EACH LIFT OF CLAY TO ENSURE COMPLETE REMOLDING OF THE CLAY.

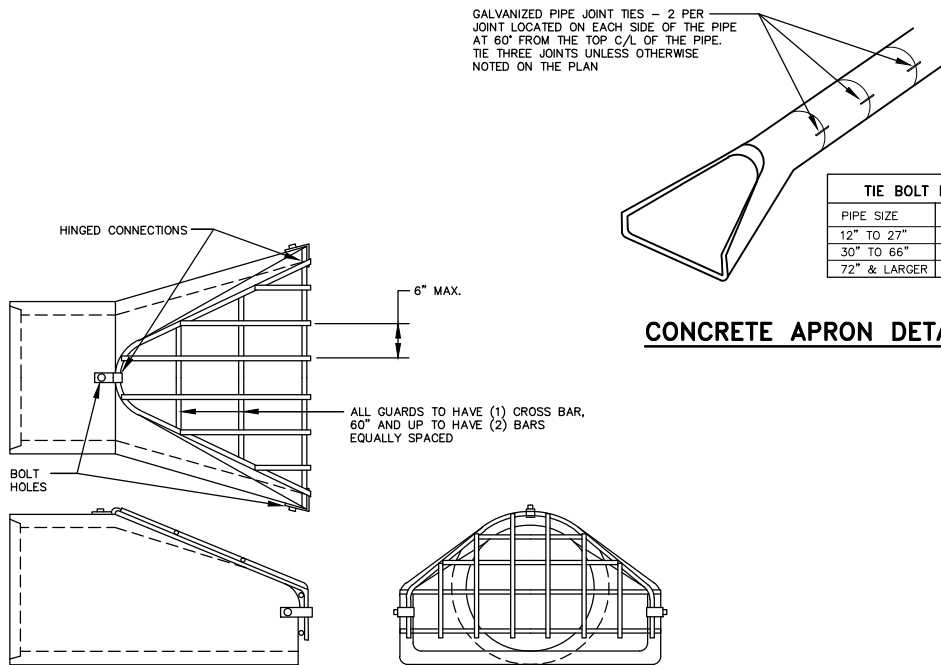
ALL CLAY TO BE COMPACTED TO 90% MODIFIED OR 95% STANDARD PROCTOR DENSITY AT A MOISTURE CONTENT OF AT LEAST 2% WET OF OPTIMUM IF USING THE MODIFIED PROCTOR METHOD AND WET OF OPTIMUM IF USING THE STANDARD PROCTOR METHOD, BASED ON THE CHARACTERISTICS OF THE APPROPRIATE PROCTOR CURVE FOR THE CLAY BEING PLACED. THE CLAY LINER IS TO BE KEYED TOGETHER TO FORM A CONTINUOUS CLAY SEAL, SEE DETAIL.

CLAY LINER SHALL BE PLACED OVER NATIVE SOILS THAT DO NOT SATISFY THE CLAY LINER SPECIFICATIONS. A GEOTECHNICAL ENGINEER SHALL DETERMINE WHICH SOILS DO NOT SATISFY THE CLAY LINER SPECIFICATIONS. THE GEOTECHNICAL ENGINEER SHALL INSPECT SOILS WITHIN THE PERMANENT POOL AND UP TO THE POND'S 2-YEAR, 24-HOUR WATER SURFACE ELEVATION OF 584.00. UPON COMPLETION OF THE LINER, A GEOTECHNICAL ENGINEER REGISTERED IN WISCONSIN SHALL PROVIDE A LETTER OF OPINION INDICATING IF THE CLAY LINER SATISFIES THESE SPECIFICATIONS.

THE CONTRACTOR SHALL INSTALL BENTONITE OR CONCRETE SLURRY (2.0 BAG/C.Y. MIX) BEDDING IN LIEU OF GRAVEL BEDDING & BACKFILL IN AREAS WHERE A CULVERT, STORM SEWER OR OTHER STRUCTURE PASSES THROUGH THE LINER. THE LINER & BENTONITE OR SLURRY SHALL MINIMIZE SEEPAGE ALONG THE OUTSIDE WALL OF THE CULVERT, STORM SEWER OR STRUCTURE. IF BENTONITE IS USED, THE BENTONITE SHALL BE POSITIONED BETWEEN PIPE JOINTS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE BEDDING SUPPORT FOR THE CULVERT, STORM SEWER OR STRUCTURE.

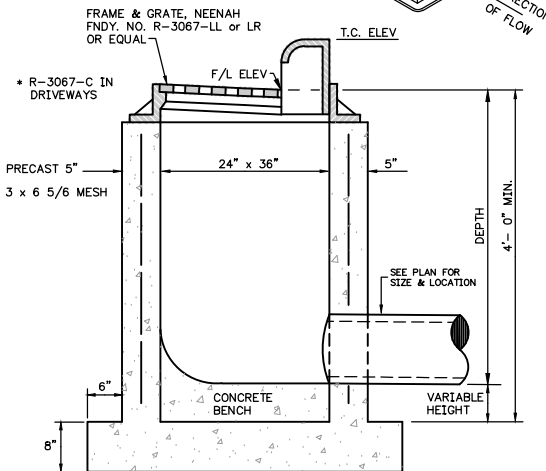


NOTE: "FERNCO TYPE" CONNECTIONS WILL ONLY BE ALLOWED UPON PRIOR VILLAGE APPROVAL (ON A CASE BY CASE BASIS)



TIE BOLT REQUIREMENTS		
PIPE SIZE	BAR DIA.	BOLTS
12" TO 27"	5/8"	32"
30" TO 66"	3/4"	32"
72" & LARGER	1"	32"

NOTE: GRATE IS NOT REVERSIBLE LEFT FLOW GRATE IS SHOWN LL = FLOW LEFT LR = FLOW RIGHT



NOTE: "FERNCO TYPE" CONNECTIONS WILL ONLY BE ALLOWED UPON PRIOR VILLAGE APPROVAL (ON A CASE BY CASE BASIS)

BAR SIZES							
STANDARD DESIGN				HEAVY DESIGN			
PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE	PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
12"-24"	3/4"	5/8"	5/8"	12"-18"	3/4"	5/8"	3/4"
27"-48"	7/8"	3/4"	3/4"	21"-48"	7/8"	3/4"	1"
54"-90"	1 1/8"	1"	1"	54"-90"	1 1/8"	1"	1 1/4"
22"-29"	3/4"	5/8"	5/8"	22"	3/4"	5/8"	3/4"
36"-59"	7/8"	3/4"	3/4"	29"-59"	7/8"	3/4"	1"
65"-88"	1 1/8"	1"	1"	65"-88"	1 1/8"	1"	1 1/4"
BOLT LG. = PIPE WALL THK. + 2 1/2"							

TRASH GUARD FOR FLARED ENDS

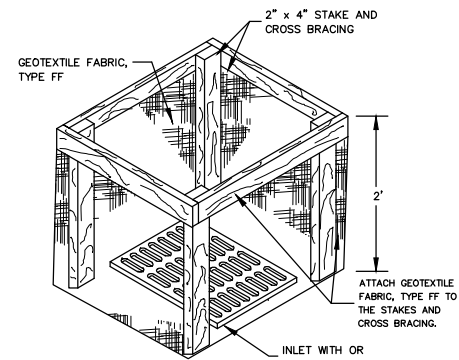
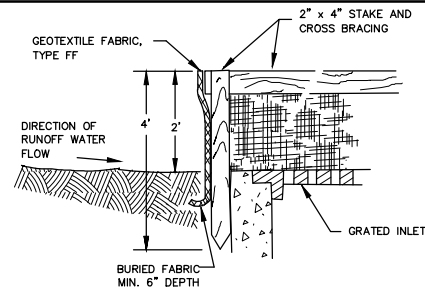
McMahon provides this drawing as a guide only. It is not to be used as a basis for construction. The client and/or recipient agrees to the fullest extent of the law to hold McMahon harmless for any use of or reliance on this drawing without prior written consent by McMahon.

REVISION		DATE		NO.	

SOUTH CLOVERLEAF POND VILLAGE OF ALLOUEZ, WISCONSIN MISCELLANEOUS DETAILS

DESIGNED	DRAWN
JMH	JMH
PROJECT NO. A0012-900458.22	
DATE DECEMBER 2012	
SHEET NO. 4	

DESIGNED BY: JMH DATE: 11/05/2012 PROJECT: SOUTH CLOVERLEAF POND VILLAGE OF ALLOUEZ, WISCONSIN EROSION & SEDIMENT CONTROL DETAILS

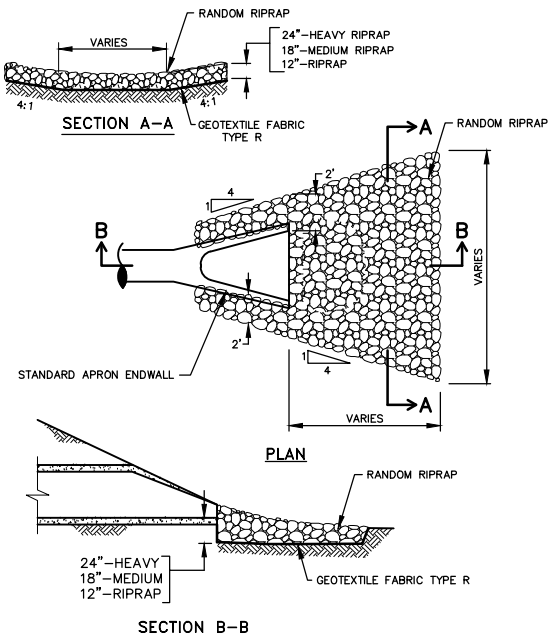


INLET PROTECTION, TYPE A

- GENERAL NOTES
- MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
- WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

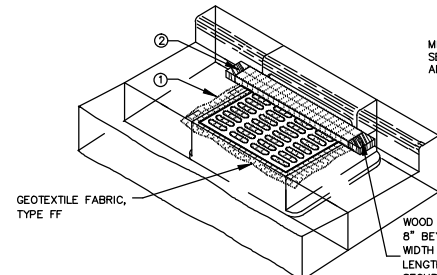
RIP-RAP

1. RIP-RAP SHALL BE IN ACCORDANCE WITH SECTION 606, WIS-DOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 1996 EDITION.
2. RIP-RAP SHALL BE ANGULAR. ROUND RIP-RAP IS NOT PERMITTED.



RIPRAP AT STORM SEWER OUTFALL

INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C
(WITH CURB BOX)

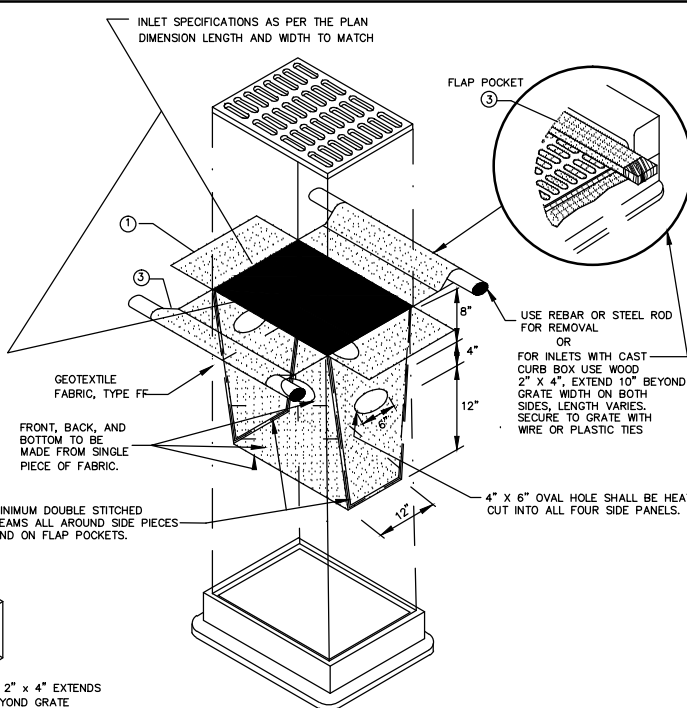
INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

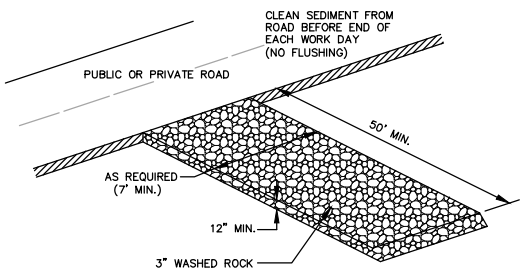
TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

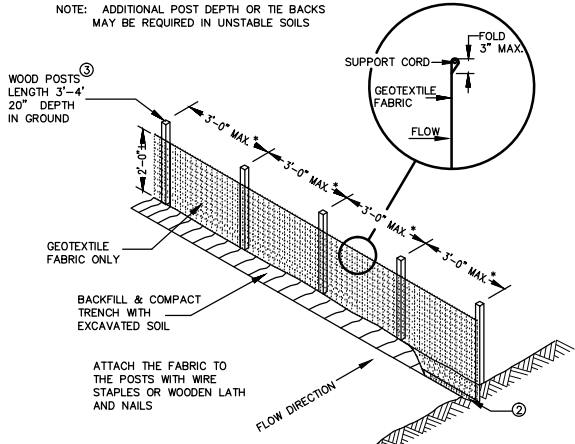


INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 10-2.

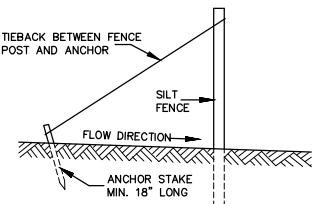


CONSTRUCTION ENTRANCE/EXIT DETAIL

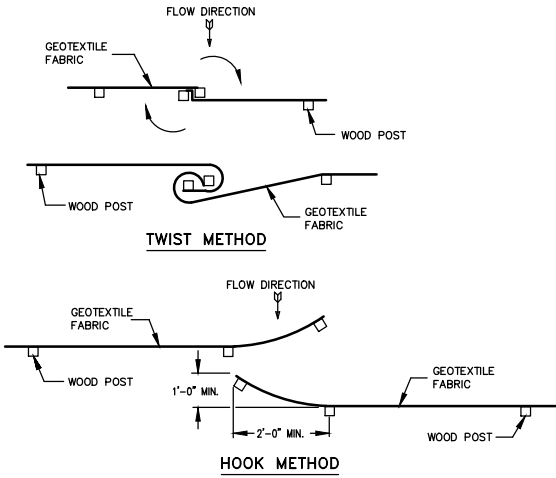


SILTS FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



SILTS FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)

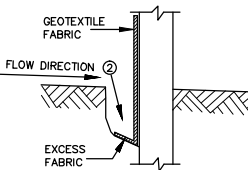


JOINING TWO LENGTHS OF SILTS FENCE ⑤

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

GENERAL NOTES

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1" X 1" OF OAK OR HICKORY.
- ④ SILTS FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILTS FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILTS FENCE LENGTH.



TRENCH DETAIL

SOUTH CLOVERLEAF POND
VILLAGE OF ALLOUEZ, WISCONSIN
EROSION & SEDIMENT CONTROL DETAILS

DESIGNED JMH	DRAWN JMH
PROJECT NO. A0012-900458.22	
DATE DECEMBER 2012	
SHEET NO. 6	

McMAHON
EROSION CONTROL PRODUCTS
1445 McMAHON DRIVE NEENAH, WI 54956
Tel: (920) 751-4200 Fax: (920) 751-4284
www.mcmahon.com

McMahon provides this drawing as a guide only. It is not to be used as a basis for construction. The user assumes all responsibility for the use of this drawing. The user agrees to indemnify and hold McMahon harmless for any reuse of or modification of this drawing without prior written consent by McMahon.

NO.	DATE	REVISION

APPENDIX B

HYDROLOGIC & HYDRAULIC RESULTS **Pre-Pond Construction / Existing Land Use Condition**

Village of Allouez
 Cloverleaf Ponds
 12-28-12
 Existing Conditions SWMM Model
 100-year storm

Current Directory: C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Existing C
 Engine Name: C:\XPS\XPSWMM~1\SWMMEN~1.EXE

Input File : actions for SWMP\Existing Conditions Cloverleaf Ponds_100-year.XP

```

*=====
|                               |
|           xpswmm             |
|   Storm and Wastewater Management Model   |
|   Developed by XP Software Inc.           |
|=====|
|
| Last Update       : June, 2011           |
| Interface Version: 13.0                   |
| Engine Version    : 2011.0               |
| Data File Version: 12.2                   |
| Serial Number     :                       |
|=====|
*=====

```

Engine Name: C:\XPS\XPSWMM~1\SWMMEN~1.EXE

```

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

```

Input File to Layer # 1 JIN.US

Output File to Layer # 1 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int

Input File to Layer # 2 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int

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 swmxcfg |
| or defined by the set variable in the xpswm.bat |
| file. Some examples of the command lines possible |
| are shown below: |
|
| swmcmd swmmcom.cfg |
| swmcmd my.cfg |
| swmcmd nokeys nconv5 perv extranwq |
|=====|

```

\$powerstation	0.0000	1	2
\$perv	0.0000	0	4
\$olddeg	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

```

$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
$nogrelelev      0.0000      1     161
$ncmid           0.0000      0     164
$new_n1_97        0.0000      2     290
SCSIADDEPTH=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=5          5.0000      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

```

```

*=====
| 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).... 35
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)..... 115
Number of Groundwater Subcatchments in Runoff (NGW).. 0
Number of Interface locations for all Blocks (NIE).. 115
Number of Pumps in Extran (NEP)..... 0
Number of Orifices in Extran (NEO)..... 0
Number of Tide Gates/Free Outfalls in Extran (NTG).. 10
Number of Extran Weirs (NEW)..... 11
Number of scs hydrograph points..... 4201
Number of Extran printout locations (NPO)..... 0
Number of Tide elements in Extran (NTE)..... 10
Number of Natural channels (NNC)..... 0
Number of Storage junctions in Extran (NVSE)..... 6
Number of Time history data points in Extran(NTVAL).. 0
Number of Variable storage elements in Extran (NVST) 7
Number of Input Hydrographs in Extran (NEH)..... 0
Number of Particle sizes in Transport Block (NPS)... 0
Number of User defined conduits (NHW)..... 35
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)..... 115
Number of Plugs in a Storage Treatment Unit..... 1

```

```

#####
# Entry made to the Runoff Layer(Block) of SWMM #
# Last Updated June, 2011 by XP Software #

```

```

*=====
| 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
Village of Allouez

RUNOFF JOB CONTROL #

Snowmelt parameter - ISNOW..... 0
Number of rain gages - MRGAG..... 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: 12/ 8/2012
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..... 60.0 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.. 240
KINC - Rainfall values(pairs) per line.. 10
KPRINT - Print rainfall(0=Yes,1-No)..... 0
KTIME - Precipitation time units
0 --> Minutes 1 --> Hours..... 1
KPREP - Precipitation unit type
0 --> Intensity 1 --> Volume..... 1
KTHIS - Variable rainfall intervals
0 --> No, > 1 --> Yes..... 0
THISTO - Rainfall time interval..... 0.10
TZRAIN - Starting time(KTIME units)..... 0.00

Rainfall input summary from Runoff #
#####

Total rainfall for gage # 1 is 5.1000 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	Channel Name	or inlet	Width (ft)	Area (ac)	Per- cent Imperv	Slope ft/ft	"n"	"n"	Deprs			Pront Zero Deten
									Storge	Imprv	Perv	
1	F042M33#1	F042M33	1.0000	7.8700	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
2	F042M32#1	F042M32	1.0000	1.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
3	F042M61#1	F042M61	1.0000	1.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
4	F042M39#1	F042M39	1.0000	11.030	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
5	F042M24#1	F042M24	1.0000	7.8400	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
6	F042M19#1	F042M19	1.0000	10.120	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
7	F050M01#1	F050M01	1.0000	2.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00
8	F050E01#1	F050E01	1.0000	3.0600	0.00	1.000	0.020	0.020	0.000	0.000	0.000	0.00

9	F050E01#2	F050E01	1.0000	1.4700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F060M02#1	F060M02	1.0000	54.760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F070M04#1	F070M04	1.0000	13.860	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	F070M02#1	F070M02	1.0000	3.1600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F070i05#1	F070i05	1.0000	9.0700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
14	F080M10#1	F080M10	1.0000	3.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
15	F080M06#1	F080M06	1.0000	2.2800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
16	F080M13#1	F080M13	1.0000	4.1800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
17	F080M02#1	F080M02	1.0000	12.770	0.00	1.000	0.020	0.020	0.000	0.000	0.00
18	F080M14#1	F080M14	1.0000	4.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
19	F080M14#2	F080M14	1.0000	3.3300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
20	F090M04#1	F090M04	1.0000	7.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
21	F100M11#1	F100M11	1.0000	8.2900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
22	F100M07#1	F100M07	1.0000	8.5500	0.00	1.000	0.020	0.020	0.000	0.000	0.00
23	F100i01#1	F100i01	1.0000	8.4600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
24	F100M21#1	F100M21	1.0000	.90000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
25	F100M29#1	F100M29	1.0000	3.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
26	F100M31#1	F100M31	1.0000	8.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
27	F100M06#1	F100M06	1.0000	2.5800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
28	F100M04#1	F100M04	1.0000	10.180	0.00	1.000	0.020	0.020	0.000	0.000	0.00
29	F090M09#1	F090M09	1.0000	3.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
30	F090M05#1	F090M05	1.0000	3.5900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
31	F090M02#1	F090M02	1.0000	6.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
32	F090M14#1	F090M14	1.0000	4.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
33	F090M14#2	F090M14	1.0000	1.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
34	EBMPF080#1	EBMPF080	1.0000	23.700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
35	F080i48#1	F080i48	1.0000	.45000	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. Infiltr. Volume #
# Proportional -> Constant 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	F042M33#1	83.0000	0.2667	484.0000	0.2000				
2	F042M32#1	83.5000	0.2667	484.0000	0.2000				
3	F042M61#1	83.8000	0.3167	484.0000	0.2000				
4	F042M39#1	90.7000	0.2333	484.0000	0.2000				
5	F042M24#1	86.4000	0.9000	484.0000	0.2000				
6	F042M19#1	83.5000	0.7500	484.0000	0.2000				
7	F050M01#1	84.6000	0.3667	484.0000	0.2000				
8	F050E01#1	84.3000	0.2000	484.0000	0.2000				
9	F050E01#2	87.8000	0.2000	484.0000	0.2000				
10	F060M02#1	88.6000	0.8500	484.0000	0.2000				
11	F070M04#1	86.8000	0.5000	484.0000	0.2000				
12	F070M02#1	86.0000	0.3500	484.0000	0.2000				
13	F070i05#1	86.0000	0.8167	484.0000	0.2000				
14	F080M10#1	77.6000	0.2667	484.0000	0.2000				
15	F080M06#1	78.8000	0.1500	484.0000	0.2000				

16	F080M13#1	76.2000	0.1833	484.0000	0.2000
17	F080M02#1	1.0000	1.4350	484.0000	0.2000
18	F080M14#1	86.1000	0.8000	484.0000	0.2000
19	F080M14#2	85.0000	0.1000	484.0000	0.2000
20	F090M04#1	75.7000	0.3333	484.0000	0.2000
21	F100M11#1	83.0000	0.2833	484.0000	0.2000
22	F100M07#1	81.9000	0.4833	484.0000	0.2000
23	F100i01#1	79.5000	0.2667	484.0000	0.2000
24	F100M21#1	81.2000	0.3167	484.0000	0.2000
25	F100M29#1	82.0000	0.2500	484.0000	0.2000
26	F100M31#1	80.0000	0.3000	484.0000	0.2000
27	F100M06#1	82.3000	0.1833	484.0000	0.2000
28	F100M04#1	82.9000	0.3000	484.0000	0.2000
29	F090M09#1	80.2000	0.2500	484.0000	0.2000
30	F090M05#1	83.9000	0.1667	484.0000	0.2000
31	F090M02#1	82.9000	0.1500	484.0000	0.2000
32	F090M14#1	76.7000	0.4333	484.0000	0.2000
33	F090M14#2	79.2000	0.4333	484.0000	0.2000
34	EBMPF080#1	75.7000	0.4000	484.0000	0.2000
35	F080i48#1	84.8000	0.1000	484.0000	0.2000

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

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	F042M33#1	1	SCS Method	SCS curvilinear
2	F042M32#1	1	SCS Method	SCS curvilinear
3	F042M61#1	1	SCS Method	SCS curvilinear
4	F042M39#1	1	SCS Method	SCS curvilinear
5	F042M24#1	1	SCS Method	SCS curvilinear
6	F042M19#1	1	SCS Method	SCS curvilinear
7	F050M01#1	1	SCS Method	SCS curvilinear
8	F050E01#1	1	SCS Method	SCS curvilinear
9	F050E01#2	1	SCS Method	SCS curvilinear
10	F060M02#1	1	SCS Method	SCS curvilinear
11	F070M04#1	1	SCS Method	SCS curvilinear
12	F070M02#1	1	SCS Method	SCS curvilinear
13	F070i05#1	1	SCS Method	SCS curvilinear
14	F080M10#1	1	SCS Method	SCS curvilinear
15	F080M06#1	1	SCS Method	SCS curvilinear
16	F080M13#1	1	SCS Method	SCS curvilinear
17	F080M02#1	1	SCS Method	SCS curvilinear
18	F080M14#1	1	SCS Method	SCS curvilinear
19	F080M14#2	1	SCS Method	SCS curvilinear
20	F090M04#1	1	SCS Method	SCS curvilinear
21	F100M11#1	1	SCS Method	SCS curvilinear
22	F100M07#1	1	SCS Method	SCS curvilinear
23	F100i01#1	1	SCS Method	SCS curvilinear
24	F100M21#1	1	SCS Method	SCS curvilinear
25	F100M29#1	1	SCS Method	SCS curvilinear
26	F100M31#1	1	SCS Method	SCS curvilinear
27	F100M06#1	1	SCS Method	SCS curvilinear
28	F100M04#1	1	SCS Method	SCS curvilinear
29	F090M09#1	1	SCS Method	SCS curvilinear
30	F090M05#1	1	SCS Method	SCS curvilinear
31	F090M02#1	1	SCS Method	SCS curvilinear
32	F090M14#1	1	SCS Method	SCS curvilinear
33	F090M14#2	1	SCS Method	SCS curvilinear
34	EBMPF080#1	1	SCS Method	SCS curvilinear
35	F080i48#1	1	SCS Method	SCS curvilinear

```

Total Number of Subcatchments...      35
Total Tributary Area (acres)....    260.16
Impervious Area (acres).....        0.00
Pervious Area (acres).....    260.16
Total Width (feet).....          35.00
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
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
F042M33      No Tributary Channel/Pipes
              Tributary Subareas..... F042M33#1
F042M32      No Tributary Channel/Pipes
              Tributary Subareas..... F042M32#1
F042M61      No Tributary Channel/Pipes
              Tributary Subareas..... F042M61#1
F042M39      No Tributary Channel/Pipes
              Tributary Subareas..... F042M39#1
F042M24      No Tributary Channel/Pipes
              Tributary Subareas..... F042M24#1
F042M19      No Tributary Channel/Pipes
              Tributary Subareas..... F042M19#1
F050M01      No Tributary Channel/Pipes
              Tributary Subareas..... F050M01#1
F050E01      No Tributary Channel/Pipes
              Tributary Subareas..... F050E01#1  F050E01#2
F060M02      No Tributary Channel/Pipes
              Tributary Subareas..... F060M02#1
F070M04      No Tributary Channel/Pipes
              Tributary Subareas..... F070M04#1
F070M02      No Tributary Channel/Pipes
              Tributary Subareas..... F070M02#1
F070i05      No Tributary Channel/Pipes
              Tributary Subareas..... F070i05#1
F080M10      No Tributary Channel/Pipes
              Tributary Subareas..... F080M10#1
F080M06      No Tributary Channel/Pipes
              Tributary Subareas..... F080M06#1
F080M13      No Tributary Channel/Pipes
              Tributary Subareas..... F080M13#1
F080M02      No Tributary Channel/Pipes
              Tributary Subareas..... F080M02#1
F080M14      No Tributary Channel/Pipes
              Tributary Subareas..... F080M14#1  F080M14#2
F090M04      No Tributary Channel/Pipes
              Tributary Subareas..... F090M04#1
F100M11      No Tributary Channel/Pipes
              Tributary Subareas..... F100M11#1
F100M07      No Tributary Channel/Pipes
              Tributary Subareas..... F100M07#1
F100i01      No Tributary Channel/Pipes
              Tributary Subareas..... F100i01#1
F100M21      No Tributary Channel/Pipes
              Tributary Subareas..... F100M21#1
F100M29      No Tributary Channel/Pipes
              Tributary Subareas..... F100M29#1
F100M31      No Tributary Channel/Pipes
              Tributary Subareas..... F100M31#1
F100M06      No Tributary Channel/Pipes
              Tributary Subareas..... F100M06#1
F100M04      No Tributary Channel/Pipes
              Tributary Subareas..... F100M04#1
F090M09      No Tributary Channel/Pipes
              Tributary Subareas..... F090M09#1
F090M05      No Tributary Channel/Pipes
              Tributary Subareas..... F090M05#1

```

```

F090M02      No Tributary Channel/Pipes
              Tributary Subareas..... F090M02#1
F090M14      No Tributary Channel/Pipes
              Tributary Subareas..... F090M14#1  F090M14#2
EBMPF080     No Tributary Channel/Pipes
              Tributary Subareas..... EBMPF080#1
F080i48      No Tributary Channel/Pipes
              Tributary Subareas..... F080i48#1

```

```

*****
* Hydrographs will be stored for the following 32 INLETS *
*****
F042M03      F042M02      F042M01      F042M39      F042M24      F042M19
F050M01      F050M01      F060M02      F070M04      F070M02      F070i05
F080M10      F080M06      F080M13      F080M02      F080M14      F090M04
F100M11      F100M07      F100i01      F100M21      F100M29      F100M31
F100M06      F100M04      F090M09      F090M05      F090M02      F090M14
EBMPF080     F080i48

```

```

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

```

```

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

```

```

Location Station Number
-----
1. 1

```

```

#####
# Entry made to the HYDRAULIC Layer of XP-SWMM #
# Last Updated in June, 2011 by XP Software #
#####
# Entry made to the Runoff Layer(Block) of SWMM #
# Last Updated June, 2011 by XP Software #
#####

```

```

*=====
| 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 - Rainage 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 analysis for Subcatchments |
*=====

```

```

A1
Village of Allouez
#####
# 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: 12/ 8/2012
 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..... 60.0 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.. 240
 KINC - Rainfall values(pairs) per line.. 10
 KPRINT - Print rainfall(0-Yes,1-No)..... 0
 KTIME - Precipitation time units
 0 --> Minutes 1 --> Hours..... 1
 KPREP - Precipitation unit type
 0 --> Intensity 1 --> Volume..... 1
 KTHIS - Variable rainfall intervals
 0 --> No, > 1 --> Yes..... 0
 THISTO - Rainfall time interval..... 0.10
 TZRAIN - Starting time(KTIME units)..... 0.00

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

Total rainfall for gage # 1 is 5.1000 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 Imprv	Slope ft/ft	"n" Imprv	"n" Perv	Deprs -sion Imprv	Deprs -sion Perv	Prct Zero -tion
1	F042M33#1	F042M33	1.0000	7.8700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
2	F042M32#1	F042M32	1.0000	1.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
3	F042M61#1	F042M61	1.0000	1.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
4	F042M39#1	F042M39	1.0000	11.030	0.00	1.000	0.020	0.020	0.000	0.000	0.00
5	F042M24#1	F042M24	1.0000	7.8400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
6	F042M19#1	F042M19	1.0000	10.120	0.00	1.000	0.020	0.020	0.000	0.000	0.00
7	F050M01#1	F050M01	1.0000	2.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
8	F050E01#1	F050E01	1.0000	3.0600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
9	F050E01#2	F050E01	1.0000	1.4700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F060M02#1	F060M02	1.0000	54.760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F070M04#1	F070M04	1.0000	13.860	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	F070M02#1	F070M02	1.0000	3.1600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F070i05#1	F070i05	1.0000	9.0700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
14	F080M10#1	F080M10	1.0000	3.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
15	F080M06#1	F080M06	1.0000	2.2800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
16	F080M13#1	F080M13	1.0000	4.1800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
17	F080M02#1	F080M02	1.0000	12.770	0.00	1.000	0.020	0.020	0.000	0.000	0.00
18	F080M14#1	F080M14	1.0000	4.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
19	F080M14#2	F080M14	1.0000	3.3300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
20	F090M04#1	F090M04	1.0000	7.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
21	F100M11#1	F100M11	1.0000	8.2900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
22	F100M07#1	F100M07	1.0000	8.5500	0.00	1.000	0.020	0.020	0.000	0.000	0.00
23	F100i01#1	F100i01	1.0000	8.4600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
24	F100M21#1	F100M21	1.0000	.90000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
25	F100M29#1	F100M29	1.0000	3.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
26	F100M31#1	F100M31	1.0000	8.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
27	F100M06#1	F100M06	1.0000	2.5800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
28	F100M04#1	F100M04	1.0000	10.180	0.00	1.000	0.020	0.020	0.000	0.000	0.00
29	F090M09#1	F090M09	1.0000	3.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
30	F090M05#1	F090M05	1.0000	3.5900	0.00	1.000	0.020	0.020	0.000	0.000	0.00

31	F090M02#1	F090M02	1.0000	6.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
32	F090M14#1	F090M14	1.0000	4.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
33	F090M14#2	F090M14	1.0000	1.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
34	EBMPF080#1	EBMPF080	1.0000	23.700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
35	F080i48#1	F080i48	1.0000	.45000	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) #
# GCS -> Comp CN Time Conc Shape Factor Depth or Fraction #
# SBUH -> Comp CN Time Conc N/A N/A #
# Green Amp -> Suction Hydr Cond Initial MD N/A #
# Horton -> Max Rate Min Rate Decay Rate (1/sec) Max. Infiltr. 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	F042M33#1	83.0000	0.2667	484.0000	0.2000				
2	F042M32#1	83.5000	0.2667	484.0000	0.2000				
3	F042M61#1	83.8000	0.3167	484.0000	0.2000				
4	F042M39#1	90.7000	0.2333	484.0000	0.2000				
5	F042M24#1	86.4000	0.9000	484.0000	0.2000				
6	F042M19#1	83.5000	0.7500	484.0000	0.2000				
7	F050M01#1	84.6000	0.3667	484.0000	0.2000				
8	F050E01#1	84.3000	0.2000	484.0000	0.2000				
9	F050E01#2	87.8000	0.2000	484.0000	0.2000				
10	F060M02#1	88.6000	0.8500	484.0000	0.2000				
11	F070M04#1	86.8000	0.5000	484.0000	0.2000				
12	F070M02#1	86.0000	0.3500	484.0000	0.2000				
13	F070i05#1	86.0000	0.8167	484.0000	0.2000				
14	F080M10#1	77.6000	0.2667	484.0000	0.2000				
15	F080M06#1	78.8000	0.1500	484.0000	0.2000				
16	F080M13#1	76.2000	0.1833	484.0000	0.2000				
17	F080M02#1	1.0000	1.4350	484.0000	0.2000				
18	F080M14#1	86.1000	0.8000	484.0000	0.2000				
19	F080M14#2	85.0000	0.1000	484.0000	0.2000				
20	F090M04#1	75.7000	0.3333	484.0000	0.2000				
21	F100M11#1	83.0000	0.2833	484.0000	0.2000				
22	F100M07#1	81.9000	0.4833	484.0000	0.2000				
23	F100i01#1	79.5000	0.2667	484.0000	0.2000				
24	F100M21#1	81.2000	0.3167	484.0000	0.2000				
25	F100M29#1	82.0000	0.2500	484.0000	0.2000				
26	F100M31#1	80.0000	0.3000	484.0000	0.2000				

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

Total Number of Subcatchments...	35
Total Tributary Area (acres)....	260.16
Impervious Area (acres).....	0.00
Pervious Area (acres).....	260.16
Total Width (feet).....	35.00
Impervious Area (%).....	0.00

[illegible]

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					
F042M33	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M33#1			
F042M32	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M32#1			
F042M61	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M61#1			
F042M39	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M39#1			
F042M24	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M24#1			
F042M19	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M19#1			
F050M01	No Tributary Channel/Pipes				
	Tributary Subareas.....	F050M01#1			
F050E01	No Tributary Channel/Pipes				
	Tributary Subareas.....	F050E01#1	F050E01#2		
F060M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F060M02#1			
F070M04	No Tributary Channel/Pipes				
	Tributary Subareas.....	F070M04#1			
F070M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F070M02#1			
F070i05	No Tributary Channel/Pipes				
	Tributary Subareas.....	F070i05#1			
F080M10	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M10#1			
F080M06	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M06#1			
F080M13	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M13#1			
F080M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M02#1			
F080M14	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M14#1	F080M14#2		
F090M04	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M04#1			
F100M11	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M11#1			
F100M07	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M07#1			
F100i01	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100i01#1			
F100M21	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M21#1			
F100M29	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M29#1			
F100M31	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M31#1			
F100M06	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M06#1			
F100M04	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M04#1			
F090M09	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M09#1			
F090M05	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M05#1			
F090M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M02#1			
F090M14	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M14#1	F090M14#2		
EBMPF080	No Tributary Channel/Pipes				
	Tributary Subareas.....	EBMPF080#1			
F080i48	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080i48#1			

 * Hydrographs will be stored for the following 32 INLETS *

F042M33	F042M32	F042M61	F042M39	F042M24	F042M19
F050M01	F050E01	F060M02	F070M04	F070M02	F070i05
F080M10	F080M06	F080M13	F080M02	F080M14	F090M04
F100M11	F100M07	F100i01	F100M21	F100M29	F100M31
F100M06	F100M04	F090M09	F090M05	F090M02	F090M14
EBMPF080	F080i48				

* Quality Simulation not included in this run *

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

Location Station Number

1. 1

Cloverleaf Ponds - Existing Conditions 2004 Land Use
Village of Allouez

* =====*
| 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..... 2012 Month..... 12
Day..... 8 Hour..... 0
Minute..... 0 Second..... 0

Control information for simulation

Integration cycles..... 7200
Length of integration step is..... 30.00 seconds
Simulation length..... 60.00 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. 250.00 minutes
Summary printout intervals of..... 500 cycles
Summary printout time interval of.. 250.00 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 |
 =====

Inp Num	Conduit Name	Length (ft)	Conduit Class	Area (ft^2)	Manning Coef.	Max Width (ft)	Depth (ft)	Trapezoid Side Slopes	
1	LINE042	464.0000	Circular	1.2272	0.0140	1.2500	1.2500		
2	Link3	353.0000	Circular	3.1416	0.0140	2.0000	2.0000		
3	Link4	91.0000	Circular	3.1416	0.0140	2.0000	2.0000		
4	Link6	408.0000	Circular	3.1416	0.0140	2.0000	2.0000		
5	Link7	209.0000	Circular	3.1416	0.0140	2.0000	2.0000		
6	Link9	218.0000	Circular	0.7854	0.0140	1.0000	1.0000		
7	Link13	138.0000	Circular	3.1416	0.0140	2.0000	2.0000		
8	Link14	384.0000	Circular	4.9087	0.0140	2.5000	2.5000		
9	Link15	102.0000	Circular	7.0686	0.0140	3.0000	3.0000		
10	Link17	383.0000	Circular	3.1416	0.0140	2.0000	2.0000		
11	Link26	258.0000	Circular	3.1416	0.0140	2.0000	2.0000		
12	Link27	312.0000	Circular	3.1416	0.0140	2.0000	2.0000		
13	Link31	147.0000	Circular	0.7854	0.0140	1.0000	1.0000		
14	Link32	200.0000	Circular	0.7854	0.0140	1.0000	1.0000		
15	Link38	59.0000	Circular	3.1416	0.0140	2.0000	2.0000		
16	Link39	109.0000	Circular	3.1416	0.0140	2.0000	2.0000		
17	Link40	91.0000	Circular	3.1416	0.0140	2.0000	2.0000		
18	Link41	128.0000	Circular	1.7671	0.0140	1.5000	1.5000		
19	Link44	371.0000	Circular	0.7854	0.0140	1.0000	1.0000		
20	Link46	27.0000	Circular	7.0686	0.0140	3.0000	3.0000		
21	Link48	39.0000	Circular	1.7671	0.0140	1.5000	1.5000		
22	Link51	369.0000	Circular	1.7671	0.0240	1.5000	1.5000		
23	OFLOW 1	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
24	OFLOW 2	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
25	OFLOW 3	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
26	OFLOW 4	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
27	OFLOW 5	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
28	Link61	541.0000	Circular	4.9087	0.0140	2.5000	2.5000		
29	Link64	135.0000	Circular	3.1416	0.0140	2.0000	2.0000		
30	OFLOW 6	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
31	F043M33 OF	323.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
32	F042M61 OF	261.0000	Trapezoid	930.0000	0.0140	10.0000	3.0000	100.0000	100.0000
33	F042M39 OF	2333.0000	Trapezoid	48.2000	0.0450	4.0000	2.0000	20.0000	0.1000
34	F060M02 OF	33.0000	Trapezoid	240.0000	0.0500	20.0000	2.0000	50.0000	50.0000
35	F070M02 OF	50.0000	Trapezoid	420.0000	0.0140	10.0000	2.0000	100.0000	100.0000
36	F070i05 OF	50.0000	Trapezoid	420.0000	0.0140	10.0000	2.0000	100.0000	100.0000
37	Link71	388.0000	Circular	3.1416	0.0140	2.0000	2.0000		
38	F100M07 OF	33.0000	Trapezoid	60.0000	0.0500	10.0000	2.0000	10.0000	10.0000
39	Link75	128.0000	Circular	1.7671	0.0140	1.5000	1.5000		
40	F090M07 OF	365.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
41	Link83	161.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
42	F080M06 OF	1586.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
43	348.1	299.0000	Circular	1.2272	0.0140	1.2500	1.2500		
44	m32OF	50.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
45	352.1	1127.0000	Circular	1.7671	0.0140	1.5000	1.5000		
46	M24 OF	1127.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
47	355.1	139.0000	Circular	3.1416	0.0140	2.0000	2.0000		
48	m28 of	105.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
49	357.1	116.0000	Circular	4.9087	0.0140	2.5000	2.5000		
50	361.1	499.0000	Circular	0.7854	0.0140	1.0000	1.0000		
51	F090M04 OF	499.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
52	363.1	310.0000	Circular	2.4053	0.0140	1.7500	1.7500		
53	F090M05 OF	310.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
54	364.1	338.0000	Circular	1.2272	0.0140	1.2500	1.2500		
55	F100M11 OF	322.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
56	365.1	308.0000	Circular	3.1416	0.0140	2.0000	2.0000		
57	F100M06 OF	257.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
58	366.1	165.0000	Circular	1.7671	0.0140	1.5000	1.5000		
59	370.1	283.0000	Circular	0.7854	0.0140	1.0000	1.0000		
60	F090M09 OF	283.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
61	371.1	303.0000	Circular	0.7854	0.0140	1.0000	1.0000		
62	F090M08 OF	303.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
63	374.1	34.0000	Circular	0.7854	0.0140	1.0000	1.0000		

64	F090M06 OF	34.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
65	375.1	487.0000	Circular	0.7854	0.0140	1.0000	1.0000		
66	F090M03 OF	487.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
67	376.1	390.0000	Circular	2.4053	0.0140	1.7500	1.7500		
68	F100M04 OF	390.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
69	377.1	229.0000	Circular	3.1416	0.0140	2.0000	2.0000		
70	F100M03 OF	229.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
71	378.1	331.0000	Circular	3.1416	0.0140	2.0000	2.0000		
72	F100M02 OF	331.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
73	383.1	378.0000	Circular	1.7671	0.0140	1.5000	1.5000		
74	F080M08 OF	301.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
75	385.1	48.0000	Circular	1.2272	0.0240	1.2500	1.2500		
76	387.1	58.0000	Circular	1.7671	0.0140	1.5000	1.5000		
77	389.1	140.0000	Circular	0.7854	0.0140	1.0000	1.0000		
78	391.1	229.0000	Circular	0.7854	0.0140	1.0000	1.0000		
79	392.1	880.0000	Circular	2.4053	0.0140	1.7500	1.7500		
80	M21 OF	880.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
81	398.1	348.0000	Circular	1.2272	0.0140	1.2500	1.2500		
82	F080M10 of	348.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
83	399.1	1255.0000	Circular	3.1416	0.0140	2.0000	2.0000		
84	E080M13	1247.0000	Trapezoid	204.0000	0.0450	2.0000	2.0000	50.0000	50.0000
85	401.1	114.0000	Circular	0.5411	0.0140	0.8300	0.8300		
86	F100M29 OF	114.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
87	402.1	645.0000	Circular	3.1416	0.0140	2.0000	2.0000		
88	F070M04 OF	644.0000	Trapezoid	204.0000	0.0200	2.0000	2.0000	50.0000	50.0000
89	423.1	259.0000	Circular	3.1416	0.0140	2.0000	2.0000		
90	F090M14 OF	318.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
91	430.1	298.0000	Circular	1.7671	0.0140	1.5000	1.5000		
92	F100M21 OF	298.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
93	433.1	7.0000	Circular	1.7671	0.0240	1.5000	1.5000		
94	F090M02 OF	33.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
Total length of all conduits 30372.0000 feet									

=====

	Table E2 - Conduit Factor Data	
--	--------------------------------	--

=====

Conduit Name	Number of Barrels	Entrance Loss Coef	Exit Loss Coef	Exp/Contc Coefficient	Time Weighting Parameter	Low Flow Roughness Factor	Depth at Which n Changes	Flow Routing	
LINE042	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link3	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link4	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link6	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link7	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link9	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link13	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link14	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link15	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link17	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link26	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link27	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link31	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link32	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link38	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link39	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link40	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link41	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link44	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link46	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link48	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link51	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link61	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link64	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link71	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link75	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
361.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
363.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
364.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
365.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
366.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
370.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
371.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
374.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
375.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
376.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
377.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
378.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
383.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
385.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
387.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
398.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
399.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
401.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
423.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
430.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave

433.1 1.0000 0.5000 0.5000 0.0000 0.8500 1.0000 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 Name	Courant Ratio	
LINE042	0.41	
Link3	0.68	
Link4	2.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link6	0.59	
Link7	1.15	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link9	0.78	
Link13	1.74	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link14	0.70	
Link15	2.89	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link17	0.63	
Link26	0.93	
Link27	0.77	
Link31	1.16	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link32	0.85	
Link38	4.08	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link39	2.21	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link40	2.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link41	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link44	0.46	
Link46	10.92	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link48	5.35	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link51	0.57	
OFLOW 1	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 2	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 3	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 4	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 5	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link61	0.50	
Link64	1.78	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 6	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F043M33 OF	0.53	
F042M61 OF	0.81	
F042M39 OF	0.08	
F060M02 OF	5.39	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F070M02 OF	3.45	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F070i05 OF	3.45	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link71	0.62	
F100M07 OF	5.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link75	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M07 OF	0.47	
Link83	1.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F080M06 OF	0.11	
348.1	0.64	
m32OF	3.42	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
352.1	0.18	
M24 OF	0.15	
355.1	1.73	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
m28 of	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
357.1	2.32	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
361.1	0.34	
F090M04 OF	0.34	
363.1	0.73	
F090M05 OF	0.55	
364.1	0.56	
F100M11 OF	0.53	
365.1	0.78	
F100M06 OF	0.67	
366.1	1.26	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
370.1	0.60	
F090M09 OF	0.60	
371.1	0.56	
F090M08 OF	0.56	
374.1	5.01	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M06 OF	5.03	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
375.1	0.35	
F090M03 OF	0.35	

```

376.1      0.58
F100M04 OF 0.44
377.1      1.05 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F100M03 OF 0.75
378.1      0.73
F100M02 OF 0.52
383.1      0.55
F080M08 OF 0.57
385.1      3.97 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
387.1      3.59 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
389.1      1.22 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
391.1      0.74
392.1      0.26
M21 OF     0.19
398.1      0.55
F080M10 of 0.49
399.1      0.19
E080M13    0.14
401.1      1.36 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F100M29 OF 1.50 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
402.1      0.37
F070M04 OF 0.27
423.1      0.93
F090M14 OF 0.54
430.1      0.70
F100M21 OF 0.57
433.1      29.78 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M02 OF 5.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

```

```

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

```

Full pipe or full open conduit volume
Input full depth volume..... 2.7594E+06 cubic feet

==> Warning !! The upstream and downstream junctions for the following conduits
have been reversed to correspond to the positive flow and decreasing
slope convention. A negative flow in the output thus means
the flow was from your original upstream junction to your original
downstream junction. Any initial flow has been multiplied by -1.

1. Conduit #...Link38 has been changed.
2. Conduit #...0FLOW 3 has been changed.
3. Conduit #...m32OF has been changed.
4. Conduit #...m28 of has been changed.
5. Conduit #...F090M06 OF has been changed.

```

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

```

Inp Num	Junction Name	Ground Elevation	Crown Elevation	Invert Elevation	Qinst cfs	Initial Depth-ft	Interface Flow (%)
1	F100E00	600.0000	583.5000	582.0000	0.0000	0.0000	100.0000
2	F100M31	614.2900	606.2900	594.1400	0.0000	0.0000	100.0000
3	F100M21	657.0900	646.0000	601.7400	0.0000	0.0000	100.0000
4	F100i01	619.4300	605.6800	604.1800	0.0000	0.0000	100.0000
5	F100M04	656.0700	655.6600	634.5700	0.0000	0.0000	100.0000
6	F100M07	655.5700	648.0000	639.3200	0.0000	0.0000	100.0000
7	F100M11	675.7400	667.7400	660.4400	0.0000	0.0000	100.0000
8	F090E00	600.0000	592.0000	580.5300	0.0000	0.0000	100.0000
9	F090M02	615.0700	607.0700	600.7700	0.0000	0.0000	100.0000
10	F090M05	616.2200	608.2200	602.0800	0.0000	0.0000	100.0000
11	F090M09	650.9700	650.6600	635.3700	0.0000	0.0000	100.0000
12	F090M04	646.4400	646.1600	632.2400	0.0000	0.0000	100.0000
13	F080E00	610.0000	599.0000	596.0000	0.0000	0.0000	100.0000
14	F080M14	613.8200	613.6600	599.0500	0.0000	0.0000	100.0000
15	F080M13	669.1100	661.1100	648.0900	0.0000	0.0000	100.0000
16	F080M06	671.6300	663.6300	658.6100	0.0000	0.0000	100.0000

17	F070M02	612.9400	612.6600	597.7100	0.0000	0.0000	100.0000
18	F070M01	612.0800	596.9300	594.4300	0.0000	0.0000	100.0000
19	F070E00	610.0000	604.0000	582.0000	0.0000	0.0000	100.0000
20	F060M01	611.0300	592.8200	591.3200	0.0000	0.0000	100.0000
21	F060E01	620.0000	599.5000	598.0000	0.0000	0.0000	100.0000
22	F050M01	613.1900	605.1800	593.3400	0.0000	0.0000	100.0000
23	F050E01	610.0000	609.6600	594.1400	0.0000	0.0000	100.0000
24	F050E00	610.0000	602.0000	590.3600	0.0000	0.0000	100.0000
25	F042M18	616.9300	602.3800	600.3800	0.0000	0.0000	100.0000
26	F042M13	613.8100	596.6100	594.6100	0.0000	0.0000	100.0000
27	F042M19	617.3300	616.1600	601.9300	0.0000	0.0000	100.0000
28	F042M24	660.3200	653.3200	644.2000	0.0000	0.0000	100.0000
29	F042M28	659.9500	652.2500	644.7300	0.0000	0.0000	100.0000
30	F042M39	659.6500	652.5000	645.4000	0.0000	0.0000	100.0000
31	F042M61	659.3500	654.0000	645.5200	0.0000	0.0000	100.0000
32	F042M32	660.8800	653.2500	646.9100	0.0000	0.0000	100.0000
33	F042M33	660.8500	653.5000	647.7500	0.0000	0.0000	100.0000
34	EBMPF080	608.0000	607.6600	601.0000	0.0000	0.0000	100.0000
35	F090M08	629.9600	621.9600	614.8000	0.0000	0.0000	100.0000
36	F090M07	620.9800	612.9800	605.6800	0.0000	0.0000	100.0000
37	F090M06	616.0700	608.0700	603.1700	0.0000	0.0000	100.0000
38	SLOPECHANG	620.0000	605.4800	603.9700	0.0000	0.0000	100.0000
39	F090M03	622.4400	614.4400	607.1900	0.0000	0.0000	100.0000
40	F100M27	614.3100	596.9200	594.9200	0.0000	0.0000	100.0000
41	F100M03	628.7600	620.7600	612.5100	0.0000	0.0000	100.0000
42	F100M02	621.8000	613.8000	605.6000	0.0000	0.0000	100.0000
43	F100M26	608.7600	590.6600	588.6600	0.0000	0.0000	100.0000
44	F100M32	610.0000	587.8900	585.8900	0.0000	0.0000	100.0000
45	F080M08	684.4500	676.4500	669.6500	0.0000	0.0000	100.0000
46	F080M05	683.8700	667.2700	666.2700	0.0000	0.0000	100.0000
47	F080i48	613.3100	601.7500	599.7500	0.0000	0.0000	100.0000
48	F080 TAP	610.0000	599.6400	596.6400	0.0000	0.0000	100.0000
49	F060M02	611.5600	603.1000	591.6100	0.0000	0.0000	100.0000
50	F060i07	615.0000	598.0000	597.0000	0.0000	0.0000	100.0000
51	F060i11	612.7300	612.5600	598.0000	0.0000	0.0000	100.0000
52	F060E00	603.0000	602.0000	584.3200	0.0000	0.0000	100.0000
53	F042M21	626.6000	618.6000	611.9900	0.0000	0.0000	100.0000
54	F080M10	694.9200	686.9200	680.4200	0.0000	0.0000	100.0000
55	F080M02	616.3900	608.3900	603.1100	0.0000	0.0000	100.0000
56	F100M29	615.1200	607.1200	598.0000	0.0000	0.0000	100.0000
57	F070M04	620.5900	612.5900	604.0000	0.0000	0.0000	100.0000
58	F070i05	609.5300	605.1000	595.5000	0.0000	0.0000	100.0000
59	E040i34	660.0000	648.5400	640.0000	0.0000	0.0000	100.0000

60	F090M14	607.5500	599.5500	588.0000	0.0000	0.0000	100.0000
61	F100M06	657.1600	648.8000	638.1600	0.0000	0.0000	100.0000
62	F100M28	614.3200	606.3200	596.5000	0.0000	0.0000	100.0000
63	F100E01	618.0000	598.5000	597.0000	0.0000	0.0000	100.0000
64	F100 E OF	610.0000	590.0000	590.0000	0.0000	0.0000	100.0000
65	F090M02OUT	610.0000	606.5000	590.0000	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	F100E00	0.0000	0.0000	No P	Normal		0	0.0000
2	F100M31	0.0000	0.0000	No P	Normal		0	0.0000
3	F100M21	0.0000	0.0000	No P	Normal		0	0.0000
4	F100i01	0.0000	0.0000	No P	Normal		0	0.0000
5	F100M04	0.0000	0.0000	No P	Normal		0	0.0000
6	F100M07	0.0000	0.0000	No P	Normal		0	0.0000
7	F100M11	0.0000	0.0000	No P	Normal		0	0.0000
8	F090E00	0.0000	0.0000	No P	Normal		0	0.0000
9	F090M02	0.0000	0.0000	No P	Normal		0	0.0000
10	F090M05	0.0000	0.0000	No P	Normal		0	0.0000
11	F090M09	0.0000	0.0000	No P	Normal		0	0.0000
12	F090M04	0.0000	0.0000	No P	Normal		0	0.0000
13	F080E00	0.0000	0.0000	No P	Normal		0	0.0000
14	F080M14	0.0000	0.0000	No P	Normal		0	0.0000
15	F080M13	0.0000	0.0000	No P	Normal		0	0.0000
16	F080M06	0.0000	0.0000	No P	Normal		0	0.0000
17	F070M02	0.0000	0.0000	No P	Normal		0	0.0000
18	F070M01	0.0000	0.0000	No P	Normal		0	0.0000
19	F070E00	0.0000	0.0000	No P	Normal		0	0.0000
20	F060M01	0.0000	0.0000	No P	Normal		0	0.0000
21	F060E01	0.0000	0.0000	No P	Normal		0	0.0000
22	F050M01	0.0000	0.0000	No P	Normal		0	0.0000
23	F050E01	0.0000	0.0000	No P	Normal		0	0.0000
24	F050E00	0.0000	0.0000	No P	Normal		0	0.0000
25	F042M18	0.0000	0.0000	No P	Normal		0	0.0000
26	F042M13	0.0000	0.0000	No P	Normal		0	0.0000
27	F042M19	0.0000	0.0000	No P	Normal		0	0.0000
28	F042M24	0.0000	0.0000	No P	Normal		0	0.0000
29	F042M28	0.0000	0.0000	No P	Normal		0	0.0000
30	F042M39	0.0000	0.0000	No P	Normal		0	0.0000
31	F042M61	0.0000	0.0000	No P	Normal		0	0.0000
32	F042M32	0.0000	0.0000	No P	Normal		0	0.0000
33	F042M33	0.0000	0.0000	No P	Normal		0	0.0000

34	EBMPF080	0.0000	0.0000	No P	Normal	0	0.0000
35	F090M08	0.0000	0.0000	No P	Normal	0	0.0000
36	F090M07	0.0000	0.0000	No P	Normal	0	0.0000
37	F090M06	0.0000	0.0000	No P	Normal	0	0.0000
38	SLOPECHANG	0.0000	0.0000	No P	Normal	0	0.0000
39	F090M03	0.0000	0.0000	No P	Normal	0	0.0000
40	F100M27	0.0000	0.0000	No P	Normal	0	0.0000
41	F100M03	0.0000	0.0000	No P	Normal	0	0.0000
42	F100M02	0.0000	0.0000	No P	Normal	0	0.0000
43	F100M26	0.0000	0.0000	No P	Normal	0	0.0000
44	F100M32	0.0000	0.0000	No P	Normal	0	0.0000
45	F080M08	0.0000	0.0000	No P	Normal	0	0.0000
46	F080M05	0.0000	0.0000	No P	Normal	0	0.0000
47	F080i48	0.0000	0.0000	No P	Normal	0	0.0000
48	F080 TAP	0.0000	0.0000	No P	Normal	0	0.0000
49	F060M02	0.0000	0.0000	No P	Normal	0	0.0000
50	F060i07	0.0000	0.0000	No P	Normal	0	0.0000
51	F060i11	0.0000	0.0000	No P	Normal	0	0.0000
52	F060E00	0.0000	0.0000	No P	Normal	0	0.0000
53	F042M21	0.0000	0.0000	No P	Normal	0	0.0000
54	F080M10	0.0000	0.0000	No P	Normal	0	0.0000
55	F080M02	0.0000	0.0000	No P	Normal	0	0.0000
56	F100M29	0.0000	0.0000	No P	Normal	0	0.0000
57	F070M04	0.0000	0.0000	No P	Normal	0	0.0000
58	F070i05	0.0000	0.0000	No P	Normal	0	0.0000
59	E040i34	0.0000	0.0000	No P	Normal	0	0.0000
60	F090M14	0.0000	0.0000	No P	Normal	0	0.0000
61	F100M06	0.0000	0.0000	No P	Normal	0	0.0000
62	F100M28	0.0000	0.0000	No P	Normal	0	0.0000
63	F100E01	0.0000	0.0000	No P	Normal	0	0.0000
64	F100 E OF	0.0000	0.0000	No P	Normal	0	0.0000
65	F090M02OUT	0.0000	0.0000	No P	Normal	0	0.0000

* ===== *

| Table E4 - Conduit Connectivity |

* ===== *

Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation	
1	LINE042	F042M32	F042M61	646.9100	645.5200	No Design
2	Link3	F042M61	F042M28	645.5200	644.7300	No Design
3	Link4	F042M28	F042M24	644.7300	644.2000	No Design
4	Link6	F042M19	F042M18	601.9300	600.3800	No Design
5	Link7	F042M18	F042M13	600.3800	594.6100	No Design
6	Link9	F050M01	F050E01	599.3400	594.1400	No Design
7	Link13	F070M02	F070M01	597.7100	594.4300	No Design

8	Link14	F070M01	F070E00	594.4300	582.0000 No Design
9	Link15	F080M14	F080 TAP	599.0500	596.6400 No Design
10	Link17	F090M02	F090M14	600.7700	588.0000 No Design
11	Link26	F080i48	F080 TAP	599.7500	596.6400 No Design
12	Link27	F080M06	F080M13	658.6100	648.0900 No Design
13	Link31	F090M07	SLOPECHANG	605.6800	604.4800 No Design
14	Link32	SLOPECHANG	F090M06	603.9700	603.1700 No Design
15	Link38	F100M27	F100M31	594.9200	594.1400 No Design
16	Link39	F100M27	F100M26	594.9200	588.6600 No Design
17	Link40	F100M26	F100M32	588.6600	585.8900 No Design
18	Link41	F100M32	F100E00	585.9900	582.0000 No Design
19	Link44	F080M05	F080M13	666.2700	648.0900 No Design
20	Link46	F080 TAP	F080E00	596.6400	596.0000 No Design
21	Link48	F060M02	F060M01	591.6100	591.3200 No Design
22	Link51	F060M01	F060E00	591.3200	584.3200 No Design
23	OFLOW 1	F042M19	F060i11	616.0000	612.0000 No Design
24	OFLOW 2	F060i11	F070M02	612.4000	612.4000 No Design
25	OFLOW 3	F080M14	F070M02	613.5000	612.5000 No Design
26	OFLOW 4	F090M04	EBMPF080	646.0000	607.5000 No Design
27	OFLOW 5	F100M04	F090M09	655.5000	650.5000 No Design
28	Link61	F080M02	F080M14	603.1100	599.0500 No Design
29	Link64	F070i05	F070M01	595.5000	594.4300 No Design
30	OFLOW 6	F050E01	F060E00	609.5000	594.0000 No Design
31	F043M33 OF	F042M33	E040i34	651.5000	646.5400 No Design
32	F042M61 OF	F042M61	F042M24	651.0000	650.3200 No Design
33	F042M39 OF	F042M39	F060i11	650.5000	600.0000 No Design
34	F060M02 OF	F060M02	F060E00	601.1000	600.0000 No Design
35	F070M02 OF	F070M02	F070E00	603.1000	602.0000 No Design
36	F070i05 OF	F070i05	F070E00	603.1000	602.0000 No Design
37	Link71	F100M07	F100M06	639.3200	638.1600 No Design
38	F100M07 OF	F100M07	F100M21	646.0000	644.0000 No Design
39	Link75	F100M28	F100M27	596.5000	594.9200 No Design
40	F090M07 OF	F090M07	F090M05	610.9800	606.2200 No Design
41	Link83	F050M01	F050E00	603.1800	600.0000 No Design
42	F080M06 OF	F080M06	F080M02	661.6300	606.3900 No Design
43	348.1	F042M33	F042M32	647.7500	646.9100 No Design
44	m32OF	F042M32	F042M33	651.2500	650.8500 No Design
45	352.1	F042M24	F042M21	644.2000	611.9900 No Design
46	M24 OF	F042M24	F042M21	650.3200	616.6000 No Design
47	355.1	F042M39	F042M28	645.4000	644.7300 No Design
48	m28 of	F042M28	F042M39	650.2500	649.6500 No Design
49	357.1	F050E01	F050E00	594.1400	590.3600 No Design
50	361.1	F090M04	F090M03	632.2400	607.1900 No Design
51	F090M04 OF	F090M04	F090M03	636.4400	612.4400 No Design

52	363.1	F090M05	F090M02	602.0800	600.7700	No Design
53	F090M05 OF	F090M05	F090M02	606.2200	605.0700	No Design
54	364.1	F100M11	F100M07	660.4400	639.3200	No Design
55	F100M11 OF	F100M11	F100M07	665.7400	645.5700	No Design
56	365.1	F100M06	F100M04	638.1600	634.5700	No Design
57	F100M06 OF	F100M06	F100M04	646.8000	645.7700	No Design
58	366.1	F100i01	F100M21	604.1800	601.7400	No Design
59	370.1	F090M09	F090M08	635.3700	614.8000	No Design
60	F090M09 OF	F090M09	F090M08	640.9700	619.9600	No Design
61	371.1	F090M08	F090M07	614.8000	605.6800	No Design
62	F090M08 OF	F090M08	F090M07	619.9600	610.9800	No Design
63	374.1	F090M06	F090M05	603.1700	602.0800	No Design
64	F090M06 OF	F090M05	F090M06	606.2200	606.0700	No Design
65	375.1	F090M03	F090M02	607.1900	600.7700	No Design
66	F090M03 OF	F090M03	F090M02	612.4400	605.0700	No Design
67	376.1	F100M04	F100M03	634.5700	612.5100	No Design
68	F100M04 OF	F100M04	F100M03	646.0700	618.7600	No Design
69	377.1	F100M03	F100M02	612.5100	605.6000	No Design
70	F100M03 OF	F100M03	F100M02	618.7600	611.8000	No Design
71	378.1	F100M02	F100M31	605.6000	594.1400	No Design
72	F100M02 OF	F100M02	F100M31	611.8000	604.2900	No Design
73	383.1	F080M08	F080M06	669.6500	658.6100	No Design
74	F080M08 OF	F080M08	F080M06	674.4500	661.6300	No Design
75	385.1	EBMPF080	F080i48	601.0000	600.2400	No Design
76	387.1	F060E01	F060M02	598.0000	595.3600	No Design
77	389.1	F060i07	F060M02	597.0000	595.9600	No Design
78	391.1	F060i11	F060M02	598.0000	595.3600	No Design
79	392.1	F042M21	F042M19	611.9900	601.9300	No Design
80	M21 OF	F042M21	F042M19	616.6000	607.3300	No Design
81	398.1	F080M10	F080M08	680.4200	669.6500	No Design
82	F080M10 OF	F080M10	F080M08	684.9200	674.4500	No Design
83	399.1	F080M13	F080M02	648.0900	603.1100	No Design
84	E080M13	F080M13	F080M02	659.1100	606.3900	No Design
85	401.1	F100M29	F100M31	598.0000	594.1400	No Design
86	F100M29 OF	F100M29	F100M31	605.1200	604.2900	No Design
87	402.1	F070M04	F070M02	604.0000	597.7100	No Design
88	F070M04 OF	F070M04	F070M02	610.5900	602.9400	No Design
89	423.1	F090M14	F090E00	588.0000	580.5300	No Design
90	F090M14 OF	F090M14	F090E00	597.5500	590.0000	No Design
91	430.1	F100M21	F100M28	601.7400	596.5000	No Design
92	F100M21 OF	F100M21	F100M28	607.0900	604.3200	No Design
93	433.1	F100E01	F100M28	597.0000	596.5000	No Design
94	F090M02 OF	F090M02	F090M02OUT	605.0000	604.5000	No Design

```

====> Warning !!! Node: F060E01      Area decreases between stages      0.000 and      0.000
====> Warning !!! Node: F060E01      Area = 0.0 at stage      0.000 Area reset to      0.000

```

```

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

```

STORAGE JUNCTION NUMBER OR NAME	JUNCTION TYPE	MAXIMUM OR CONSTANT SURFACE AREA (FT2)	PEAK OR CONSTANT VOLUME (CUBIC FEET)	CROWN ELEVATION (FT)	DEPTH STARTS FROM
F060E01	Stage/Area	3637.2600	70637.2872	620.0000	Node Invert
F050E01	Stage/Area	26571.6000	282568.7076	610.0000	Node Invert
EBMPF080	Stage/Area	31363.2000	147477.6631	608.0000	Node Invert
F060i07	Stage/Area	39204.0000	498713.9380	615.0000	Node Invert
F060i11	Stage/Area	28270.4400	244127.1496	612.7300	Node Invert
F100E01	Stage/Area	18966.0240	270847.8572	618.0000	Node Invert

```

*=====
|      Variable storage data for node | F060E01
*=====

```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
3	600.0000	2.0000	1045.4400	744.8451	0.0240	0.0171
4	602.0000	4.0000	3637.2600	5166.6072	0.0835	0.1186
5	620.0000	22.0000	3637.2600	70637.2872	0.0835	1.6216

```

*=====
|      Variable storage data for node | F050E01
*=====

```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	594.1400	0.0000	4.3560	0.0000	0.0001	0.0000
2	596.0000	1.8600	3920.4000	2514.3452	0.0900	0.0577
3	598.0000	3.8600	7405.2000	13656.6834	0.1700	0.3135
4	600.0000	5.8600	11761.2000	32655.7058	0.2700	0.7497
5	602.0000	7.8600	26571.6000	69995.9076	0.6100	1.6069
6	610.0000	15.8600	26571.6000	282568.7076	0.6100	6.4869

```

*=====
|      Variable storage data for node | EBMPF080
*=====

```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	601.0000	0.0000	12196.8000	0.0000	0.2800	0.0000
2	602.0000	1.0000	14374.8000	13270.7652	0.3300	0.3047
3	603.0000	2.0000	16988.4000	28934.0269	0.3900	0.6642
4	604.0000	3.0000	19166.4000	47000.3026	0.4400	1.0790
5	605.0000	4.0000	21780.0000	67459.3817	0.5000	1.5487
6	606.0000	5.0000	25264.8000	90960.0060	0.5800	2.0882
7	608.0000	7.0000	31363.2000	147477.6631	0.7200	3.3856

```

*=====
|      Variable storage data for node | F060i07
*=====

```

Data	Elevation	Depth	Area	Volume	Area	Volume
------	-----------	-------	------	--------	------	--------

Point	ft	ft	ft^2	ft^3	acres	ac-ft
1	597.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	598.0000	1.0000	958.3200	342.4252	0.0220	0.0079
3	600.0000	3.0000	4268.8800	5175.5839	0.0980	0.1198
4	602.0000	5.0000	11107.8000	20017.2642	0.2550	0.4595
5	604.0000	7.0000	39204.0000	67469.9380	0.9000	1.5489
6	615.0000	18.0000	39204.0000	498713.9380	0.9000	11.4489

=====

| Variable storage data for node | F060i11

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	600.0000	2.0000	108.9000	90.0231	0.0025	0.0021
3	602.0000	4.0000	3267.0000	2738.2432	0.0750	0.0629
4	604.0000	6.0000	10846.4400	16115.5743	0.2490	0.3700
5	606.0000	8.0000	28270.4400	53867.0884	0.6490	1.2366
6	612.7300	14.7300	28270.4400	244127.1496	0.6490	5.6044

=====

| Variable storage data for node | F100E01

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	597.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	600.0000	3.0000	714.3840	774.5163	0.0164	0.0178
3	602.0000	5.0000	3502.2240	4640.0496	0.0804	0.1065
4	604.0000	7.0000	8598.7440	16365.7035	0.1974	0.3757
5	606.0000	9.0000	18966.0240	43255.5692	0.4354	0.9930
6	618.0000	21.0000	18966.0240	270847.8572	0.4354	6.2178

=====

| Weir Data |

=====

Weir Power	Weir Name	From Junction	To Junction	Type	Crest Height(ft)	Weir Top(ft)	Weir Length(ft)	Discharge Coefficient
1.5000	e01 OF	F050E01	F050E00	1	6.58	7.86	25.00	3.3000
1.5000	F100i01 OV	F100i01	F100M21	1	6.07	8.07	20.00	3.3000
1.5000	F080 EMER	EBMPF080	F080i48	1	4.25	7.00	20.00	3.3000
1.5000	060E01 OF	F060E01	F060M02	1	3.50	4.00	30.00	3.3000
1.5000	i07 of	F060i07	F060M02	1	5.20	7.00	50.00	3.3000
1.5000	i11 OF	F060i11	F060M02	1	6.75	8.00	40.00	3.3000
1.5000	OF F042M19	F042M19	F050E01	1	6.07	8.07	30.00	3.3000
1.5000	100E01 OVF	F100E01	F100M28	1	7.23	9.00	20.00	3.3000
1.5000	F100M28 OV	F100M28	F100 E OF	1	7.55	9.50	20.00	3.3000
1.5000	M100M27 OV	F100M27	F100 E OF	1	9.13	11.08	20.00	3.3000
1.5000	F100M31 OV	F100M31	F100 E OF	1	9.91	11.86	20.00	3.3000

```

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

```

```

Outfall at Junction...F100E00      has boundary condition number...    1
Outfall at Junction...F090E00      has boundary condition number...    2
Outfall at Junction...F080E00      has boundary condition number...    3
Outfall at Junction...F070E00      has boundary condition number...    4
Outfall at Junction...F050E00      has boundary condition number...    5
Outfall at Junction...F042M13      has boundary condition number...    6
Outfall at Junction...F060E00      has boundary condition number...    7
Outfall at Junction...E040i34      has boundary condition number...    8
Outfall at Junction...F100 E OF     has boundary condition number...    9
Outfall at Junction...F090M02OUT    has boundary condition number...   10

```

```

==> Warning !! Outfall Junction F090E00      has two or more connecting conduits.
==> Warning !! Outfall Junction F070E00      has two or more connecting conduits.
==> Warning !! Outfall Junction F050E00      has two or more connecting conduits.
==> Warning !! Outfall Junction F060E00      has two or more connecting conduits.
==> Warning !! Outfall Junction F100 E OF     has two or more connecting conduits.

```

```

* =====*
|          Weir Outfall Data          |
|          Boundary Condition on data group J1        |
* =====*

```

```

Weir Outfall at Junction... F050E00      has boundary condition number...    5
Weir Outfall at Junction... F100 E OF     has boundary condition number...    9
Weir Outfall at Junction... F100 E OF     has boundary condition number...    9
Weir Outfall at Junction... F100 E OF     has boundary condition number...    9

```

```

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

```

CONDUIT	JUNCTION	JUNCTION
e01 OF	F050E01	F050E00
F100i01 OV	F100i01	F100M21
F080 EMER	EBMPF080	F080i48
060E01 OF	F060E01	F060M02
i07 of	F060i07	F060M02
i11 OF	F060i11	F060M02
OF F042M19	F042M19	F050E01
100E01 OV	F100E01	F100M28
F100M28 OV	F100M28	F100 E OF
M100M27 OV	F100M27	F100 E OF
F100M31 OV	F100M31	F100 E OF
FREE # 1	F100E00	BOUNDARY
FREE # 2	F090E00	BOUNDARY
FREE # 3	F080E00	BOUNDARY
FREE # 4	F070E00	BOUNDARY
FREE # 5	F050E00	BOUNDARY
FREE # 6	F042M13	BOUNDARY
FREE # 7	F060E00	BOUNDARY
FREE # 8	E040i34	BOUNDARY
FREE # 9	F100 E OF	BOUNDARY
FREE #10	F090M02OUT	BOUNDARY

```

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

```

```

BC NUMBER..      1 has no control water surface.
BC NUMBER..      2 has no control water surface.
BC NUMBER..      3 has no control water surface.
BC NUMBER..      4 has no control water surface.
BC NUMBER..      5 has no control water surface.
BC NUMBER..      6 has no control water surface.
BC NUMBER..      7 has no control water surface.
BC NUMBER..      8 has no control water surface.
BC NUMBER..      9 has no control water surface.
BC NUMBER..     10 has no control water surface.

```

```

#####
# Header information from interface file: #

```

#####

Title from first computational layer:

A1
Village of Allouez

Title from immediately preceding computational layer

A1
Village of Allouez

Name of preceding layer:..... Runoff Layer
Initial Julian date (IDATEZ)..... 2012343
Initial time of day in seconds (TZERO)..... 0.0
No. Transferred input locations..... 32
No. Transferred pollutants..... 0
Size of total catchment area (acres)..... 260.16

Element numbers of interface inlet locations: #
#####

F042M33	F042M32	F042M61	F042M39	F042M24	F042M19	F050M01
F050E01	F060M02	F070M04	F070M02	F070i05	F080M10	F080M06
F080M13	F080M02	F080M14	F090M04	F100M11	F100M07	F100i01
F100M21	F100M29	F100M31	F100M06	F100M04	F090M09	F090M05
F090M02	F090M14	EBMPF080	F080i48			

Conversion factor to cfs for flow units on interface file. Multiply by: 1.00000

Important Information #####
Interface file start: 2012/12/08 00:00:00
Simulation start: 2012/12/08 00:00:00
Same date/time found in interface file and model

=====

	XP Note Field Summary	
--	-----------------------	--

=====

=====

	Conduit Convergence Criteria	
--	------------------------------	--

=====

Conduit Name	Full Flow	Conduit Slope
-----	-----	-----
LINE042	3.2831	0.0030
Link3	9.9376	0.0022
Link4	16.0314	0.0058
Link6	12.9476	0.0038
Link7	34.9035	0.0276
Link9	5.1095	0.0239
Link13	32.3856	0.0238
Link14	68.5252	0.0324
Link15	95.2005	0.0236
Link17	38.3575	0.0333
Link26	23.0635	0.0121
Link27	38.5731	0.0337
Link31	2.9891	0.0082
Link32	2.0924	0.0040
Link38	24.1532	0.0132
Link39	50.3417	0.0574
Link40	36.6499	0.0304

Link41	17.2213	0.0312
Link44	7.3235	0.0490
Link46	95.3540	0.0237
Link48	8.4111	0.0074
Link51	7.8368	0.0190
OFLOW 1	0.0869	0.1212
OFLOW 2	0.0008	0.0000
OFLOW 3	0.0435	0.0303
OFLOW 4	0.2696	1.1667
OFLOW 5	0.0972	0.1515
Link61	32.9948	0.0075
Link64	18.7016	0.0079
OFLOW 6	0.1711	0.4697
F043M33 OF	2700.5718	0.0154
F042M61 OF	6674.1470	0.0026
F042M39 OF	241.3741	0.0216
F060M02 OF	1379.8731	0.0333
F070M02 OF	6719.1485	0.0220
F070i05 OF	6719.1485	0.0220
Link71	11.4860	0.0030
F100M07 OF	494.4161	0.0606
Link75	10.8370	0.0123
F090M07 OF	2488.7037	0.0130
Link83	3062.7869	0.0198
F080M06 OF	4067.1613	0.0348
348.1	3.1793	0.0028
m32OF	1949.2213	0.0080
352.1	16.4899	0.0286
M24 OF	3769.6235	0.0299
355.1	14.5842	0.0048
m28 of	1647.3927	0.0057
357.1	68.7539	0.0326
361.1	7.4124	0.0502
F090M04 OF	4779.3793	0.0481
363.1	9.5645	0.0042
F090M05 OF	1327.3462	0.0037
364.1	14.9942	0.0625
F100M11 OF	5454.3269	0.0626
365.1	22.6791	0.0117
F100M06 OF	1379.6477	0.0040
366.1	11.8614	0.0148
370.1	8.9193	0.0727
F090M09 OF	5937.9421	0.0742
371.1	5.7396	0.0301

F090M08 OF	3751.7424	0.0296
374.1	5.9235	0.0321
F090M06 OF	1447.5125	0.0044
375.1	3.7985	0.0132
F090M03 OF	2680.9296	0.0151
376.1	34.9928	0.0566
F100M04 OF	5766.9302	0.0700
377.1	36.4901	0.0302
F100M03 OF	3799.2951	0.0304
378.1	39.0870	0.0346
F100M02 OF	3282.6314	0.0227
383.1	16.6695	0.0292
F080M08 OF	4497.5595	0.0426
385.1	4.4029	0.0158
387.1	20.8100	0.0455
389.1	2.8514	0.0074
391.1	3.5522	0.0115
392.1	15.7314	0.0114
M21 OF	2236.7358	0.0105
398.1	10.5524	0.0309
F080M10 of	3780.0702	0.0301
399.1	39.7687	0.0358
E080M13	1394.0750	0.0423
401.1	3.7039	0.0339
F100M29 OF	1859.5282	0.0073
402.1	20.7443	0.0098
F070M04 OF	1662.6544	0.0119
423.1	35.6750	0.0288
F090M14 OF	3357.9642	0.0237
430.1	12.9343	0.0176
F100M21 OF	2101.1057	0.0093
433.1	15.2068	0.0714
F090M02 OF	2682.5275	0.0152

```

*=====
| Initial Model Condition |
| Initial Time = 0.01 hours |
*=====

```

Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.					
F100E00/	0.00 /	582.00		F100M31/	0.00 /	594.14	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18		F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44		F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08		F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00		F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61		F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00		F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34		F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38		F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20		F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52		F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPF080/	0.00 /	601.00		F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17		SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19

F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.00 /	585.89	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.00 /	599.75	F080 TAP/	0.00 /	596.64
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

Conduit/ FLOW ==> "*" Conduit uses the normal flow option.

LINE042/	0.00	Link3/	0.00	Link4/	0.00
Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/	0.00
F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00
i11 OF/	0.00	OF F042M19/	0.00	100E01 OVF/	0.00
F100M28 OV/	0.00	M100M27 OV/	0.00	F100M31 OV/	0.00
FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/	0.00
FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00
FREE # 7/	0.00	FREE # 8/	0.00	FREE # 9/	0.00
FREE #10/	0.00				

Conduit/	Velocity				
LINE042/	0.00	Link3/	0.00	Link4/	0.00
Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00				

Conduit/	Cross Sectional Area				
LINE042/	0.00	Link3/	0.00	Link4/	0.00

Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00				

Conduit/	Hydraulic Radius				
LINE042/	0.00	Link3/	0.00	Link4/	0.00
Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00				

Conduit/	Upstream/	Downstream Elevation					
LINE042/	645.52/	645.52	Link3/	644.73/	644.73	Link4/	644.20/ 644.20
Link6/	600.38/	600.38	Link7/	594.61/	594.61	Link9/	594.14/ 594.14
Link13/	594.43/	594.43	Link14/	582.00/	582.00	Link15/	596.64/ 596.64
Link17/	588.00/	588.00	Link26/	596.64/	596.64	Link27/	648.09/ 648.09
Link31/	603.97/	603.97	Link32/	603.17/	603.17	Link38/	594.14/ 594.14
Link39/	588.66/	588.66	Link40/	585.89/	585.89	Link41/	582.00/ 582.00
Link44/	648.09/	648.09	Link46/	596.00/	596.00	Link48/	591.32/ 591.32
Link51/	584.32/	584.32	OFLOW 1/	598.00/	598.00	OFLOW 2/	597.71/ 597.71
OFLOW 3/	597.71/	597.71	OFLOW 4/	601.00/	601.00	OFLOW 5/	635.37/ 635.37
Link61/	599.05/	599.05	Link64/	594.43/	594.43	OFLOW 6/	584.32/ 584.32
F043M33 OF/	640.00/	640.00	F042M61 OF/	644.20/	644.20	F042M39 OF/	598.00/ 598.00
F060M02 OF/	584.32/	584.32	F070M02 OF/	582.00/	582.00	F070i05 OF/	582.00/ 582.00
Link71/	638.16/	638.16	F100M07 OF/	601.74/	601.74	Link75/	594.92/ 594.92
F090M07 OF/	602.08/	602.08	Link83/	590.36/	590.36	F080M06 OF/	603.11/ 603.11
348.1/	646.91/	646.91	m32OF/	647.75/	647.75	352.1/	611.99/ 611.99
M24 OF/	611.99/	611.99	355.1/	644.73/	644.73	m28 of/	645.40/ 645.40
357.1/	590.36/	590.36	361.1/	607.19/	607.19	F090M04 OF/	607.19/ 607.19
363.1/	600.77/	600.77	F090M05 OF/	600.77/	600.77	364.1/	639.32/ 639.32
F100M11 OF/	639.32/	639.32	365.1/	634.57/	634.57	F100M06 OF/	634.57/ 634.57
366.1/	601.74/	601.74	370.1/	614.80/	614.80	F090M09 OF/	614.80/ 614.80

371.1/	605.68/	605.68	F090M08 OF/	605.68/	605.68	374.1/	602.08/	602.08
F090M06 OF/	603.17/	603.17	375.1/	600.77/	600.77	F090M03 OF/	600.77/	600.77
376.1/	612.51/	612.51	F100M04 OF/	612.51/	612.51	377.1/	605.60/	605.60
F100M03 OF/	605.60/	605.60	378.1/	594.14/	594.14	F100M02 OF/	594.14/	594.14
383.1/	658.61/	658.61	F080M08 OF/	658.61/	658.61	385.1/	599.75/	599.75
387.1/	591.61/	591.61	389.1/	591.61/	591.61	391.1/	591.61/	591.61
392.1/	601.93/	601.93	M21 OF/	601.93/	601.93	398.1/	669.65/	669.65
F080M10 of/	669.65/	669.65	399.1/	603.11/	603.11	E080M13/	603.11/	603.11
401.1/	594.14/	594.14	F100M29 OF/	594.14/	594.14	402.1/	597.71/	597.71
F070M04 OF/	597.71/	597.71	423.1/	580.53/	580.53	F090M14 OF/	580.53/	580.53
430.1/	596.50/	596.50	F100M21 OF/	596.50/	596.50	433.1/	596.50/	596.50
F090M02 OF/	590.00/	590.00						

Cycle 500 Time 4 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.		
F100E00/	0.00 /	582.00	F100M31/	0.00 /	594.14
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37
F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61
F042M24/	0.02 /	644.22	F042M28/	0.06 /	644.79
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91
EBMPF080/	0.00 /	601.00	F090M08/	0.00 /	614.80
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51
F100M26/	0.00 /	588.66	F100M32/	0.00 /	585.89
F080M05/	0.00 /	666.27	F080i48/	0.00 /	599.75
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00
Conduit/	FLOW	====> "*" Conduit uses the normal flow option.			
LINE042/	0.00	Link3/	0.00	Link4/	0.02
Link7/	0.00	Link9/	0.00	Link13/	0.00
Link15/	0.00	Link17/	0.00	Link26/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link40/	0.00	Link41/	0.00	Link44/	0.00
Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00
F042M39 OF/	0.00	F060M02 OF/	0.00	F070M02 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00
352.1/	0.01	M24 OF/	0.00	355.1/	0.02*
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
F090M05 OF/	0.00	364.1/	0.00	F100M11 OF/	0.00
F100M06 OF/	0.00	366.1/	0.00	370.1/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00
377.1/	0.00	F100M03 OF/	0.00	378.1/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
389.1/	0.00	391.1/	0.00	392.1/	0.00
398.1/	0.00	F080M10 of/	0.00	399.1/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00
433.1/	0.00	F090M02 OF/	0.00	e01 OF/	0.00

0.00	Link6/
0.00	Link14/
0.00	Link27/
0.00	Link39/
0.00	Link46/
0.00	OFLOW 2/
0.00	Link61/
0.00	F042M61 OF/
0.00	F070i05 OF/
0.00	F090M07 OF/
0.00	m320F/
0.00	m28 of/
0.00	363.1/
0.00	365.1/
0.00	F090M09 OF/
0.00	F090M06 OF/
0.00	F100M04 OF/
0.00	F100M02 OF/
0.00	387.1/
0.00	M21 OF/
0.00	E080M13/
0.00	F070M04 OF/
0.00	F100M21 OF/
0.00	F100i01 OV/

0.00	F080 EMER/	0.00	060E01 OF/	0.00	107 of/	0.00	111 OF/
0.00	OF F042M19/	0.00	100E01 OVE/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00	FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle 1000 Time 8 Hrs - 20.00 Min

Conduit /	Depth /	Elevation	====>	"*" Junction is Surcharged.			
F100E00/	0.19 /	582.19		F100M21/	0.95 /	595.09	F100M21/
F100i01/	0.37 /	604.25		F100M04/	0.14 /	634.71	F100M07/
F100M11/	0.09 /	600.53		F090E00/	0.11 /	580.64	F090M02/
F090M05/	0.14 /	602.22		F090M09/	0.04 /	635.41	F090M04/
F080E00/	0.09 /	596.09		F080M14/	0.09 /	599.14	F080M13/
F080M06/	0.02 /	658.63		F070M02/	0.17 /	597.88	F070M01/
F070E00/	0.17 /	582.17		F060M01/	0.49 /	591.81	F060E01/
F050M01/	0.07 /	599.41		F050E01/	0.09 /	594.23	F050E00/
F042M18/	0.24 /	600.62		F042M13/	0.24 /	594.85	F042M19/
F042M24/	0.24 /	644.44		F042M28/	0.34 /	645.07	F042M39/
F042M61/	0.19 /	645.71		F042M32/	0.19 /	647.10	F042M33/
EBMPF080/	0.00 /	601.00		F090M08/	0.05 /	614.85	F090M07/
F090M06/	0.05 /	603.22	SLOPECHANG/	0.09 /	604.06	F090M03/	0.00 /
F100M27/	0.15 /	595.07		F100M03/	0.16 /	612.67	F100M02/
F100M26/	0.18 /	588.84		F100M32/	0.29 /	586.18	F080M08/
F080M05/	0.00 /	666.27		F080i48/	0.03 /	599.78	F080 TAP/
F060M02/	0.56 /	592.17		F060i07/	0.00 /	597.00	F060i11/
F060E00/	0.49 /	584.81		F042M21/	0.29 /	612.28	F080M10/
F080M02/	0.01 /	603.12		F100M29/	0.07 /	598.07	F070M04/
F070i05/	0.14 /	595.64		E040i34/	0.00 /	640.00	F090M14/
F100M06/	0.16 /	638.32		F100M28/	0.08 /	596.58	F100E01/
F100 E OF/	0.00 /	590.00		F090M02OUT/	0.00 /	590.00	

Conduit/	FLOW	====>	"*" Conduit uses the normal flow option.			
LINE042/	0.16		Link3/	0.19*	Link4/	0.78
1.05			Link9/	0.05*	Link13/	0.48
0.68	Link7/	1.05	Link17/	0.22*	Link26/	0.01*
0.01	Link15/	0.19*	Link32/	0.02	Link38/	-0.53
0.59	Link31/	0.03	Link41/	0.58	Link44/	0.00
0.21	Link40/	0.58*	Link51/	1.79	OFLOW 1/	0.00
0.00	Link48/	1.80	OFLOW 4/	0.00	OFLOW 5/	0.00
0.00*	OFLOW 3/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00
0.00	Link64/	0.20*			F070M02 OF/	0.00
0.00	F042M39 OF/	0.00	F060M02 OF/	0.00	F070i05 OF/	0.00
0.00	Link71/	0.23	F100M07 OF/	0.00	Link75/	0.06*
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.13*
0.00	352.1/	0.94*	M24 OF/	0.00	355.1/	0.60*
0.00	357.1/	0.18	361.1/	0.00	F090M04 OF/	0.00
0.10	F090M05 OF/	0.00	364.1/	0.14*	F100M11 OF/	0.00
0.27	F100M06 OF/	0.00	366.1/	0.05	370.1/	0.03
0.00	371.1/	0.03	F090M08 OF/	0.00	374.1/	0.02*
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.43*
0.00	377.1/	0.43	F100M03 OF/	0.00	378.1/	0.42*
0.00	383.1/	0.00*	F080M08 OF/	0.00	385.1/	0.00
0.00	389.1/	0.00	391.1/	0.00	392.1/	0.93*
0.00	398.1/	0.00	F080M10 of/	0.00	399.1/	0.00
0.00	401.1/	0.05*	F100M29 OF/	0.00	402.1/	0.39
0.00	423.1/	0.23	F090M14 OF/	0.00	430.1/	0.06*
0.00	433.1/	0.00	F090M02 OF/	0.00	e01 OF/	0.00
0.00	F080 EMER/	0.00	060E01 OF/	0.00	107 of/	0.00

0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.58	FREE # 2/	0.23	FREE # 3/
0.21	FREE # 4/	0.68	FREE # 5/	0.18	FREE # 6/	1.05	FREE # 7/
1.79	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle 1500 Time 12 Hrs - 30.00 Min

Junction /	Depth /	Elevation	====>	*** Junction is Surcharged.			
F100E00/	1.50 /	583.50		F100M31/	10.37 /	604.51	F100M21/ 5.48 / 607.22
F100i01/	3.82*/	608.00		F100M04/	3.20 /	637.77	F100M07/ 6.75 / 646.07
F100M11/	0.64 /	661.08		F090E00/	1.18 /	581.71	F090M02/ 0.91 / 601.68
F090M05/	0.92 /	603.00		F090M09/	0.35 /	635.72	F090M04/ 1.30 / 633.54
F080E00/	1.33 /	597.33		F080M14/	1.08 /	600.13	F080M13/ 0.53 / 648.62
F080M06/	0.42 /	659.03		F070M02/	4.81 /	602.52	F070M01/ 2.01 / 596.44
F070E00/	1.73 /	583.73		F060M01/	9.34*/	600.66	F060E01/ 3.80 / 601.80
F050M01/	0.56 /	599.90		F050E01/	1.23 /	595.37	F050E00/ 1.23 / 591.59
F042M18/	1.44 /	601.82		F042M13/	1.23 /	595.84	F042M19/ 6.49 / 608.42
F042M24/	6.33 /	650.53		F042M28/	6.26 /	650.99	F042M39/ 5.59 / 650.99
F042M61/	5.56 /	651.08		F042M32/	4.78 /	651.69	F042M33/ 3.94 / 651.69
EBMPF080/	4.60 /	605.60		F090M08/	0.45 /	615.25	F090M07/ 0.83 / 606.51
F090M06/	0.61 /	603.78		SLOPECHANG/	1.52*/	605.49	F090M03/ 5.39 / 612.58
F100M27/	8.40*/	603.32		F100M03/	5.72 /	618.23	F100M02/ 6.31 / 611.91
F100M26/	11.57*/	600.23		F100M32/	11.58*/	597.47	F080M08/ 0.41 / 670.06
F080M05/	0.00 /	666.27		F080i48/	2.17*/	601.92	F080 TAP/ 2.11 / 598.75
F060M02/	10.19 /	601.80		F060i07/	3.80 /	600.80	F060i11/ 6.05 / 604.05
F060E00/	1.30 /	585.62		F042M21/	4.90 /	616.89	F080M10/ 0.44 / 680.86
F080M02/	0.74 /	603.85		F100M29/	7.23 /	605.23	F070M04/ 6.85 / 610.85
F070i05/	2.91 /	598.41		E040i34/	0.18 /	640.18	F090M14/ 1.34 / 589.34
F100M06/	3.68 /	641.84		F100M28/	7.83 /	604.33	F100E01/ 7.38 / 604.38
F100 E OF/	0.00 /	590.00		F090M02OUT/	0.00 /	590.00	

Conduit/	FLOW	====>	*** Conduit uses the normal flow option.			
LINE042/	2.13		Link3/ 3.08	Link4/	11.37	Link6/
24.30	Link7/	24.30	Link9/ 2.94	Link13/	36.28	Link14/
56.37	Link15/	17.73	Link17/ 16.12	Link26/	21.25	Link27/
3.78*	Link31/	2.51	Link32/ 2.63	Link38/	-20.70	Link39/
28.35	Link40/	28.35	Link41/ 28.35	Link44/	0.00	Link46/
38.90	Link48/	11.63	Link51/ 11.63	OFLOW 1/	0.00	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/ 0.00	OFLOW 5/	0.00	Link61/
6.24*	Link64/	19.78	OFLOW 6/ 0.00	F043M33 OF/	6.12	F042M61 OF/
1.16*	F042M39 OF/	9.52*	F060M02 OF/ 112.27	F070M02 OF/	0.00	F070i05 OF/
0.00	Link71/	20.37	F100M07 OF/ 0.76	Link75/	7.64	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/ 0.00	348.1/	0.04	m320F/
-0.63	352.1/	17.17	M24 OF/ 11.56*	355.1/	0.22	m28 of/
-7.12	357.1/	33.32*	361.1/ 6.67	F090M04 OF/	0.00*	363.1/
4.76	F090M05 OF/	0.00	364.1/ 6.86	F100M11 OF/	0.00*	365.1/
21.87	F100M06 OF/	0.00	366.1/ 6.07	370.1/	2.36*	F090M09 OF/
0.00*	371.1/	2.40*	F090M08 OF/ 0.00*	374.1/	2.67	F090M06 OF/
0.00	375.1/	4.97	F090M03 OF/ 2.71	376.1/	30.94	F100M04 OF/
0.00*	377.1/	30.96	F100M03 OF/ 0.00*	378.1/	29.05	F100M02 OF/
2.15*	383.1/	2.64	F080M08 OF/ 0.00	385.1/	8.73	387.1/
-0.16	389.1/	-2.88	391.1/ 3.38	392.1/	14.61	M21 OF/
14.70*	398.1/	2.59	F080M10 of/ 0.00	399.1/	6.06*	E080M13/
0.00	401.1/	1.55	F100M29 OF/ 1.14*	402.1/	24.12	F070M04 OF/
8.44	423.1/	23.34	F090M14 OF/ 0.00	430.1/	9.08	F100M21 OF/
1.78	433.1/	2.56	F090M02 OF/ 0.00	e01 OF/	0.00	F100i01 OV/
0.00	F080 EMER/	13.69	060E01 OF/ 0.03	i07 of/	0.00	i11 OF/
0.00	OF F042M19/	26.96	100E01 OV/ 3.47	F100M28 OV/	10.00	M100M27 OV/

0.00	F100M31 OV/	20.35	FREE # 1/	28.35	FREE # 2/	23.34	FREE # 3/
36.90	FREE # 4/	56.37	FREE # 5/	33.35	FREE # 6/	24.30	FREE # 7/
123.89	FREE # 8/	6.13	FREE # 9/	30.39	FREE #10/	0.00	
Cycle	2000	Time	16 Hrs - 40.00 Min				

Junction / Depth / Elevation	====> "*" Junction is Surcharged.						
F100E00/ 0.55 / 582.35	F100M31/ 1.42 / 595.56	F100M21/ 0.26 / 602.00					
F100L01/ 0.27 / 604.45	F100M04/ 0.34 / 631.81	F100M07/ 0.36 / 633.95					
F100M11/ 0.20 / 660.64	F040E00/ 0.35 / 590.58	F050M02/ 0.30 / 601.07					
F090M05/ 0.22 / 602.40	F090M09/ 0.13 / 635.50	F090M04/ 0.19 / 632.42					
F080E00/ 0.55 / 596.55	F080M14/ 0.28 / 599.33	F080M13/ 0.21 / 648.30					
F080M06/ 0.17 / 658.78	F070M02/ 0.33 / 598.64	F070M01/ 0.35 / 594.78					
F070E00/ 0.34 / 582.34	F060M01/ 6.32*/ 597.64	F060E01/ 0.52 / 598.52					
F050M01/ 0.15 / 599.49	F050E01/ 0.18 / 594.32	F050E00/ 0.17 / 590.53					
F042M18/ 0.50 / 600.88	F042M13/ 0.47 / 595.08	F042M19/ 0.91 / 602.84					
F042M24/ 0.45 / 644.65	F042M28/ 0.58 / 645.31	F042M39/ 0.38 / 645.78					
F042M61/ 0.46 / 645.98	F042M32/ 0.47 / 647.38	F042M33/ 0.42 / 648.17					
EBMPF080/ 1.67 / 602.67	F090M08/ 0.16 / 614.96	F090M07/ 0.23 / 605.91					
F090M06/ 0.16 / 603.33	SLOPECHANG/ 0.30 / 604.27	F090M03/ 0.27 / 607.46					
F100M27/ 0.44 / 595.36	F100M03/ 0.40 / 612.91	F100M02/ 0.37 / 605.97					
F100M26/ 0.53 / 589.19	F100M32/ 0.71 / 586.60	F080M08/ 0.15 / 669.80					
F080M05/ 0.00 / 666.27	F080148/ 0.69 / 600.44	F080 TAP/ 0.75 / 597.39					
F060M02/ 6.94 / 598.55	F060107/ 3.00 / 600.00	F060i11/ 0.55 / 598.55					
F060E00/ 1.23 / 585.55	F042M21/ 0.53 / 612.52	F080M10/ 0.16 / 680.58					
F080M02/ 0.29 / 603.40	F100M29/ 0.17 / 598.17	F070M04/ 0.37 / 604.37					
F070i05/ 0.42 / 595.82	E040i34/ 0.00 / 640.00	F090M14/ 0.37 / 588.37					
F100M06/ 0.33 / 638.59	F100M28/ 0.29 / 596.79	F100E01/ 0.00 / 597.00					
F100 E OF/ 0.00 / 590.00	F090M02OUT/ 0.00 / 590.00						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.					
LINE042/	0.94	Link3/	1.11	Link4/	2.28	Link6/	
4.26	Link7/	4.26	Link9/	0.25*	Link13/	1.78	Link14/
2.78	Link15/	1.73*	Link17/	1.92*	Link26/	5.46	Link27/
0.54*	Link31/	0.32	Link32/	0.32	Link38/	-4.04	Link39/
4.92	Link40/	4.92	Link41/	4.92	Link44/	0.00	Link46/
7.19	Link48/	10.25	Link51/	10.27	OFLOW 1/	0.00	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/
0.91	Link64/	1.00	OFLOW 6/	0.00	F043M33 OF/	0.00	F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/
0.00	Link71/	1.66	F100M07 OF/	0.00	Link75/	0.87*	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.77*	m320F/
0.00	352.1/	3.17*	M24 OF/	0.00*	355.1/	1.16*	m28 of/
0.00	357.1/	0.70	361.1/	0.61*	F090M04 OF/	0.00*	363.1/
0.67	F090M05 OF/	0.00	364.1/	0.81*	F100M11 OF/	0.00*	365.1/
1.91	F100M06 OF/	0.00	366.1/	0.79	370.1/	0.32*	F090M09 OF/
0.00*	371.1/	0.32*	F090M08 OF/	0.00*	374.1/	0.32*	F090M06 OF/
0.00	375.1/	0.61*	F090M03 OF/	0.00	376.1/	2.90*	F100M04 OF/
0.00*	377.1/	2.90	F100M03 OF/	0.00*	378.1/	2.90*	F100M02 OF/
0.00*	383.1/	0.34*	F080M08 OF/	0.00	385.1/	5.40	387.1/
0.46	389.1/	3.41	391.1/	0.10	392.1/	3.18*	M21 OF/
0.00	398.1/	0.34	F080M10 of/	0.00	399.1/	0.91*	E080M13/
0.00	401.1/	0.35*	F100M29 OF/	0.00	402.1/	1.45	F070M04 OF/
0.00	423.1/	2.44	F090M14 OF/	0.00	430.1/	0.87	F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00	i11 OF/
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	4.92	FREE # 2/	2.44	FREE # 3/

7.19	FREE # 4/	2.78	FREE # 5/	0.70	FREE # 6/	4.26	FREE # 7/
10.27	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	
Cycle	2500	Time	20 Hrs - 50.00 Min				

Junction / Depth / Elevation			====> "*" Junction is Surcharged.				
F100E00/	0.41 /	582.41	F100M31/	1.21 /	595.35	F100M21/	0.20 / 601.94
F100i01/	0.20 /	604.38	F100M04/	0.26 /	634.83	F100M07/	0.42 / 639.74
F100M11/	0.15 /	660.59	F090E00/	0.27 /	580.80	F090M02/	0.23 / 601.00
F090M05/	0.24 /	602.32	F090M09/	0.10 /	635.47	F090M04/	0.15 / 632.39
F080E00/	0.32 /	596.32	F080M14/	0.21 /	599.26	F080M13/	0.16 / 648.25
F080M06/	0.13 /	658.74	F070M02/	0.24 /	597.95	F070M01/	0.26 / 594.69
F070E00/	0.25 /	582.25	F060M01/	0.70 /	592.02	F060E01/	0.00 / 598.00
F050M01/	0.11 /	599.45	F050E01/	0.14 /	594.28	F050E00/	0.13 / 590.49
F042M18/	0.36 /	600.74	F042M13/	0.35 /	594.96	F042M19/	0.66 / 602.59
F042M24/	0.33 /	644.53	F042M28/	0.43 /	645.16	F042M39/	0.29 / 645.69
F042M61/	0.34 /	645.86	F042M32/	0.35 /	647.26	F042M33/	0.31 / 648.06
EBMPF080/	0.51 /	601.51	F090M08/	0.12 /	614.92	F090M07/	0.17 / 605.85
F090M06/	0.12 /	603.29	SLOPECHANG/	0.23 /	604.20	F090M03/	0.20 / 607.39
F100M27/	0.33 /	595.25	F100M03/	0.30 /	612.81	F100M02/	0.28 / 605.88
F100M26/	0.38 /	589.04	F100M32/	0.54 /	586.43	F080M08/	0.11 / 669.76
F080M05/	0.00 /	666.27	F080i48/	0.33 /	600.08	F080 TAP/	0.39 / 597.03
F060M02/	0.81 /	592.42	F060i07/	0.00 /	597.00	F060i11/	0.00 / 598.00
F060E00/	0.68 /	585.00	F042M21/	0.39 /	612.38	F080M10/	0.12 / 680.54
F080M02/	0.22 /	603.33	F100M29/	0.13 /	598.13	F070M04/	0.28 / 604.28
F070i05/	0.24 /	595.74	E040i34/	0.00 /	640.00	F090M14/	0.27 / 588.27
F100M06/	0.32 /	638.48	F100M28/	0.22 /	596.72	F100E01/	0.00 / 597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00		

Conduit/ FLOW			====> "*" Conduit uses the normal flow option.				
LINE042/	0.53		Link3/	0.62	Link4/	1.28	Link6/
2.33			Link7/	2.33	Link9/	0.14*	Link14/
1.52			Link15/	0.96*	Link17/	1.09*	Link27/
0.31*			Link31/	0.18	Link32/	0.18	Link39/
2.78			Link40/	2.78	Link41/	2.78	Link46/
2.33			Link48/	3.34	Link51/	3.34	OFLOW 2/
0.00			OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/
0.52			OFLOW 6/	0.00	OFLOW 7/	0.00	Link61/
0.00*			OFLOW 8/	0.00	OFLOW 9/	0.00	Link64/
0.00			OFLOW 10/	0.00	OFLOW 11/	0.00	OFLOW 12/
0.00			OFLOW 13/	0.00	OFLOW 14/	0.00	OFLOW 15/
0.00			OFLOW 16/	0.00	OFLOW 17/	0.00	OFLOW 18/
0.00			OFLOW 19/	0.00	OFLOW 20/	0.00	OFLOW 21/
0.00			OFLOW 22/	0.00	OFLOW 23/	0.00	OFLOW 24/
0.00			OFLOW 25/	0.00	OFLOW 26/	0.00	OFLOW 27/
0.00			OFLOW 28/	0.00	OFLOW 29/	0.00	OFLOW 30/
0.00			OFLOW 31/	0.00	OFLOW 32/	0.00	OFLOW 33/
0.00			OFLOW 34/	0.00	OFLOW 35/	0.00	OFLOW 36/
0.00			OFLOW 37/	0.00	OFLOW 38/	0.00	OFLOW 39/
0.00			OFLOW 40/	0.00	OFLOW 41/	0.00	OFLOW 42/
0.00			OFLOW 43/	0.00	OFLOW 44/	0.00	OFLOW 45/
0.00			OFLOW 46/	0.00	OFLOW 47/	0.00	OFLOW 48/
0.00			OFLOW 49/	0.00	OFLOW 50/	0.00	OFLOW 51/
0.00			OFLOW 52/	0.00	OFLOW 53/	0.00	OFLOW 54/
0.00			OFLOW 55/	0.00	OFLOW 56/	0.00	OFLOW 57/
0.00			OFLOW 58/	0.00	OFLOW 59/	0.00	OFLOW 60/
0.00			OFLOW 61/	0.00	OFLOW 62/	0.00	OFLOW 63/
0.00			OFLOW 64/	0.00	OFLOW 65/	0.00	OFLOW 66/
0.00			OFLOW 67/	0.00	OFLOW 68/	0.00	OFLOW 69/
0.00			OFLOW 70/	0.00	OFLOW 71/	0.00	OFLOW 72/
0.00			OFLOW 73/	0.00	OFLOW 74/	0.00	OFLOW 75/
0.00			OFLOW 76/	0.00	OFLOW 77/	0.00	OFLOW 78/
0.00			OFLOW 79/	0.00	OFLOW 80/	0.00	OFLOW 81/
0.00			OFLOW 82/	0.00	OFLOW 83/	0.00	OFLOW 84/
0.00			OFLOW 85/	0.00	OFLOW 86/	0.00	OFLOW 87/
0.00			OFLOW 88/	0.00	OFLOW 89/	0.00	OFLOW 90/
0.00			OFLOW 91/	0.00	OFLOW 92/	0.00	OFLOW 93/
0.00			OFLOW 94/	0.00	OFLOW 95/	0.00	OFLOW 96/
0.00			OFLOW 97/	0.00	OFLOW 98/	0.00	OFLOW 99/
0.00			OFLOW 100/	0.00	OFLOW 101/	0.00	OFLOW 102/
0.00			OFLOW 103/	0.00	OFLOW 104/	0.00	OFLOW 105/
0.00			OFLOW 106/	0.00	OFLOW 107/	0.00	OFLOW 108/
0.00			OFLOW 109/	0.00	OFLOW 110/	0.00	OFLOW 111/
0.00			OFLOW 112/	0.00	OFLOW 113/	0.00	OFLOW 114/
0.00			OFLOW 115/	0.00	OFLOW 116/	0.00	OFLOW 117/
0.00			OFLOW 118/	0.00	OFLOW 119/	0.00	OFLOW 120/
0.00			OFLOW 121/	0.00	OFLOW 122/	0.00	OFLOW 123/
0.00			OFLOW 124/	0.00	OFLOW 125/	0.00	OFLOW 126/
0.00			OFLOW 127/	0.00	OFLOW 128/	0.00	OFLOW 129/
0.00			OFLOW 130/	0.00	OFLOW 131/	0.00	OFLOW 132/
0.00			OFLOW 133/	0.00	OFLOW 134/	0.00	OFLOW 135/
0.00			OFLOW 136/	0.00	OFLOW 137/	0.00	OFLOW 138/
0.00			OFLOW 139/	0.00	OFLOW 140/	0.00	OFLOW 141/
0.00			OFLOW 142/	0.00	OFLOW 143/	0.00	OFLOW 144/
0.00			OFLOW 145/	0.00	OFLOW 146/	0.00	OFLOW 147/
0.00			OFLOW 148/	0.00	OFLOW 149/	0.00	OFLOW 150/
0.00			OFLOW 151/	0.00	OFLOW 152/	0.00	OFLOW 153/
0.00			OFLOW 154/	0.00	OFLOW 155/	0.00	OFLOW 156/
0.00			OFLOW 157/	0.00	OFLOW 158/	0.00	OFLOW 159/
0.00			OFLOW 160/	0.00	OFLOW 161/	0.00	OFLOW 162/
0.00			OFLOW 163/	0.00	OFLOW 164/	0.00	OFLOW 165/
0.00			OFLOW 166/	0.00	OFLOW 167/	0.00	OFLOW 168/
0.00			OFLOW 169/	0.00	OFLOW 170/	0.00	OFLOW 171/
0.00			OFLOW 172/	0.00	OFLOW 173/	0.00	OFLOW 174/
0.00			OFLOW 175/	0.00	OFLOW 176/	0.00	OFLOW 177/
0.00			OFLOW 178/	0.00	OFLOW 179/	0.00	OFLOW 180/
0.00			OFLOW 181/	0.00	OFLOW 182/	0.00	OFLOW 183/
0.00			OFLOW 184/	0.00	OFLOW 185/	0.00	OFLOW 186/
0.00			OFLOW 187/	0.00	OFLOW 188/	0.00	OFLOW 189/
0.00			OFLOW 190/	0.00	OFLOW 191/	0.00	OFLOW 192/
0.00			OFLOW 193/	0.00	OFLOW 194/	0.00	OFLOW 195/
0.00			OFLOW 196/	0.00	OFLOW 197/	0.00	OFLOW 198/
0.00			OFLOW 199/	0.00	OFLOW 200/	0.00	OFLOW 201/
0.00			OFLOW 202/	0.00	OFLOW 203/	0.00	OFLOW 204/
0.00			OFLOW 205/	0.00	OFLOW 206/	0.00	OFLOW 207/
0.00			OFLOW 208/	0.00	OFLOW 209/	0.00	OFLOW 210/
0.00			OFLOW 211/	0.00	OFLOW 212/	0.00	OFLOW 213/
0.00			OFLOW 214/	0.00	OFLOW 215/	0.00	OFLOW 216/
0.00			OFLOW 217/	0.00	OFLOW 218/	0.00	OFLOW 219/
0.00			OFLOW 220/	0.00	OFLOW 221/	0.00	OFLOW 222/
0.00			OFLOW 223/	0.00	OFLOW 224/	0.00	OFLOW 225/
0.00			OFLOW 226/	0.00	OFLOW 227/	0.00	OFLOW 228/
0.00			OFLOW 229/	0.00	OFLOW 230/	0.00	OFLOW 231/
0.00			OFLOW 232/	0.00	OFLOW 233/	0.00	OFLOW 234/
0.00			OFLOW 235/	0.00	OFLOW 236/	0.00	OFLOW 237/
0.00			OFLOW 238/	0.00	OFLOW 239/	0.00	OFLOW 240/
0.00			OFLOW 241/	0.00	OFLOW 242/	0.00	OFLOW 243/
0.00			OFLOW 244/	0.00	OFLOW 245/	0.00	OFLOW 246/
0.00			OFLOW 247/	0.00	OFLOW 248/	0.00	OFLOW 249/
0.00			OFLOW 250/	0.00	OFLOW 251/	0.00	OFLOW 252/
0.00			OFLOW 253/	0.00	OFLOW 254/	0.00	OFLOW 255/
0.00			OFLOW 256/	0.00	OFLOW 257/	0.00	OFLOW 258/
0.00			OFLOW 259/	0.00	OFLOW 260/	0.00	OFLOW 261/
0.00			OFLOW 262/	0.00	OFLOW 263/	0.00	OFLOW 264/
0.00			OFLOW 265/	0.00	OFLOW 266/	0.00	OFLOW 267/
0.00			OFLOW 268/	0.00	OFLOW 269/	0.00	OFLOW 270/
0.00			OFLOW 271/	0.00	OFLOW 272/	0.00	OFLOW 273/
0.00			OFLOW 274/	0.00	OFLOW 275/	0.00	OFLOW 276/
0.00			OFLOW 277/	0.00	OFLOW 278/	0.00	OFLOW 279/
0.00			OFLOW 280/	0.00	OFLOW 281/	0.00	OFLOW 282/
0.00			OFLOW 283/	0.00	OFLOW 284/	0.00	OFLOW 285/
0.00			OFLOW 286/	0.00	OFLOW 287/	0.00	OFLOW 288/
0.00			OFLOW 289/	0.00	OFLOW 290/	0.00	OFLOW 291/
0.00			OFLOW 292/	0.00	OFLOW 293/	0.00	OFLOW 294/
0.00			OFLOW 295/	0.00	OFLOW 296/	0.00	OFLOW 297/
0.00			OFLOW 298/	0.00	OFLOW 299/	0.00	OFLOW 300/
0.00			OFLOW 301/	0.00	OFLOW 302/	0.00	OFLOW 303/
0.00			OFLOW 304/	0.00	OFLOW 305/	0.00	OFLOW 306/
0.00			OFLOW 307/	0.00	OFLOW 308/	0.00	OFLOW 309/
0.00			OFLOW 310/	0.00	OFLOW 311/	0.00	OFLOW 312/
0.00			OFLOW 313/	0.00	OFLOW 314/	0.00	OFLOW 315/
0.00			OFLOW 316/	0.00	OFLOW 317/	0.00	OFLOW 318/
0.00			OFLOW 319/	0.00	OFLOW 320/	0.00	OFLOW 321/
0.00			OFLOW 322/	0.00	OFLOW 323/		

3.35

FREE # 8/ 0.00 FREE # 9/ 0.00 FREE #10/ 0.00
 Cycle 3000 Time 25 Hrs - 0.00 Min

Junction / Depth / Elevation ==> "*" Junction is Surcharged.

F100E00/	0.05 /	582.05	F100M31/	0.92 /	594.96	F100M21/	0.01 /	601.75
F100I01/	0.00 /	604.18	F100M04/	0.03 /	634.60	F100M07/	0.06 /	639.38
F100M11/	0.00 /	660.44	F090E00/	0.01 /	580.54	F090M02/	0.02 /	600.79
F090M05/	0.32 /	602.10	F090M05/	0.00 /	635.37	F090M04/	0.01 /	650.25
F090E00/	0.16 /	596.16	F090M14/	0.04 /	599.09	F030M13/	0.01 /	649.10
F090M08/	0.00 /	659.61	F070M02/	0.04 /	597.35	F070M01/	0.39 /	594.52
F070E00/	0.07 /	582.07	F060M01/	0.31 /	591.53	F060E01/	0.60 /	598.00
F050M01/	0.01 /	599.35	F050E01/	0.00 /	594.14	F050E00/	0.30 /	590.36
F042M19/	0.13 /	600.51	F042M13/	0.12 /	594.73	F042M19/	0.23 /	602.16
F042M24/	0.10 /	644.30	F042M28/	0.03 /	644.76	F042M39/	0.00 /	645.40
F042M61/	0.04 /	645.56	F042M32/	0.03 /	646.94	F042M33/	0.01 /	647.76
EBMPF080/	0.32 /	601.32	F090M08/	0.00 /	614.80	F090M07/	0.01 /	605.69
F090M06/	0.01 /	603.18	SLOPECHANG/	0.02 /	603.99	F090M03/	0.02 /	607.21
F100M27/	0.04 /	594.96	F100M03/	0.03 /	612.54	F100M02/	0.04 /	605.64
F100M26/	0.04 /	588.70	F100M32/	0.16 /	586.05	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080I48/	0.23 /	599.98	F080 TAP/	0.19 /	596.83
F060M02/	0.32 /	591.93	F060I07/	0.00 /	597.00	F060I11/	0.00 /	598.00
F060E00/	0.31 /	584.63	F042M21/	0.12 /	612.11	F080M10/	0.00 /	680.42
F080M02/	0.02 /	603.13	F100M29/	0.00 /	598.00	F070M04/	0.06 /	604.06
F070I05/	0.11 /	595.61	E040I34/	0.00 /	640.00	F090M14/	0.03 /	588.03
F100M06/	0.05 /	638.21	F100M28/	0.01 /	596.51	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

Conduit/ FLOW ==> "*" Conduit uses the normal flow option.

Conduit/	FLOW	Link3/	Link4/	Link6/	Link7/	Link8/	Link9/	Link10/	Link11/	Link12/	Link13/	Link14/	Link15/	Link16/	Link17/	Link18/	Link19/	Link20/	Link21/	Link22/	Link23/	Link24/	Link25/	Link26/	Link27/	Link28/	Link29/	Link30/	Link31/	Link32/	Link33/	Link34/	Link35/	Link36/	Link37/	Link38/	Link39/	Link40/	Link41/	Link42/	Link43/	Link44/	Link45/	Link46/	Link47/	Link48/	Link49/	Link50/	Link51/	Link52/	Link53/	Link54/	Link55/	Link56/	Link57/	Link58/	Link59/	Link60/	Link61/	Link62/	Link63/	Link64/	Link65/	Link66/	Link67/	Link68/	Link69/	Link70/	Link71/	Link72/	Link73/	Link74/	Link75/	Link76/	Link77/	Link78/	Link79/	Link80/	Link81/	Link82/	Link83/	Link84/	Link85/	Link86/	Link87/	Link88/	Link89/	Link90/	Link91/	Link92/	Link93/	Link94/	Link95/	Link96/	Link97/	Link98/	Link99/	Link100/	Link101/	Link102/	Link103/	Link104/	Link105/	Link106/	Link107/	Link108/	Link109/	Link110/	Link111/	Link112/	Link113/	Link114/	Link115/	Link116/	Link117/	Link118/	Link119/	Link120/	Link121/	Link122/	Link123/	Link124/	Link125/	Link126/	Link127/	Link128/	Link129/	Link130/	Link131/	Link132/	Link133/	Link134/	Link135/	Link136/	Link137/	Link138/	Link139/	Link140/	Link141/	Link142/	Link143/	Link144/	Link145/	Link146/	Link147/	Link148/	Link149/	Link150/	Link151/	Link152/	Link153/	Link154/	Link155/	Link156/	Link157/	Link158/	Link159/	Link160/	Link161/	Link162/	Link163/	Link164/	Link165/	Link166/	Link167/	Link168/	Link169/	Link170/	Link171/	Link172/	Link173/	Link174/	Link175/	Link176/	Link177/	Link178/	Link179/	Link180/	Link181/	Link182/	Link183/	Link184/	Link185/	Link186/	Link187/	Link188/	Link189/	Link190/	Link191/	Link192/	Link193/	Link194/	Link195/	Link196/	Link197/	Link198/	Link199/	Link200/	Link201/	Link202/	Link203/	Link204/	Link205/	Link206/	Link207/	Link208/	Link209/	Link210/	Link211/	Link212/	Link213/	Link214/	Link215/	Link216/	Link217/	Link218/	Link219/	Link220/	Link221/	Link222/	Link223/	Link224/	Link225/	Link226/	Link227/	Link228/	Link229/	Link230/	Link231/	Link232/	Link233/	Link234/	Link235/	Link236/	Link237/	Link238/	Link239/	Link240/	Link241/	Link242/	Link243/	Link244/	Link245/	Link246/	Link247/	Link248/	Link249/	Link250/	Link251/	Link252/	Link253/	Link254/	Link255/	Link256/	Link257/	Link258/	Link259/	Link260/	Link261/	Link262/	Link263/	Link264/	Link265/	Link266/	Link267/	Link268/	Link269/	Link270/	Link271/	Link272/	Link273/	Link274/	Link275/	Link276/	Link277/	Link278/	Link279/	Link280/	Link281/	Link282/	Link283/	Link284/	Link285/	Link286/	Link287/	Link288/	Link289/	Link290/	Link291/	Link292/	Link293/	Link294/	Link295/	Link296/	Link297/	Link298/	Link299/	Link300/	Link301/	Link302/	Link303/	Link304/	Link305/	Link306/	Link307/	Link308/	Link309/	Link310/	Link311/	Link312/	Link313/	Link314/	Link315/	Link316/	Link317/	Link318/	Link319/	Link320/	Link321/	Link322/	Link323/	Link324/	Link325/	Link326/	Link327/	Link328/	Link329/	Link330/	Link331/	Link332/	Link333/	Link334/	Link335/	Link336/	Link337/	Link338/	Link339/	Link340/	Link341/	Link342/	Link343/	Link344/	Link345/	Link346/	Link347/	Link348/	Link349/	Link350/	Link351/	Link352/	Link353/	Link354/	Link355/	Link356/	Link357/	Link358/	Link359/	Link360/	Link361/	Link362/	Link363/	Link364/	Link365/	Link366/	Link367/	Link368/	Link369/	Link370/	Link371/	Link372/	Link373/	Link374/	Link375/	Link376/	Link377/	Link378/	Link379/	Link380/	Link381/	Link382/	Link383/	Link384/	Link385/	Link386/	Link387/	Link388/	Link389/	Link390/	Link391/	Link392/	Link393/	Link394/	Link395/	Link396/	Link397/	Link398/	Link399/	Link400/	Link401/	Link402/	Link403/	Link404/	Link405/	Link406/	Link407/	Link408/	Link409/	Link410/	Link411/	Link412/	Link413/	Link414/	Link415/	Link416/	Link417/	Link418/	Link419/	Link420/	Link421/	Link422/	Link423/	Link424/	Link425/	Link426/	Link427/	Link428/	Link429/	Link430/	Link431/	Link432/	Link433/	Link434/	Link435/	Link436/	Link437/	Link438/	Link439/	Link440/	Link441/	Link442/	Link443/	Link444/	Link445/	Link446/	Link447/	Link448/	Link449/	Link450/	Link451/	Link452/	Link453/	Link454/	Link455/	Link456/	Link457/	Link458/	Link459/	Link460/	Link461/	Link462/	Link463/	Link464/	Link465/	Link466/	Link467/	Link468/	Link469/	Link470/	Link471/	Link472/	Link473/	Link474/	Link475/	Link476/	Link477/	Link478/	Link479/	Link480/	Link481/	Link482/	Link483/	Link484/	Link485/	Link486/	Link487/	Link488/	Link489/	Link490/	Link491/	Link492/	Link493/	Link494/	Link495/	Link496/	Link497/	Link498/	Link499/	Link500/	Link501/	Link502/	Link503/	Link504/	Link505/	Link506/	Link507/	Link508/	Link509/	Link510/	Link511/	Link512/	Link513/	Link514/	Link515/	Link516/	Link517/	Link518/	Link519/	Link520/	Link521/	Link522/	Link523/	Link524/	Link525/	Link526/	Link527/	Link528/	Link529/	Link530/	Link531/	Link532/	Link533/	Link534/	Link535/	Link536/	Link537/	Link538/	Link539/	Link540/	Link541/	Link542/	Link543/	Link544/	Link545/	Link546/	Link547/	Link548/	Link549/	Link550/	Link551/	Link552/	Link553/	Link554/	Link555/	Link556/	Link557/	Link558/	Link559/	Link560/	Link561/	Link562/	Link563/	Link564/	Link565/	Link566/	Link567/	Link568/	Link569/	Link570/	Link571/	Link572/	Link573/	Link574/	Link575/	Link576/	Link577/	Link578/	Link579/	Link580/	Link581/	Link582/	Link583/	Link584/	Link585/	Link586/	Link587/	Link588/	Link589/	Link590/	Link591/	Link592/	Link593/	Link594/	Link595/	Link596/	Link597/	Link598/	Link599/	Link600/	Link601/	Link602/	Link603/	Link604/	Link605/	Link606/	Link607/	Link608/	Link609/	Link610/	Link611/	Link612/	Link613/	Link614/	Link615/	Link616/	Link617/	Link618/	Link619/	Link620/	Link621/	Link622/	Link623/	Link624/	Link625/	Link626/	Link627/	Link628/	Link629/	Link630/	Link631/	Link632/	Link633/	Link634/	Link635/	Link636/	Link637/	Link638/	Link639/	Link640/	Link641/	Link642/	Link643/	Link644/	Link645/	Link646/	Link647/	Link648/	Link649/	Link650/	Link651/	Link652/	Link653/	Link654/	Link655/	Link656/	Link657/	Link658/	Link659/	Link660/	Link661/	Link662/	Link663/	Link664/	Link665/	Link666/	Link667/	Link668/	Link669/	Link670/	Link671/	Link672/	Link673/	Link674/	Link675/	Link676/	Link677/	Link678/	Link679/	Link680/	Link681/	Link682/	Link683/	Link684/	Link685/	Link686/	Link687/	Link688/	Link689/	Link690/	Link691/	Link692/	Link693/	Link694/	Link695/	Link696/	Link697/	Link698/	Link699/	Link700/	Link701/	Link702/	Link703/	Link704/	Link705/	Link706/	Link707/	Link708/	Link709/	Link710/	Link711/	Link712/	Link713/	Link714/	Link715/	Link716/	Link717/	Link718/	Link719/	Link720/	Link721/	Link722/	Link723/	Link724/	Link725/	Link726/	Link727/	Link728/	Link729/	Link730/	Link731/	Link732/	Link733/	Link734/	Link735/	Link736/	Link737/	Link738/	Link739/	Link740/	Link741/	Link742/	Link743/	Link744/	Link745/	Link746/	Link747/	Link748/	Link749/	Link750/	Link751/	Link752/	Link753/	Link754/	Link755/	Link756/	Link757/	Link758/	Link759/	Link760/	Link761/	Link762/	Link763/	Link764/	Link765/	Link766/	Link767/	Link768/	Link769/	Link770/	Link771/	Link772/	Link773/	Link774/	Link775/	Link776/	Link777/	Link778/	Link779/	Link780/	Link781/	Link782/	Link783/	Link784/	Link785/	Link786/	Link787/	Link788/	Link789/	Link790/	Link791/	Link792/	Link793/	Link794/	Link795/	Link796/	Link797/	Link798/	Link799/	Link800/	Link801/	Link802/	Link803/	Link804/	Link805/	Link806/	Link807/	Link808/	Link809/	Link810/	Link811/	Link812/	Link813/	Link814/	Link815/	Link816/	Link817/	Link818/	Link819/	Link820/	Link821/	Link822/	Link823/	Link824/	Link825/	Link826/	Link827/	Link828/	Link829/	Link830/	Link831/	Link832/	Link833/	Link834/	Link835/	Link836/	Link837/	Link838/	Link839/	Link840/	Link841/	Link842/	Link843/	Link844/	Link845/	Link846/	Link847/	Link848/	Link849/	Link850/	Link851/	Link852/	Link853/	Link854/	Link855/	Link856/	Link857/	Link858/	Link859/	Link860/	Link861/	Link862/	Link863/	Link864/	Link865/	Link866/	Link867/	Link868/	Link869/	Link870/	Link871/	Link872/	Link873/	Link874/	Link875/	Link876/	Link877/	Link878/	Link879/	Link880/	Link881/	Link882/	Link883/	Link884/	Link885/	Link886/	Link887/	Link888/	Link889/	Link890/	Link891/	Link892/	Link893/	Link894/	Link895/	Link896/	Link897/	Link898/
----------	------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------

Cycle 3500 Time 29 Hrs - 10.00 Min

Junction / Depth / Elevation	====>	*** Junction is Surcharged.			
F100E00/ 0.00 / 582.00		F100M31/ 0.78 / 594.92		F100M21/ 0.00 / 601.74	
F100i01/ 0.00 / 604.18		F100M04/ 0.00 / 634.57		F100M07/ 0.00 / 639.32	
F100M11/ 0.00 / 660.44		F090E00/ 0.00 / 580.53		F090M02/ 0.00 / 600.77	
F090M05/ 0.00 / 602.08		F090M09/ 0.00 / 635.37		F090M04/ 0.00 / 632.24	
F080E00/ 0.02 / 596.02		F090M14/ 0.00 / 599.05		F080M13/ 0.00 / 648.09	
F080M06/ 0.00 / 658.61		F070M02/ 0.00 / 597.71		F070M01/ 0.00 / 594.43	
F070E00/ 0.00 / 582.00		F060M01/ 0.00 / 591.32		F060E01/ 0.00 / 588.00	
F050M01/ 0.00 / 589.34		F050E01/ 0.00 / 594.14		F050E00/ 0.00 / 590.36	
F042M18/ 0.00 / 600.38		F042M13/ 0.00 / 594.61		F042M19/ 0.00 / 601.93	
F042M24/ 0.00 / 644.20		F042M28/ 0.00 / 644.73		F042M39/ 0.00 / 645.40	
F042M51/ 0.00 / 645.52		F042M32/ 0.00 / 646.91		F042M33/ 0.00 / 647.75	
EBMPF080/ 0.10 / 601.10		F090M08/ 0.00 / 614.80		F090M07/ 0.00 / 605.68	
F090M06/ 0.00 / 603.17		SLOPECHANG/ 0.00 / 603.97		F090M03/ 0.00 / 607.19	
F100M27/ 0.00 / 594.92		F100M03/ 0.00 / 612.51		F100M02/ 0.00 / 605.60	
F100M26/ 0.00 / 588.66		F100M32/ 0.10 / 585.99		F080M08/ 0.00 / 669.65	
F080M05/ 0.00 / 666.27		F080i48/ 0.08 / 599.83		F080 TAP/ 0.05 / 596.69	
F060M02/ 0.00 / 591.61		F060i07/ 0.00 / 597.00		F060i11/ 0.00 / 598.00	
F060E00/ 0.00 / 584.32		F042M21/ 0.00 / 611.99		F080M10/ 0.00 / 680.42	
F080M02/ 0.00 / 603.11		F100M29/ 0.00 / 598.00		F070M04/ 0.00 / 604.00	
F070i05/ 0.00 / 595.50		E040i34/ 0.00 / 640.00		F090M14/ 0.00 / 588.00	
F100M06/ 0.00 / 638.16		F100M28/ 0.00 / 596.50		F100E01/ 0.00 / 597.00	
F100 E OF/ 0.00 / 590.00		F090M02OUT/ 0.00 / 590.00			

Conduit/	FLOW	====>	*** Conduit uses the normal flow option.		
LINE042/	0.00*		Link3/	0.00	Link4/
0.00			Link9/	0.00	Link13/
Link7/	0.00		Link17/	0.00*	Link26/
0.00			Link32/	0.00	Link38/
Link15/	0.00*		Link41/	0.00	Link44/
0.00*			Link51/	0.00	OFLOW 1/
Link31/	0.00		OFLOW 4/	0.00	OFLOW 5/
0.00*			OFLOW 6/	0.00	F043M33 OF/
Link40/	0.00*		F060M02 OF/	0.00	F070M02 OF/
0.06			F100M07 OF/	0.00	Link75/
Link48/	0.00		F080M06 OF/	0.00	348.1/
0.00			M24 OF/	0.00*	355.1/
OFLOW 3/	0.00		361.1/	0.00*	F090M04 OF/
Link64/	0.00		364.1/	0.00*	F100M11 OF/
0.00			366.1/	0.00*	370.1/
F042M39 OF/	0.00*		F090M08 OF/	0.00*	374.1/
0.00			F090M03 OF/	0.00	376.1/
Link71/	0.00		F100M03 OF/	0.00*	378.1/
0.00			F080M08 OF/	0.00	385.1/
Link83/	0.00		391.1/	0.00	392.1/
352.1/	0.00*		F080M10 of/	0.00	399.1/
0.00			F100M29 OF/	0.00	402.1/
357.1/	0.00		F090M14 OF/	0.00	430.1/
0.00			F090M02 OF/	0.00	e01 OF/
F090M05 OF/	0.00		060E01 OF/	0.00	i07 of/
0.00			100E01 OVF/	0.00	F100M28 OV/
F100M06 OF/	0.00		FREE # 1/	0.00	FREE # 2/
371.1/	0.00*		FREE # 5/	0.00	FREE # 6/
0.00			FREE # 9/	0.00	FREE #10/
375.1/	0.00				
0.00*					
377.1/	0.00*				
0.00*					
383.1/	0.00				
0.00*					
389.1/	0.00				
0.00					
398.1/	0.00*				
0.00					
401.1/	0.00*				
0.00					
423.1/	0.00				
0.00					
433.1/	0.00*				
0.00					
F080 EMER/	0.00				
0.00					
OF F042M19/	0.00				
0.00					
F100M31 OV/	0.00				
0.06					
FREE # 4/	0.00				
0.00					
FREE # 8/	0.00				

Cycle 4000 Time 33 Hrs - 20.00 Min

Junction / Depth / Elevation			====> "*" Junction is Surcharged.					
F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.01 /	596.01	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	593.36
F042M13/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.92
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.78
EBMFF080/	0.06 /	601.06	F090M08/	0.00 /	614.80	F090M07/	0.00 /	608.58
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.18
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.04 /	599.79	F080 TAP/	0.03 /	596.67
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

Conduit/		FLOW	====> "*" Conduit uses the normal flow option.				
LINE042/	0.00*	Link3/	0.00	Link4/	0.00*	Link6/	
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00	Link14/
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.02	Link27/
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00	Link39/
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00	Link46/
0.02	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00	F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*	m320F/
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*	m28 of/
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*	363.1/
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*	365.1/
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*	F090M09 OF/
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*	F090M06 OF/
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*	F100M04 OF/
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*	F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.02	387.1/
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00*	M21 OF/
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*	E080M13/
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00	F070M04 OF/
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*	F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00	i11 OF/
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.02	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00	FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle	4500	Time	37 Hrs - 30.00 Min
-------	------	------	--------------------

Junction / Depth / Elevation			====> "*" Junction is Surcharged.		
------------------------------	--	--	-----------------------------------	--	--

F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F090E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	656.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.36	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPP080/	0.05 /	601.05	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M02/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F090M05/	0.00 /	666.27	F080i48/	0.03 /	599.78	F080 TAP/	0.02 /	596.66
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/ 0.00	Link4/ 0.00*	Link6/ 0.00*
0.00	Link7/	0.00		Link9/	0.00	Link13/
0.00	Link15/	0.00*		Link17/	0.00*	Link26/
0.00*	Link31/	0.00		Link32/	0.00	Link38/
0.00*	Link40/	0.00*		Link41/	0.00	Link44/
0.01	Link48/	0.00		Link51/	0.00	OFLOW 1/
0.00	OFLOW 3/	0.00		OFLOW 4/	0.00	OFLOW 5/
0.00	Link64/	0.00		OFLOW 6/	0.00	F043M33 OF/
0.00*	F042M39 OF/	0.00*		F060M02 OF/	0.00	F070M02 OF/
0.00	Link71/	0.00		F100M07 OF/	0.00	Link75/
0.00	Link83/	0.00		F080M06 OF/	0.00	348.1/
0.00	352.1/	0.00*		M24 OF/	0.00*	355.1/
0.00	357.1/	0.00		361.1/	0.00*	F090M04 OF/
0.00	F090M05 OF/	0.00		364.1/	0.00*	F100M11 OF/
0.00	F100M06 OF/	0.00		366.1/	0.00*	370.1/
0.00*	371.1/	0.00*		F090M08 OF/	0.00*	374.1/
0.00	375.1/	0.00		F090M03 OF/	0.00	376.1/
0.00*	377.1/	0.00*		F100M03 OF/	0.00*	378.1/
0.00*	383.1/	0.00		F080M08 OF/	0.00	385.1/
0.00*	389.1/	0.00		391.1/	0.00	392.1/
0.00	398.1/	0.00*		F080M10 of/	0.00	399.1/
0.00	401.1/	0.00*		F100M29 OF/	0.00	402.1/
0.00	423.1/	0.00		F090M14 OF/	0.00	430.1/
0.00	433.1/	0.00*		F090M02 OF/	0.00	e01 OF/
0.00	F080 EMER/	0.00		060E01 OF/	0.00	i07 of/
0.00	OF F042M19/	0.00		100E01 OVF/	0.00	F100M28 OV/
0.00	F100M31 OV/	0.00		FREE # 1/	0.00	FREE # 2/
0.01	FREE # 4/	0.00		FREE # 5/	0.00	FREE # 6/
0.00	FREE # 8/	0.00		FREE # 9/	0.00	FREE #10/

Cycle 5000 Time 41 Hrs - 40.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.
F100E00/	0.00 /	582.00	F100M31/ 0.78 / 594.92
F100i01/	0.00 /	604.18	F100M04/ 0.00 / 634.57
			F100M21/ 0.00 / 601.74
			F100M07/ 0.00 / 639.32

	F100M11/	0.00 /	660.44		F090E00/	0.00 /	580.53		F090M02/	0.00 /	600.77
	F090M05/	0.00 /	602.08		F090M09/	0.00 /	635.37		F090M04/	0.00 /	632.24
	F080E00/	0.00 /	596.00		F080M14/	0.00 /	599.05		F080M13/	0.00 /	648.09
	F080M06/	0.00 /	658.61		F070M02/	0.00 /	597.71		F070M01/	0.00 /	594.43
	F070E00/	0.00 /	582.00		F060M01/	0.00 /	591.32		F060E01/	0.00 /	598.00
	F050M01/	0.00 /	599.34		F050E01/	0.00 /	594.14		F050E00/	0.00 /	590.36
	F042M18/	0.00 /	600.38		F042M13/	0.00 /	594.61		F042M19/	0.00 /	601.93
	F042M24/	0.00 /	644.20		F042M28/	0.00 /	644.73		F042M39/	0.00 /	645.40
	F042M61/	0.00 /	645.52		F042M32/	0.00 /	646.91		F042M33/	0.00 /	647.75
	EBMPF780/	0.04 /	601.04		F090M08/	0.00 /	614.80		F090M07/	0.00 /	605.68
	F090M06/	0.00 /	603.17		SLOPECHANG/	0.00 /	603.97		F090M03/	0.00 /	607.19
	F100M27/	0.00 /	594.92		F100M03/	0.00 /	612.51		F100MG2/	0.00 /	605.60
	F100M26/	0.00 /	598.66		F100M32/	0.10 /	585.99		F080M08/	0.00 /	669.65
	F080M05/	0.00 /	666.27		F080A48/	0.02 /	599.77		F080 TAF/	0.01 /	596.65
	F060M02/	0.00 /	591.61		F060i07/	0.00 /	597.00		F060i11/	0.00 /	598.00
	F060E00/	0.00 /	584.32		F042M21/	0.00 /	611.99		F080M10/	0.00 /	660.42
	F080M02/	0.00 /	603.11		F100M29/	0.00 /	598.00		F070M04/	0.00 /	604.00
	F070i05/	0.00 /	595.50		E040i34/	0.00 /	640.00		F090M14/	0.00 /	588.00
	F100M06/	0.00 /	638.16		F100M28/	0.00 /	596.50		F100E01/	0.00 /	597.00
	F100 E OF/	0.00 /	590.00		F090M02OUT/	0.00 /	590.00				
	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.		Link3/ 0.00	Link4/ 0.00*	Link6/ 0.00*				
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00	Link14/				
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.01	Link27/				
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00	Link39/				
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00	Link46/				
0.01	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/				
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/				
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00	F042M61 OF/				
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/				
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*	F090M07 OF/				
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*	m32OF/				
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*	m28 of/				
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*	363.1/				
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*	365.1/				
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*	F090M09 OF/				
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*	F090M06 OF/				
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*	F100M04 OF/				
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*	F100M02 OF/				
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.01	387.1/				
0.00	389.1/	0.00	391.1/	0.00	392.1/	0.00*	M21 OF/				
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*	F080M13/				
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00	F070M04 OF/				
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*	F100M21 OF/				
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/				
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00	i11 OF/				
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	M100M27 OV/				
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/				
0.01	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00	FREE # 7/				
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00					
Cycle	5500	Time	45 Hrs - 50.00 Min								
	Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.							
	F100E00/	0.00 /	582.00		F100M31/	0.78 /	594.92		F100M21/	0.00 /	601.74
	F100i01/	0.00 /	604.18		F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32
	F100M11/	0.00 /	660.44		F090E00/	0.00 /	580.53		F090M02/	0.00 /	600.77
	F090M05/	0.00 /	602.08		F090M09/	0.00 /	635.37		F090M04/	0.00 /	632.24

F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
ERMPPF080/	0.03 /	601.03	F090M08/	0.00 /	614.30	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M02/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	535.49	F030M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.02 /	599.77	F080 TA2/	0.01 /	596.85
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	600.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	528.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/ 0.00	Link4/ 0.00*	Link6/ 0.00*
0.00	Link7/	0.00		Link9/	Link13/	Link14/
0.00	Link15/	0.00*		Link17/	Link26/	Link27/
0.00*	Link31/	0.00		Link32/	Link38/	Link39/
0.00*	Link40/	0.00*		Link41/	Link44/	Link46/
0.00	Link48/	0.00		Link51/	OFLOW 1/	OFLOW 2/
0.00	OFLOW 3/	0.00		OFLOW 4/	OFLOW 5/	Link61/
0.00	Link64/	0.00		OFLOW 6/	F043M33 OF/	F042M61 OF/
0.00*	F042M39 OF/	0.00*		F060M02 OF/	F070M02 OF/	F070i05 OF/
0.00	Link71/	0.00		F100M07 OF/	Link75/	F090M07 OF/
0.00	Link83/	0.00		F080M06 OF/	348.1/	m32OF/
0.00	352.1/	0.00*		M24 OF/	355.1/	m28 of/
0.00	357.1/	0.00		361.1/	F090M04 OF/	363.1/
0.00	F090M05 OF/	0.00		364.1/	F100M11 OF/	365.1/
0.00	F100M06 OF/	0.00		366.1/	370.1/	F090M09 OF/
0.00*	371.1/	0.00*		F090M08 OF/	374.1/	F090M06 OF/
0.00	375.1/	0.00		F090M03 OF/	376.1/	F100M04 OF/
0.00*	377.1/	0.00*		F100M03 OF/	378.1/	F100M02 OF/
0.00*	383.1/	0.00		F080M08 OF/	385.1/	387.1/
0.00*	389.1/	0.00		391.1/	392.1/	M21 OF/
0.00	398.1/	0.00*		F080M10 of/	399.1/	E080M13/
0.00	401.1/	0.00*		F100M29 OF/	402.1/	F070M04 OF/
0.00	423.1/	0.00		F090M14 OF/	430.1/	F100M21 OF/
0.00	433.1/	0.00*		F090M02 OF/	e01 OF/	F100i01 OV/
0.00	F080 EMER/	0.00		060E01 OF/	i07 of/	i11 OF/
0.00	OF F042M19/	0.00		100E01 OV/	F100M28 OV/	M100M27 OV/
0.00	F100M31 OV/	0.00		FREE # 1/	FREE # 2/	FREE # 3/
0.00	FREE # 4/	0.00		FREE # 5/	FREE # 6/	FREE # 7/
0.00	FREE # 8/	0.00		FREE # 9/	FREE #10/	

Cycle 6000 Time 50 Hrs - 0.00 Min

Junction /	Depth /	Elevation	====>	** Junction is Surcharged.					
F100E00/	0.00 /	582.00		F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18		F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44		F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08		F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00		F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61		F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43

F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPF080/	0.03 /	601.03	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	3.00 /	666.27	F080i48/	0.01 /	599.76	F080 TAP/	0.01 /	596.65
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.30	F060i11/	0.00 /	596.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> ""	Conduit uses the normal Link3/	flow option. Link4/		
0.00	Link7/	0.00		Link9/	0.00	Link13/	0.00* Link6/
0.00	Link15/	0.00*		Link17/	0.00*	Link26/	0.00 Link14/
0.00*	Link31/	0.00		Link32/	0.00	Link38/	0.00 Link39/
0.00*	Link40/	0.00*		Link41/	0.00	Link44/	0.00 Link46/
0.00	Link48/	0.00		Link51/	0.00	OFLOW 1/	0.00 OFLOW 2/
0.00	OFLOW 3/	0.00		OFLOW 4/	0.00	OFLOW 5/	0.00 Link61/
0.00	Link64/	0.00		OFLOW 6/	0.00	F043M33 OF/	0.00 F042M61 OF/
0.00*	F042M39 OF/	0.00*		F060M02 OF/	0.00	F070M02 OF/	0.00 F070i05 OF/
0.00	Link71/	0.00		F100M07 OF/	0.00	Link75/	0.00* F090M07 OF/
0.00	Link83/	0.00		F080M06 OF/	0.00	348.1/	0.00* m32OF/
0.00	352.1/	0.00*		M24 OF/	0.00*	355.1/	0.00* m28 of/
0.00	357.1/	0.00		361.1/	0.00*	F090M04 OF/	0.00* 363.1/
0.00	F090M05 OF/	0.00		364.1/	0.00*	F100M11 OF/	0.00* 365.1/
0.00	F100M06 OF/	0.00		366.1/	0.00*	370.1/	0.00* F090M09 OF/
0.00*	371.1/	0.00*		F090M08 OF/	0.00*	374.1/	0.00* F090M06 OF/
0.00	375.1/	0.00		F090M03 OF/	0.00	376.1/	0.00* F100M04 OF/
0.00*	377.1/	0.00*		F100M03 OF/	0.00*	378.1/	0.00* F100M02 OF/
0.00*	383.1/	0.00		F080M08 OF/	0.00	385.1/	0.00 387.1/
0.00*	389.1/	0.00		391.1/	0.00	392.1/	0.00* M21 OF/
0.00	398.1/	0.00*		F080M10 of/	0.00	399.1/	0.00* E080M13/
0.00	401.1/	0.00*		F100M29 OF/	0.00	402.1/	0.00 F070M04 OF/
0.00	423.1/	0.00		F090M14 OF/	0.00	430.1/	0.00* F100M21 OF/
0.00	433.1/	0.00*		F090M02 OF/	0.00	e01 OF/	0.00 F100i01 OV/
0.00	F080 EMER/	0.00		060E01 OF/	0.00	i07 of/	0.00 i11 OF/
0.00	OF F042M19/	0.00		100E01 OV/	0.00	F100M28 OV/	0.00 M100M27 OV/
0.00	F100M31 OV/	0.00		FREE # 1/	0.00	FREE # 2/	0.00 FREE # 3/
0.00	FREE # 4/	0.00		FREE # 5/	0.00	FREE # 6/	0.00 FREE # 7/
0.00	FREE # 8/	0.00		FREE # 9/	0.00	FREE #10/	0.00

Cycle 6500 Time 54 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====> ""	Junction is Surcharged.				
F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36

F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPT080/	0.02 /	601.02	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M03/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.01 /	599.76	F080 TAP/	0.01 /	596.65
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.03	F060i11/	0.00 /	598.00
F060E09/	0.00 /	584.32	F042M21/	0.00 /	611.99	F030M19/	0.00 /	633.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E04G134/	0.00 /	640.00	F090M14/	0.00 /	588.20
F100M06/	0.00 /	638.16	F100M22/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/ 0.00	Link4/ 0.00*	Link6/ 0.00
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.00
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00
0.00	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00*
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00
0.00	OF F042M19/	0.00	100E01 OVf/	0.00	F100M28 OV/	0.00
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00
0.00	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

Cycle 7000 Time 58 Hrs - 20.00 Min

Junction / Depth / Elevation	====> "*" Junction is Surcharged.		
F100E00/ 0.00 / 582.00	F100M31/ 0.78 / 594.92	F100M21/ 0.00 / 601.74	
F100i01/ 0.00 / 604.18	F100M04/ 0.00 / 634.57	F100M07/ 0.00 / 639.32	
F100M11/ 0.00 / 660.44	F090E00/ 0.00 / 580.53	F090M02/ 0.00 / 600.77	
F090M05/ 0.00 / 602.08	F090M09/ 0.00 / 635.37	F090M04/ 0.00 / 632.24	
F080E00/ 0.00 / 596.00	F080M14/ 0.00 / 599.05	F080M13/ 0.00 / 648.09	
F080M06/ 0.00 / 658.61	F070M02/ 0.00 / 597.71	F070M01/ 0.00 / 594.43	
F070E00/ 0.00 / 582.00	F060M01/ 0.00 / 591.32	F060E01/ 0.00 / 598.00	
F050M01/ 0.00 / 599.34	F050E01/ 0.00 / 594.14	F050E00/ 0.00 / 590.36	
F042M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61	F042M19/ 0.00 / 601.93	
F042M24/ 0.00 / 644.20	F042M28/ 0.00 / 644.73	F042M39/ 0.00 / 645.40	

F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M35/	0.00 /	647.75
EBMPF080/	0.02 /	601.02	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.01 /	599.76	F080 TAP/	0.00 /	596.64
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option. Link3/	Link4/	0.00*	Link6/
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00 Link14/
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.00 Link27/
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00 Link39/
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00 Link46/
0.00	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00 OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00 Link61/
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00 F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00 F070i05 OF/
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00* F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00* m320F/
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00* m28 of/
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00* 363.1/
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00* 365.1/
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00* F090M09 OF/
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00* F090M06 OF/
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00* F100M04 OF/
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00* F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00 387.1/
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00* M21 OF/
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00* E080M13/
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00 F070M04 OF/
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00* F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00 F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00 i11 OF/
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00 M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00 FREE # 3/
0.00	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00 FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

```

*=====
| 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)
F100E00	300.0000	300.0000	40380.0000

F100M31	3.6134	9.0335	1620.0000
F100M21	2.1169	5.2922	30.0000
F100i01	1.4959	3.7398	30.0000
F100M04	1.3906	3.4766	420.0000
F100M07	1.9109	4.7772	60.0000
F100M11	0.6860	1.7150	90.0000
F090E00	300.0000	300.0000	0.0000
F090M02	3.2110	8.0276	60.0000
F090M05	4.9175	12.2938	0.0000
F090M09	1.4015	3.5038	240.0000
F090M04	1.3248	3.3121	150.0000
F080E00	300.0000	300.0000	0.0000
F080M14	45.1384	112.8460	0.0000
F080M13	72.7436	181.8591	0.0000
F080M06	145.5914	300.0000	0.0000
F070M02	2.5384	6.3460	480.0000
F070M01	30.4477	76.1192	0.0000
F070E00	300.0000	300.0000	0.0000
F060M01	3.4803	8.7007	156120.000
F060E01	36.5081	91.2701	0.0000
F050M01	2.7343	6.8357	240.0000
F050E01	131.5136	300.0000	0.0000
F050E00	300.0000	300.0000	0.0000
F042M18	64.5295	161.3237	0.0000
F042M13	300.0000	300.0000	0.0000
F042M19	4.4631	11.1579	2580.0000
F042M24	0.8617	2.1544	330.0000
F042M28	0.8281	2.0703	90.0000
F042M39	1.3158	3.2896	60.0000
F042M61	2.2538	5.6344	570.0000
F042M32	2.1121	5.2803	90.0000
F042M33	1.2139	3.0346	90.0000
EBMPF080	36.4335	91.0839	0.0000
F090M08	1.8216	4.5540	60.0000
F090M07	2.3388	5.8469	210.0000
F090M06	4.1087	10.2718	0.0000
SLOPECHANG	3.8251	9.5627	0.0000
F090M03	2.4042	6.0105	150.0000
F100M27	5.8780	14.6951	60.0000
F100M03	0.9459	2.3648	180.0000
F100M02	5.6398	14.0996	120.0000
F100M26	1.5417	3.8542	150.0000
F100M32	2.7190	6.7975	420.0000
F080M08	139.6281	300.0000	0.0000

F080M05	300.0000	300.0000	0.0000
F080i48	57.7753	144.4382	0.0000
F080 TAP	83.0768	207.6919	0.0000
F060M02	2.9723	7.4307	1320.0000
F060i07	34.3520	85.8800	0.0000
F060i11	17.5624	43.9059	1290.0000
F060E00	300.0000	300.0000	0.0000
F042M21	0.4103	1.0257	90.0000
F080M10	2.1380	5.3449	180.0000
F080M02	34.7284	86.8211	0.0000
F100M29	3.2225	8.0561	240.0000
F070M04	0.3001	0.7504	90.0000
F070i05	28.9470	72.3675	7230.0000
E040i34	300.0000	300.0000	0.0000
F090M14	0.9411	2.3528	150.0000
F100M06	0.4688	1.1719	60.0000
F100M28	6.2704	15.6761	60.0000
F100E01	5.6014	14.0036	210.0000
F100 E OF	300.0000	300.0000	0.0000
F090M02OUT	300.0000	300.0000	0.0000

The junction requiring the smallest time step was...F060M01

```

*=====
| 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
LINE042	30.2783	30.2783	120.7850	241.5000	0.0469	6.7664	Normal Soln
Link3	22.6940	22.6940	123.2328	0.0000	-0.2266	6.1467	Normal Soln
Link4	4.7860	4.7860	16.6934	10.5000	0.1724	4.1396	Normal Soln
Link6	18.3144	18.3144	52.2103	0.0000	0.0625	3.8082	Normal Soln
Link7	12.2983	12.2983	20.5439	40.5000	-0.0517	1.3979	Normal Soln
Link9	11.5132	11.5132	28.4904	0.0000	-0.0129	2.4979	Normal Soln

Link13	5.3883	5.3883	11.2210	0.0000	0.2189	2.4230	Normal Soln
Link14	17.7154	17.7154	28.3593	0.0000	-0.1081	1.6959	Normal Soln
Link15	5.6365	5.6365	11.8189	0.0000	0.0590	1.0426	Normal Soln
Link17	14.8114	14.8114	31.5150	0.0000	0.0755	1.9354	Normal Soln
Link26	16.1117	16.1117	36.6988	0.0000	0.0334	1.9985	Normal Soln
Link27	17.2203	17.2203	27.6232	0.0000	-0.0314	1.0301	Normal Soln
Link31	7.9553	7.9553	27.2469	0.0000	-0.0227	3.2909	Normal Soln
Link32	11.4332	11.4332	36.7152	0.0000	-0.0155	4.3732	Normal Soln
Link38	2.1589	2.1589	6.2530	0.0000	0.0891	2.6937	Normal Soln
Link39	3.8130	3.8130	8.9790	0.0000	-0.1263	1.1812	Normal Soln
Link40	3.1919	3.1919	10.2650	0.0000	0.2958	1.6133	Normal Soln
Link41	3.6400	3.6400	8.1824	0.0000	-0.1297	3.4103	Normal Soln
Link44	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link46	1.4908	1.4908	3.1288	2634.0000	0.0781	1.3866	Normal Soln
Link48	1.5941	1.5941	6.1436	566.5000	-0.0815	3.6786	Normal Soln
Link51	15.5175	15.5175	57.3014	0.0000	-0.0458	3.1596	Normal Soln
OFLOW 1	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 2	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 3	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 4	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 5	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link61	33.6434	33.6434	77.3129	0.0000	-0.0485	2.1043	Normal Soln
Link64	8.4599	8.4599	21.5028	0.0000	0.0505	2.3728	Normal Soln
OFLOW 6	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
F043M33 OF	46.5448	46.5448	73.0571	0.0000	0.0448	0.0255	Normal Soln
F042M61 OF	76.5395	76.5395	189.6883	0.0000	-0.0255	0.0029	Normal Soln
F042M39 OF	300.0000	300.0000	300.0000	0.0000	0.0314	0.2015	Normal Soln
F060M02 OF	4.9574	4.9574	11.1765	0.0000	0.0780	0.1634	Normal Soln
F070M02 OF	10.6256	10.6256	16.5561	0.0000	0.0380	0.0030	Normal Soln
F070i05 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link71	18.3417	18.3417	59.8009	0.0000	0.2977	7.1740	Normal Soln
F100M07 OF	3.9167	3.9167	7.3570	0.0000	-0.2216	0.2059	Normal Soln
Link75	5.9588	5.9588	18.9348	0.0000	-0.0971	3.9143	Normal Soln
F090M07 OF	79.7107	79.7107	144.4531	0.0000	0.0209	0.0068	Normal Soln
Link83	41.9389	41.9389	68.4782	0.0000	0.0116	0.0015	Normal Soln
F080M06 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
348.1	21.4370	21.4370	87.8385	0.0000	-0.7957	5.4113	Normal Soln
m320F	13.3467	13.3467	85.8121	0.0000	-0.0697	0.0193	Normal Soln
352.1	47.2975	47.2975	108.5455	0.0000	-0.0530	2.3244	Normal Soln
M24 OF	176.1611	176.1611	258.1930	0.0000	0.0225	0.0077	Normal Soln
355.1	8.5952	8.5952	30.9956	0.0000	-0.2442	4.4964	Normal Soln
m28 of	20.3123	20.3123	190.2332	0.0000	-0.2649	0.0981	Normal Soln
357.1	5.6388	5.6388	8.2001	0.0000	-0.0480	1.0782	Normal Soln

361.1	22.2206	22.2206	53.6827	0.0000	-0.0299	2.0894	Normal Soln
F090M04 OF	74.1953	74.1953	103.2542	0.0000	-0.0004	0.0050	Normal Soln
363.1	18.4198	18.4198	58.4349	0.0000	-0.0453	3.6852	Normal Soln
F090M05 OF	66.8142	66.8142	147.2426	0.0000	0.0401	0.0253	Normal Soln
364.1	12.7654	12.7654	28.1275	0.0000	-0.0617	1.9520	Normal Soln
F100M11 OF	65.7154	65.7154	165.5857	0.0000	0.0717	0.0062	Normal Soln
365.1	13.6407	13.6407	41.4908	0.0000	-0.3575	3.5558	Normal Soln
F100M06 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
366.1	7.8464	7.8464	24.7335	0.0000	-0.1307	2.4247	Normal Soln
370.1	11.5569	11.5569	25.8825	0.0000	-0.0522	2.1022	Normal Soln
F090M09 OF	52.2514	52.2514	71.4176	0.0000	0.0000	0.0012	Normal Soln
371.1	14.9581	14.9581	43.7396	0.0000	0.0181	2.1040	Normal Soln
F090M08 OF	57.1179	57.1179	85.5721	0.0000	-0.0173	0.0035	Normal Soln
374.1	1.9278	1.9278	4.3520	0.0000	-0.0551	3.2985	Normal Soln
F090M06 OF	10.6468	10.6468	47.3216	0.0000	-0.0457	0.0056	Normal Soln
375.1	25.1448	25.1448	78.3381	0.0000	0.0154	3.1229	Normal Soln
F090M03 OF	85.2603	85.2603	136.5598	0.0000	0.0249	0.0111	Normal Soln
376.1	11.3409	11.3409	25.9527	0.0000	0.0784	2.2939	Normal Soln
F100M04 OF	61.3127	61.3127	82.7973	0.0000	-0.0001	0.0023	Normal Soln
377.1	9.3064	9.3064	21.8117	0.0000	0.1105	1.9869	Normal Soln
F100M03 OF	37.2088	37.2088	54.3594	0.0000	-0.0319	0.0061	Normal Soln
378.1	11.9941	11.9941	35.1893	0.0000	-0.1554	1.5749	Normal Soln
F100M02 OF	65.9370	65.9370	130.5866	0.0000	-0.0473	0.0095	Normal Soln
383.1	24.5006	24.5006	39.0791	0.0000	-0.0305	1.4416	Normal Soln
F080M08 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
385.1	2.4492	2.4492	6.3984	0.0000	-0.0050	4.6932	Normal Soln
387.1	3.4881	3.4881	19.1237	0.0000	0.0774	0.8885	Normal Soln
389.1	7.8746	7.8746	29.3345	0.0000	-0.0652	5.6950	Normal Soln
391.1	12.2469	12.2469	51.2136	0.0000	0.0238	3.6147	Normal Soln
392.1	42.9988	42.9988	130.2040	0.0000	-0.1226	2.3063	Normal Soln
M21 OF	196.5939	196.5939	300.0000	0.0000	0.0319	0.0147	Normal Soln
398.1	16.1010	16.1010	36.5856	0.0000	-0.0383	2.3493	Normal Soln
F080M10 OF	145.9415	145.9415	248.6803	0.0000	-0.0029	0.0001	Normal Soln
399.1	54.7978	54.7978	92.9416	0.0000	0.0344	1.7060	Normal Soln
E080M13	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
401.1	5.2570	5.2570	21.8406	0.0000	-0.0145	2.2747	Normal Soln
F100M29 OF	26.1547	26.1547	57.9790	0.0000	0.0326	0.0136	Normal Soln
402.1	27.9895	27.9895	76.6944	0.0000	-0.3471	2.8658	Normal Soln
F070M04 OF	127.9062	127.9062	247.7580	0.0000	-0.0498	0.0213	Normal Soln
423.1	8.5703	8.5703	18.8856	0.0000	0.2231	2.5642	Normal Soln
F090M14 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
430.1	13.9402	13.9402	46.2069	0.0000	-0.0512	1.9910	Normal Soln
F100M21 OF	39.7677	39.7677	66.9156	0.0000	0.1456	0.0700	Normal Soln
433.1	0.2838	0.2838	0.7855	107.0000	-0.2000	4.2093	Normal Soln

F090M02 OF 4.7676 4.7676 7.4875 0.0000 0.0983 0.0255 Normal Soln

The conduit with the smallest time step limitation was..Link46
The conduit with the largest wobble was.....Link71
The conduit with the largest flow change in any
consecutive time step.....348.1

* End of time step DO-loop in Runoff *

Final Date (Mo/Day/Year) = 12/10/2012
Total number of time steps = 3600
Final Julian Date = 2012345
Final time of day = 43200. seconds.
Final time of day = 12.00 hours.
Final running time = 60.0000 hours.
Final running time = 2.5000 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
F042M33#1	0	0	F042M32#1	0	0
F042M39#1	0	0	F042M24#1	0	0
F050M01#1	0	0	F050E01#1	0	0
F060M02#1	0	0	F070M04#1	0	0
F070i05#1	0	0	F080M10#1	0	0
F080M13#1	0	0	F080M02#1	0	0
F080M14#2	0	0	F090M04#1	0	0
F100M07#1	0	0	F100i01#1	0	0
F100M29#1	0	0	F100M31#1	0	0
F100M04#1	0	0	F090M09#1	0	0
F090M02#1	0	0	F090M14#1	0	0
EBMPF080#1	0	0	F080i48#1	0	0

Rainfall input summary from Runoff Continuity Check #
#####

Total rainfall read for gage # 1 is 5.1000 in
Total rainfall duration for gage # 1 is 1440.00 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. *

	cubic feet	Inches over Total Basin
Total Precipitation (Rain plus Snow)	4.816342E+06	5.100
Total Infiltration	1.804146E+06	1.910
Total Evaporation	9.443808E+04	0.100
Surface Runoff from Watersheds	2.924302E+06	3.097
Total Water remaining in Surface Storage	0.000000E+00	0.000
Infiltration over the Pervious Area...	1.804146E+06	1.910

Infiltration + Evaporation + Surface Runoff + Snow removal + Water remaining in Surface Storage + Water remaining in Snow Cover.....	4.822886E+06	5.107
Total Precipitation + Initial Storage.	4.816342E+06	5.100

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.....

-0.1359

 * Table R6. Continuity Check for Channel/Pipes *
 * You should have zero continuity error *
 * if you are not using runoff hydraulics *

	cubic feet	Inches over Total Basin
Initial Channel/Pipe Storage.....	0.000000E+00	0.000
Final Channel/Pipe Storage.....	0.000000E+00	0.000
Surface Runoff from Watersheds.....	2.924302E+06	3.097
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.....	2.924302E+06	3.097
Initial Storage + Inflow.....	2.924302E+06	3.097
Final Storage + Outflow + Diverted GW.....	2.924302E+06	3.097

* 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.....	F042M33#1	F042M32#1	F042M61#1	F042M39#1	F042M24#1
F042M19#1					
Area (acres).....	7.87000	1.73000	1.64000	11.03000	7.84000
10.12000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.18983	3.23805	3.26428	3.96621	3.51094
3.22600					
Peak Runoff Rate (cfs).	30.25332	6.74224	5.97695	53.14572	16.09867
21.84988					
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)	3.18983	3.23805	3.26428	3.96621	3.51094
3.22600					
Peak Runoff Rate (cfs).	30.25332	6.74224	5.97695	53.14572	16.09867
21.84988					
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.....	F050M01#1	F050E01#1	F050E01#2	F060M02#1	F070M04#1
F070M02#1					
Area (acres).....	2.44000	3.06000	1.47000	54.76000	13.86000
3.16000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.34007	3.30371	3.65306	3.73609	3.55154
3.47359					
Peak Runoff Rate (cfs)...	8.41898	13.32384	6.96274	123.87650	42.55451
11.58656					
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)	3.34007	3.30371	3.65306	3.73609	3.55154
3.47359					
Peak Runoff Rate (cfs)...	8.41898	13.32384	6.96274	123.87650	42.55451
11.58656					
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.....	F070i05#1	F080M10#1	F080M06#1	F080M13#1	F080M02#1
F080M14#1					

Area (acres).....	9.07000	3.73000	2.28000	4.18000	12.77000
4.44000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.47495	2.68938	2.78600	2.56707	0.00000
3.48192					
Peak Runoff Rate (cfs).	19.78631	12.18449	9.05721	14.71044	0.00000
9.83328					
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)	3.47495	2.68938	2.78600	2.56707	0.00000
3.48192					
Peak Runoff Rate (cfs).	19.78631	12.18449	9.05721	14.71044	0.00000
9.83328					
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.....					
F100M21#1	F080M14#2	F090M04#1	F100M11#1	F100M07#1	F100i01#1
Area (acres).....	3.33000	7.00000	8.29000	8.55000	8.46000
0.90000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.38046	2.51025	3.19649	3.07775	2.86126
3.01625					
Peak Runoff Rate (cfs).	17.27555	19.23400	31.04880	23.40467	29.34500
3.04483					
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)	3.38046	2.51025	3.19649	3.07775	2.86126
3.01625					
Peak Runoff Rate (cfs).	17.27555	19.23400	31.04880	23.40467	29.34500
3.04483					
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.....					
F090M05#1	F100M29#1	F100M31#1	F100M06#1	F100M04#1	F090M09#1
Area (acres).....	3.64000	8.40000	2.58000	10.18000	3.40000
3.59000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.08279	2.89811	3.12460	3.17029	2.91472
3.26233					
Peak Runoff Rate (cfs).	13.87824	28.05016	10.95581	36.99382	12.29757
16.17821					
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)	3.08279	2.89811	3.12460	3.17029	2.91472
3.26233					
Peak Runoff Rate (cfs).	13.87824	28.05016	10.95581	36.99382	12.29757
16.17821					

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.....	F090M02#1	F090M14#1	F090M14#2	EBMPF080#1	F080i48#1
Area (acres).....	6.62000	4.00000	1.62000	23.70000	0.45000
Percent Impervious....	0.00000	0.00000	0.00000	0.00000	0.00000
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210

Pervious Area

Total Runoff Depth (in)	3.16731	2.60447	2.82832	2.51218	3.36076
Peak Runoff Rate (cfs).	29.66633	9.89220	4.35998	59.04503	2.32246

Total Impervious Area

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
Peak Runoff Rate (cfs).	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
Peak Runoff Rate (cfs).	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
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000

Total Area

Total Runoff Depth (in)	3.16731	2.60447	2.82832	2.51218	3.36076
Peak Runoff Rate (cfs).	29.66633	9.89220	4.35998	59.04503	2.32246

Rational Formula

Pervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
Impervious Tc. (mins)..	0.00000	0.00000	0.00000	0.00000	0.00000
Imp. Intensity (in/hr).	0.00000	0.00000	0.00000	0.00000	0.00000
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area Intensity.	0.00000	0.00000	0.00000	0.00000	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 = 60.008 hours |
*=====

```

Junction / Depth / Elevation	====>	***	Junction is Surcharged.
F100E00/ 0.00 / 582.00/		F100M31/ 0.78 / 594.92/	F100M21/ 0.00 / 601.74/
F100i01/ 0.00 / 604.18/		F100M04/ 0.00 / 634.57/	F100M07/ 0.00 / 639.32/
F100M11/ 0.00 / 660.44/		F090E00/ 0.00 / 580.53/	F090M02/ 0.00 / 600.77/
F090M05/ 0.00 / 602.08/		F090M09/ 0.00 / 635.37/	F090M04/ 0.00 / 632.24/
F080E00/ 0.00 / 596.00/		F080M14/ 0.00 / 599.05/	F080M13/ 0.00 / 648.09/

F080M06/	0.00 /	658.61/	F070M02/	0.00 /	597.71/	F070M01/	0.00 /	594.43/
F070E00/	0.00 /	582.00/	F060M01/	0.00 /	591.32/	F060E01/	0.00 /	598.00/
F050M01/	0.00 /	599.34/	F050E01/	0.00 /	594.14/	F050E00/	0.00 /	590.36/
F042M18/	0.00 /	600.38/	F042M13/	0.00 /	594.61/	F042M19/	0.00 /	601.93/
F042M24/	0.00 /	644.20/	F042M28/	0.00 /	644.73/	F042M39/	0.00 /	645.40/
F042M61/	0.00 /	645.52/	F042M32/	0.00 /	646.91/	F042M33/	0.00 /	647.75/
EBMPF080/	0.02 /	601.02/	F090M08/	0.00 /	614.80/	F090M07/	0.00 /	605.68/
F090M06/	0.00 /	603.17/	SLOPECHANG/	0.00 /	603.97/	F090M03/	0.00 /	607.19/
F100M27/	0.00 /	594.92/	F100M03/	0.00 /	612.51/	F100M02/	0.00 /	605.60/
F100M26/	0.00 /	588.66/	F100M32/	0.10 /	585.99/	F080M08/	0.00 /	669.65/
F080M05/	0.00 /	666.27/	F080i48/	0.01 /	599.76/	F080 TAP/	0.00 /	596.64/
F060M02/	0.00 /	591.61/	F060i07/	0.00 /	597.00/	F060i11/	0.00 /	598.00/
F060E00/	0.00 /	584.32/	F042M21/	0.00 /	611.99/	F080M10/	0.00 /	680.42/
F080M02/	0.00 /	603.11/	F100M29/	0.00 /	598.00/	F070M04/	0.00 /	604.00/
F070i05/	0.00 /	595.50/	E040i34/	0.00 /	640.00/	F090M14/	0.00 /	588.00/
F100M06/	0.00 /	638.16/	F100M28/	0.00 /	596.50/	F100E01/	0.00 /	597.00/
F100 E OF/	0.00 /	590.00/	F090M02OUT/	0.00 /	590.00/			

Conduit/ Flow ==> "*" Conduit uses the normal flow option.

LINE042/	0.00*/	Link3/	0.00 /	Link4/	0.00*/
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.00*/
Link17/	0.00*/	Link26/	0.00 /	Link27/	0.00*/
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.00 /
Link39/	0.00*/	Link40/	0.00*/	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.00 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.00 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00*/	F042M39 OF/	0.00*/
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00*/
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00*/	m320F/	0.00 /	352.1/	0.00*/
M24 OF/	0.00*/	355.1/	0.00*/	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00*/	F090M04 OF/	0.00*/
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00*/
F100M11 OF/	0.00*/	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00*/	370.1/	0.00*/	F090M09 OF/	0.00*/
371.1/	0.00*/	F090M08 OF/	0.00*/	374.1/	0.00*/
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00*/	F100M04 OF/	0.00*/	377.1/	0.00*/
F100M03 OF/	0.00*/	378.1/	0.00*/	F100M02 OF/	0.00*/
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.00 /
387.1/	0.00*/	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00*/	M21 OF/	0.00 /	398.1/	0.00*/
F080M10 of/	0.00 /	399.1/	0.00*/	E080M13/	0.00 /
401.1/	0.00*/	F100M29 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00*/	F100M21 OF/	0.00 /	433.1/	0.00*/
F090M02 OF/	0.00 /	e01 OF/	0.00 /	F100i01 OV/	0.00 /
F080 EMER/	0.00 /	060E01 OF/	0.00 /	i07 of/	0.00 /
i11 OF/	0.00 /	OF F042M19/	0.00 /	100E01 OVf/	0.00 /
F100M28 OV/	0.00 /	M100M27 OV/	0.00 /	F100M31 OV/	0.00 /
FREE # 1/	0.00 /	FREE # 2/	0.00 /	FREE # 3/	0.00 /
FREE # 4/	0.00 /	FREE # 5/	0.00 /	FREE # 6/	0.00 /
FREE # 7/	0.00 /	FREE # 8/	0.00 /	FREE # 9/	0.00 /
FREE #10/	0.00 /				

Conduit/	Velocity				
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.00 /
Link17/	0.00 /	Link26/	0.46 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.00 /
Link39/	0.00 /	Link40/	0.00 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.60 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.00 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00 /	m320F/	0.00 /	352.1/	0.00 /
M24 OF/	0.00 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	0.00 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.35 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	398.1/	0.00 /

F080M10 of/	0.00 /	399.1/	0.00 /	E080M13/	0.00 /
401.1/	0.00 /	F100M29 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/	Width				
LINE042/	0.49 /	Link3/	0.78 /	Link4/	0.78 /
Link6/	0.78 /	Link7/	0.78 /	Link9/	0.39 /
Link13/	0.78 /	Link14/	0.98 /	Link15/	1.18 /
Link17/	0.79 /	Link26/	0.78 /	Link27/	0.78 /
Link31/	0.39 /	Link32/	0.39 /	Link38/	0.90 /
Link39/	0.78 /	Link45/	0.79 /	Link41/	0.59 /
Link44/	0.39 /	Link46/	1.18 /	Link43/	0.59 /
Link51/	0.59 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.98 /	Link64/	0.78 /	OFLOW 6/	0.00 /
F043M33 OF/	2.02 /	F042M61 OF/	10.00 /	F042M39 OF/	4.02 /
F060M02 OF/	20.00 /	F070M02 OF/	10.17 /	F070i05 OF/	0.00 /
Link71/	0.78 /	F100M07 OF/	10.01 /	Link75/	0.59 /
F090M07 OF/	2.08 /	Link83/	2.09 /	F080M06 OF/	0.00 /
348.1/	0.49 /	m32OF/	6.00 /	352.1/	0.59 /
M24 OF/	2.01 /	355.1/	0.78 /	m28 of/	4.18 /
357.1/	0.98 /	361.1/	0.39 /	F090M04 OF/	2.00 /
363.1/	0.69 /	F090M05 OF/	2.01 /	364.1/	0.49 /
F100M11 OF/	2.25 /	365.1/	0.78 /	F100M06 OF/	2.10 /
366.1/	0.59 /	370.1/	0.39 /	F090M09 OF/	2.00 /
371.1/	0.39 /	F090M08 OF/	2.01 /	374.1/	0.39 /
F090M06 OF/	3.84 /	375.1/	0.39 /	F090M03 OF/	2.02 /
376.1/	0.69 /	F100M04 OF/	2.00 /	377.1/	0.78 /
F100M03 OF/	2.03 /	378.1/	0.90 /	F100M02 OF/	2.00 /
383.1/	0.59 /	F080M08 OF/	0.00 /	385.1/	0.49 /
387.1/	0.59 /	389.1/	0.39 /	391.1/	0.39 /
392.1/	0.69 /	M21 OF/	2.05 /	398.1/	0.49 /
F080M10 of/	2.01 /	399.1/	0.78 /	E080M13/	0.00 /
401.1/	0.33 /	F100M29 OF/	2.01 /	402.1/	0.78 /
F070M04 OF/	2.13 /	423.1/	0.78 /	F090M14 OF/	0.00 /
430.1/	0.59 /	F100M21 OF/	2.01 /	433.1/	0.59 /
F090M02 OF/	2.04 /				

Junction/	EGL				
F100E00/	0.00 /	F100M31/	0.78 /	F100M21/	0.00 /
F100i01/	0.00 /	F100M04/	0.00 /	F100M07/	0.00 /
F100M11/	0.00 /	F090E00/	0.00 /	F090M02/	0.00 /
F090M05/	0.00 /	F090M09/	0.00 /	F090M04/	0.00 /
F080E00/	0.01 /	F080M14/	0.00 /	F080M13/	0.00 /
F080M06/	0.00 /	F070M02/	0.00 /	F070M01/	0.00 /
F070E00/	0.00 /	F060M01/	0.00 /	F060E01/	0.00 /
F050M01/	0.00 /	F050E01/	0.00 /	F050E00/	0.00 /
F042M18/	0.00 /	F042M13/	0.00 /	F042M19/	0.00 /
F042M24/	0.00 /	F042M28/	0.00 /	F042M39/	0.00 /
F042M61/	0.00 /	F042M32/	0.00 /	F042M33/	0.00 /
EBMPF080/	0.02 /	F090M08/	0.00 /	F090M07/	0.00 /
F090M06/	0.00 /	SLOPECHANG/	0.51 /	F090M03/	0.00 /
F100M27/	0.00 /	F100M03/	0.00 /	F100M02/	0.00 /
F100M26/	0.00 /	F100M32/	0.10 /	F080M08/	0.00 /
F080M05/	0.00 /	F080i48/	0.50 /	F080 TAP/	0.01 /
F060M02/	4.35 /	F060i07/	0.00 /	F060i11/	0.00 /
F060E00/	0.00 /	F042M21/	0.00 /	F080M10/	0.00 /
F080M02/	0.00 /	F100M29/	0.00 /	F070M04/	0.00 /
F070i05/	0.00 /	E040i34/	0.00 /	F090M14/	0.00 /
F100M06/	0.00 /	F100M28/	0.00 /	F100E01/	0.00 /
F100 E OF/	0.00 /	F090M02OUT/	0.00 /		

Junction/	Freeboard				
F100E00/	18.00 /	F100M31/	19.37 /	F100M21/	55.35 /
F100i01/	15.25 /	F100M04/	21.50 /	F100M07/	16.25 /
F100M11/	15.30 /	F090E00/	19.47 /	F090M02/	14.30 /
F090M05/	14.14 /	F090M09/	15.60 /	F090M04/	14.20 /
F080E00/	14.00 /	F080M14/	14.77 /	F080M13/	21.02 /
F080M06/	13.02 /	F070M02/	15.23 /	F070M01/	17.65 /
F070E00/	28.00 /	F060M01/	19.71 /	F060E01/	22.00 /
F050M01/	13.84 /	F050E01/	15.86 /	F050E00/	19.64 /
F042M18/	16.55 /	F042M13/	19.20 /	F042M19/	15.40 /
F042M24/	16.12 /	F042M28/	15.22 /	F042M39/	14.25 /
F042M61/	13.83 /	F042M32/	13.97 /	F042M33/	13.10 /
EBMPF080/	6.98 /	F090M08/	15.16 /	F090M07/	15.30 /
F090M06/	12.90 /	SLOPECHANG/	16.03 /	F090M03/	15.25 /
F100M27/	19.39 /	F100M03/	16.25 /	F100M02/	16.20 /
F100M26/	20.10 /	F100M32/	24.01 /	F080M08/	14.80 /
F080M05/	17.60 /	F080i48/	13.55 /	F080 TAP/	13.36 /
F060M02/	19.95 /	F060i07/	18.00 /	F060i11/	14.73 /
F060E00/	18.68 /	F042M21/	14.61 /	F080M10/	14.50 /
F080M02/	13.28 /	F100M29/	17.12 /	F070M04/	16.59 /
F070i05/	14.03 /	E040i34/	20.00 /	F090M14/	19.55 /
F100M06/	19.00 /	F100M28/	17.82 /	F100E01/	21.00 /
F100 E OF/	20.00 /	F090M02OUT/	20.00 /		

Junction/ Max Volume					
F100E00/	18.85 /	F100M31/	136.77 /	F100M21/	74.21 /
F100i01/	81.46 /	F100M04/	146.29 /	F100M07/	92.45 /
F100M11/	69.28 /	F090E00/	25.13 /	F090M02/	57.87 /
F090M05/	56.84 /	F090M09/	71.69 /	F090M04/	55.23 /
F080E00/	20.94 /	F080M14/	28.03 /	F080M13/	18.17 /
F080M06/	13.18 /	F070M02/	69.50 /	F070M01/	25.96 /
F070E00/	22.11 /	F060M01/	117.34 /	F060E01/	4540.72 /
F050M01/	49.78 /	F050E01/	1204.22 /	F050E00/	16.11 /
F042M18/	18.16 /	F042M13/	15.45 /	F042M19/	81.63 /
F042M24/	79.82 /	F042M28/	81.94 /	F042M39/	73.53 /
F042M61/	71.58 /	F042M32/	62.41 /	F042M33/	51.84 /
EBMPF080/	81350.28 /	F090M08/	66.96 /	F090M07/	69.38 /
F090M06/	43.16 /	SLOPECHANG/	65.90 /	F090M03/	69.37 /
F100M27/	111.77 /	F100M03/	81.20 /	F100M02/	81.09 /
F100M26/	150.60 /	F100M32/	149.97 /	F080M08/	12.58 /
F080M05/	0.00 /	F080i48/	31.62 /	F080 TAP/	35.10 /
F060M02/	128.10 /	F060i07/	14908.29 /	F060i11/	18511.56 /
F060E00/	16.30 /	F042M21/	61.71 /	F080M10/	57.15 /
F080M02/	34.57 /	F100M29/	93.13 /	F070M04/	87.21 /
F070i05/	36.58 /	E040i34/	4.66 /	F090M14/	106.35 /
F100M06/	107.28 /	F100M28/	106.54 /	F100E01/	27159.48 /
F100 E OF/	0.00 /	F090M02OUT/	4.66 /		

Junction/Total Fldng					
F100E00/	0.00 /	F100M31/	0.00 /	F100M21/	0.00 /
F100i01/	0.00 /	F100M04/	0.00 /	F100M07/	0.00 /
F100M11/	0.00 /	F090E00/	0.00 /	F090M02/	0.00 /
F090M05/	0.00 /	F090M09/	0.00 /	F090M04/	0.00 /
F080E00/	0.00 /	F080M14/	0.00 /	F080M13/	0.00 /
F080M06/	0.00 /	F070M02/	0.00 /	F070M01/	0.00 /
F070E00/	0.00 /	F060M01/	0.00 /	F060E01/	0.00 /
F050M01/	0.00 /	F050E01/	0.00 /	F050E00/	0.00 /
F042M18/	0.00 /	F042M13/	0.00 /	F042M19/	0.00 /
F042M24/	0.00 /	F042M28/	0.00 /	F042M39/	0.00 /
F042M61/	0.00 /	F042M32/	0.00 /	F042M33/	0.00 /
EBMPF080/	0.00 /	F090M08/	0.00 /	F090M07/	0.00 /
F090M06/	0.00 /	SLOPECHANG/	0.00 /	F090M03/	0.00 /
F100M27/	0.00 /	F100M03/	0.00 /	F100M02/	0.00 /
F100M26/	0.00 /	F100M32/	0.00 /	F080M08/	0.00 /
F080M05/	0.00 /	F080i48/	0.00 /	F080 TAP/	0.00 /
F060M02/	0.00 /	F060i07/	0.00 /	F060i11/	0.00 /
F060E00/	0.00 /	F042M21/	0.00 /	F080M10/	0.00 /
F080M02/	0.00 /	F100M29/	0.00 /	F070M04/	0.00 /
F070i05/	0.00 /	E040i34/	0.00 /	F090M14/	0.00 /
F100M06/	0.00 /	F100M28/	0.00 /	F100E01/	0.00 /
F100 E OF/	0.00 /	F090M02OUT/	0.00 /		

Conduit/ Cross Sectional Area					
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.00 /
Link17/	0.00 /	Link26/	0.00 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.11 /
Link39/	0.00 /	Link40/	0.01 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.00 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.00 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00 /	m32OF/	0.00 /	352.1/	0.00 /
M24 OF/	0.00 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	0.11 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.01 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.00 /	E080M13/	0.00 /
401.1/	0.05 /	F100M29 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/ Final Volume					
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.04 /

Link17/	0.00 /	Link26/	1.11 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	6.70 /
Link39/	0.00 /	Link40/	0.56 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.09 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.01 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.02 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.02 /
348.1/	0.00 /	m32OF/	0.00 /	352.1/	0.01 /
M24 OF/	0.01 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	37.57 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.27 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.01 /	M21 OF/	0.01 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.01 /	E080M13/	0.01 /
401.1/	6.01 /	F100M29 OF/	0.00 /	402.1/	0.01 /
F070M04 OF/	0.01 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/ Hydraulic Radius					
LINE042/	0.00 /	Link3/	0.01 /	Link4/	0.00 /
Link6/	0.01 /	Link7/	0.01 /	Link9/	0.00 /
Link13/	0.01 /	Link14/	0.01 /	Link15/	0.01 /
Link17/	0.01 /	Link26/	0.01 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.05 /
Link39/	0.00 /	Link40/	0.01 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.01 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.01 /	Link64/	0.01 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.01 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00 /	m32OF/	0.00 /	352.1/	0.00 /
M24 OF/	0.00 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.01 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.01 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	0.05 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.01 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.01 /	E080M13/	0.00 /
401.1/	0.03 /	F100M29 OF/	0.00 /	402.1/	0.01 /
F070M04 OF/	0.00 /	423.1/	0.01 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/ Upstream/ Downstream Elevation								
LINE042/	646.91/	645.52	Link3/	645.52/	644.73	Link4/	644.20/	644.20/
Link6/	601.93/	600.38	Link7/	600.38/	594.61	Link9/	599.34/	594.14/
Link13/	597.71/	594.43	Link14/	594.43/	582.00	Link15/	599.05/	596.64/
Link17/	600.77/	588.00	Link26/	599.76/	596.64	Link27/	648.09/	648.09/
Link31/	605.68/	604.48	Link32/	603.97/	603.17	Link38/	594.92/	594.92/
Link39/	588.66/	588.66	Link40/	588.66/	585.99	Link41/	585.99/	582.00/
Link44/	648.09/	648.09	Link46/	596.64/	596.00	Link48/	591.61/	591.32/
Link51/	591.32/	584.32	OFLOW 1/	598.00/	598.00	OFLOW 2/	597.71/	597.71/
OFLOW 3/	597.71/	597.71	OFLOW 4/	601.02/	601.02	OFLOW 5/	635.37/	635.37/
Link61/	603.11/	599.05	Link64/	595.50/	594.43	OFLOW 6/	584.32/	584.32/
F043M33 OF/	640.00/	640.00	F042M61 OF/	644.20/	644.20	F042M39 OF/	598.00/	598.00/
F060M02 OF/	584.32/	584.32	F070M02 OF/	582.00/	582.00	F070i05 OF/	582.00/	582.00/
Link71/	639.32/	638.16	F100M07 OF/	601.74/	601.74	Link75/	594.92/	594.92/
F090M07 OF/	602.08/	602.08	Link83/	590.36/	590.36	F080M06 OF/	603.11/	603.11/
348.1/	646.91/	646.91	m32OF/	647.75/	647.75	352.1/	611.99/	611.99/
M24 OF/	611.99/	611.99	355.1/	644.73/	644.73	m28 of/	645.40/	645.40/
357.1/	594.14/	590.36	361.1/	607.19/	607.19	F090M04 OF/	607.19/	607.19/
363.1/	602.08/	600.77	F090M05 OF/	600.77/	600.77	364.1/	660.44/	639.32/
F100M11 OF/	639.32/	639.32	365.1/	638.16/	634.57	F100M06 OF/	634.57/	634.57/
366.1/	601.74/	601.74	370.1/	614.80/	614.80	F090M09 OF/	614.80/	614.80/
371.1/	614.80/	605.68	F090M08 OF/	605.68/	605.68	374.1/	603.17/	602.08/
F090M06 OF/	603.17/	603.17	375.1/	600.77/	600.77	F090M03 OF/	600.77/	600.77/

376.1/	612.51/	612.51	F100M04 OF/	612.51/	612.51	377.1/	605.60/	605.60/
F100M03 OF/	605.60/	605.60	378.1/	605.60/	594.92	F100M02 OF/	594.92/	594.92/
383.1/	669.65/	658.61	F080M08 OF/	658.61/	658.61	385.1/	601.02/	600.25/
387.1/	591.61/	591.61	389.1/	597.00/	595.96	391.1/	598.00/	595.36/
392.1/	611.99/	601.93	M21 OF/	601.93/	601.93	398.1/	680.42/	669.65/
F080M10 of/	669.65/	669.65	399.1/	648.09/	603.11	E080M13/	603.11/	603.11/
401.1/	598.00/	594.92	F100M29 OF/	594.92/	594.92	402.1/	604.00/	597.71/
F070M04 OF/	597.71/	597.71	423.1/	588.00/	580.53	F090M14 OF/	580.53/	580.53/
430.1/	596.50/	596.50	F100M21 OF/	596.50/	596.50	433.1/	596.50/	596.50/
F090M02 OF/	590.00/	590.00						

* ===== *

| Table E7 - Iteration Summary |

* ===== *

Total number of time steps simulated.....	7200
Total number of passes in the simulation.....	72400
Total number of time steps during simulation....	39672
Ratio of actual # of time steps / NTCYC.....	5.510
Average number of iterations per time step.....	1.825
Average time step size(seconds).....	5.445
Smallest time step size(seconds).....	1.000
Largest time step size(seconds).....	30.000
Average minimum Conduit Courant time step (sec)..	14.713
Average minimum implicit time step (sec).....	6.345
Average minimum junction time step (sec).....	6.345
Average Courant Factor Tf.....	6.345
Number of times omega reduced.....	3305

* ===== *

| 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. |

| Convr 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
F100E00	0	1.61	63880	4	327	5	4	4
F100M31	0	1.75	69359	6	247	23	6	4
F100M21	0	2.44	96779	123	491	122	117	114
F100i01	0	1.36	53844	20	271	23	20	18
F100M04	0	1.47	58285	0	12	1	0	0
F100M07	0	2.22	88082	91	470	79	74	72
F100M11	0	1.42	56283	2	28	2	1	0
F090E00	0	1.90	75397	33	265	33	33	33
F090M02	0	2.79	110672	112	499	111	107	107
F090M05	2	1.71	67735	22	501	25	20	19
F090M09	0	1.31	51853	1	25	1	1	0
F090M04	0	1.38	54675	1	27	2	1	0
F080E00	0	1.74	68919	0	6	0	0	0
F080M14	0	1.49	59071	0	11	1	0	0
F080M13	0	1.47	58437	0	5	0	0	0
F080M06	0	1.38	54662	0	8	0	0	0
F070M02	0	1.69	67001	23	489	23	22	22
F070M01	42	2.17	86128	343	501	54	46	44
F070E00	0	1.83	72654	2	492	3	2	2
F060M01	0	1.44	57142	4	7	0	0	0
F060E01	0	1.62	64446	1	221	262	24	17
F050M01	0	1.33	52758	3	481	4	3	3
F050E01	0	1.39	55122	1	315	3	2	2
F050E00	3	10.15	402561	910	501	910	907	901
F042M18	0	1.36	54093	0	5	0	0	0
F042M13	0	1.64	65166	0	7	0	0	0
F042M19	0	1.56	61817	2	408	1	1	1
F042M24	0	1.80	71358	6	22	2	0	0
F042M28	0	1.86	73820	27	143	35	4	1
F042M39	0	1.83	72682	10	47	9	1	1
F042M61	0	1.64	65133	24	24	16	0	0
F042M32	0	1.80	71246	25	478	32	9	7
F042M33	1	2.34	92742	85	501	84	77	74
EBMPF080	0	1.36	54025	0	14	3	0	0
F090M08	0	1.38	54808	0	26	2	1	0
F090M07	0	1.38	54723	2	481	3	2	2
F090M06	0	1.45	57463	15	328	17	13	13
SLOPECHANG	0	1.23	48925	0	6	0	0	0
F090M03	0	1.76	69648	34	485	33	32	31
F100M27	0	1.59	62934	3	176	4	2	2
F100M03	0	1.57	62202	0	25	3	1	0
F100M02	0	1.60	63474	1	10	1	0	0
F100M26	0	1.42	56241	1	12	2	0	0
F100M32	0	1.29	51276	0	8	0	0	0

F080M08	0	1.37	54248	0	5	0	0	0
F080M05	0	1.00	39672	0	1	0	0	0
F080i48	0	1.79	71004	63	242	61	60	59
F080 TAP	0	1.72	68165	46	240	44	43	42
F060M02	0	3.27	129680	99	497	240	83	80
F060i07	1	1.66	65802	43	501	45	44	43
F060i11	0	1.23	48761	0	24	6	0	0
F060E00	0	1.75	89473	0	7	0	0	0
F042M21	0	1.85	73472	4	268	4	2	2
F080M10	0	1.22	48368	1	18	1	0	0
F080M02	0	1.45	58792	0	5	0	0	0
F100M29	0	1.39	54750	2	248	3	2	2
F070M04	0	1.54	61068	16	480	15	15	14
F070i05	22	1.71	67855	155	501	61	48	40
E040i34	0	1.66	65871	39	461	39	39	39
F090M14	0	1.40	55726	0	9	0	0	0
F100M06	0	1.44	57046	1	12	2	0	0
F100M28	7	2.15	85213	840	501	67	43	42
F100E01	7	1.41	56103	12	501	14	8	8
F100 E OF	0	1.05	41807	0	22	1	0	0
F090M02OUT	0	1.59	63006	47	500	48	47	47
Total number of iterations for all junctions..				4545403				

Minimum number of possible iterations..... 2578680

Efficiency of the simulation..... 1.76

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 |
*=====

```

Maximum	Maximum	Uppermost	Maximum	Time	Feet of	Maximum	Maximum		
Gutter	Gutter	Ground	PipeCrown	Junction	of	Freeboard	Junction		
Width	Velocity	Elevation	Elevation	Elevation	Occurence	at Max	Area		
feet	Name	feet	feet	feet	Hr. Min.	Elevation	ft^2		
ft/s									
0.0000	F100E00	600.0000	583.5000	583.5000	11 43	0.0000	16.5000	12.5660	0.0000
0.0000	0.0000								
0.0000	F100M31	614.2900	606.2900	605.0240	12 8	0.0000	9.2660	12.5660	0.0000
0.0000	0.0000								
0.0000	F100M21	657.0900	646.0000	607.6455	12 7	0.0000	49.4445	12.5660	0.0000
0.0000	0.0000								
0.0000	F100i01	619.4300	605.6800	610.6624	12 6	4.9824	8.7676	12.5660	0.0000
0.0000	0.0000								
	F100M04	656.0700	655.6600	646.2121	12 7	0.0000	9.8579	12.5660	0.0000

0.0000	0.0000									
	F100M07	655.5700	648.0000	646.6769	12	7	0.0000	8.8931	12.5660	0.0000
0.0000	0.0000									
	F100M11	675.7400	667.7400	665.9531	12	6	0.0000	9.7869	12.5660	0.0000
0.0000	0.0000									
	F090E00	600.0000	592.0000	582.5300	11	54	0.0000	17.4700	12.5660	0.0000
0.0000	0.0000									
	F090M02	615.0700	607.0700	605.3750	12	4	0.0000	9.6950	12.5660	0.0000
0.0000	0.0000									
	F090M05	616.2200	608.2200	606.6034	12	5	0.0000	9.6166	12.5660	0.0000
0.0000	0.0000									
	F090M09	650.9700	650.6600	641.0752	12	5	0.0000	9.8948	12.5660	0.0000
0.0000	0.0000									
	F090M04	646.4400	646.1600	636.6348	12	9	0.0000	9.8052	12.5660	0.0000
0.0000	0.0000									
	F080E00	610.0000	599.0000	597.6660	12	2	0.0000	12.3340	12.5660	0.0000
0.0000	0.0000									
	F080M14	613.8200	613.6600	601.2802	12	2	0.0000	12.5398	12.5660	0.0000
0.0000	0.0000									
	F080M13	669.1100	661.1100	649.5359	12	4	0.0000	19.5741	12.5660	0.0000
0.0000	0.0000									
	F080M06	671.6300	663.6300	659.6591	12	4	0.0000	11.9709	12.5660	0.0000
0.0000	0.0000									
	F070M02	612.9400	612.6600	603.2406	12	17	0.0000	9.6994	12.5660	0.0000
0.0000	0.0000									
	F070M01	612.0800	596.9300	596.4959	12	28	0.0000	15.5841	12.5660	0.0000
0.0000	0.0000									
	F070E00	610.0000	604.0000	583.7591	12	28	0.0000	26.2409	12.5660	0.0000
0.0000	0.0000									
	F060M01	611.0300	592.8200	600.6577	12	31	7.8377	10.3723	12.5660	0.0000
0.0000	0.0000									
	F060E01	620.0000	599.5000	601.8046	12	31	2.3046	18.1954	3384.0225	0.0000
0.0000	0.0000									
	F050M01	613.1800	605.1800	603.3016	12	10	0.0000	9.8784	12.5660	0.0000
0.0000	0.0000									
	F050E01	610.0000	609.6600	595.4224	12	21	0.0000	14.5776	2704.2735	0.0000
0.0000	0.0000									
	F050E00	610.0000	602.0000	591.6419	12	21	0.0000	18.3581	12.5660	0.0000
0.0000	0.0000									
	F042M18	616.9300	602.3800	601.8249	12	26	0.0000	15.1051	12.5660	0.0000
0.0000	0.0000									
	F042M13	613.8100	596.6100	595.8395	12	26	0.0000	17.9705	12.5660	0.0000
0.0000	0.0000									
	F042M19	617.3300	616.1600	608.4263	12	25	0.0000	8.9037	12.5660	0.0000
0.0000	0.0000									
	F042M24	660.3200	653.3200	650.5520	12	16	0.0000	9.7680	12.5660	0.0000
0.0000	0.0000									
	F042M28	659.9500	652.2500	651.2510	12	9	0.0000	8.6990	12.5660	0.0000
0.0000	0.0000									
	F042M39	659.6500	652.5000	651.2512	12	9	0.0000	8.3988	12.5660	0.0000
0.0000	0.0000									
	F042M61	659.3500	654.0000	651.2164	12	10	0.0000	8.1336	12.5660	0.0000
0.0000	0.0000									
	F042M32	660.8800	653.2500	651.8763	12	6	0.0000	9.0037	12.5660	0.0000
0.0000	0.0000									
	F042M33	660.8500	653.5000	651.8756	12	6	0.0000	8.9744	12.5660	0.0000
0.0000	0.0000									
	EBMPF080	608.0000	607.6600	605.6084	12	32	0.0000	2.3916	23900.052	0.0000
0.0000	0.0000									
	F090M08	629.9600	621.9600	620.1290	12	6	0.0000	9.8310	12.5660	0.0000
0.0000	0.0000									
	F090M07	620.9800	612.9800	611.2013	12	7	0.0000	9.7787	12.5660	0.0000
0.0000	0.0000									
	E090M06	616.0700	608.0700	606.6048	12	5	0.0000	9.4652	12.5660	0.0000
0.0000	0.0000									
	SLOPECHANG	620.0000	605.4800	609.2140	12	6	3.7340	10.7860	12.5660	0.0000
0.0000	0.0000									
	F090M03	622.4400	614.4400	612.7106	12	11	0.0000	9.7294	12.5660	0.0000
0.0000	0.0000									
	F100M27	614.3100	596.9200	603.8146	12	10	6.8946	10.4954	12.5660	0.0000
0.0000	0.0000									
	F100M03	628.7600	620.7600	618.9715	12	8	0.0000	9.7885	12.5660	0.0000
0.0000	0.0000									
	F100M02	621.8000	613.8000	612.0528	12	9	0.0000	9.7472	12.5660	0.0000
0.0000	0.0000									
	F100M26	608.7600	590.6600	600.6450	12	10	9.9850	8.1150	12.5660	0.0000
0.0000	0.0000									
	F100M32	610.0000	587.8900	597.8246	12	10	9.9346	12.1754	12.5660	0.0000
0.0000	0.0000									
	F080M08	684.4500	676.4500	670.6510	12	9	0.0000	13.7990	12.5660	0.0000
0.0000	0.0000									
	F080M05	683.8700	667.2700	666.2700	0	0	0.0000	17.6000	12.5660	0.0000
0.0000	0.0000									
	F080i48	613.3100	601.7500	602.2662	12	35	0.5162	11.0438	12.5660	0.0000
0.0000	0.0000									
	F080 TAP	610.0000	599.6400	599.4336	12	2	0.0000	10.5664	12.5660	0.0000
0.0000	0.0000									

0.0000	F060M02	611.5600	603.1000	601.8043	12	31	0.0000	9.7557	12.5660	0.0000
0.0000	0.0000									
0.0000	F060i07	615.0000	598.0000	601.4699	13	25	3.4699	13.5301	9295.2748	0.0000
0.0000	0.0000									
0.0000	F060i11	612.7300	612.5600	604.2043	12	50	0.0000	8.5257	12626.567	0.0000
0.0000	0.0000									
0.0000	F060E00	603.0000	602.0000	585.6170	12	31	0.0000	17.3830	12.5660	0.0000
0.0000	0.0000									
0.0000	F062M21	626.6000	618.6000	616.9006	12	20	0.0000	9.6994	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M10	694.9200	686.9200	684.9683	12	7	0.0000	9.9517	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M02	616.3900	608.3900	605.8611	12	4	0.0000	10.5289	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M25	615.1200	607.1200	605.4116	12	5	0.0000	9.7084	12.5660	0.0000
0.0000	0.0000									
0.0000	F070M04	620.5900	612.5900	610.9400	12	19	0.0000	9.6500	12.5660	0.0000
0.0000	0.0000									
0.0000	F070i05	609.5300	605.1000	598.4107	12	29	0.0000	11.1193	12.5660	0.0000
0.0000	0.0000									
0.0000	E040i34	660.0000	648.5400	640.3709	12	7	0.0000	19.6291	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M14	607.5500	599.5500	596.4635	12	12	0.0000	11.0865	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M06	657.1600	648.8000	646.6971	12	4	0.0000	10.4629	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M28	614.3200	606.3200	604.9781	12	13	0.0000	9.3419	12.5660	0.0000
0.0000	0.0000									
0.0000	F100E01	618.0000	598.5000	604.9780	12	14	6.4780	13.0220	13668.470	0.0000
0.0000	0.0000									
0.0000	F100 E OF	610.0000	590.0000	590.0000	0	0	0.0000	20.0000	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M02OUT	610.0000	606.5000	590.3710	12	4	0.0000	19.6290	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 |

=====

Ratio		Conduit		Maximum	Maximum	Time		Maximum	Time	Ratio of		Maximum Water	
d/D		Design		Design Vertical	Computed	of		Computed	of	Max. to		Elev at Pipe Ends	
Conduit		Flow Velocity		Depth	Flow	Occurrence		Velocity	Occurrence	Design		Upstream	Dwnstrm
US	DS	Name	(cfs)	(ft/s)	(in)	(cfs)	Hr. Min.	(ft/s)	Hr. Min.	Flow		(ft)	(ft)

3.973	4.557	LINE042	3.2831	2.6753	15.0000	4.7720	11 46	3.8430	11 46	1.4535		651.8763	651.2164
2.848	3.261	Link3	9.9376	3.1632	24.0000	6.7791	13 36	2.8687	13 41	0.6822		651.2164	651.2510
3.261	3.176	Link4	16.0314	5.1030	24.0000	17.4644	11 46	5.4640	11 46	1.0894		651.2510	650.5520
3.248	0.722	Link6	12.9476	4.1214	24.0000	24.3104	12 25	7.8146	12 25	1.8776		608.4263	601.8249
0.722	0.615	Link7	34.9035	11.1101	24.0000	24.3102	12 26	10.1734	12 27	0.6965		601.8249	595.8395
3.962	1.282	Link9	5.1095	6.5057	12.0000	6.1268	12 8	7.6518	12 7	1.1991		603.3016	595.4224
2.765	1.033	Link13	32.3856	10.3086	24.0000	38.8598	12 12	12.2986	12 10	1.1999		603.2406	596.4959
0.826	0.704	Link14	68.5252	13.9598	30.0000	57.7188	12 28	13.5619	12 29	0.8423		596.4959	583.7591
0.743	0.931	Link15	95.2005	13.4681	36.0000	49.5812	12 2	8.6338	12 3	0.5208		601.2802	599.4336
2.302	4.232	Link17	38.3575	12.2096	24.0000	34.6196	11 53	12.1606	11 52	0.9026		605.3750	596.4635
1.258	1.397	Link26	23.0635	7.3413	24.0000	22.2691	12 37	7.0316	12 43	0.9656		602.2662	599.4336
0.525	0.723	Link27	38.5731	12.2782	24.0000	19.6931	12 4	11.2978	12 4	0.5105		659.6591	649.5359
5.521	4.734	Link31	2.9891	3.8058	12.0000	4.3546	12 25	5.4025	12 25	1.4568		611.2013	609.2140
5.244	3.435	Link32	2.0924	2.6641	12.0000	4.3760	12 25	5.4494	12 25	2.0914		609.2140	606.6048
5.052	4.837	Link38	24.1532	7.6882	24.0000	-30.4926	11 50	-9.4777	11 50	-1.2625		605.0240	603.8146
4.447	5.992	Link39	50.3417	16.0243	24.0000	28.7361	12 9	12.1400	11 42	0.5708		603.8146	600.6450
		Link40	36.6499	11.6660	24.0000	28.7355	12 10	8.8652	12 10	0.7841		600.6450	597.8246

[illegible]

5.329	5.521	371.1	5.7396	7.3079	12.0000	5.5902	12	1	6.9893	11	50	0.9740	620.1290	611.2013
0.084	0.111	F090M08 OF	3751.742	18.3909	24.0000	6.6428	12	6	3.5418	12	6	0.0018	620.1290	611.2013
3.435	4.523	374.1	5.9235	7.5421	12.0000	6.2272	12	23	7.8365	12	23	1.0513	606.6048	606.6034
0.132	0.267	F030M06 OF	1447.513	7.0956	24.0000	-3.6624	12	10	-1.3186	12	22	-0.0025	606.6048	606.6034
5.521	4.605	375.1	3.7995	4.8364	12.0000	4.9673	12	29	6.2168	12	34	1.3077	612.7106	605.3750
0.135	0.152	F090M03 OF	2680.930	13.1418	24.0000	14.8294	12	11	3.5670	12	9	0.0055	612.7106	605.3750
6.653	3.692	376.1	34.9928	14.5483	21.0000	37.3771	12	7	15.0273	12	6	1.0681	646.2121	618.9715
0.071	0.106	F100M04 OF	5766.930	28.2693	24.0000	6.7365	12	7	4.7118	12	7	0.0012	646.2121	618.9715
3.231	3.226	377.1	36.4901	11.6152	24.0000	32.4531	12	5	10.5108	11	49	0.8894	618.9715	612.0528
0.106	0.126	F100M03 OF	3799.295	18.6240	24.0000	11.6352	12	8	4.2136	12	8	0.0031	618.9715	612.0528
3.226	5.442	378.1	39.0870	12.4418	24.0000	29.0836	12	33	9.4107	11	45	0.7441	612.0528	605.0240
0.126	0.367	F100M02 OF	3282.631	16.0913	24.0000	15.6176	12	9	2.5351	12	9	0.0048	612.0528	605.0240
0.667	0.699	383.1	16.6695	9.4330	18.0000	11.8983	12	7	9.6773	12	7	0.7138	670.6510	659.6591
.0000	.0000	F080M08 OF	4497.559	22.0469	24.0000	0.0000	0	0	0.0000	0	0	0.0000	659.6591	659.6591
3.687	1.621	385.1	4.4029	3.5878	15.0000	9.3239	12	26	7.5078	12	26	2.1177	605.6084	602.2662
2.536	4.296	387.1	20.8100	11.7760	18.0000	-5.4695	11	55	-3.0441	11	55	-0.2628	601.8046	601.8043
4.470	5.844	389.1	2.8514	3.6305	12.0000	3.7846	16	47	4.7726	16	47	1.3273	601.4699	601.8043
6.204	6.444	391.1	3.5522	4.5227	12.0000	3.6268	13	8	4.4715	13	8	1.0210	604.2043	601.8043
2.806	3.712	392.1	15.7314	6.5403	21.0000	16.1762	11	48	6.7599	11	43	1.0283	616.9006	608.4263
0.150	0.548	M21 OF	2236.736	10.9644	24.0000	16.4174	12	20	1.8850	13	30	0.0073	616.9006	608.4263
3.639	0.801	398.1	10.5524	8.5989	15.0000	11.6799	12	8	9.5119	12	7	1.1068	684.9683	670.6510
0.024	.0095	F080M10 OF	3780.070	18.5298	24.0000	0.2775	12	7	1.4047	12	7	0.0001	684.9683	674.4690
0.723	1.376	399.1	39.7687	12.6588	24.0000	33.7464	12	4	13.5037	12	3	0.8486	649.5359	605.8611
.0000	.0000	E080M13	1394.075	6.8337	24.0000	0.0000	0	0	0.0000	0	0	0.0000	605.8611	605.8611
8.930	13.11	401.1	3.7039	6.8456	9.9600	3.0301	11	48	5.3382	11	48	0.8181	605.4116	605.0240
0.146	0.367	F100M29 OF	1859.528	9.1153	24.0000	12.6367	12	5	1.9718	11	54	0.0068	605.4116	605.0240
3.470	2.765	402.1	20.7443	6.6031	24.0000	26.8248	12	36	8.4260	12	36	1.2931	610.9400	603.2406
0.175	0.173	F070M04 OF	1662.654	8.1503	24.0000	17.6971	12	19	2.5994	12	19	0.0106	610.9400	603.2852
4.232	1.000	423.1	35.6750	11.3557	24.0000	43.8885	12	12	13.7162	12	12	1.2302	596.4635	582.5300
.0000	.0000	F090M14 OF	3357.964	16.4606	24.0000	0.0000	0	0	0.0000	0	0	0.0000	582.5300	582.5300
3.937	5.652	430.1	12.9343	7.3193	18.0000	11.5909	11	53	6.4516	11	53	0.8961	607.6455	604.9781
0.278	0.329	F100M21 OF	2101.106	10.2995	24.0000	73.5821	12	8	4.4534	12	8	0.0350	607.6455	604.9781
5.319	5.652	433.1	15.2068	8.6053	18.0000	-16.2215	11	56	-8.9582	11	56	-1.0667	604.9780	604.9781
0.187	0.186	F090M02 OF	2682.528	13.1496	24.0000	34.2071	12	4	4.4097	12	4	0.0128	605.3750	604.8710
	e01 OF	Undefnd	Undefnd	Undefn	0.0000	0	0							
	F100I01 OV	Undefnd	Undefnd	Undefn	17.4775	12	6							
	F080 EMER	Undefnd	Undefnd	Undefn	14.1594	12	32							
	060E01 OF	Undefnd	Undefnd	Undefn	-0.8041	12	13							
	i07 of	Undefnd	Undefnd	Undefn	0.0000	0	0							
	i11 OF	Undefnd	Undefnd	Undefn	0.0000	0	0							
	OF F042M19	Undefnd	Undefnd	Undefn	27.5514	12	25							
	100E01 OV	Undefnd	Undefnd	Undefn	-26.2339	12	7							
	F100M28 OV	Undefnd	Undefnd	Undefn	59.0101	12	13							
	M100M27 OV	Undefnd	Undefnd	Undefn	0.0000	0	0							
	F100M31 OV	Undefnd	Undefnd	Undefn	63.4464	12	8							
	FREE # 1	Undefnd	Undefnd	Undefn	28.7353	12	10							
	FREE # 2	Undefnd	Undefnd	Undefn	43.8886	12	12							
	FREE # 3	Undefnd	Undefnd	Undefn	56.7219	12	2							
	FREE # 4	Undefnd	Undefnd	Undefn	64.9252	12	19							
	FREE # 5	Undefnd	Undefnd	Undefn	35.8626	12	21							
	FREE # 6	Undefnd	Undefnd	Undefn	24.3102	12	26							
	FREE # 7	Undefnd	Undefnd	Undefn	124.3698	12	31							
	FREE # 8	Undefnd	Undefnd	Undefn	34.4209	12	7							

FREE # 9 Undefnd Undefnd Undefn 116.2710 12 11
 FREE #10 Undefnd Undefnd Undefn 34.2074 12 4

* =====*
 | Table Ell. Area assumptions used in the analysis|
 | Subcritical and Critical flow assumptions from |
 | Subroutine Head. See Figure 17-1 in the |
 | manual for further information. |
 * =====*

Conduit Name	Duration of Dry Flow(min)	Duration of Sub- Critical Flow(min)	Durat. of Upstream Critical Flow(min)	Durat. of Downstream Critical Flow(min)	Maximum Hydraulic Radius-m	Maximum X-Sect Area(ft^2)	Maximum Vel+D (ft^2/s)
LINE042	2066.5667	1533.4333	0.0000	0.0000	0.3799	1.2711	12.1598
Link3	370.5000	3229.5000	0.0000	0.0000	0.6037	3.2788	9.2341
Link4	1893.6667	1706.3333	0.0000	0.0000	0.6085	3.2920	29.0549
Link6	225.5000	3374.5000	0.0000	0.0000	0.5922	3.1177	31.0279
Link7	227.7500	3372.2500	0.0000	0.0000	0.5939	2.3896	13.6038
Link9	353.8750	3246.1250	0.0000	0.0000	0.3020	0.8200	19.4760
Link13	309.8333	3290.1667	0.0000	0.0000	0.6084	3.2565	45.5967
Link14	311.5000	3288.5000	0.0000	0.0000	0.7582	4.2716	25.8423
Link15	2167.5000	1432.5000	0.0000	0.0000	0.8997	5.7547	21.6315
Link17	2180.5417	1419.4583	0.0000	0.0000	0.5976	3.2827	60.7945
Link26	347.3750	3252.6250	0.0000	0.0000	0.6059	3.2873	16.1214
Link27	2466.6333	1133.3667	0.0000	0.0000	0.5229	1.7450	14.0793
Link31	437.7000	44.5833	0.0000	3117.7167	0.3032	0.8223	24.1561
Link32	447.5000	3152.5000	0.0000	0.0000	0.2988	0.8057	19.5115
Link38	2266.5333	1333.4667	0.0000	0.0000	0.5795	3.2284	78.6553
Link39	2266.6333	1333.3667	0.0000	0.0000	0.5976	3.2827	93.3478
Link40	2265.5667	1334.4333	0.0000	0.0000	0.5976	3.2801	106.0233
Link41	433.0000	3167.0000	0.0000	0.0000	0.4546	1.8369	104.2986
Link44	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link46	330.0000	3270.0000	0.0000	0.0000	0.8964	6.5698	19.2305
Link48	2259.9000	1340.1000	0.0000	0.0000	0.4552	1.8510	61.9942
Link51	275.5000	3324.5000	0.0000	0.0000	0.4550	1.8069	34.2415
OFLOW 1	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 2	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 3	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 4	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 5	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link61	462.6667	3137.3333	0.0000	0.0000	0.7605	5.0479	16.2285
Link64	2306.3667	1293.6333	0.0000	0.0000	0.6080	3.2733	15.5433
OFLOW 6	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
F043M33 OF	3498.6711	0.0000	0.0000	101.3289	0.1970	7.7866	1.6500
F042M61 OF	3547.9167	44.8167	0.0000	7.2667	0.1285	6.8491	0.2997
F042M39 OF	3502.7632	97.2368	0.0000	0.0000	0.5522	22.0406	2.5510
F060M02 OF	3385.4737	0.0000	0.0000	214.5263	0.4257	38.1834	1.9589
F070M02 OF	3579.3833	0.0000	0.0000	20.6167	0.0882	3.3476	0.4098
F070i05 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link71	383.9000	3216.1000	0.0000	0.0000	0.6038	3.2176	33.6568
F100M07 OF	3563.0333	0.0000	0.0000	36.9667	0.4808	11.3466	3.0318
Link75	2425.1000	1174.9000	0.0000	0.0000	0.4549	1.8474	40.1466
F090M07 OF	3568.0833	27.7167	0.0000	4.2000	0.1277	3.3960	0.7522
Link83	3581.9000	0.0000	0.0000	18.1000	0.0687	0.9643	0.2696
F080M06 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
348.1	2236.1500	1363.8500	0.0000	0.0000	0.3801	1.2851	10.7084
m320F	3489.7737	106.6544	3.5719	0.0000	0.4278	37.3554	0.1888
352.1	1869.0000	1731.0000	0.0000	0.0000	0.4512	1.8464	53.6286
M24 OF	3525.2167	74.7833	0.0000	0.0000	0.1284	3.3355	1.1465
355.1	2266.8333	1333.1667	0.0000	0.0000	0.6060	3.2919	16.3057
m28 of	3496.4816	96.5307	6.9877	0.0000	0.7803	123.4595	0.2491
357.1	286.2500	3313.7500	0.0000	0.0000	0.6344	2.5353	18.1364
361.1	2517.0167	1082.9833	0.0000	0.0000	0.2988	0.8217	44.5219
F090M04 OF	3567.4333	32.5667	0.0000	0.0000	0.1102	2.4749	1.1212
363.1	363.7500	3236.2500	0.0000	0.0000	0.5320	2.5027	17.9725
F090M05 OF	3571.8333	0.0000	0.0000	28.1667	0.1994	7.9806	0.7700
364.1	2436.9000	1163.1000	0.0000	0.0000	0.3735	1.2840	71.3396
F100M11 OF	3573.2000	26.8000	0.0000	0.0000	0.1603	8.7646	1.2803
365.1	389.6000	3210.4000	0.0000	0.0000	0.6082	3.2913	43.2329
F100M06 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
366.1	2503.8333	1096.1667	0.0000	0.0000	0.4482	1.8456	40.7387
370.1	2502.3833	1097.6167	0.0000	0.0000	0.2988	0.8216	60.3205
F090M09 OF	3586.1333	13.8667	0.0000	0.0000	0.0642	0.8628	0.5425
371.1	2457.1000	1142.9000	0.0000	0.0000	0.2988	0.8218	37.5584
F090M08 OF	3576.3500	23.6500	0.0000	0.0000	0.0960	1.8767	0.6892
374.1	2308.9167	1291.0833	0.0000	0.0000	0.2988	0.8221	20.1897
F090M06 OF	3571.0500	24.7667	4.1833	0.0000	0.2694	14.6453	0.1444
375.1	2409.9167	1190.0833	0.0000	0.0000	0.3025	0.8197	25.3811
F090M03 OF	3554.0000	13.9000	0.0000	32.1000	0.1443	4.1851	0.9548
376.1	2242.4250	1357.5750	0.0000	0.0000	0.5229	2.5133	136.0206
F100M04 OF	3587.1667	12.8333	0.0000	0.0000	0.0833	1.4300	0.8324
377.1	2238.4250	1361.5750	0.0000	0.0000	0.5976	3.2808	65.7418
F100M03 OF	3567.9000	32.1000	0.0000	0.0000	0.1169	2.7626	0.9763
378.1	2227.8500	1372.1500	0.0000	0.0000	0.5976	3.2863	76.9436

F100M02 OF	3557.6333	42.3667	0.0000	0.0000	0.1597	6.1692	1.2486
383.1	489.0000	3111.0000	0.0000	0.0000	0.4353	1.2425	9.6621
F080M08 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
385.1	527.4167	17.0000	0.0000	3055.5833	0.3777	1.2536	22.1201
387.1	3270.7009	329.2991	0.0000	0.0000	0.4482	1.8461	12.8941
389.1	685.4333	337.1381	0.0000	2577.4286	0.3037	0.8086	18.6462
391.1	693.3438	332.6563	0.0000	2574.0000	0.2988	0.8209	27.7291
392.1	1901.6667	1798.3333	0.0000	0.0000	0.5229	2.5120	34.2368
M21 OF	3484.7816	90.2623	0.0000	24.9561	0.1988	10.7376	1.0646
395.1	2517.5000	1082.5000	0.0000	0.0000	0.3795	1.2541	26.3570
F080M10 OF	3593.7000	0.0000	0.0000	6.3000	0.0295	0.1976	0.0469
399.1	2530.9583	1249.0417	0.0000	0.0000	0.5878	2.5036	28.2630
E090M13	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
401.1	2452.3000	1147.7000	0.0000	0.0000	0.2480	0.5698	39.9999
F100M29 OF	3545.8667	43.9667	0.0000	10.1667	0.1761	7.0702	0.9028
402.1	309.0000	3291.0000	0.0000	0.0000	0.6083	3.2848	45.4951
F070M04 OF	3567.1333	0.0000	0.0000	32.8667	0.1842	6.8089	0.9035
423.1	368.2500	3231.7500	0.0000	0.0000	0.6065	3.2268	71.7368
F090M14 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430.1	2433.1000	1166.9000	0.0000	0.0000	0.4482	1.8478	37.1814
F100M21 OF	3561.4000	13.5667	0.0000	25.0333	0.2873	16.5325	2.4702
433.1	3487.5658	112.4342	0.0000	0.0000	0.4561	1.8493	58.7544
F090M02 OF	3574.4333	0.0000	0.0000	25.5667	0.1967	7.7645	1.6411

=====

| Table E12. Mean Conduit Flow Information |

=====

Conduit Name	Mean Flow (cfs)	Total Flow (ft^3)	Mean Percent Change	Low Flow Weighting	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
LINE042	0.2813	60760.956	0.0001	0.7913	0.4449	0.1766	0.4180	0.0140
Link3	0.3255	70308.022	0.0002	0.7961	0.4150	0.2242	0.8140	0.0140
Link4	0.9176	198195.65	0.0003	0.8126	0.7225	0.2513	0.9145	0.0140
Link6	1.6796	362793.23	0.0003	0.8348	0.8274	0.3123	1.1890	0.0140
Link7	1.6797	362810.69	0.0003	0.8314	1.9441	0.2478	0.6953	0.0140
Link9	0.1302	28120.447	0.0000	0.7353	1.1168	0.0826	0.1055	0.0140
Link13	0.9773	211089.79	0.0003	0.7773	1.4820	0.1805	0.4919	0.0140
Link14	1.5070	325506.23	0.0004	0.7775	1.9784	0.2080	0.6094	0.0140
Link15	0.9049	195458.29	0.0003	0.7783	1.0419	0.1915	0.5936	0.0140
Link17	0.8819	190496.39	0.0002	0.7744	1.7902	0.1620	0.4162	0.0140
Link26	1.0252	221438.43	0.0002	0.9762	1.0621	0.2339	0.6498	0.0140
Link27	0.2753	59464.518	0.0001	0.7106	1.4070	0.0961	0.1635	0.0140
Link31	0.1287	27791.466	0.0000	0.7403	0.7047	0.1048	0.1517	0.0140
Link32	0.1287	27803.495	0.0000	0.7516	0.5814	0.1216	0.1905	0.0140
Link38	-1.3990	-302182.9	0.0003	0.7557	0.3087	0.3977	1.7137	0.0140
Link39	1.8001	388831.64	0.0003	0.7552	1.8986	0.2111	0.7523	0.0140
Link40	1.8002	388835.19	0.0003	0.7556	1.0193	0.2378	0.8542	0.0140
Link41	1.8001	388830.99	0.0003	0.7558	1.5564	0.2178	0.6206	0.0140
Link44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0113	0.0127	0.0140

Link46	1.9302	416930.55	0.0005	0.9797	1.6040	0.3066	1.1736	0.0140
Link48	1.8086	390652.60	0.0002	0.7540	0.4265	0.2709	1.0209	0.0140
Link51	1.8087	390677.39	0.0002	0.7947	0.8209	0.2654	0.9601	0.0240
OFLOW 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
Link61	0.4558	98451.108	0.0002	0.7486	0.8747	0.1593	0.4164	0.0140
Link64	0.5298	114436.95	0.0002	0.7499	0.6567	0.1893	0.5710	0.0140
OFLOW 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
F043M33 OF	0.2351	50773.785	0.0002	0.1503	0.1831	0.0140	0.3564	0.0140
F042M61 OF	0.0457	9868.4013	0.0001	0.0788	0.0337	0.0059	0.2470	0.0140
F042M39 OF	0.2036	43968.612	0.0001	0.1448	0.0188	0.0790	4.0872	0.0450
F060M02 OF	1.8364	396669.11	0.0006	0.2557	0.1689	0.0586	3.9137	0.0500
F070M02 OF	0.0356	7691.2454	0.0001	0.0312	0.0479	0.0021	0.0708	0.0140
F070i05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
Link71	0.5988	129349.72	0.0003	0.7637	0.5403	0.2406	0.7555	0.0140
F100M07 OF	0.2906	62763.357	0.0003	0.0559	0.0525	0.0193	0.3986	0.0500
Link75	0.4012	86664.610	0.0001	0.7218	0.6649	0.1480	0.4015	0.0140
F090M07 OF	0.0383	8281.5554	0.0001	0.0482	0.0474	0.0044	0.0929	0.0140
Link83	0.0067	1455.7056	0.0000	0.0274	0.0365	0.0014	0.0172	0.0140
F080M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
348.1	0.1734	37449.669	0.0001	0.7642	0.3526	0.1673	0.3917	0.0140
m32OF	-0.0138	-2984.944	0.0001	0.1596	0.0040	0.0558	3.9732	0.0140
352.1	1.2743	275257.70	0.0002	0.8163	1.4779	0.1963	0.5371	0.0140
M24 OF	0.1528	33008.631	0.0000	0.1131	0.1563	0.0107	0.2247	0.0140
355.1	0.3594	77640.163	0.0002	0.7412	0.4163	0.2127	0.7764	0.0140
m28 of	-0.2314	-49977.45	0.0004	0.1521	0.0050	0.0869	10.7593	0.0140

357.1	0.6910	149248.71	0.0002	0.7445	1.7875	0.1317	0.3159	0.0140
361.1	0.2397	51774.369	0.0000	0.6946	1.4205	0.0933	0.1320	0.0140
F090M04 OF	0.0564	12171.451	0.0000	0.0493	0.0839	0.0041	0.0747	0.0140
363.1	0.2925	63187.423	0.0001	0.7782	0.6274	0.1618	0.3782	0.0140
F090M05 OF	0.0715	15441.493	0.0001	0.0426	0.0262	0.0063	0.2072	0.0140
364.1	0.3794	81944.086	0.0001	0.7177	1.3625	0.1126	0.1943	0.0140
F100M11 OF	0.0675	14590.341	0.0002	0.0405	0.0212	0.0057	0.3020	0.0140
365.1	0.7348	158706.57	0.0003	0.7623	1.0228	0.2039	0.5867	0.0140
F100M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0185	0.0140
366.1	0.3364	72668.659	0.0001	0.7008	0.8084	0.1334	0.2947	0.0140
370.1	0.1585	34241.532	0.0000	0.7005	1.7596	0.0700	0.0823	0.0140
F090M09 OF	0.0082	1765.9760	0.0000	0.0210	0.0401	0.0012	0.0137	0.0140
371.1	0.1425	30771.296	0.0000	0.7139	1.1191	0.0838	0.1096	0.0140
F090M08 OF	0.0244	5265.2477	0.0000	0.0358	0.0488	0.0027	0.0431	0.0140
374.1	0.1035	22354.148	0.0000	0.7452	1.0871	0.0880	0.1220	0.0140
F090M06 OF	-0.0255	-5503.840	0.0000	0.0438	0.0058	0.0096	0.4417	0.0140
375.1	0.2109	45549.361	0.0000	0.7183	0.8400	0.1153	0.1825	0.0140
F090M03 OF	0.0896	19342.841	0.0001	0.0696	0.0818	0.0069	0.1581	0.0140
376.1	1.2632	272841.27	0.0003	0.7626	2.1767	0.1704	0.4261	0.0140
F100M04 OF	0.0139	3013.1925	0.0000	0.0194	0.0365	0.0014	0.0209	0.0140
377.1	1.2323	266186.92	0.0003	0.7636	1.5975	0.1957	0.5681	0.0140
F100M03 OF	0.0448	9680.9784	0.0000	0.0485	0.0681	0.0040	0.0710	0.0140
378.1	1.1944	257989.75	0.0003	0.7657	0.9349	0.2195	0.7138	0.0140
F100M02 OF	0.0828	17891.405	0.0001	0.0641	0.0621	0.0069	0.1923	0.0140
383.1	0.1686	36414.616	0.0001	0.7006	1.2906	0.0839	0.1164	0.0140
F080M08 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
385.1	0.9055	195589.17	0.0001	0.9275	0.7932	0.2006	0.5833	0.0240
387.1	-0.0002	-47.7763	0.0001	0.3629	0.0138	0.1317	0.6170	0.0140
389.1	0.0004	87.9134	0.0001	0.4630	0.2642	0.0952	0.2988	0.0140

391.1	0.2068	44675.667	0.0000	0.4430	0.3371	0.0894	0.2806	0.0140
392.1	1.2102	261393.32	0.0002	0.8267	0.9292	0.2370	0.7651	0.0140
M21 OF	0.2184	47169.252	0.0001	0.1647	0.0914	0.0215	0.9244	0.0140
398.1	0.1683	36356.363	0.0001	0.6962	1.2928	0.6839	0.1155	0.0140
F080M10 of	0.0003	57.3811	0.0000	0.0096	0.0217	0.0002	0.0012	0.0140
399.1	0.4556	98402.102	0.0001	0.7361	1.6261	0.1193	0.2310	0.0140
E080M13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0450
401.1	0.1149	24821.379	0.0000	0.7144	0.6057	0.0971	0.1650	0.0140
F100M29 OF	0.0735	15883.373	0.0001	0.0819	0.0559	0.0085	0.2414	0.0140
402.1	0.7389	159610.14	0.0002	0.7785	0.9991	0.1930	0.5301	0.0140
F070M04 OF	0.0896	19346.590	0.0001	0.0497	0.0376	0.0068	0.2073	0.0200
423.1	1.1340	244943.08	0.0004	0.7749	1.8103	0.1834	0.4990	0.0140
F090M14 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
430.1	0.3470	74944.768	0.0001	0.7197	0.9352	0.1367	0.3431	0.0140
F100M21 OF	0.3882	83840.806	0.0004	0.0584	0.0583	0.0117	0.5453	0.0140
433.1	0.0317	6845.9725	0.0002	0.1628	0.0428	0.0688	0.2837	0.0240
F090M02 OF	0.1346	29078.053	0.0002	0.0387	0.0478	0.0057	0.1851	0.0140
e01 OF	0.0000	0.0000						
F100i01 OV	0.0703	15186.414						
F080 EMER	0.0940	20311.889						
060E01 OF	0.0001	15.6818						
i07 of	0.0000	0.0000						
i11 OF	0.0000	0.0000						
OF F042M19	0.2979	64349.515						
100E01 OVF	-0.0359	-7748.413						
F100M28 OV	0.3315	71600.769						
M100M27 OV	0.0000	0.0000						
F100M31 OV	0.4758	102767.10						
FREE # 1	1.8002	388837.26						

FREE # 2 1.1340 244944.55

FREE # 3 1.9302 416929.89

FREE # 4 1.5426 333197.75

FREE # 5 0.6978 150717.09

FREE # 6 1.6797 362812.92

FREE # 7 3.6450 787328.11

FREE # 8 0.2351 50774.186

FREE # 9 0.8072 174357.04

FREE #10 0.1346 29078.820

 | 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 Name	Maximum Flow	Head Loss	Friction Loss	Critical Depth	Normal Depth	HW Elevat	TW Elevat	
LINE042	4.7706	0.2355	2.8573	0.8851	1.2500	650.0529	646.9637	Max Flow
Link3	6.2729	0.1058	0.3612	0.8863	1.1530	647.0288	646.5672	Max Flow
Link4	17.3310	0.4033	0.5610	1.4997	2.0000	647.0133	645.9689	Max Flow
Link6	24.3104	0.7868	5.4310	1.7420	2.0000	608.4262	601.8249	Max Flow
Link7	24.3099	1.4081	3.8462	1.7420	1.2295	601.8249	595.8395	Max Flow
Link9	6.1266	0.9191	7.1792	0.9580	1.0000	603.2988	595.2182	Max Flow
Link13	38.8597	2.2585	4.5551	2.2338	2.0000	603.2198	596.2719	Max Flow
Link14	57.7108	2.5180	9.0038	2.3694	1.7589	596.4958	583.7589	Max Flow
Link15	49.3886	1.3704	0.7740	2.2872	1.5333	601.2719	599.4215	Max Flow
Link17	34.6024	1.8615	10.2496	1.9153	1.4874	604.8719	592.8340	Max Flow
Link26	22.2397	0.7431	2.7740	1.6824	1.5794	602.2025	598.7043	Max Flow
Link27	19.6128	2.8024	8.3410	1.5911	1.0100	659.6578	649.5300	Max Flow
Link31	4.3492	0.4482	2.4115	0.8752	1.0000	610.9959	608.1082	Max Flow
Link32	4.3757	0.4709	3.3448	0.8774	1.0000	608.1082	604.3015	Max Flow
Link38	0.0000	0.0000	0.0000	0.0000	0.0000	594.9200	594.9200	Max Flow
Link39	28.7350	1.2511	1.9492	1.8411	1.0828	603.8121	600.6426	Max Flow
Link40	28.7350	1.2202	1.5995	1.8411	1.3338	600.6449	597.8246	Max Flow
Link41	28.7353	3.6744	10.2812	2.6961	1.5000	597.8246	583.5000	Max Flow
Link44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link46	56.5393	0.8457	0.2150	2.4351	1.6627	599.4229	597.6627	Max Flow
Link48	11.6277	0.6240	0.5158	1.2970	1.5000	601.8042	600.6575	Max Flow
Link51	11.6276	0.5894	14.3612	1.2970	1.5000	600.6576	585.6170	Max Flow
OFLOW 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link61	33.6560	0.6207	3.8854	1.9719	2.0978	605.8610	601.1661	Max Flow
Link64	19.7797	0.6118	1.1901	1.5977	1.7741	598.4097	596.4399	Max Flow
OFLOW 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
F043M33 OF	34.4204	0.0000	4.8868	0.4739	0.3709	651.8756	646.9109	Max Flow
F042M61 OF	9.4186	0.0000	0.6765	0.1677	0.2074	651.2164	650.5363	Max Flow
F042M39 OF	24.3067	0.0000	8.8684	0.6430	0.7484	651.2510	602.9729	Max Flow
F060M02 OF	112.7179	0.0000	1.0172	0.6225	0.6825	601.8042	600.6225	Max Flow
F070M02 OF	10.1057	0.0000	1.0308	0.1815	0.1308	603.2406	602.1308	Max Flow
F070i05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link71	20.6646	0.6485	3.6532	1.6285	2.0000	645.9705	641.6313	Max Flow
F100M07 OF	50.8831	0.0000	1.9963	0.7261	0.6750	646.6768	644.6750	Max Flow
Link75	12.1027	0.7069	1.9196	1.3180	1.5000	601.2186	598.5810	Max Flow
F090M07 OF	8.5018	0.0000	3.2130	0.2600	0.2167	611.2011	606.5938	Max Flow
Link83	2.2663	0.0000	2.8091	0.1433	0.1077	603.3016	600.1077	Max Flow
F080M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
348.1	4.2098	0.0000	1.4425	0.8304	1.2500	651.1083	649.6569	Max Flow
m320F	4.4770	0.0000	0.0006	0.1941	0.1827	651.8762	651.8756	Max Flow
352.1	17.1784	0.0000	33.6135	1.4642	1.2975	650.5077	616.8019	Max Flow
M24 OF	14.4875	0.0000	29.4072	0.3288	0.2297	650.5519	616.8922	Max Flow
355.1	14.1882	0.0000	0.5823	1.3567	1.5927	647.6075	647.0133	Max Flow
m28 of	0.0000	0.0000	0.0000	0.0000	0.0000	649.9244	650.1792	Max Flow
357.1	35.8615	0.0000	3.7797	2.0297	1.2819	595.4223	591.6419	Max Flow

361.1	7.2119	1.2600	22.6931	1.1867	0.7964	636.6178	612.6839	Max Flow
F090M04 OF	11.9493	0.0000	19.5479	0.3018	0.1888	636.6347	612.7096	Max Flow
363.1	12.7318	0.4262	2.2835	1.3292	1.7500	606.2442	603.4524	Max Flow
F090M05 OF	16.7846	0.0000	1.0477	0.3483	0.3697	606.6032	605.4183	Max Flow
364.1	13.9795	1.9424	17.5818	1.6800	0.9562	665.8158	646.3242	Max Flow
F100M11 OF	17.0052	0.0000	1.2380	0.3502	0.2076	665.9531	646.6752	Max Flow
365.1	22.1336	0.7628	3.3888	1.6792	1.5975	641.6313	637.4683	Max Flow
F100M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
366.1	12.0144	0.6895	2.4102	1.3141	1.2488	610.2550	607.1417	Max Flow
370.1	8.8426	1.8529	19.0679	1.5057	0.8127	641.0739	620.1266	Max Flow
F090M09 OF	3.4191	0.0000	15.3440	0.1737	0.0972	641.0752	620.1287	Max Flow
371.1	5.5902	0.7457	8.1937	0.9388	0.7972	620.1075	611.1703	Max Flow
F090M08 OF	6.6291	0.0000	7.6482	0.2357	0.1655	620.1288	611.2011	Max Flow
374.1	6.2099	0.9428	1.1696	0.9686	0.8729	606.1672	604.0349	Max Flow
F090M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	606.1672	606.1672	Max Flow
375.1	4.9668	0.5630	10.2845	0.9141	1.0000	612.5775	601.6787	Max Flow
F090M03 OF	14.8233	0.0000	7.1684	0.3317	0.2645	612.7106	605.3345	Max Flow
376.1	37.3771	3.4558	23.5363	2.7611	1.5901	646.2100	618.9684	Max Flow
F100M04 OF	6.7358	0.0000	21.1115	0.2377	0.1353	646.2121	618.9713	Max Flow
377.1	32.4527	1.6111	5.3142	1.8881	1.4699	618.9509	612.0254	Max Flow
F100M03 OF	11.6061	0.0000	6.3202	0.2976	0.2057	618.9713	612.0509	Max Flow
378.1	29.0793	1.3046	6.1573	1.8455	1.2857	611.8955	604.4730	Max Flow
F100M02 OF	15.6149	0.0000	2.1723	0.3384	0.2504	612.0528	605.0238	Max Flow
383.1	11.8844	1.3972	9.4221	1.3083	0.9367	670.6424	659.5731	Max Flow
F080M08 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
385.1	9.2990	0.8382	3.2387	1.1616	1.2500	605.5291	601.4016	Max Flow
387.1	1.7545	0.0140	0.0175	0.4975	0.2940	599.7989	599.7701	Max Flow
389.1	3.7835	0.0000	1.7969	0.8270	1.0000	599.5626	597.7593	Max Flow
391.1	3.6268	0.0000	2.5805	0.8117	0.8400	604.1325	601.5524	Max Flow
392.1	16.1736	0.0000	10.4174	1.4807	1.4850	616.6127	606.1910	Max Flow
M21 OF	16.4093	0.0000	1.6164	0.3451	0.2973	616.9006	608.4054	Max Flow
398.1	11.6796	1.2403	12.7995	1.3487	1.2500	684.9595	670.6503	Max Flow
F080M10 OF	0.2718	0.0000	6.6954	0.0364	0.0186	684.9678	674.4686	Max Flow
399.1	33.6281	3.5867	41.2301	1.9030	1.4116	649.5290	605.8610	Max Flow
E080M13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
401.1	2.8950	0.4069	2.1408	0.7408	0.5523	605.1473	602.6845	Max Flow
F100M29 OF	12.6350	0.0000	0.3426	0.3101	0.2874	605.4115	604.9885	Max Flow
402.1	26.7606	0.0000	10.1894	1.7993	2.0000	610.6563	600.3789	Max Flow
F070M04 OF	17.6754	0.0000	7.5135	0.3559	0.3450	610.9399	603.2850	Max Flow
423.1	43.8812	2.8738	10.8950	2.5919	2.0000	596.4575	582.5300	Max Flow
F090M14 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
430.1	11.5350	0.6412	4.0309	1.2929	1.1050	607.1417	602.4850	Max Flow
F100M21 OF	73.5795	0.0000	2.7644	0.6491	0.5546	607.6454	604.8746	Max Flow
433.1	9.5713	0.4442	0.1932	1.1944	0.8632	601.4721	600.8348	Max Flow
F090M02 OF	34.0649	0.0000	0.4987	0.4716	0.3704	605.3740	604.8704	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.

Conduit Name	Mild Slope Critical D	Mild Slope TW Control	Steep Slope TW Insignf Entrance	Slug Flow Outlet/ Entrance	Mild Slope TW > D Outlet	Mild Slope TW <= D Outlet	Outlet Control	Inlet Control	Inlet Configuration
	Outlet Control	Outlet Control	Control	Control	Control	Control			
LINE042	3.0000	1412.0000	2067.0000	0.0000	115.0000	0.0000	3.0000	0.0000	None
Link3	3.0000	1447.0000	2038.0000	0.0000	112.0000	0.0000	0.0000	0.0000	None
Link4	224.0000	484.0000	2645.0000	0.0000	110.0000	0.0000	137.0000	0.0000	None
Link6	1176.0000	556.0000	1748.0000	0.0000	0.0000	0.0000	120.0000	0.0000	None
Link7	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link9	0.0000	0.0000	3581.0000	0.0000	19.0000	0.0000	0.0000	0.0000	None
Link13	0.0000	0.0000	3597.0000	0.0000	0.0000	0.0000	3.0000	0.0000	None
Link14	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link15	0.0000	0.0000	3588.0000	0.0000	0.0000	0.0000	12.0000	0.0000	None
Link17	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link26	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link27	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link31	171.0000	146.0000	3242.0000	0.0000	41.0000	0.0000	0.0000	0.0000	None
Link32	1021.0000	262.0000	2276.0000	0.0000	34.0000	0.0000	7.0000	0.0000	None
Link38	0.0000	0.0000	430.0000	2155.0000	8.0000	92.0000	915.0000	0.0000	None
Link39	0.0000	0.0000	3504.0000	3.0000	0.0000	81.0000	12.0000	0.0000	None
Link40	0.0000	0.0000	3498.0000	0.0000	0.0000	101.0000	1.0000	0.0000	None
Link41	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link44	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link46	0.0000	0.0000	3387.0000	0.0000	0.0000	0.0000	213.0000	0.0000	None
Link48	27.0000	99.0000	2384.0000	0.0000	358.0000	0.0000	732.0000	0.0000	None
Link51	222.0000	335.0000	2691.0000	0.0000	0.0000	0.0000	352.0000	0.0000	None
OFLOW 1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 2	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 3	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 4	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None

	QFLOW 5	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	Link61	1.0000	7.0000	3592.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
with Headwall	Link64	0.0000	0.0000	3452.0000	0.0000	0.0000	0.0000	0.0000	148.0000	Square Edge
	QFLOW 6	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F043M3 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F043M1 OF	3.0000	49.0000	3542.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F042M9 OF	0.0000	75.0000	3502.0000	0.0000	22.0000	0.0000	0.0000	0.0000	None
	F040M2 OF	156.0000	49.0000	3345.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F070M2 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F070193 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	Link71	936.0000	383.0000	2238.0000	0.0000	39.0000	0.0000	4.0000	0.0000	None
	F100M7 OF	5.0000	2.0000	3593.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	Link75	0.0000	0.0000	3503.0000	0.0000	20.0000	75.0000	1.0000	0.0000	None
	F080M7 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	Link83	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F080M6 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	348.1	0.0000	1244.0000	2236.0000	0.0000	120.0000	0.0000	0.0000	0.0000	None
	m320F	0.0000	0.0000	3489.0000	110.0000	0.0000	0.0000	1.0000	0.0000	None
	352.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	M24 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	355.1	4.0000	1217.0000	2267.0000	0.0000	112.0000	0.0000	0.0000	0.0000	None
	m28 of	0.0000	38.0000	3496.0000	66.0000	0.0000	0.0000	0.0000	0.0000	None
	357.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	361.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F090M04 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	363.1	236.0000	1176.0000	2158.0000	0.0000	29.0000	0.0000	1.0000	0.0000	None
	F090M05 OF	17.0000	12.0000	3571.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	364.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F100M11 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	365.1	0.0000	0.0000	3565.0000	1.0000	0.0000	30.0000	4.0000	0.0000	None
	F100M06 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	366.1	0.0000	0.0000	3540.0000	5.0000	0.0000	41.0000	14.0000	0.0000	None
	370.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F090M09 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	371.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F090M08 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	374.1	0.0000	0.0000	3560.0000	1.0000	0.0000	30.0000	9.0000	0.0000	None
	F090M06 OF	0.0000	29.0000	3571.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	375.1	0.0000	0.0000	3551.0000	0.0000	36.0000	0.0000	13.0000	0.0000	None
	F090M03 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	376.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F100M04 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	377.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F100M03 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	378.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F100M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	383.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F080M08 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	385.1	681.0000	2132.0000	528.0000	0.0000	16.0000	0.0000	243.0000	0.0000	None
	387.1	0.0000	0.0000	3288.0000	28.0000	0.0000	282.0000	2.0000	0.0000	Headwall
	389.1	48.0000	124.0000	3093.0000	6.0000	132.0000	195.0000	2.0000	0.0000	None
	391.1	0.0000	0.0000	3288.0000	18.0000	76.0000	215.0000	3.0000	0.0000	None
	392.1	0.0000	0.0000	3597.0000	0.0000	3.0000	0.0000	0.0000	0.0000	None
	M21 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	398.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F080M10 of	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	399.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	E080M13	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	401.1	0.0000	0.0000	3506.0000	2.0000	0.0000	89.0000	3.0000	0.0000	None
	F100M29 OF	4.0000	8.0000	3588.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	402.1	1.0000	1.0000	3565.0000	0.0000	33.0000	0.0000	0.0000	0.0000	None
	F070M04 OF	4.0000	5.0000	3591.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	423.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	F090M14 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	430.1	0.0000	0.0000	3520.0000	9.0000	0.0000	62.0000	9.0000	0.0000	None
	F100M21 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
	433.1	0.0000	0.0000	3493.0000	9.0000	0.0000	95.0000	1.0000	2.0000	Headwall
	F090M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	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
LINE042	2144.6278	2314.7135	1900.7500	0.0000
Link3	212.5357	1076.6546	0.0000	0.0000
Link4	2135.1875	2207.4289	2002.4000	0.0000
Link6	0.0000	0.0000	151.7000	0.0000
Link7	0.0000	22.5000	3359.0000	0.0000
Link9	1046.5788	1077.2250	3223.6417	0.0000
Link13	271.0000	3107.2000	3269.0000	0.0000
Link14	0.0000	28.3750	3288.5000	0.0000
Link15	2944.0197	3252.1250	1148.5893	0.0000

Link17	3121.9224	3200.1000	3179.2167	0.0000
Link26	358.8333	1095.6083	2883.2667	0.0000
Link27	3025.2391	3067.5000	3111.3333	0.0000
Link31	0.0000	5.2667	0.0000	0.0000
Link32	0.0000	0.0000	0.8333	0.0000
Link38	2.9000	2.9000	0.0000	0.0000
Link39	2201.5458	3166.7000	3072.2319	0.0000
Link40	2272.3841	3167.5000	976.2277	0.0000
Link41	0.0000	0.0000	3167.0000	0.0000
Link44	0.0000	0.0000	0.0000	0.0000
Link46	0.0000	0.0000	3270.6667	0.0000
Link48	0.0000	2086.0833	19.2500	0.0000
Link51	0.0000	0.0000	20.2500	0.0000
OFLOW 1	0.0000	0.0000	0.0000	0.0000
OFLOW 2	0.0000	0.0000	0.0000	0.0000
OFLOW 3	0.0000	0.0000	0.0000	0.0000
OFLOW 4	0.0000	0.0000	0.0000	0.0000
OFLOW 5	0.0000	0.0000	0.0000	0.0000
Link61	361.2236	2533.1055	2055.4833	0.0000
Link64	213.8393	991.7961	0.3750	0.0000
OFLOW 6	0.0000	0.0000	0.0000	0.0000
F043M33 OF	0.3333	0.3333	2890.6833	0.0000
F042M61 OF	2868.8333	2869.0000	2.2667	0.0000
F042M39 OF	2888.0000	2888.0000	0.0000	0.0000
F060M02 OF	0.0000	0.0000	2673.0798	0.0000
F070M02 OF	0.0500	0.0500	2871.7667	0.0000
F070i05 OF	0.0000	0.0000	0.0000	0.0000
Link71	0.0000	12.6167	0.0000	0.0000
F100M07 OF	0.8667	0.8833	2849.4167	0.0000
Link75	2844.8333	3134.1833	847.2452	0.0000
F090M07 OF	27.1000	27.2833	2859.1667	0.0000
Link83	0.0167	0.0167	2877.8333	0.0000
F080M06 OF	0.0000	0.0000	0.0000	0.0000
348.1	2848.6054	3175.1167	80.3750	0.0000
m32OF	0.0000	30.3833	0.0000	0.0000
352.1	3211.1411	3221.5158	3268.2904	0.0000
M24 OF	2880.9167	2880.9167	67.1167	0.0000
355.1	2998.0167	3352.6833	3.0000	0.0000
m28 of	0.0000	0.4333	0.0000	0.0000
357.1	12.1886	33.4386	3314.2500	0.0000
361.1	3005.7548	3053.7143	3014.2143	0.0000
F090M04 OF	2883.4333	2883.4667	31.0167	0.0000
363.1	8.7042	37.0625	0.0000	0.0000
F090M05 OF	0.0000	2857.9500	2858.2167	0.0000
364.1	3145.9000	3188.7000	1046.8500	0.0000
F100M11 OF	2884.9500	2884.9500	0.0000	0.0000
365.1	23.9000	60.6167	3116.7833	0.0000
F100M06 OF	0.0000	0.0000	0.0000	0.0000
366.1	2176.0208	2363.9603	3046.8619	0.0000
370.1	3041.0167	3053.9333	3147.8500	0.0000
F090M09 OF	2880.4667	2880.4667	13.3333	0.0000
371.1	3031.0833	3068.0000	1007.8000	0.0000
F090M08 OF	2884.8500	2884.8500	21.7167	0.0000
374.1	2921.2132	3142.1833	3075.4769	0.0000
F090M06 OF	0.0833	0.1667	0.0000	0.0000
375.1	710.5588	859.5944	841.3167	0.0000
F090M03 OF	13.4000	13.8000	2886.8000	0.0000
376.1	3046.2211	3164.4000	3188.7000	0.0000
F100M04 OF	2878.2667	2878.2667	11.8333	0.0000
377.1	2115.2857	2194.4000	3151.8000	0.0000
F100M03 OF	2886.1833	2886.1833	29.6333	0.0000
378.1	3105.4250	3198.6000	873.7315	0.0000
F100M02 OF	2887.5833	2887.5833	18.3167	0.0000
383.1	899.0056	946.0944	3099.2500	0.0000
F080M08 OF	0.0000	0.0000	0.0000	0.0000
385.1	0.0000	0.0000	210.5000	0.0000
387.1	2594.8125	2843.6438	0.0000	0.0000
389.1	3.0385	187.4367	2496.0000	0.0000
391.1	20.4375	304.1417	2574.0000	0.0000
392.1	3202.0693	3318.3353	2977.0730	0.0000
M21 OF	90.0456	90.1289	2783.2737	0.0000
398.1	2146.2778	2147.3889	3113.0000	0.0000
F080M10 of	0.0000	0.0000	2876.1167	0.0000
399.1	3068.2333	3077.0000	3081.5833	0.0000
E080M13	0.0000	0.0000	0.0000	0.0000
401.1	3042.7966	3197.9000	459.2542	0.0000
F100M29 OF	42.2333	42.5000	2839.7333	0.0000
402.1	0.0000	18.8500	1014.0708	0.0000
F070M04 OF	0.1333	0.1667	2843.7667	0.0000
423.1	0.0000	0.0000	3205.6000	0.0000
F090M14 OF	0.0000	0.0000	0.0000	0.0000
430.1	2289.0736	3120.4167	3059.4500	0.0000
F100M21 OF	13.6833	13.6833	2861.3000	0.0000
433.1	2795.1167	2848.2500	0.0000	0.0000
F090M02 OF	0.3167	2860.4167	2885.5000	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 Maximum Elevation (ft)	Conduit Name	Maximum Flow (cfs)	Total Flow (ft ³)	Maximum Velocity (ft/s)	Maximum Volume (ft ³)	# # #	Junction Name	Invert Elevation (ft)
583.5000	LINE042	4.7720	60760.9556	3.8430	587.3151	##	F100E00	582.0000
605.0240	Link3	6.7791	79308.0222	2.8687	1129.6288	##	F100M31	594.1400
607.6455	Link4	17.4644	198195.6511	5.4640	298.8173	##	F100M21	601.7400
610.6624	Link6	24.3104	362793.2283	7.8146	1064.8479	##	F100i01	604.1800
646.2121	Link7	24.3102	362810.6923	10.1734	99.0703	##	F100M04	634.5700
646.6769	Link9	6.1268	28120.4474	7.6518	42.9500	##	F100M07	639.3200
665.9531	Link13	38.8598	211089.7937	12.2986	276.7743	##	F100M11	660.4400
582.5300	Link14	57.7188	325506.2291	13.5619	217.8521	##	F090E00	580.5300
605.3750	Link15	49.5812	195458.2858	8.6338	635.5583	##	F090M02	600.7700
606.6034	Link17	34.6196	190496.3933	12.1606	812.5164	##	F090M05	602.0800
641.0752	Link26	22.2691	221438.4303	7.0316	574.2594	##	F090M09	635.3700
636.6348	Link27	19.6931	59464.5182	11.2978	87.3279	##	F090M04	632.2400
597.6660	Link31	4.3546	27791.4661	5.4025	120.2053	##	F080E00	596.0000
601.2802	Link32	4.3760	27803.4949	5.4494	162.7494	##	F080M14	599.0500
649.5359	Link38	-30.4926	-302182.920	-9.4777	190.5954	##	F080M13	648.0900
659.6591	Link39	28.7361	388831.6409	12.1400	353.3171	##	F080M06	658.6100
603.2406	Link40	28.7355	388835.1940	8.8652	294.9254	##	F070M02	597.7100
596.4959	Link41	28.7353	388830.9934	15.6433	86.8938	##	F070M01	594.4300
583.7591	Link44	0.0000	0.0000	0.0000	12.5439	##	F070E00	582.0000
600.6577	Link46	56.7224	416930.5501	8.6342	145.1833	##	F060M01	591.3200
601.8046	Link48	11.6278	390652.6042	6.3481	71.9286	##	F060E01	598.0000
603.3016	Link51	11.6276	390677.3886	6.4396	117.8321	##	F050M01	599.3400
595.4224	OFLOW 1	0.0000	0.0000	0.0000	0.0000	##	F050E01	594.1400
	OFLOW 2	0.0000	0.0000	0.0000	0.0003	##	F050E00	590.3600

591.6419								
601.8249	OFLOW 3	0.0000	0.0000	0.0000	0.0000	##	F042M18	600.3800
595.8395	OFLOW 4	0.0000	0.0000	0.0000	0.0000	##	F042M13	594.6100
608.4263	OFLOW 5	0.0000	0.0000	0.0000	0.0000	##	F042M19	601.9300
650.5520	Link61	33.6860	98451.1077	6.9985	1406.0575	##	F042M24	644.2000
651.2510	Link64	19.7859	114436.9513	6.2788	431.1680	##	F042M28	644.7300
651.2512	OFLOW 6	0.0000	0.0000	0.0000	0.0000	##	F042M39	645.4000
651.2164	F043M33 OF	34.4209	50773.7848	4.4216	186.3110	##	F042M61	645.5200
651.8763	F042M61 OF	9.4360	9868.4013	1.3780	619.4276	##	F042M32	646.9100
651.8756	F042M39 OF	24.3166	43968.6125	1.5790	14125.7387	##	F042M33	647.7500
605.6084	F060M02 OF	112.7421	396669.1070	2.9527	659.3660	##	EBMPF080	601.0000
620.1290	F070M02 OF	10.1099	7691.2454	3.0202	19.0207	##	F090M08	614.8000
611.2013	F070i05 OF	0.0000	0.0000	0.0000	0.0000	##	F090M07	605.6800
606.6048	Link71	20.6646	129349.7193	6.4882	1259.1468	##	F090M06	603.1700
609.2140	F100M07 OF	50.8970	62763.3568	4.4857	126.1635	##	SLOPECHANG	603.9700
612.7106	Link75	12.1032	86664.6100	6.7604	233.2931	##	F090M03	607.1900
603.8146	F090M07 OF	8.5196	8281.5554	2.5270	154.1743	##	F100M27	594.9200
618.9715	Link83	2.2671	1455.7056	2.3513	4.8423	##	F100M03	612.5100
612.0528	F080M06 OF	0.0000	0.0000	0.0000	0.0000	##	F100M02	605.6000
600.6450	348.1	4.2201	37449.6691	3.4041	382.5531	##	F100M26	588.6600
597.8246	m320F	4.4815	-2984.9441	-0.8058	1820.9693	##	F100M32	585.8900
670.6510	352.1	17.1784	275257.6956	10.3906	308.3068	##	F080M08	669.6500
666.2700	M24 OF	14.5005	33008.6306	4.3656	40.7746	##	F080M05	666.2700
602.2662	355.1	15.2372	77640.1631	4.8176	457.0946	##	F080i48	599.7500
599.4336	m28 of	-15.4125	-49977.4532	-0.6941	9316.6615	##	F080 TAP	596.6400
601.8043	357.1	35.8625	149248.7121	14.1466	99.7094	##	F060M02	591.6100
601.4699	361.1	7.2119	51774.3687	9.3501	88.8006	##	F060i07	597.0000
604.2043	F090M04 OF	11.9570	12171.6512	4.8332	17.9105	##	F060i11	598.0000
585.6170	363.1	12.8923	63187.4226	5.3069	763.2756	##	F060E00	584.3200
	F090M05 OF	16.7945	15441.4928	2.1056	697.3360	##	F042M21	611.9900

616.9006								
684.9683	364.1	13.9904	81944.0861	12.0334	148.8628	##	F080M10	680.4200
603.9611	F100M11 OF	17.0078	14590.3409	1.9451	466.3100	##	F080M02	603.1100
605.4116	365.1	22.1517	158706.5738	7.4233	997.2032	##	F100M29	598.0000
610.9420	F100M06 OF	0.0000	0.0000	0.0000	392.2157	##	F070M04	604.0000
598.4107	366.1	12.0226	72668.6585	6.6754	297.0308	##	F070i05	595.5000
640.3709	370.1	8.8426	34241.5321	10.9340	59.1816	##	E040i34	640.0000
596.4635	F090M09 OF	3.4194	1765.9760	3.9645	2.7948	##	F090M14	588.0000
646.6971	371.1	5.5902	30771.2958	6.9893	148.2034	##	F100M06	638.1600
604.9781	F090M08 OF	6.6428	5265.2477	3.5418	17.1645	##	F100M28	596.5000
604.9780	374.1	6.2272	22354.1483	7.8365	27.7799	##	F100E01	597.0000
590.0000	F090M06 OF	-3.6624	-5503.8404	-1.3186	392.6497	##	F100 E OF	590.0000
590.3710	375.1	4.9673	45549.3611	6.2168	280.8140	##	F090M02OUT	590.0000
	F090M03 OF	14.8294	19342.8411	3.5670	87.0915	##		
	376.1	37.3771	272841.2651	15.0273	280.1730	##		
	F100M04 OF	6.7365	3013.1925	4.7118	5.8386	##		
	377.1	32.4531	266186.9197	10.5108	681.3446	##		
	F100M03 OF	11.6352	9680.9784	4.2136	26.2602	##		
	378.1	29.0836	257989.7467	9.4107	1014.2262	##		
	F100M02 OF	15.6176	17891.4051	2.5351	456.4064	##		
	383.1	11.8983	36414.6160	9.6773	45.0347	##		
	F080M08 OF	0.0000	0.0000	0.0000	0.0000	##		
	385.1	9.3239	195589.1670	7.5078	61.0364	##		
	387.1	-5.4695	-47.7763	-3.0441	104.6452	##		
	389.1	3.7846	87.9134	4.7726	113.3468	##		
	391.1	3.6268	44675.6673	4.4715	186.0899	##		
	392.1	16.1762	261393.3232	6.7599	1389.3611	##		
	M21 OF	16.4174	47169.2522	1.8850	2940.6006	##		
	398.1	11.6799	36356.3627	9.5119	37.1676	##		
	F080M10 of	0.2775	57.3811	1.4047	0.0786	##		

399.1	33.7464	98402.1022	13.5037	220.9180	##
E080M13	0.0000	0.0000	0.0000	0.0000	##
401.1	3.0301	24621.3786	5.3382	66.4374	##
F100M29 OF	12.6367	15883.3733	1.9718	1494.2454	##
402.1	26.8248	159610.1370	8.4260	1803.1498	##
F070M04 OF	17.6971	19346.5905	2.5994	195.7591	##
423.1	43.8885	244943.0805	13.7162	220.0873	##
F090M14 OF	0.0000	0.0000	0.0000	0.0000	##
430.1	11.5909	74944.7680	6.4516	542.2054	##
F100M21 OF	73.5821	83840.8063	4.4534	1307.9754	##
433.1	-16.2215	6845.9725	-8.9582	12.8685	##
F090M02 OF	34.2071	29078.0532	4.4097	188.3649	##
e01 OF	0.0000	0.0000	0.0000	0.0000	##
F100i01 OV	17.4775	15186.4142	0.0000	0.0000	##
F080 EMER	14.1594	20311.8888	0.0000	0.0000	##
060E01 OF	-0.8041	15.6818	0.0000	0.0000	##
i07 of	0.0000	0.0000	0.0000	0.0000	##
i11 OF	0.0000	0.0000	0.0000	0.0000	##
OF F042M19	27.5514	64349.5149	0.0000	0.0000	##
100E01 OV	-26.2339	-7748.4126	0.0000	0.0000	##
F100M28 OV	59.0101	71600.7689	0.0000	0.0000	##
M100M27 OV	0.0000	0.0000	0.0000	0.0000	##
F100M31 OV	63.4464	102767.0962	0.0000	0.0000	##
FREE # 1	28.7353	388837.2584	0.0000	0.0000	##
FREE # 2	43.8886	244944.5532	0.0000	0.0000	##
FREE # 3	56.7219	416929.8904	0.0000	0.0000	##
FREE # 4	64.9252	333197.7517	0.0000	0.0000	##
FREE # 5	35.8626	150717.0921	0.0000	0.0000	##
FREE # 6	24.3102	362812.9195	0.0000	0.0000	##

FREE # 7	124.3698	787328.1122	0.0000	0.0000	##
FREE # 8	34.4209	50774.1858	0.0000	0.0000	##
FREE # 9	116.2510	174357.0430	0.0000	0.0000	##
FREE #10	34.2074	29078.2199	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)
F042M32	F042M61	4.7720	60760.9556
F042M61	F042M28	6.7791	70308.0222
F042M28	F042M24	17.4644	198195.651
F042M19	F042M18	24.3104	362793.228
F042M18	F042M13	24.3102	362810.692
F050M01	F050E01	6.1268	28120.4474
F070M02	F070M01	38.8598	211089.794
F070M01	F070E00	57.7188	325506.229
F080M14	F080 TAP	49.5812	195458.286
F090M02	F090M14	34.6196	190496.393
F080i48	F080 TAP	22.2691	221438.430
F080M06	F080M13	19.6931	59464.5182
F090M07	SLOPECHANG	4.3546	27791.4661
SLOPECHANG	F090M06	4.3760	27803.4949
F100M27	F100M31	30.4926	302182.920
F100M27	F100M26	28.7361	388831.641
F100M26	F100M32	28.7355	388835.194
F100M32	F100E00	28.7353	388830.993
F080 TAP	F080E00	56.7224	416930.550
F060M02	F060M01	11.6278	390652.604
F060M01	F060E00	11.6276	390677.389

F080M02	F080M14	33.6860	98451.1077
F070i05	F070M01	19.7859	114436.951
F042M33	E040i34	34.4209	50773.7849
F042M61	F042M24	9.4360	9868.4013
F042M39	F060i11	24.3166	43968.6125
F060M02	F060E00	112.7421	396669.107
F070M02	F070E00	10.1099	7691.2454
F100M07	F100M06	20.6646	129349.719
F100M07	F100M21	50.8970	62763.3568
F100M28	F100M27	12.1032	86664.6100
F090M07	F090M05	8.5196	8281.5554
F050M01	F050E00	2.2671	1455.7056
F042M33	F042M32	-4.4487	40434.6132
F042M24	F042M21	31.6709	308266.326
F042M39	F042M28	17.5582	127617.616
F050E01	F050E00	35.8625	149248.712
F090M04	F090M03	19.1684	63946.0199
F090M05	F090M02	25.3900	78628.9154
F100M11	F100M07	30.9223	96534.4270
F100M06	F100M04	22.1517	158706.574
F100i01	F100M21	12.0226	72668.6585
F090M09	F090M08	12.2620	36007.5081
F090M08	F090M07	12.2310	36036.5436
F090M06	F090M05	6.8938	27857.9887
F090M03	F090M02	18.9046	64892.2022
F100M04	F100M03	44.1134	275854.458
F100M03	F100M02	44.0769	275867.898
F100M02	F100M31	43.9390	275881.152
F080M08	F080M06	11.8983	36414.6160

EBMPF080	F080i48	9.3239	195589.167
F060E01	F060M02	-5.4695	-47.7763
F060I07	F060M02	3.7546	87.9134
F060I11	F060M02	3.6288	44,75.8673
F042M21	F042M19	31.0507	308562.575
F080M10	F080M08	11.9500	36413.7438
F080M13	F080M02	33.7464	98402.1022
F100M29	F100M31	13.8381	40704.7519
F070M04	F070M02	40.9731	178956.728
F090M14	F090E00	43.8885	244943.081
F100M21	F100M28	82.6285	158785.574
F100E01	F100M28	-16.2215	6845.9725
F090M02	F090M02OUT	34.2071	29078.0532
F100i01	F100M21	17.4775	15186.4142
EBMPF080	F080i48	14.1594	20311.8888
F060E01	F060M02	-0.8041	15.6818
F042M19	F050E01	27.5514	64349.5149
F100E01	F100M28	-26.2339	-7748.4126
F100M28	F100 E OF	59.0101	71600.7689
F100M31	F100 E OF	63.4464	102767.096

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
LINE042	F042M32	F042M61	646.9100	645.5200	651.8763	651.2164	Circular
Link3	F042M61	F042M28	645.5200	644.7300	651.2164	651.2510	Circular
Link4	F042M28	F042M24	644.7300	644.2000	651.2510	650.5520	Circular
Link6	F042M19	F042M18	601.9300	600.3800	608.4263	601.8249	Circular
Link7	F042M18	F042M13	600.3800	594.6100	601.8249	595.8395	Circular
Link9	F050M01	F050E01	599.3400	594.1400	603.3016	595.4224	Circular

Link13	F070M02	F070M01	597.7100	594.4300	603.2406	596.4959	Circular
Link14	F070M01	F070E00	594.4300	582.0000	596.4959	583.7591	Circular
Link15	F080M14	F080 TAP	599.0500	596.6400	601.2802	599.4336	Circular
Link17	F090M02	F090M14	600.7700	588.0000	605.3750	595.4635	Circular
Link26	F080i48	F080 TAP	599.7500	596.6400	602.2662	599.4336	Circular
Link27	F080M06	F080M13	658.6100	648.0900	659.6591	649.5359	Circular
Link31	F090M07	SLOPECHANG	605.6800	604.4800	611.2013	609.2140	Circular
Link32	SLOPECHANG	F090M06	603.9700	603.1700	609.2140	606.6048	Circular
Link38	F100M27	F100M31	594.9200	594.1400	603.8146	605.0240	Circular
Link39	F100M27	F100M26	594.9200	588.6600	603.8146	600.6450	Circular
Link40	F100M26	F100M32	588.6600	585.8900	600.6450	597.8246	Circular
Link41	F100M32	F100E00	585.9900	582.0000	597.8246	583.5000	Circular
Link44	F080M05	F080M13	666.2700	648.0900	666.2700	649.5359	Circular
Link46	F080 TAP	F080E00	596.6400	596.0000	599.4336	597.6660	Circular
Link48	F060M02	F060M01	591.6100	591.3200	601.8043	600.6577	Circular
Link51	F060M01	F060E00	591.3200	584.3200	600.6577	585.6170	Circular
OFLOW 1	F042M19	F060i11	616.0000	612.0000	604.2043	604.2043	Circular
OFLOW 2	F060i11	F070M02	612.4000	612.4000	603.2406	603.2406	Circular
OFLOW 3	F080M14	F070M02	613.5000	612.5000	603.2406	603.2406	Circular
OFLOW 4	F090M04	EBMPF080	646.0000	607.5000	605.6084	605.6084	Circular
OFLOW 5	F100M04	F090M09	655.5000	650.5000	641.0752	641.0752	Circular
Link61	F080M02	F080M14	603.1100	599.0500	605.8611	601.2802	Circular
Link64	F070i05	F070M01	595.5000	594.4300	598.4107	596.4959	Circular
OFLOW 6	F050E01	F060E00	609.5000	594.0000	585.6170	585.6170	Circular
F043M33 OF	F042M33	E040i34	651.5000	646.5400	651.8756	646.9109	Trapezoid
F042M61 OF	F042M61	F042M24	651.0000	650.3200	651.2164	650.5520	Trapezoid
F042M39 OF	F042M39	F060i11	650.5000	600.0000	651.2512	604.2043	Trapezoid
F060M02 OF	F060M02	F060E00	601.1000	600.0000	601.8043	600.6226	Trapezoid
F070M02 OF	F070M02	F070E00	603.1000	602.0000	603.2406	602.1308	Trapezoid

F070i05 OF	F070i05	F070E00	603.1000	602.0000	583.7591	583.7591	Trapezoid
Link71	F100M07	F100M06	639.3200	638.1600	646.6769	646.6971	Circular
F100M07 OF	F100M07	F100M21	646.0000	644.0000	646.6769	644.6751	Trapezoid
Link75	F100M23	F100M27	596.5000	594.9000	604.9781	603.8146	Circular
F090M07 OF	F090M07	F090M05	610.9800	606.2200	611.2013	606.6034	Trapezoid
Link83	F050M01	F050E00	603.1800	600.0000	603.3016	600.1078	Trapezoid
F080M06 OF	F080M06	F080M02	661.6300	606.3900	605.8611	605.8611	Trapezoid
348.1	F042M33	F042M32	647.7500	646.9100	651.8756	651.8763	Circular
m32OF	F042M32	F042M33	651.2500	650.8500	651.8763	651.8756	Trapezoid
352.1	F042M24	F042M21	644.2000	611.9900	650.5520	616.9006	Circular
M24 OF	F042M24	F042M21	650.3200	616.6000	650.5520	616.9006	Trapezoid
355.1	F042M39	F042M28	645.4000	644.7300	651.2512	651.2510	Circular
m28 of	F042M28	F042M39	650.2500	649.6500	651.2510	651.2512	Trapezoid
357.1	F050E01	F050E00	594.1400	590.3600	595.4224	591.6419	Circular
361.1	F090M04	F090M03	632.2400	607.1900	636.6348	612.7106	Circular
F090M04 OF	F090M04	F090M03	636.4400	612.4400	636.6348	612.7106	Trapezoid
363.1	F090M05	F090M02	602.0800	600.7700	606.6034	605.3750	Circular
F090M05 OF	F090M05	F090M02	606.2200	605.0700	606.6034	605.4184	Trapezoid
364.1	F100M11	F100M07	660.4400	639.3200	665.9531	646.6769	Circular
F100M11 OF	F100M11	F100M07	665.7400	645.5700	665.9531	646.6769	Trapezoid
365.1	F100M06	F100M04	638.1600	634.5700	646.6971	646.2121	Circular
F100M06 OF	F100M06	F100M04	646.8000	645.7700	646.6971	646.2121	Trapezoid
366.1	F100i01	F100M21	604.1800	601.7400	610.6624	607.6455	Circular
370.1	F090M09	F090M08	635.3700	614.8000	641.0752	620.1290	Circular
F090M09 OF	F090M09	F090M08	640.9700	619.9600	641.0752	620.1290	Trapezoid
371.1	F090M08	F090M07	614.8000	605.6800	620.1290	611.2013	Circular
F090M08 OF	F090M08	F090M07	619.9600	610.9800	620.1290	611.2013	Trapezoid
374.1	F090M06	F090M05	603.1700	602.0800	606.6048	606.6034	Circular
F090M06 OF	F090M05	F090M06	606.2200	606.0700	606.6034	606.6048	Trapezoid

375.1	F090M03	F090M02	607.1900	600.7700	612.7106	605.3750 Circular
F090M03 OF	F090M03	F090M02	612.4400	605.0700	612.7106	605.3750 Trapezoid
376.1	F100M04	F100M03	634.5700	612.5100	646.2121	618.9715 Circular
F100M04 OF	F100M04	F100M03	646.0700	618.7600	646.2121	618.9715 Trapezoid
377.1	F100M03	F100M02	612.5100	605.6000	618.9715	612.0528 Circular
F100M03 OF	F100M03	F100M02	618.7600	611.8000	618.9715	612.0528 Trapezoid
378.1	F100M02	F100M31	605.6000	594.1400	612.0528	605.0240 Circular
F100M02 OF	F100M02	F100M31	611.8000	604.2900	612.0528	605.0240 Trapezoid
383.1	F080M08	F080M06	669.6500	658.6100	670.6510	659.6591 Circular
F080M08 OF	F080M08	F080M06	674.4500	661.6300	659.6591	659.6591 Trapezoid
385.1	EBMPF080	F080i48	601.0000	600.2400	605.6084	602.2662 Circular
387.1	F060E01	F060M02	598.0000	595.3600	601.8046	601.8043 Circular
389.1	F060i07	F060M02	597.0000	595.9600	601.4699	601.8043 Circular
391.1	F060i11	F060M02	598.0000	595.3600	604.2043	601.8043 Circular
392.1	F042M21	F042M19	611.9900	601.9300	616.9006	608.4263 Circular
M21 OF	F042M21	F042M19	616.6000	607.3300	616.9006	608.4263 Trapezoid
398.1	F080M10	F080M08	680.4200	669.6500	684.9683	670.6510 Circular
F080M10 of	F080M10	F080M08	684.9200	674.4500	684.9683	674.4690 Trapezoid
399.1	F080M13	F080M02	648.0900	603.1100	649.5359	605.8611 Circular
E080M13	F080M13	F080M02	659.1100	606.3900	605.8611	605.8611 Trapezoid
401.1	F100M29	F100M31	598.0000	594.1400	605.4116	605.0240 Circular
F100M29 OF	F100M29	F100M31	605.1200	604.2900	605.4116	605.0240 Trapezoid
402.1	F070M04	F070M02	604.0000	597.7100	610.9400	603.2406 Circular
F070M04 OF	F070M04	F070M02	610.5900	602.9400	610.9400	603.2852 Trapezoid
423.1	F090M14	F090E00	588.0000	580.5300	596.4635	582.5300 Circular
F090M14 OF	F090M14	F090E00	597.5500	590.0000	582.5300	582.5300 Trapezoid
430.1	F100M21	F100M28	601.7400	596.5000	607.6455	604.9781 Circular
F100M21 OF	F100M21	F100M28	607.0900	604.3200	607.6455	604.9781 Trapezoid
433.1	F100E01	F100M28	597.0000	596.5000	604.9780	604.9781 Circular

F090M02 OF F090M02 F090M02OUT 605.0000 604.5000 605.3750 604.8710 Trapezoid

```

=====
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 ----->			Remaining Volume	Beginning Volume	Net Flow Thru Node	Total Flow Thru Node	Failed to Converge
	Volume	% of Node	% of Inflow					
F100E00	-5.5395	-0.0007	0.0002	0.0006	0.0000	-5.5388	777668.2518	0
F100M31	-95.0758	-0.0117	0.0033	93.8547	0.0000	-1.2212	809904.7593	0
F100M21	1681.5646	0.5267	0.0575	0.0040	0.0000	1681.5686	319258.0547	0
F100i01	13.2168	0.0075	0.0005	0.0008	0.0000	13.2176	175723.5145	0
F100M04	-0.7531	-0.0001	0.0000	0.0069	0.0000	-0.7462	551713.5864	0
F100M07	-59.4844	-0.0155	0.0020	0.0056	0.0000	-59.4788	384169.8214	0
F100M11	-345.0453	-0.1790	0.0118	0.0033	0.0000	-345.0420	192725.0812	0
F090E00	-1.8745	-0.0004	0.0001	0.0029	0.0000	-1.8716	489887.6337	0
F090M02	49.6882	0.0113	0.0017	0.0100	0.0000	49.6983	439207.5541	0
F090M05	22.0918	0.0140	0.0008	0.0055	0.0000	22.0973	157281.9146	2
F090M09	-34.6063	-0.0481	0.0012	0.0030	0.0000	-34.6033	71980.8860	0
F090M04	-161.4271	-0.1264	0.0055	0.0052	0.0000	-161.4220	127731.4100	0
F080E00	-6.4543	-0.0008	0.0002	0.0370	0.0000	-6.4173	833860.4405	0
F080M14	-29.0920	-0.0074	0.0010	0.0681	0.0000	-29.0239	390890.4354	0
F080M13	12.7218	0.0065	0.0004	0.0159	0.0000	12.7377	196817.6134	0
F080M06	4.2764	0.0036	0.0001	0.0129	0.0000	4.2893	118937.0390	0
F070M02	19.6414	0.0045	0.0007	0.0079	0.0000	19.6494	437582.5514	0
F070M01	20.9556	0.0032	0.0007	0.0035	0.0000	20.9591	651032.9741	42
F070E00	-2.9484	-0.0004	0.0001	0.0024	0.0000	-2.9459	666395.2262	0
F060M01	-22.3264	-0.0029	0.0008	0.0023	0.0000	-22.3241	781329.9928	0
F060E01	6.6912	10.5443	0.0002	0.0003	0.0000	6.6915	63.4581	0

F050M01	7.1308	0.0121	0.0002	0.0023	0.0000	7.1331	59159.7342	0
F050E01	-561.0900	-0.1883	0.0192	0.0020	0.0000	-561.0880	297908.3963	0
F050E00	-0.4640	-0.0002	0.0000	0.0014	0.0000	-0.4626	301421.5097	3
F042M18	-17.2664	-0.0024	0.0006	0.0033	0.0000	-17.2631	725603.9207	0
F042M13	-3.9608	-0.0005	0.0001	0.0010	0.0000	-3.9598	725623.6119	0
F042M19	-82.7796	-0.0097	0.0028	0.0112	0.0000	-82.7683	854214.3217	0
F042M24	-284.5638	-0.0462	0.0097	0.0130	0.0000	-284.5508	616248.7238	0
F042M28	-264.4264	-0.0668	0.0090	0.0034	0.0000	-264.4230	396121.2896	0
F042M39	-12786.2062	-3.8701	0.4372	0.0129	0.0000	-12786.1934	330388.0862	0
F042M61	16.0027	0.0100	0.0005	0.0056	0.0000	16.0083	160370.2421	0
F042M32	7.3459	0.0060	0.0003	0.0041	0.0000	7.3500	121530.1216	0
F042M33	-82.9866	-0.0455	0.0028	0.0034	0.0000	-82.9832	182335.3732	1
EBMPF080	-4.3572	-0.0010	0.0001	225.0317	0.0000	220.6746	432026.2645	0
F090M08	-28.9743	-0.0402	0.0010	0.0059	0.0000	-28.9684	72044.0517	0
F090M07	-36.4424	-0.0505	0.0012	0.0060	0.0000	-36.4363	72109.5650	0
F090M06	-54.6796	-0.0982	0.0019	0.0013	0.0000	-54.6782	55661.4836	0
SLOPECHANG	-12.3256	-0.0222	0.0004	0.0022	0.0000	-12.3234	55594.9610	0
F090M03	-945.2767	-0.7337	0.0323	0.0099	0.0000	-945.2668	128838.2221	0
F100M27	-9.3368	-0.0012	0.0003	11.1945	0.0000	1.8577	777679.1709	0
F100M03	-13.8572	-0.0025	0.0005	0.0062	0.0000	-13.8510	551722.3558	0
F100M02	-78.9711	-0.0143	0.0027	62.8001	0.0000	-16.1710	551749.0500	0
F100M26	-16.7070	-0.0021	0.0006	0.9372	0.0000	-15.7698	777666.8349	0
F100M32	-9.9635	-0.0013	0.0003	2.1941	0.0000	-7.7694	777666.1874	0
F080M08	-0.5173	-0.0007	0.0000	0.0070	0.0000	-0.5102	72828.3598	0
F080M05	-0.0019	0.0000	0.0000	0.0019	0.0000	0.0000	0.0000	0
F080i48	-50.4036	-0.0114	0.0017	0.6405	0.0000	-49.7631	442829.2329	0
F080 TAP	-41.2040	-0.0049	0.0014	0.5909	0.0000	-40.6131	833827.2663	0
F060M02	61.4134	0.0039	0.0021	0.0025	0.0000	61.4159	1574804.240	0
F060i07	-86.7108	-98.6314	0.0030	0.0013	0.0000	-86.7095	87.9134	1

E060111	-706.8077	-0.7974	0.0242	0.0138	0.0000	-706.7940	88644.2798	0
E060E00	-2.8507	-0.0002	0.0001	0.0022	0.0000	-2.8485	1574674.608	0
E04LM21	-308.9065	-0.0499	0.0105	0.0201	0.0000	-307.9864	616809.9016	0
E090M10	-0.2128	-0.0002	0.0000	0.0035	0.0000	-0.2103	72827.5962	0
E080M02	-51.4513	-0.0262	0.0018	0.0233	0.0000	-51.4690	196853.2033	0
F100M29	17.1566	0.0211	0.0006	10.0620	0.0000	27.2186	81438.0970	0
E070M04	-274.5538	-0.0768	0.0094	0.0057	0.0000	-274.5471	357640.6212	0
E070i05	-26.8288	-0.0117	0.0009	0.0009	0.0000	-26.8279	228846.5688	22
E040i34	-0.0165	0.0000	0.0000	0.0016	0.0000	-0.0149	101547.9706	0
E090M14	-0.2690	-0.0001	0.0000	0.0050	0.0000	-0.2640	489888.5021	0
F100M06	-98.4412	-0.0310	0.0034	0.0050	0.0000	-98.4362	317319.2608	0
F100M28	-322.7197	-0.0973	0.0110	0.0037	0.0000	-322.7161	331645.3383	7
F100E01	920.4861	6.3071	0.0315	0.0000	0.0000	920.4861	14594.3851	7
F100 E OF	-0.1109	0.0000	0.0000	0.0000	0.0000	-0.1109	348724.9082	0
E090M02OUT	0.0173	0.0000	0.0000	0.0002	0.0000	0.0175	58156.8731	0

The total continuity error was -15170. cubic feet
 The remaining total volume was 407.70 cubic feet
 Your mean node continuity error was Excellent
 Your worst node continuity error was Excellent
 * You were using an interface file but had no inflow.
 * Check the output for important messages.

```

*=====
| 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	Inflow	Inflow	Inflow	Inflow	through	Inflow	Outflow
Evaporation	Evaporation	Evaporation	Evaporation	Evaporation	Evaporation	Evaporation	Evaporation
from Node	from Node	from Node	from Node	from Node	from Node	from Node	from Node
Name	Name	Name	Name	Name	Name	Name	Name
2D Layer	2D Layer	2D Layer	2D Layer	2D Layer	2D Layer	2D Layer	2D Layer
-----	-----	-----	-----	-----	-----	-----	-----
0.0000	F100E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	388837.2584
0.0000	F100M31 0.0000	0.0000	0.0000	0.0000	0.0000	88367.4505	0.2631
0.0000	F100M21 0.0000	0.0000	0.0000	0.0000	0.0000	9853.8907	0.0000
0.0000	F100i01 0.0000	0.0000	0.0000	0.0000	0.0000	87866.8520	0.0000
0.0000	F100M04 0.0000	0.0000	0.0000	0.0000	0.0000	117150.2089	0.0000
0.0000	F100M07 0.0000	0.0000	0.0000	0.0000	0.0000	95521.5738	0.3700
0.0000	F100M11 0.0000	0.0000	0.0000	0.0000	0.0000	96188.5318	0.0000

0.0000	F090E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	244944.5532
0.0000	F090M02 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	76108.7447	0.0672
0.0000	F090M05 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	42511.7405	0.0000
0.0000	F090M09 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	35972.6577	0.0000
0.0000	F090M04 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	63784.9618	0.0000
0.0000	F080E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	416929.8904
0.0000	F080M14 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	96978.5894	0.0000
0.0000	F080M13 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	38950.0397	0.2043
0.0000	F080M06 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	23057.0910	0.0000
0.0000	F070M02 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	39843.9598	0.0061
0.0000	F070E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	333197.7517
0.0000	F050M01 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	29583.0595	0.0000
0.0000	F050E01 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	56187.6234	0.0000
0.0000	F050E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	150717.0921
0.0000	F042M13 0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	362812.9195
0.0000	F042M19 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	118509.1814	0.1832
0.0000	F042M24 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	99918.7012	0.1460
0.0000	F042M39 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	158794.2221	0.0002
0.0000	F042M61 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	19432.4729	0.0000
0.0000	F042M32 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	20334.0607	0.0000
0.0000	F042M33 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	91124.8390	0.0000
0.0000	EBMPF080 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	216124.5382	0.0000
0.0000	F080i48 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5489.4205	0.0000
0.0000	F060M02 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	742653.9788	0.0000
0.0000	F060E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	787328.1122
0.0000	F080M10 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	36413.2991	0.0000
0.0000	F100M29 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	40732.4144	0.0000
0.0000	F070M04 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	178681.5165	0.0000
0.0000	F070i05 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	114409.6901	0.0000

0.0000	E040i34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	50774.1858
	0.0000							
0.0000	F090M14	0.0000	0.0000	0.0000	0.0000	0.0000	54448.8052	0.0223
	0.0000							
0.0000	F100M06	0.0000	0.0000	0.0000	0.0000	0.0000	29261.9417	0.0001
	0.0000							
0.0000	F100 E GF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	174337.0420
	0.0000							
0.0000	F090M02OUT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	39078.5199
	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
F100E00	0.0000	0.0000	0.0000	18.8490	0.0000
F100M31	0.0000	0.0000	0.0000	136.7688	0.0000
F100M21	0.0000	0.0000	0.0000	74.2081	0.0000
F100i01	44.5500	0.0000	0.0000	81.4575	0.0000
F100M04	0.0000	0.0000	0.0000	146.2947	0.0000
F100M07	0.0000	0.0000	0.0000	92.4468	0.0000
F100M11	0.0000	0.0000	0.0000	69.2776	0.0000
F090E00	0.0000	0.0000	0.0000	25.1320	0.0000
F090M02	0.0000	0.0000	0.0000	57.8661	0.0000
F090M05	0.0000	0.0000	0.0000	56.8407	0.0000
F090M09	0.0000	0.0000	0.0000	71.6910	0.0000
F090M04	0.0000	0.0000	0.0000	55.2250	0.0000
F080E00	0.0000	0.0000	0.0000	20.9354	0.0000
F080M14	0.0000	0.0000	0.0000	28.0251	0.0000
F080M13	0.0000	0.0000	0.0000	18.1694	0.0000
F080M06	0.0000	0.0000	0.0000	13.1825	0.0000
F070M02	0.0000	0.0000	0.0000	69.4979	0.0000

F070M01	0.0000	0.0000	0.0000	25.9605	0.0000
F070E00	0.0000	0.0000	0.0000	22.1051	0.0000
F060M01	357.7333	0.0000	0.0000	117.3369	0.0000
F060E01	281.1314	0.0000	0.0000	4540.7200	0.0000
F050M01	0.0000	0.0000	0.0000	49.7819	0.0000
F050E01	0.0000	0.0000	0.0000	1204.2227	0.0000
F050E00	0.0000	0.0000	0.0000	16.1083	0.0000
F042M18	0.0000	0.0000	0.0000	18.1564	0.0000
F042M13	0.0000	0.0000	0.0000	15.4500	0.0000
F042M19	0.0000	0.0000	0.0000	81.6320	0.0000
F042M24	0.0000	0.0000	0.0000	79.8196	0.0000
F042M28	0.0000	0.0000	0.0000	81.9430	0.0000
F042M39	0.0000	0.0000	0.0000	73.5257	0.0000
F042M61	0.0000	0.0000	0.0000	71.5808	0.0000
F042M32	0.0000	0.0000	0.0000	62.4061	0.0000
F042M33	0.0000	0.0000	0.0000	51.8423	0.0000
EBMPF080	0.0000	0.0000	0.0000	81350.2806	0.0000
F090M08	0.0000	0.0000	0.0000	66.9640	0.0000
F090M07	0.0000	0.0000	0.0000	69.3810	0.0000
F090M06	0.0000	0.0000	0.0000	43.1619	0.0000
SLOPECHANG	40.1167	0.0000	0.0000	65.8961	0.0000
F090M03	0.0000	0.0000	0.0000	69.3720	0.0000
F100M27	96.1442	0.0000	0.0000	111.7692	0.0000
F100M03	0.0000	0.0000	0.0000	81.1958	0.0000
F100M02	0.0000	0.0000	0.0000	81.0856	0.0000
F100M26	101.3833	0.0000	0.0000	150.6034	0.0000
F100M32	103.5450	0.0000	0.0000	149.9708	0.0000
F080M08	0.0000	0.0000	0.0000	12.5783	0.0000
F080M05	0.0000	0.0000	0.0000	0.0000	0.0000

F080i48	12.1667	0.0000	0.0000	31.6188	0.0000
F080 TAP	0.0000	0.0000	0.0000	35.1049	0.0000
F040M02	0.0000	0.0000	0.0000	128.1017	0.0000
F060i07	328.1992	0.0000	0.0000	14908.2893	0.0000
F060i11	0.0000	0.0000	0.0000	18511.5588	0.0000
F060E00	0.0000	0.0000	0.0000	16.2977	0.0000
F042M21	0.0000	0.0000	0.0000	61.7071	0.0000
F080M10	0.0000	0.0000	0.0000	57.1540	0.0000
F080M02	0.0000	0.0000	0.0000	34.5706	0.0000
F100M29	0.0000	0.0000	0.0000	93.1336	0.0000
F070M04	0.0000	0.0000	0.0000	87.2086	0.0000
F070i05	0.0000	0.0000	0.0000	36.5758	0.0000
E040i34	0.0000	0.0000	0.0000	4.6612	0.0000
F090M14	0.0000	0.0000	0.0000	106.3522	0.0000
F100M06	0.0000	0.0000	0.0000	107.2774	0.0000
F100M28	0.0000	0.0000	0.0000	106.5356	0.0000
F100E01	95.6667	0.0000	0.0000	27159.4804	0.0000
F100 E OF	0.0000	0.0000	0.0000	0.0000	0.0000
F090M02OUT	0.0000	0.0000	0.0000	4.6621	0.0000

=====

| Simulation Specific Information |

=====

Number of Input Conduits.....	94	Number of Simulated Conduits.....	115
Number of Natural Channels.....	0	Number of Junctions.....	65
Number of Storage Junctions.....	6	Number of Weirs.....	11
Number of Orifices.....	0	Number of Pumps.....	0
Number of Free Outfalls.....	10	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..F060M02 OF with 0.001 percent

The Junction with the largest average change was.F060M02 with 0.023 percent

The Conduit with the largest sinuosity was.....Link71 with 7.174

=====

| Table E21. Continuity balance at the end of the simulation |

| Junction Inflow, Outflow or Street Flooding |

| Error = Inflow + Initial Volume - Outflow - Final Volume |

=====

Junction	Inflow Volume, ft^3	Average Inflow, cfs
----------	------------------------	------------------------

F100M31	88368.8394	0.4091
F100M21	9854.0509	0.0456
F100i01	87868.4418	0.4068
F100M04	117152.5550	0.5424
F100i07	95522.3183	0.4422
F100M11	96190.6542	0.4453
F090M02	76111.9900	0.3524
F090M05	42513.4552	0.1968
F090M09	35973.3779	0.1665
F090M04	63785.3901	0.2953
F080M14	96981.0419	0.4490
F080M13	38950.9930	0.1803
F080M06	23057.9048	0.1067
F070M02	39844.7848	0.1845
F050M01	29583.5812	0.1370
F050E01	56189.7220	0.2601
F042M13	0.0001	0.0000
F042M19	118509.0032	0.5487
F042M24	99918.3451	0.4626
F042M39	158801.8575	0.7352
F042M61	19432.8630	0.0900
F042M32	20334.5527	0.0941
F042M33	91126.9752	0.4219
EBMPF080	216125.2087	1.0006
F080i48	5489.7468	0.0254
F060M02	742655.4899	3.4382
F080M10	36413.8524	0.1686
F100M29	40733.3451	0.1886
F070M04	178683.8937	0.8272

F070i05	114409.6175	0.5297
F090M14	54449.0283	0.2521
F100M06	29262.9677	0.1355
F100E00	-388837.2544	-1.8992
F100i31	-0.2631	0.0000
F100i01	0.0000	0.0000
F100M04	0.0000	0.0000
F100M07	-0.3700	0.0000
F100M11	0.0000	0.0000
F090E00	-244944.5532	-1.1340
F090M02	-0.0672	0.0000
F080E00	-416929.8904	-1.9302
F080M13	-0.2043	0.0000
F080M06	0.0000	0.0000
F070M02	-0.0061	0.0000
F070E00	-333197.7517	-1.5426
F050E00	-150717.0921	-0.6978
F042M13	-362812.9195	-1.6797
F042M19	-0.1832	0.0000
F042M24	-0.1460	0.0000
F042M39	-0.0002	0.0000
F042M33	0.0000	0.0000
F060M02	0.0000	0.0000
F060E00	-787328.1122	-3.6450
F070M04	0.0000	0.0000
E040i34	-50774.1858	-0.2351
F090M14	-0.0223	0.0000
F100M06	-0.0001	0.0000
F100 E OF	-174357.0430	-0.8072

F090M02OUT -29078.8199 -0.1346

Outflow Junction	Outflow Volume, ft^3	Average Outflow, cfs
F100E00	388837.2584	1.8002
E100M31	0.2631	0.0000
F100i01	0.0000	0.0000
F100M04	0.0000	0.0000
F100M07	0.3700	0.0000
F100M11	0.0000	0.0000
F090E00	244944.5532	1.1340
F090M02	0.0672	0.0000
F080E00	416929.8904	1.9302
F080M13	0.2043	0.0000
F080M06	0.0000	0.0000
F070M02	0.0061	0.0000
F070E00	333197.7517	1.5426
F050E00	150717.0921	0.6978
F042M13	362812.9195	1.6797
F042M19	0.1832	0.0000
F042M24	0.1460	0.0000
F042M39	0.0002	0.0000
F042M33	0.0000	0.0000
F060M02	0.0000	0.0000
F060E00	787328.1122	3.6450
F070M04	0.0000	0.0000
E040i34	50774.1858	0.2351
F090M14	0.0223	0.0000
F100M06	0.0001	0.0000
F100 E OF	174357.0430	0.8072
F090M02OUT	29078.8199	0.1346

=====

| Initial system volume = 0.0000 Cu Ft |

| Total system inflow volume = 2.924256E+06 Cu Ft |

| Inflow + Initial volume = 2.924256E+06 Cu Ft |

=====

| Total system outflow = 2.938979E+06 Cu Ft |

| Volume left (Final volume) = 407.6976 Cu Ft |

| Evaporation = 0.0000 Cu Ft |

| Outflow + Final Volume = 2.939387E+06 Cu Ft |

=====

=====

Total Model Continuity Error	
Error in Continuity, Percent =	-0.5174
Error in Continuity, ft^3 =	-15130.530
+ Error means a continuity loss, - a gain	

=====

Table E22. Numerical Model judgement section #
#####

Overall error was (minimum of Table E18 & E21) -0.5174 percent

Worst nodal error was in node F042M39 with -3.8701 percent

Of the total inflow this loss was 0.4372 percent

Your overall continuity error was Excellent

Excellent Efficiency

Efficiency of the simulation 1.76

Most Number of Non Convergences at one Node 42.

Total Number Non Convergences at all Nodes 85.

Total Number of Nodes with Non Convergences 8.

```
#####
# 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 (ft)	Conduit	Diam. (ft)	Barrels	Max.Flow (ft ³ /s)
------------	------	-----------------	---------	---------------	---------	----------------------------------

==> Hydraulic model simulation ended normally.
==> XP-SWMM Simulation ended normally.

==> Your input file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Existing Conditions for SWMP\Existing Conditions Cloverleaf Ponds_100-year.DAT

==> Your output file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Existing Conditions for SWMP\Existing Conditions Cloverleaf Ponds_100-year.out

```
*=====*
|                               |
| SWMM Simulation Date and Time Summary |
|=====|
| Starting Date... January 7, 2013 Time... 16:11:20:28 |
| Ending Date... January 7, 2013 Time... 16:12: 3:64 |
| Elapsed Time... 0.72267 minutes or 43.36000 seconds |
|=====|
*=====*
```

APPENDIX C

HYDROLOGIC & HYDRAULIC RESULTS Post-Pond Construction / Future Land Use Condition

Village of Allouez
South Cloverleaf Pond
12-28-12
Proposed Conditions SWMM Model
100-year storm

Current Directory: C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Proposed C
Engine Name: C:\XPS\XPSWMM-1\SWMMEN-1.EXE

Input File : SWMM\Proposed Conditions for SWMP\Proposed South Pond_100-year.XP

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

xpswmm	
Storm and Wastewater Management Model	
Developed by XP Software Inc.	
Last Update	: June, 2011
Interface Version:	13.0
Engine Version	: 2011.0
Data File Version:	12.2
Serial Number	:

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

Engine Name: C:\XPS\XPSWMM-1\SWMMEN-1.EXE

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

Input and Output file names by Layer	
Input File to Layer #	1 JIN.US
Output File to Layer #	1 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int
Input File to Layer #	2 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int
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 swmxcfg or defined by the set variable in the xpswm.bat file. Some examples of the command lines possible are shown below:

```
swmmd swmxcfg
swmmd my.cfg
swmmd nokeys nconv5 perv extranwq
```

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

Keyword	Value	Layer
\$powerstation	0.0000	1
\$perv	0.0000	0
\$soldegg	0.0000	0
\$sas	0.0000	0
\$noflat	0.0000	0
\$soldomega	0.0000	0
\$soldvol	0.0000	1
\$implicit	0.0000	1
\$soldhot	0.0000	1
\$soldscs	0.0000	0
\$flood	0.0000	1
\$nokeys	0.0000	0
\$pzero	0.0000	0
\$soldvol2	0.0000	2
\$storage2	0.0000	3
\$soldhot1	0.0000	1
\$pumpwt	0.0000	1

\$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_n1_97	0.0000	2	290
\$SCSIDDEPTH=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
MTLEN=5	5.0000	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

 | 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)....	13
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).....	50
Number of Groundwater Subcatchments in Runoff (NGW)...	0
Number of Interface locations for all Blocks (NIE).....	50
Number of Pumps in Extran (NEP).....	0
Number of Orifices in Extran (NEO).....	3
Number of Tide Gates/Free Outfalls in Extran (NTG).....	5
Number of Extran Weirs (NEW).....	7
Number of scs hydrograph points.....	4201
Number of Extran printout locations (NPO).....	0
Number of Tide elements in Extran (NTE).....	5
Number of Natural channels (NNC).....	0
Number of Storage junctions in Extran (NVSE).....	5
Number of Time history data points in Extran (NTVAL).....	0
Number of Variable storage elements in Extran (NVST).....	11
Number of Input Hydrographs in Extran (NEH).....	0
Number of Particle sizes in Transport Block (NPS).....	0
Number of User defined conduits (NHW).....	13
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).....	50
Number of Plugs in a Storage Treatment Unit.....	1

 # Entry made to the Runoff Layer(Block) of SWMM #
 # Last Updated June, 2011 by XP Software #

 | 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 - Rainage 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 analysis for Subcatchments |

```

*****
A1
Village of Allouez
#####
# RUNOFF JOB CONTROL #
#####
Snowmelt parameter - ISNOW..... 0
Number of rain gages - NRCAG..... 1
Quality is not simulated - KQUALITY..... 0
Default evaporation rate used - IVAP..... 0
Hour of day at start of storm - NHR..... 0
Minute of hour at start of storm - MMN..... 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: 12/8/2012
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..... 60.0 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.. 240
KINC - Rainfall values(pairs) per line.. 10
KPRINT - Print rainfall(0=Yes,1=No)..... 0
KTIME - Precipitation time units
0 --> Minutes 1 --> Hours..... 1
KPREP - Precipitation unit type
0 --> Intensity 1 --> Volume..... 1
KTHIS - Variable rainfall intervals
0 --> No, > 1 --> Yes..... 0
THISTO - Rainfall time interval..... 0.10
TZRAIN - Starting time(KTIME units)..... 0.00

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

Total rainfall for gage # 1 is 5.1000 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. SUBCATCHMENT DATA #
# Physical Hydrology Data #
#####

```

Subcatchment Number	Name	Channel or inlet	Width (ft)	Area (ac)	Per- cent Imperv	Slope ft/ft	"n"	"n"	Deprs -sion Storage	Deprs -sion Storage	Prcnt Zero Deten
1	F070i05#1	F070i05	1.0000	9.0700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
2	F042M33#1	F042M33	1.0000	7.8700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
3	F042M32#1	F042M32	1.0000	1.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
4	F042M61#1	F042M61	1.0000	1.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
5	F042M39#1	F042M39	1.0000	11.030	0.00	1.000	0.020	0.020	0.000	0.000	0.00
6	F042M24#1	F042M24	1.0000	7.8400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
7	F042M19#1	F042M19	1.0000	10.120	0.00	1.000	0.020	0.020	0.000	0.000	0.00
8	F050E01#1	F050E01	1.0000	3.0600	0.00	1.000	0.020	0.020	0.000	0.000	0.00

9	F050M01#1	F050M01	1.0000	2.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F050M100#1	F050M100	1.0000	1.4700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F060M02#1	F060M02	1.0000	54.760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	F070M04#1	F070M04	1.0000	13.860	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F070M02#1	F070M02	1.0000	3.1600	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 Infil #1(#5) Infil #2(#6) Infil #3(#7) Infil #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. Infiltr. 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	Infil # 1	Infil # 2	Infil # 3	Infil # 4	Infil # 5	Infil # 6	Infil # 7	Infil # 8
1	F070i05#1	86.0000	0.8167	484.0000	0.2000				
2	F042M33#1	83.0000	0.2667	484.0000	0.2000				
3	F042M32#1	83.5000	0.2667	484.0000	0.2000				
4	F042M61#1	83.8000	0.3167	484.0000	0.2000				
5	F042M39#1	90.7000	0.2333	484.0000	0.2000				
6	F042M24#1	86.4000	0.9000	484.0000	0.2000				
7	F042M19#1	83.5000	0.7500	484.0000	0.2000				
8	F050E01#1	84.3000	0.2000	484.0000	0.2000				
9	F050M01#1	84.6000	0.3667	484.0000	0.2000				
10	F050M100#1	87.8000	0.2000	484.0000	0.2000				
11	F060M02#1	88.6000	0.8500	484.0000	0.2000				
12	F070M04#1	86.8000	0.5000	484.0000	0.2000				
13	F070M02#1	86.0000	0.3500	484.0000	0.2000				

```

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

```

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	F070i05#1	1	SCS Method	SCS curvilinear
2	F042M33#1	1	SCS Method	SCS curvilinear
3	F042M32#1	1	SCS Method	SCS curvilinear
4	F042M61#1	1	SCS Method	SCS curvilinear
5	F042M39#1	1	SCS Method	SCS curvilinear
6	F042M24#1	1	SCS Method	SCS curvilinear
7	F042M19#1	1	SCS Method	SCS curvilinear
8	F050E01#1	1	SCS Method	SCS curvilinear
9	F050M01#1	1	SCS Method	SCS curvilinear
10	F050M100#1	1	SCS Method	SCS curvilinear
11	F060M02#1	1	SCS Method	SCS curvilinear
12	F070M04#1	1	SCS Method	SCS curvilinear
13	F070M02#1	1	SCS Method	SCS curvilinear

Total Number of Subcatchments... 13

Total Tributary Area (acres).... 128.05
Impervious Area (acres)..... 0.00
Pervious Area (acres)..... 128.05
Total Width (feet)..... 13.00
Impervious Area (%)..... 0.00

SUBCATCHMENT DATA #
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 - cerv "n" #
7 - imp ds 8 - cerv 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
Ratio	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
F070i05 No Tributary Channel/Pipes
Tributary Subareas..... F070i05#1
F042M33 No Tributary Channel/Pipes
Tributary Subareas..... F042M33#1
F042M32 No Tributary Channel/Pipes
Tributary Subareas..... F042M32#1
F042M61 No Tributary Channel/Pipes
Tributary Subareas..... F042M61#1
F042M39 No Tributary Channel/Pipes
Tributary Subareas..... F042M39#1
F042M24 No Tributary Channel/Pipes
Tributary Subareas..... F042M24#1
F042M19 No Tributary Channel/Pipes
Tributary Subareas..... F042M19#1
F050E01 No Tributary Channel/Pipes
Tributary Subareas..... F050E01#1
F050M01 No Tributary Channel/Pipes
Tributary Subareas..... F050M01#1
F050M100 No Tributary Channel/Pipes
Tributary Subareas..... F050M100#1
F060M02 No Tributary Channel/Pipes
Tributary Subareas..... F060M02#1
F070M04 No Tributary Channel/Pipes
Tributary Subareas..... F070M04#1
F070M02 No Tributary Channel/Pipes
Tributary Subareas..... F070M02#1

* Hydrographs will be stored for the following 13 INLETS *

F070i05 F042M33 F042M32 F042M61 F042M39 F042M24
F042M19 F050E01 F050M01 F050M100 F060M02 F070M04
F070M02

* Quality Simulation not included in this run *

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

Location Station Number

1. 1

Entry made to the HYDRAULIC Layer of XP-SWMM #
Last Updated in June, 2011 by XP Software #
#####

Entry made to the Runoff Layer(Block) of SWMM #
Last Updated June, 2011 by XP Software

| 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 - Rainage 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 analysis for Subcatchments

A1
Village of Allouez

RUNOFF JOB CONTROL #
#####

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

0
1
0
0
0
0
0.000
0
0
0
0
10000

Limit number of groundwater convergence messages to

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

Print land use load percentages -LANDUPR (0=no, 1=yes)

Month, day, year of start of storm is: 12/ 8/2012
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..... 60.0 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 #.....
KTYPE - Rainfall input type.....
NHISTO - Total number of rainfall values.. 240
KINC - Rainfall values(pairs) per line.. 10
KPRINT - Print rainfall(0=Yes,1=No)..... 0
KTIME - Precipitation time units
0 --> Minutes 1 --> Hours..... 1
KPREP - Precipitation unit type
0 --> Intensity 1 --> Volume..... 1
KTHIS - Variable rainfall intervals
0 --> No, > 1 --> Yes..... 0
THISTO - Rainfall time interval..... 0.10
TZRAIN - Starting time(KTIME units)..... 0.00

Rainfall input summary from Runoff #
#####

Total rainfall for gage # 1 is 5.1000 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. SUBCATCHMENT DATA

Physical Hydrology Data

#####

Subcatchment Number	Name	Channel or Inlet	Width (ft)	Area (ac)	Per- cent Imperv	Slope ft/ft	"n" Imperv	"n" Perv	Storage Imprv	Storage Perv	Deten- tion
1	F070i05#1	F070i05	1.0000	9.0760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
2	F042M33#1	F042M33	1.0000	7.8700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
3	F042M32#1	F042M32	1.0000	1.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
4	F042M61#1	F042M61	1.0000	1.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
5	F042M39#1	F042M39	1.0000	11.030	0.00	1.000	0.020	0.020	0.000	0.000	0.00
6	F042M24#1	F042M24	1.0000	7.8400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
7	F042M19#1	F042M19	1.0000	10.120	0.00	1.000	0.020	0.020	0.000	0.000	0.00
8	F050E01#1	F050E01	1.0000	3.0600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
9	F050M01#1	F050M01	1.0000	2.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F050M100#1	F050M100	1.0000	1.4700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F060M02#1	F060M02	1.0000	54.760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	F070M04#1	F070M04	1.0000	13.860	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F070M02#1	F070M02	1.0000	3.1600	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 Infil #1(#5) Infil #2(#6) Infil #3(#7) Infil #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. Infiltr. Volume

Proportional -> Constant 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	Infil # 1	Infil # 2	Infil # 3	Infil # 4	Infil # 5	Infil # 6	Infil # 7	Infil # 8
1	F070i05#1	86.0000	0.8167	484.0000	0.2000				
2	F042M33#1	83.0000	0.2667	484.0000	0.2000				
3	F042M32#1	83.5000	0.2667	484.0000	0.2000				
4	F042M61#1	83.8000	0.3167	484.0000	0.2000				
5	F042M39#1	90.7000	0.2333	484.0000	0.2000				
6	F042M24#1	86.4000	0.9000	484.0000	0.2000				
7	F042M19#1	83.5000	0.7500	484.0000	0.2000				
8	F050E01#1	84.3000	0.2000	484.0000	0.2000				
9	F050M01#1	84.6000	0.3667	484.0000	0.2000				
10	F050M100#1	87.8000	0.2000	484.0000	0.2000				
11	F060M02#1	88.6000	0.8500	484.0000	0.2000				
12	F070M04#1	86.8000	0.5000	484.0000	0.2000				
13	F070M02#1	86.0000	0.3500	484.0000	0.2000				

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

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	F070105#1	1	SCS Method	SCS curvilinear
2	F042M33#1	1	SCS Method	SCS curvilinear
3	F042M32#1	1	SCS Method	SCS curvilinear
4	F042M61#1	1	SCS Method	SCS curvilinear
5	F042M39#1	1	SCS Method	SCS curvilinear
6	F042M24#1	1	SCS Method	SCS curvilinear
7	F042M19#1	1	SCS Method	SCS curvilinear
8	F050E01#1	1	SCS Method	SCS curvilinear
9	F050M01#1	1	SCS Method	SCS curvilinear
10	F050M100#1	1	SCS Method	SCS curvilinear
11	F060M02#1	1	SCS Method	SCS curvilinear
12	F070M04#1	1	SCS Method	SCS curvilinear
13	F070M02#1	1	SCS Method	SCS curvilinear

```
Total Number of Subcatchments... 13
Total Tributary Area (acres).... 128.05
Impervious Area (acres)..... 0.00
Pervious Area (acres)..... 128.05
Total Width (feet)..... 13.00
Impervious Area (%)..... 0.00
```

```
#####
# SUBCATCHMENT DATA #
# 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
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
F070105 No Tributary Channel/Pipes
Tributary Subareas..... F070105#1
F042M33 No Tributary Channel/Pipes
Tributary Subareas..... F042M33#1
F042M32 No Tributary Channel/Pipes
Tributary Subareas..... F042M32#1
F042M61 No Tributary Channel/Pipes
Tributary Subareas..... F042M61#1
F042M39 No Tributary Channel/Pipes
Tributary Subareas..... F042M39#1
F042M24 No Tributary Channel/Pipes
Tributary Subareas..... F042M24#1
F042M19 No Tributary Channel/Pipes
Tributary Subareas..... F042M19#1
F050E01 No Tributary Channel/Pipes
Tributary Subareas..... F050E01#1
F050M01 No Tributary Channel/Pipes
Tributary Subareas..... F050M01#1
F050M100 No Tributary Channel/Pipes
Tributary Subareas..... F050M100#1
F060M02 No Tributary Channel/Pipes
Tributary Subareas..... F060M02#1
F070M04 No Tributary Channel/Pipes
Tributary Subareas..... F070M04#1
F070M02 No Tributary Channel/Pipes
Tributary Subareas..... F070M02#1
```

```
*****
* Hydrographs will be stored for the following 13 INLETS *
*****
```

```
F070105 F042M33 F042M32 F042M61 F042M39 F042M24
F042M19 F050E01 F050M01 F050M100 F060M02 F070M04
F070M02
```

 * Quality Simulation not included in this run *

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

Location Station Number

 1. 1

Cloverleaf Ponds - Existing Conditions 2004 Land Use
 Village of Allouez

 | 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..... 2012 Month..... 12
 Day..... 8 Hour..... 0
 Minute..... 0 Second..... 0

Control information for simulation

 Integration cycles..... 7200
 Length of integration step is..... 30.00 seconds
 Simulation length..... 60.00 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..... 250.00 minutes
 Summary printout intervals of..... 500 cycles
 Summary printout time interval of..... 250.00 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.
 NUSW input hydrograph junctions..... 0
 or user defined hydrographs....

 | Table E1 - Conduit Data |

Inp Num	Conduit Name	Length (ft)	Conduit Class	Area (ft^2)	Manning Coef.	Max Width (ft)	Depth (ft)	Trapezoid Side Slopes	
1	LINE042	464.0000	Circular	1.2272	0.0140	1.2500	1.2500		
2	Link3	353.0000	Circular	3.1416	0.0140	2.0000	2.0000		
3	Link4	91.0000	Circular	3.1416	0.0140	2.0000	2.0000		
4	Link6	408.0000	Circular	3.9761	0.0140	2.2500	2.2500		
5	Link14	384.0000	Circular	4.9087	0.0140	2.5000	2.5000		
6	Link64	135.0000	Circular	3.1416	0.0140	2.0000	2.0000		
7	F043M33 OF	323.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
8	F042M61 OF	261.0000	Trapezoid	930.0000	0.0140	10.0000	3.0000	100.0000	100.0000
9	F042M39 OF	2333.0000	Trapezoid	48.2000	0.0450	4.0000	2.0000	20.0000	0.1000
10	F060M02 OF	33.0000	Trapezoid	240.0000	0.0500	20.0000	2.0000	50.0000	50.0000
11	F070M02 OF	50.0000	Trapezoid	420.0000	0.0140	10.0000	2.0000	100.0000	100.0000
12	F070i05 OF	50.0000	Trapezoid	420.0000	0.0140	10.0000	2.0000	100.0000	100.0000
13	F050M01 OF	161.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
14	Link85	502.0000	Circular	4.9087	0.0140	2.5000	2.5000		
15	Link88	530.0000	Circular	12.5664	0.0140	4.0000	4.0000		
16	Link90	209.0000	Circular	12.5664	0.0140	4.0000	4.0000		
17	Link92	1096.0000	Circular	4.9087	0.0140	2.5000	2.5000		
18	Link93	900.0000	Circular	9.6211	0.0140	3.5000	3.5000		
19	Link95	90.0000	H Ellipse	3.3000	0.0140	2.5000	1.5833		
20	348.1	299.0000	Circular	1.2272	0.0140	1.2500	1.2500		
21	m320F	50.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
22	352.1	1127.0000	Circular	1.7671	0.0140	1.5000	1.5000		
23	M24 OF	1127.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
24	354.1	209.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
25	355.1	139.0000	Circular	3.1416	0.0140	2.0000	2.0000		
26	m28 of	105.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
27	357.1	116.0000	Circular	4.9087	0.0140	2.5000	2.5000		
28	387.1	58.0000	Circular	1.7671	0.0140	1.5000	1.5000		
29	389.1	140.0000	Circular	0.7854	0.0140	1.0000	1.0000		
30	391.1	229.0000	Circular	0.7854	0.0140	1.0000	1.0000		
31	392.1	880.0000	Circular	2.4053	0.0140	1.7500	1.7500		
32	M21 OF	880.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
33	402.1	645.0000	Circular	3.1416	0.0140	2.0000	2.0000		
34	F070M04 OF	644.0000	Trapezoid	204.0000	0.0200	2.0000	2.0000	50.0000	50.0000
35	459.1	214.0000	H Ellipse	3.3000	0.0140	2.5000	1.5833		
Total length of all conduits				15235.0000 feet					

 | Table E2 - Conduit Factor Data |

Conduit Name	Number of Barrels	Entrance Loss Coef	Exit Loss Coef	Exp/Contc Coefficient	Time Weighting Parameter	Low Flow Roughness Factor	Depth at Which n Changes	Flow Routing
LINE042	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link3	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link4	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link6	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link14	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link64	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link85	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link88	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link90	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link92	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link93	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
Link95	2.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
387.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave
459.1	2.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard - Dynamic Wave

```

*=====
! If there are messages about (sqrt(q*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 Name	Courant Ratio	
LINE042	0.41	
Link3	0.68	
Link4	2.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link6	0.63	
Link14	0.70	
Link64	1.78	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F043M33 OF	0.53	
F042M61 OF	0.81	
F042M39 OF	0.08	
F060M02 OF	5.39	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F070M02 OF	3.45	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F070i05 OF	3.45	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F050M01 OF	1.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link85	0.54	
Link88	0.64	
Link90	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link92	0.25	
Link93	0.35	
Link95	2.38	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
348.1	0.64	
m320F	3.42	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
352.1	0.18	
M24 OF	0.15	
354.1	0.82	
355.1	1.73	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
m28 of	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
357.1	2.32	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
387.1	3.59	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
389.1	1.22	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
391.1	0.74	
392.1	0.26	
M21 OF	0.19	
402.1	0.37	
F070M04 OF	0.27	
459.1	1.00	====> Warning ! (sqrt(wave celerity)*time step/conduit length)

```

*=====
! Conduit Volume
*=====

```

Full pipe or full open conduit volume.....
Input full depth volume..... 1.1595E+06 cubic feet

====> Warning !! The upstream and downstream junctions for the following conduits have been reversed to correspond to the positive flow and decreasing slope convention. A negative flow in the output thus means the flow was from your original upstream junction to your original downstream junction. Any initial flow has been multiplied by -1.

1. Conduit #...m320F has been changed.
2. Conduit #...m28 of has been changed.

```

*=====
! Table E3a - Junction Data
*=====

```

Inp Num	Junction Name	Ground Elevation	Crown Elevation	Invert Elevation	Qinst cfs	Initial Depth-ft	Interface Flow (%)
1	F070M02	612.9400	605.1000	592.3000	0.0000	0.0000	100.0000
2	PF070M01	612.0800	589.5200	587.0200	0.0000	0.0000	100.0000
3	PF070E00	610.0000	604.0000	582.0000	0.0000	0.0000	100.0000
4	F060E01	620.0000	599.5000	598.0000	0.0000	0.0000	100.0000

5	F050M01	613.1800	605.1800	597.8300	0.0000	0.0000	100.0000
6	F050E01	610.0000	596.6400	594.1400	0.0000	0.0000	100.0000
7	F050E00	610.0000	602.0000	590.3600	0.0000	0.0000	100.0000
8	F042M18	616.9300	609.2000	600.3800	0.0000	0.0000	100.0000
9	F042M13	613.8100	605.8100	594.6100	0.0000	0.0000	100.0000
10	F042M19	617.3300	609.3300	601.9300	0.0000	0.0000	100.0000
11	F042M24	660.3200	653.3200	644.2000	0.0000	0.0000	100.0000
12	F042M28	659.9500	652.2500	644.7300	0.0000	0.0000	100.0000
13	F042M39	659.6500	652.5000	645.4000	0.0000	0.0000	100.0000
14	F042M61	659.3500	654.0000	645.5200	0.0000	0.0000	100.0000
15	F042M32	660.8800	653.2500	646.9100	0.0000	0.0000	100.0000
16	F042M33	660.8500	653.5000	647.7500	0.0000	0.0000	100.0000
17	F060M02	611.5600	603.1000	593.0400	0.0000	0.0000	100.0000
18	F060i07	615.0000	598.0000	597.0000	0.0000	0.0000	100.0000
19	F060i11	612.7300	602.0000	598.0000	0.0000	0.0000	100.0000
20	F060E00	603.0000	602.0000	584.3200	0.0000	0.0000	100.0000
21	F042M21	626.6000	618.6000	611.9900	0.0000	0.0000	100.0000
22	F070M04	620.5900	612.5900	604.0000	0.0000	0.0000	100.0000
23	F070i05	609.5300	605.1000	595.5000	0.0000	0.0000	100.0000
24	E040i34	660.0000	648.5400	640.0000	0.0000	0.0000	100.0000
25	PBMP F070	606.0000	596.0000	592.0000	0.0000	0.0000	100.0000
26	Node60	608.0000	594.0000	591.5000	0.0000	0.0000	100.0000
27	F050M100	610.3000	597.5833	596.0000	0.0000	0.0000	100.0000
28	Node62	613.1600	599.2900	595.7900	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	F070M02	0.0000	0.0000	No P	Normal		0	0.0000
2	PF070M01	0.0000	0.0000	No P	Normal		0	0.0000
3	PF070E00	0.0000	0.0000	No P	Normal		0	0.0000
4	F060E01	0.0000	0.0000	No P	Normal		0	0.0000
5	F050M01	0.0000	0.0000	No P	Normal		0	0.0000
6	F050E01	0.0000	0.0000	No P	Normal		0	0.0000
7	F050E00	0.0000	0.0000	No P	Normal		0	0.0000
8	F042M18	0.0000	0.0000	No P	Normal		0	0.0000
9	F042M13	0.0000	0.0000	No P	Normal		0	0.0000
10	F042M19	0.0000	0.0000	No P	Normal		0	0.0000
11	F042M24	0.0000	0.0000	No P	Normal		0	0.0000
12	F042M28	0.0000	0.0000	No P	Normal		0	0.0000
13	F042M39	0.0000	0.0000	No P	Normal		0	0.0000
14	F042M61	0.0000	0.0000	No P	Normal		0	0.0000
15	F042M32	0.0000	0.0000	No P	Normal		0	0.0000

16	F042M33	0.0000	0.0000	No P	Normal	0	0.0000
17	F060M02	0.0000	0.0000	No P	Normal	0	0.0000
18	F060i07	0.0000	0.0000	No P	Normal	0	0.0000
19	F060i11	0.0000	0.0000	No P	Normal	0	0.0000
20	F060E00	0.0000	0.0000	No P	Normal	0	0.0000
21	F042M21	0.0000	0.0000	No P	Normal	0	0.0000
22	F070M04	0.0000	0.0000	No P	Normal	0	0.0000
23	F070i05	0.0000	0.0000	No P	Normal	0	0.0000
24	E040i34	0.0000	0.0000	No P	Normal	0	0.0000
25	PBMP F070	0.0000	0.0000	No P	Normal	0	0.0000
26	Node60	0.0000	0.0000	No P	Normal	0	0.0000
27	F050M100	0.0000	0.0000	No P	Normal	0	0.0000
28	Node62	0.0000	0.0000	No P	Normal	0	0.0000

 | Table E4 - Conduit Connectivity |

Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation	
1	LINE042	F042M32	F042M61	646.9100	645.5200	No Design
2	Link3	F042M61	F042M28	645.5200	644.7300	No Design
3	Link4	F042M28	F042M24	644.7300	644.2000	No Design
4	Link6	F042M19	F042M18	601.9300	600.3800	No Design
5	Link14	PF070M01	PF070E00	587.0200	582.0000	No Design
6	Link64	F070i05	F070M02	595.5000	594.4300	No Design
7	F043M33 OF	F042M33	E040i34	651.5000	646.5400	No Design
8	F042M61 OF	F042M61	F042M24	651.0000	650.3200	No Design
9	F042M39 OF	F042M39	F060i11	650.5000	600.0000	No Design
10	F060M02 OF	F060M02	F060E00	601.1000	600.0000	No Design
11	F070M02 OF	F070M02	PF070E00	603.1000	602.0000	No Design
12	F070i05 OF	F070i05	PF070E00	603.1000	602.0000	No Design
13	F050M01 OF	F050M01	F050E00	603.1800	600.0000	No Design
14	Link85	F042M18	F050M01	600.3800	597.8300	No Design
15	Link88	F060M02	F070M02	593.0400	592.3000	No Design
16	Link90	F070M02	PBMP F070	592.3000	592.0000	No Design
17	Link92	Node60	PF070M01	591.5000	587.0200	No Design
18	Link93	Node62	F060M02	595.7900	593.0400	No Design
19	Link95	F050M100	Node62	596.0000	595.7900	No Design
20	348.1	F042M33	F042M32	647.7500	646.9100	No Design
21	m320F	F042M32	F042M33	651.2500	650.8500	No Design
22	352.1	F042M24	F042M21	644.2000	611.9900	No Design
23	M24 OF	F042M24	F042M21	650.3200	616.6000	No Design
24	354.1	F042M18	F042M13	607.2000	603.8100	No Design
25	355.1	F042M39	F042M28	645.4000	644.7300	No Design
26	m28 of	F042M28	F042M39	650.2500	649.6500	No Design

27	357.1	F050E01	F050E00	594.1400	590.3600 No Design
28	387.1	F060E01	F060M02	598.0000	595.3600 No Design
29	389.1	F060i07	F060M02	597.0000	595.9600 No Design
30	391.1	F060i11	F060M02	598.0000	595.3600 No Design
31	392.1	F042M21	F042M19	611.9900	601.9300 No Design
32	M21 OF	F042M21	F042M19	616.6000	607.3300 No Design
33	402.1	F070M04	F070M02	604.0000	597.7100 No Design
34	F070M04 OF	F070M04	F070M02	610.5900	602.9400 No Design
35	459.1	F050M01	F050M100	597.8300	596.0000 No Design

====> Warning !!! Node: F060E01 Area decreases between stages 0.000 and 0.000
 =====> Warning !!! Node: F060E01 Area = 0.0 at stage 0.000 Area reset to 0.000

=====

STORAGE JUNCTION NUMBER OR NAME	JUNCTION TYPE	MAXIMUM OR CONSTANT SURFACE AREA (FT2)	PEAK OR CONSTANT VOLUME (CUBIC FEET)	CROWN ELEVATION (FT)	DEPTH STARTS FROM
F060E01	Stage/Area	3637.2600	70637.2872	620.0000	Node Invert
F050E01	Stage/Area	26571.6000	282568.7076	610.0000	Node Invert
F060i07	Stage/Area	39204.0000	498713.9380	615.0000	Node Invert
F060i11	Stage/Area	28270.4400	244127.1496	612.7300	Node Invert
PBMP F070	Stage/Area	149410.8000	1.597587E+06	606.0000	Node Invert

=====

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
3	600.0000	2.0000	1045.4400	744.8451	0.0240	0.0171
4	602.0000	4.0000	3637.2600	5166.6072	0.0835	0.1186
5	620.0000	22.0000	3637.2600	70637.2872	0.0835	1.6216

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	594.1400	0.0000	4.3560	0.0000	0.0001	0.0000
2	596.0000	1.8600	3920.4000	2514.3452	0.0900	0.0577
3	598.0000	3.8600	7405.2000	13656.6834	0.1700	0.3135
4	600.0000	5.8600	11761.2000	32655.7058	0.2700	0.7497
5	602.0000	7.8600	26571.6000	69995.9076	0.6100	1.6069
6	610.0000	15.8600	26571.6000	282568.7076	0.6100	6.4869

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	597.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	598.0000	1.0000	958.3200	342.4252	0.0220	0.0079

=====

3	600.0000	3.0000	4268.8800	5175.5839	0.0980	0.1188
4	602.0000	5.0000	11107.8000	20017.2642	0.2550	0.4595
5	604.0000	7.0000	39204.0000	67469.9380	0.9000	1.5489
6	615.0000	18.0000	39204.0000	498713.9380	0.9000	11.4489

| Variable storage data for node | F060111

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	600.0000	2.0000	108.9000	90.0231	0.0025	0.0021
3	602.0000	4.0000	3267.0000	2738.2432	0.0750	0.0629
4	604.0000	6.0000	10846.4400	16115.5743	0.2490	0.3700
5	606.0000	8.0000	28270.4400	53867.0884	0.6490	1.2366
6	612.7300	14.7300	28270.4400	244127.1496	0.6490	5.6044

| Variable storage data for node | PBMP F070

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	592.0000	0.0000	69260.4000	0.0000	1.5900	0.0000
2	593.0000	1.0000	75794.4000	72502.1355	1.7400	1.6644
3	594.0000	2.0000	81892.8000	151325.2858	1.8800	3.4740
4	595.0000	3.0000	87991.2000	236248.1876	2.0200	5.4235
5	596.0000	4.0000	94525.2000	327485.9761	2.1700	7.5180
6	597.0000	5.0000	101059.2000	425259.0028	2.3200	9.7626
7	598.0000	6.0000	107593.2000	529567.1044	2.4700	12.1572
8	599.0000	7.0000	114562.8000	640625.7682	2.6300	14.7067
9	600.0000	8.0000	121096.8000	758439.2901	2.7800	17.4114
10	602.0000	10.0000	135036.0000	1.014443E+06	3.1000	23.2884
11	604.0000	12.0000	149410.8000	1.298766E+06	3.4300	29.8156
12	606.0000	14.0000	149410.8000	1.597587E+06	3.4300	36.6756

| Orifice Data |

Conduit Name	From Junction	To Junction	Type	Area (ft2)	Depth (ft)	Discharge Coefficient	Height Above Junction (ft)
OR 1	PBMP F070	Node60	Circ Side	0.20	0.00	0.600	0.000
OR 2	PBMP F070	Node60	Circ Side	0.79	0.00	0.600	2.000
OR 3	PBMP F070	Node60	Circ Side	0.79	0.00	0.600	2.000

====> EQUIVALENT PIPE INFORMATION FOR ORIFICE
CONDUIT NAME.....
Upstream node.....
Downstream node.....
PIPE DIAMETER.....
PIPE LENGTH.....
MANNINGS ROUGHNESS.....
INVERT ELEVATION AT UPSTREAM END.....
INVERT ELEVATION AT DOWNSTREAM END...

1
OR 1
PBMP F070
Node60
0.50
1000.00
0.0024
592.0000
591.9900
2
OR 2
PBMP F070
Node60
1.00

PIPE LENGTH..... 1000.00
 MANNINGS ROUGHNESS..... 0.0039
 INVERT ELEVATION AT UPSTREAM END..... 594.0000
 INVERT ELEVATION AT DOWNSTREAM END... 593.9900

====> EQUIVALENT PIPE INFORMATION FOR ORIFICE 3
 CONDUIT NAME..... OR 3
 Upstream node..... PBMP F070
 Downstream node..... Node60
 PIPE DIAMETER..... 1.00
 PIPE LENGTH..... 1000.00
 MANNINGS ROUGHNESS..... 0.0039
 INVERT ELEVATION AT UPSTREAM END..... 594.0000
 INVERT ELEVATION AT DOWNSTREAM END... 593.9900

Note: For a Bottom-outlet orifice the invert elevation of the downstream node will be adjusted to accomodate the equivalent conduit. Conduit grades are not affected.

 | Weir Data |

Weir	Weir Name	From Junction	To Junction	Type	Crest Height(ft)	Weir Top(ft)	Weir Length(ft)	Discharge Coefficient
1.5000	e01 OF	F050E01	F050E00	1	6.58	7.86	25.00	3.3000
1.5000	060E01 OF	F060E01	F060M02	1	3.50	4.00	30.00	3.3000
1.5000	i07 of	F060i07	F060M02	1	5.20	7.00	50.00	3.3000
1.5000	i11 OF	F060i11	F060M02	1	6.75	8.00	40.00	3.3000
1.5000	OF F042M19	F042M19	F050E01	1	6.07	8.07	30.00	3.3000
1.5000	WR 1	PBMP F070	Node60	1	4.00	12.00	10.00	3.0000
1.5000	WR 2	PBMP F070	Node60	1	6.00	12.00	4.00	3.0000

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

Outfall at Junction...PF070E00 has boundary condition number... 1
 Outfall at Junction...F050E00 has boundary condition number... 2
 Outfall at Junction...F042M13 has boundary condition number... 3
 Outfall at Junction...F060E00 has boundary condition number... 4
 Outfall at Junction...E040i34 has boundary condition number... 5

====> Warning !! Outfall Junction PF070E00 has two or more connecting conduits.
 ====> Warning !! Outfall Junction F050E00 has two or more connecting conduits.

 | Weir Outfall Data |
 | Boundary Condition on data group J1 |

Weir Outfall at Junction... F050E00 has boundary condition number... 2

 | INTERNAL CONNECTIVITY INFORMATION |

CONDUIT	JUNCTION	JUNCTION
OR 1	PBMP F070	Node60
OR 2	PBMP F070	Node60
OR 3	PBMP F070	Node60
e01 OF	F050E01	F050E00
060E01 OF	F060E01	F060M02
i07 of	F060i07	F060M02
i11 OF	F060i11	F060M02
OF F042M19	F042M19	F050E01
WR 1	PBMP F070	Node60
WR 2	PBMP F070	Node60
FREE # 1	PF070E00	BOUNDARY
FREE # 2	F050E00	BOUNDARY

FREE # 3 F042M13 BOUNDARY
FREE # 4 F060E00 BOUNDARY
FREE # 5 E040I34 BOUNDARY

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

BC NUMBER.. 1 has no control water surface.
BC NUMBER.. 2 has no control water surface.
BC NUMBER.. 3 has no control water surface.
BC NUMBER.. 4 has no control water surface.
BC NUMBER.. 5 has no control water surface.

Header information from interface file: #
#####

Title from first computational layer:

A1
Village of Allouez

Title from immediately preceding computational layer

A1
Village of Allouez

Name of preceding layer:..... Runoff Layer

Initial Julian date (IDATEZ)..... 2012343

Initial time of day in seconds (TZERO)..... 0.0

No. Transferred input locations..... 13

No. Transferred pollutants..... 0

Size of total catchment area (acres)..... 128.05

Element numbers of interface inlet locations: #
#####

F070I05 F042M33 F042M32 F042M61 F042M39 F042M24 F042M19

F050E01 F050M01 F050M100 F060M02 F070M04 F070M02

Conversion factor to cfs for flow units on interface file. Multiply by: 1.00000

Important Information

Interface file start: 2012/12/08 00:00:00

Simulation start: 2012/12/08 00:00:00

Same date/time found in interface file and model

| XP Note Field Summary |

| Conduit Convergence Criteria |

Conduit Name	Full Flow	Conduit Slope
LINE042	3.2831	0.0030
Link3	9.9376	0.0022
Link4	16.0314	0.0058
Link6	17.7254	0.0038
Link14	43.5479	0.0131
Link64	18.7016	0.0079
F043M33 OF	2700.5718	0.0154
F042M61 OF	6674.1470	0.0026
F042M39 OF	241.3741	0.0216
F060M02 OF	1379.8731	0.0333
F070M02 OF	6719.1485	0.0220

F070i05 OF	6719.1485	0.0220
F050M01 OF	3062.7869	0.0198
Link85	27.1456	0.0051
Link88	49.8401	0.0014
Link90	50.5345	0.0014
Link92	24.3509	0.0041
Link93	51.6417	0.0031
Link95	10.5162	0.0023
348.1	3.1793	0.0028
m320F	1949.2213	0.0080
352.1	16.4899	0.0286
M24 OF	3769.6235	0.0299
354.1	2775.5104	0.0162
355.1	14.5842	0.0048
m28 of	1647.3927	0.0057
357.1	68.7539	0.0326
387.1	20.8100	0.0455
389.1	2.8514	0.0074
391.1	3.5522	0.0115
392.1	15.7314	0.0114
M21 OF	2236.7358	0.0105
402.1	20.7443	0.0098
F070M04 OF	1662.6544	0.0119
459.1	20.1320	0.0086
OR 1	0.6670	0.0000
OR 2	3.7793	0.0000
OR 3	3.7793	0.0000

 | Initial Model Condition |
 | Initial Time = 0.01 hours |

Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.			
F070M02/	0.00 /	592.30		PF070M01/	0.00 /	587.02	PF070E00/ 0.00 / 582.00
F060E01/	0.00 /	598.00		F050M01/	0.00 /	597.83	F050E01/ 0.00 / 594.14
F050E00/	0.00 /	590.36		F042M18/	0.00 /	600.38	F042M13/ 0.00 / 594.61
F042M19/	0.00 /	601.93		F042M24/	0.00 /	644.20	F042M28/ 0.00 / 644.73
F042M39/	0.00 /	645.40		F042M61/	0.00 /	645.52	F042M32/ 0.00 / 646.91
F042M33/	0.00 /	647.75		F060M02/	0.00 /	593.04	F060i07/ 0.00 / 597.00
F060i11/	0.00 /	598.00		F060E00/	0.00 /	584.32	F042M21/ 0.00 / 611.99
F070M04/	0.00 /	604.00		F070i05/	0.00 /	595.50	E040i34/ 0.00 / 640.00
PBMP F070/	0.00 /	592.00		Node60/	0.00 /	591.50	F050M100/ 0.00 / 596.00
Node62/	0.00 /	595.79					

Conduit/	FLOW	====>	"*" Conduit uses the normal flow option.
LINE042/	0.00		Link3/ 0.00
Link6/	0.00		Link14/ 0.00
F043M33 OF/	0.00		F042M61 OF/ 0.00
F060M02 OF/	0.00		F070M02 OF/ 0.00
F050M01 OF/	0.00		Link85/ 0.00
Link90/	0.00		Link92/ 0.00
Link95/	0.00		348.1/ 0.00
352.1/	0.00		M24 OF/ 0.00
355.1/	0.00		m28 of/ 0.00
387.1/	0.00		389.1/ 0.00
392.1/	0.00		M21 OF/ 0.00
F070M04 OF/	0.00		459.1/ 0.00
OR 2/	0.00		OR 3/ 0.00

Link4/	0.00
Link64/	0.00
F042M39 OF/	0.00
F070i05 OF/	0.00
Link88/	0.00
Link93/	0.00
m320F/	0.00
354.1/	0.00
357.1/	0.00
391.1/	0.00
402.1/	0.00
OR 1/	0.00
e01 OF/	0.00

060E01 OF/	0.00	107 of/	0.00	111 OF/	0.00
OF F042M19/	0.00	WR 1/	0.00	WR 2/	0.00
FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/	0.00
FREE # 4/	0.00	FREE # 5/	0.00		

Conduit/	Velocity	Link3/	0.00	Link4/	0.00
LINE042/	0.00	Link14/	0.00	Link64/	0.00
Link6/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F043M33 OF/	0.00	F070M02 OF/	0.00	F070105 OF/	0.00
F060M02 OF/	0.00	Link85/	0.00	Link88/	0.00
F050M01 OF/	0.00	Link92/	0.00	Link93/	0.00
Link90/	0.00	348.1/	0.00	m320F/	0.00
Link95/	0.00	M24 OF/	0.00	354.1/	0.00
352.1/	0.00	m28 of/	0.00	357.1/	0.00
355.1/	0.00	389.1/	0.00	391.1/	0.00
387.1/	0.00	M21 OF/	0.00	402.1/	0.00
392.1/	0.00	459.1/	0.00	OR 1/	0.00
F070M04 OF/	0.00	OR 3/	0.00		
OR 2/	0.00				

Conduit/	Cross Sectional Area	Link3/	0.00	Link4/	0.00
LINE042/	0.00	Link14/	0.00	Link64/	0.00
Link6/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F043M33 OF/	0.00	F070M02 OF/	0.00	F070105 OF/	0.00
F060M02 OF/	0.00	Link85/	0.00	Link88/	0.00
F050M01 OF/	0.00	Link92/	0.00	Link93/	0.00
Link90/	0.00	348.1/	0.00	m320F/	0.00
Link95/	0.00	M24 OF/	0.00	354.1/	0.00
352.1/	0.00	m28 of/	0.00	357.1/	0.00
355.1/	0.00	389.1/	0.00	391.1/	0.00
387.1/	0.00	M21 OF/	0.00	402.1/	0.00
392.1/	0.00	459.1/	0.00	OR 1/	0.00
F070M04 OF/	0.00	OR 3/	0.00		
OR 2/	0.00				

Conduit/	Hydraulic Radius	Link3/	0.00	Link4/	0.00
LINE042/	0.00	Link14/	0.00	Link64/	0.00
Link6/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F043M33 OF/	0.00	F070M02 OF/	0.00	F070105 OF/	0.00
F060M02 OF/	0.00	Link85/	0.00	Link88/	0.00
F050M01 OF/	0.00	Link92/	0.00	Link93/	0.00
Link90/	0.00	348.1/	0.00	m320F/	0.00
Link95/	0.00	M24 OF/	0.00	354.1/	0.00
352.1/	0.00	m28 of/	0.00	357.1/	0.00
355.1/	0.00	389.1/	0.00	391.1/	0.00
387.1/	0.00	M21 OF/	0.00	402.1/	0.00
392.1/	0.00	459.1/	0.00	OR 1/	0.00
F070M04 OF/	0.00	OR 3/	0.00		
OR 2/	0.00				

Conduit/	Upstream/	Downstream Elevation	Link3/	644.73/	644.73	Link4/	644.20/	644.20
LINE042/	645.52/	645.52	Link14/	582.00/	582.00	Link64/	592.30/	592.30
Link6/	600.38/	600.38	F042M61 OF/	644.20/	644.20	F042M39 OF/	598.00/	598.00
F043M33 OF/	640.00/	640.00	F070M02 OF/	582.00/	582.00	F070105 OF/	582.00/	582.00
F060M02 OF/	584.32/	584.32	Link85/	597.83/	597.83	Link88/	592.30/	592.30
F050M01 OF/	590.36/	590.36	Link92/	587.02/	587.02	Link93/	593.04/	593.04
Link90/	592.00/	592.00	348.1/	646.91/	646.91	m320F/	647.75/	647.75
Link95/	595.79/	595.79	M24 OF/	611.99/	611.99	354.1/	594.61/	594.61
352.1/	611.99/	611.99	m28 of/	645.40/	645.40	357.1/	590.36/	590.36
355.1/	644.73/	644.73	389.1/	593.04/	593.04	391.1/	593.04/	593.04
387.1/	593.04/	593.04	M21 OF/	601.93/	601.93	402.1/	592.30/	592.30
392.1/	601.93/	601.93	459.1/	596.00/	596.00	OR 1/	591.50/	591.50
F070M04 OF/	592.30/	592.30	OR 3/	591.50/	591.50			
OR 2/	591.50/	591.50						

Cycle 500 Time 4 Hrs - 10.00 Min

Junction /	Depth /	Elevation	PF070M01/	0.00 /	587.02	PF070E00/	0.00 /	582.00
F070M02/	0.00 /	592.30	F050M01/	0.00 /	597.83	F050E01/	0.00 /	594.14
F060E01/	0.00 /	598.00	F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61
F050E00/	0.00 /	590.36	F042M24/	0.02 /	644.22	F042M28/	0.06 /	644.79
F042M19/	0.00 /	601.93	F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91
F042M39/	0.06 /	645.46	F060M02/	0.00 /	593.04	F060I07/	0.00 /	597.00
F042M33/	0.00 /	647.75	F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99
F060I11/	0.00 /	598.00	F070105/	0.00 /	595.50	E040I34/	0.00 /	640.00
F070M04/	0.00 /	604.00	Node60/	0.00 /	591.50	F050M100/	0.00 /	596.00
PBMP F070/	0.00 /	592.00						
Node62/	0.00 /	595.79						

Conduit/	FLOW	Link3/	0.00	Link4/	0.02
LINE042/	0.00	Link64/	0.00	F043M33 OF/	0.00
Link14/	0.00	F060M02 OF/	0.00	F070M02 OF/	0.00
F042M39 OF/	0.00	Link85/	0.00	Link88/	0.00
F050M01 OF/	0.00			Link90/	

0.00	Link92/	0.00	Link93/	0.00	Link95/	0.00	348.1/
0.00	m320F/	0.00	352.1/	0.01	M24 OF/	0.00	354.1/
0.00	355.1/	0.02*	m28 of/	0.00	357.1/	0.00	387.1/
0.00	389.1/	0.00	391.1/	0.00	392.1/	0.00	M21 OF/
0.00	402.1/	0.00	F070M04 OF/	0.00	459.1/	0.00	OR 1/
0.00	OR 2/	0.00	OR 3/	0.00	e01 OF/	0.00	060E01 OF/
0.00	i07 of/	0.00	i11 OF/	0.00	OF F042M19/	0.00	WR 1/
0.00	WR 2/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	0.00	FREE # 5/	0.00			

Cycle 1000 Time 8 Hrs - 20.00 Min

Junction /	Depth /	Elevation	==> "*" Junction is Surcharged.				
F070M02/	0.75 /	593.05	PF070M01/	0.08 /	587.10	PF070E00/	0.05 / 582.05
F060E01/	0.00 /	598.00	F050M01/	0.20 /	598.03	F050E01/	0.06 / 594.20
F050E00/	0.03 /	590.39	F042M18/	0.39 /	600.77	F042M13/	0.00 / 594.61
F042M19/	0.38 /	602.31	F042M24/	0.24 /	644.44	F042M28/	0.34 / 645.07
F042M39/	0.28 /	645.68	F042M61/	0.19 /	645.71	F042M32/	0.19 / 647.10
F042M33/	0.17 /	647.92	F060M02/	0.67 /	593.71	F060i07/	0.00 / 597.00
F060i11/	0.00 /	598.00	F060E00/	0.00 /	584.32	F042M21/	0.29 / 612.28
F070M04/	0.19 /	604.19	F070i05/	0.15 /	595.65	E040i34/	0.00 / 640.00
PBMP F070/	0.24 /	592.24	Node60/	0.11 /	591.61	F050M100/	0.30 / 596.30
Node62/	0.35 /	596.14					

Conduit/	FLOW	==> "*" Conduit uses the normal flow option.				
LINE042/	0.16	Link3/	0.19*	Link4/	0.78	Link6/
1.05	Link14/	0.07	Link64/	0.20	F043M33 OF/	0.00
0.00	F042M39 OF/	0.00	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00	F050M01 OF/	0.00	Link85/	1.03	Link88/	2.85
3.48	Link92/	0.08	Link93/	1.10*	Link95/	1.13
0.13*	m320F/	0.00	352.1/	0.94*	M24 OF/	0.00
0.00	355.1/	0.60*	m28 of/	0.00	357.1/	0.07
0.00	389.1/	0.00	391.1/	0.00	392.1/	0.93*
0.00	402.1/	0.39	F070M04 OF/	0.00	459.1/	1.08*
0.09	OR 2/	0.00	OR 3/	0.00	e01 OF/	0.00
0.00	i07 of/	0.00	i11 OF/	0.00	OF F042M19/	0.00
0.00	WR 2/	0.00	FREE # 1/	0.07	FREE # 2/	0.07
0.00	FREE # 4/	0.00	FREE # 5/	0.00		

Cycle 1500 Time 12 Hrs - 30.00 Min

Junction /	Depth /	Elevation	==> "*" Junction is Surcharged.				
F070M02/	7.58 /	599.88	PF070M01/	1.41 /	588.43	PF070E00/	1.27 / 583.27
F060E01/	3.70 /	601.70	F050M01/	5.51 /	603.34	F050E01/	1.17 / 595.31
F050E00/	1.17 /	591.53	F042M18/	5.05 /	605.43	F042M13/	0.00 / 594.61
F042M19/	6.50 /	608.43	F042M24/	6.33 /	650.53	F042M28/	6.25 / 650.98
F042M39/	5.58 /	650.98	F042M61/	5.56 /	651.08	F042M32/	4.78 / 651.69
F042M33/	3.94 /	651.69	F060M02/	8.66 /	601.70	F060i07/	3.22 / 600.22
F060i11/	5.82 /	603.82	F060E00/	0.52 /	584.84	F042M21/	4.90 / 616.89
F070M04/	6.79 /	610.79	F070i05/	6.15 /	601.65	E040i34/	0.18 / 640.18
PBMP F070/	4.69 /	596.69	Node60/	2.45*/	593.95	F050M100/	6.68*/ 602.68
Node62/	6.49*/	602.28					

Conduit/	FLOW	==> "*" Conduit uses the normal flow option.				
LINE042/	2.13	Link3/	3.12	Link4/	11.32	Link6/
22.76	Link14/	22.50	Link64/	19.78	F043M33 OF/	6.14
1.12*	F042M39 OF/	9.34*	F060M02 OF/	77.46	F070M02 OF/	0.00
0.00	F050M01 OF/	4.40	Link85/	22.76	Link88/	68.05
123.43	Link92/	23.17	Link93/	22.30	Link95/	22.30
0.04	m320F/	-0.62	352.1/	17.17	M24 OF/	11.45*
0.00						354.1/

-0.16	355.1/	0.22	m28 of/	-7.02	357.1/	30.50	387.1/
	389.1/	-3.49	391.1/	3.29	392.1/	14.60	M21 OF/
14.54*	402.1/	27.80	F070M04 OF/	4.14	459.1/	21.35	OR 1/
1.66	OR 2/	5.05	OR 3/	5.05	e01 OF/	0.00	060E01 OF/
0.06	107 of/	0.00	111 OF/	0.00	OF F042M19/	28.31	WR 1/
17.01	WR 2/	0.00	FREE # 1/	22.50	FREE # 2/	34.90	FREE # 3/
0.00	FREE # 4/	77.46	FREE # 5/	5.14			

Cycle 2000 Time 16 Hrs - 40.00 Min

Junction / Depth / Elevation		====> "*" Junction is Surcharged.	
F070M02/	5.75 / 598.05	PF070M01/	1.84 / 588.86
F060E01/	0.10 / 598.10	F050M01/	0.43 / 598.26
F050E00/	0.11 / 590.47	F042M18/	0.77 / 601.15
F042M19/	0.78 / 602.71	F042M24/	0.45 / 644.65
F042M39/	0.38 / 645.78	F042M61/	0.46 / 645.98
F042M33/	0.42 / 648.17	F060M02/	5.06 / 598.10
F060i11/	0.11 / 598.11	F060E00/	0.00 / 584.32
F070M04/	0.36 / 604.36	F070i05/	2.56 / 598.06
PBMP F070/	6.01 / 598.01	Node60/	6.42* / 597.92
Node62/	2.35 / 598.14		

Conduit/		FLOW	====> "*" Conduit uses the normal flow option.			
LINE042/	0.94	Link3/	1.11	Link4/	2.28	Link6/
4.26	Link14/	33.03	Link64/	1.01	F043M33 OF/	0.00
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00	F050M01 OF/	0.00	Link85/	4.27	Link88/	11.49
14.29	Link92/	33.01	Link93/	4.93	Link95/	4.74
0.77*	m320F/	0.00	352.1/	3.17*	M24 OF/	0.00*
0.00	355.1/	1.16*	m28 of/	0.00	357.1/	0.30
0.02	389.1/	0.21	391.1/	0.01	392.1/	3.18*
0.00	402.1/	1.45	F070M04 OF/	0.00	459.1/	4.54
0.30	OR 2/	1.14	OR 3/	1.14	e01 OF/	0.00
0.00	107 of/	0.00	111 OF/	0.00	OF F042M19/	0.00
29.98	WR 2/	0.01	FREE # 1/	33.03	FREE # 2/	0.30
0.00	FREE # 4/	0.00	FREE # 5/	0.00		

Cycle 2500 Time 20 Hrs - 50.00 Min

Junction / Depth / Elevation		====> "*" Junction is Surcharged.	
F070M02/	3.81 / 596.11	PF070M01/	0.93 / 587.95
F060E01/	0.00 / 598.00	F050M01/	0.29 / 598.12
F050E00/	0.08 / 590.44	F042M18/	0.57 / 600.95
F042M19/	0.56 / 602.49	F042M24/	0.33 / 644.53
F042M39/	0.29 / 645.69	F042M61/	0.34 / 645.86
F042M33/	0.31 / 648.06	F060M02/	3.09 / 596.13
F060i11/	0.00 / 598.00	F060E00/	0.00 / 584.32
F070M04/	0.27 / 604.27	F070i05/	0.61 / 596.11
PBMP F070/	4.10 / 596.10	Node60/	1.34 / 592.84
Node62/	0.61 / 596.40		

Conduit/		FLOW	====> "*" Conduit uses the normal flow option.			
LINE042/	0.53	Link3/	0.62	Link4/	1.28	Link6/
2.33	Link14/	11.37	Link64/	0.54	F043M33 OF/	0.00
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00	F050M01 OF/	0.00	Link85/	2.33	Link88/	6.03
7.60	Link92/	11.35	Link93/	2.60	Link95/	2.56
0.44*	m320F/	0.00	352.1/	1.75*	M24 OF/	0.00*
0.00	355.1/	0.66*	m28 of/	0.00	357.1/	0.17
0.00*	389.1/	0.00*	391.1/	0.00*	392.1/	1.75*
0.00	402.1/	0.80	F070M04 OF/	0.00	459.1/	2.47*
						OR 1/

1.76							
0.00	OR 2/	4.27	OR 3/	4.27	e01 OF/	0.00	060E01 OF/
0.96	i07 of/	0.00	i11 OF/	0.00	OF F042M19/	0.00	WR 1/
0.00	WR 2/	0.00	FREE # 1/	11.37	FREE # 2/	0.17	FREE # 3/
	FREE # 4/	0.00	FREE # 5/	0.00			

Cycle 3000 Time 25 Hrs - 0.00 Min

Junction / Depth / Elevation	====> "*" Junction is Surcharged.		
F070M02/ 3.29 / 595.59	PF070M01/ 0.79 / 587.81	PF070E00/ 0.75 / 582.75	
F060E01/ 0.00 / 598.00	F050M01/ 0.10 / 597.93	F050E01/ 0.00 / 594.14	
F050E00/ 0.00 / 590.36	F042M18/ 0.21 / 600.59	F042M13/ 0.00 / 594.61	
F042M19/ 0.19 / 602.12	F042M24/ 0.10 / 644.30	F042M28/ 0.03 / 644.76	
F042M39/ 0.00 / 645.40	F042M61/ 0.04 / 645.56	F042M32/ 0.03 / 646.94	
F042M33/ 0.01 / 647.76	F060M02/ 2.55 / 595.59	F060i07/ 0.00 / 597.00	
F060i11/ 0.00 / 598.00	F060E00/ 0.00 / 584.32	F042M21/ 0.12 / 612.11	
F070M04/ 0.07 / 604.07	F070i05/ 0.10 / 595.60	E040i34/ 0.00 / 640.00	
PBMP F070/ 3.59 / 595.59	Node60/ 1.14 / 592.64	F050M100/ 0.15 / 596.15	
Node62/ 0.22 / 596.01			

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.	
LINE042/	0.00*	Link3/ 0.01	Link4/ 0.01* Link6/
0.26*	Link14/ 8.58	Link64/ 0.10*	F043M33 OF/ 0.00 F042M61 OF/
0.00*	F042M39 OF/ 0.00*	F060M02 OF/ 0.00	F070M02 OF/ 0.00 F070i05 OF/
0.00	F050M01 OF/ 0.00	Link85/ 0.29	Link88/ 1.27 Link90/
1.53	Link92/ 8.58	Link93/ 0.40*	Link95/ 0.31 348.1/
0.00*	m32OF/ 0.00	352.1/ 0.14*	M24 OF/ 0.00* 354.1/
0.00	355.1/ 0.00*	m28 of/ 0.00	357.1/ 0.00 387.1/
0.00*	389.1/ 0.00*	391.1/ 0.00*	392.1/ 0.16* M21 OF/
0.00	402.1/ 0.04	F070M04 OF/ 0.00	459.1/ 0.30* OR 1/
1.67	OR 2/ 3.44	OR 3/ 3.44	e01 OF/ 0.00 060E01 OF/
0.00	i07 of/ 0.00	i11 OF/ 0.00	OF F042M19/ 0.00 WR 1/
0.00	WR 2/ 0.00	FREE # 1/ 8.58	FREE # 2/ 0.00 FREE # 3/
0.00	FREE # 4/ 0.00	FREE # 5/ 0.00	

Cycle 3500 Time 29 Hrs - 10.00 Min

Junction / Depth / Elevation	====> "*" Junction is Surcharged.		
F070M02/ 2.35 / 594.65	PF070M01/ 0.49 / 587.51	PF070E00/ 0.47 / 582.47	
F060E01/ 0.00 / 598.00	F050M01/ 0.00 / 597.83	F050E01/ 0.00 / 594.14	
F050E00/ 0.00 / 590.36	F042M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61	
F042M19/ 0.00 / 601.93	F042M24/ 0.00 / 644.20	F042M28/ 0.00 / 644.73	
F042M39/ 0.00 / 645.40	F042M61/ 0.00 / 645.52	F042M32/ 0.00 / 646.91	
F042M33/ 0.00 / 647.75	F060M02/ 1.61 / 594.65	F060i07/ 0.00 / 597.00	
F060i11/ 0.00 / 598.00	F060E00/ 0.00 / 584.32	F042M21/ 0.00 / 611.99	
F070M04/ 0.00 / 604.00	F070i05/ 0.00 / 595.50	E040i34/ 0.00 / 640.00	
PBMP F070/ 2.65 / 594.65	Node60/ 0.70 / 592.20	F050M100/ 0.00 / 596.00	
Node62/ 0.01 / 595.80			

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.	
LINE042/	0.00*	Link3/ 0.00	Link4/ 0.00* Link6/
0.00*	Link14/ 3.37	Link64/ 0.00*	F043M33 OF/ 0.00 F042M61 OF/
0.00*	F042M39 OF/ 0.00*	F060M02 OF/ 0.00	F070M02 OF/ 0.00 F070i05 OF/
0.00	F050M01 OF/ 0.00	Link85/ 0.00	Link88/ 0.07 Link90/
0.13	Link92/ 3.36	Link93/ 0.00*	Link95/ 0.00* 348.1/
0.00*	m32OF/ 0.00	352.1/ 0.00*	M24 OF/ 0.00* 354.1/
0.00	355.1/ 0.00*	m28 of/ 0.00	357.1/ 0.00 387.1/
0.00*	389.1/ 0.00*	391.1/ 0.00*	392.1/ 0.00* M21 OF/
0.00	402.1/ 0.00	F070M04 OF/ 0.00	459.1/ 0.00* OR 1/
1.20	OR 2/ 1.06	OR 3/ 1.06	e01 OF/ 0.00 060E01 OF/
0.00	i07 of/ 0.00	i11 OF/ 0.00	OF F042M19/ 0.00 WR 1/
0.00			

0.00 WR 2/ 0.00 FREE # 1/ 3.37 FREE # 2/ 0.00 FREE # 3/
 FREE # 4/ 0.00 FREE # 5/ 0.00
 Cycle 4000 Time 33 Hrs - 20.00 Min

Junction / Depth / Elevation ==> "*" Junction is Surcharged.
 F070M02/ 2.00 / 594.30 F070M01/ 0.34 / 587.36 F070E00/ 0.33 / 592.33
 F060E01/ 0.00 / 598.00 F050M01/ 0.00 / 597.83 F050E01/ 0.00 / 594.14
 F050E00/ 0.00 / 590.36 F042M18/ 0.00 / 600.38 F042M13/ 0.00 / 594.61
 F042M19/ 0.00 / 601.93 F042M21/ 0.00 / 644.20 F042M28/ 0.00 / 644.73
 F042M39/ 0.00 / 645.40 F042M61/ 0.00 / 645.52 F042M32/ 0.00 / 646.91
 F042M33/ 0.00 / 647.75 F060M02/ 1.26 / 594.30 F060I07/ 0.00 / 597.00
 F060I11/ 0.00 / 598.00 F060E00/ 0.00 / 584.32 F042M21/ 0.00 / 611.99
 F070M04/ 0.00 / 604.00 F070I05/ 0.00 / 595.50 E040I34/ 0.00 / 640.00
 PBMP F070/ 2.30 / 594.30 Node60/ 0.49 / 591.99 F050M100/ 0.00 / 596.00
 Node62/ 0.00 / 595.79

Conduit/ FLOW ==> "*" Conduit uses the normal flow option.
 LINE042/ 0.00* Link3/ 0.00 Link4/ 0.00* Link6/
 0.00* Link14/ 1.66 Link64/ 0.00* F043M33 OF/ 0.00 F042M61 OF/
 0.00* F042M39 OF/ 0.00* F060M02 OF/ 0.00 F070M02 OF/ 0.00 F070I05 OF/
 0.00 F050M01 OF/ 0.00 Link85/ 0.00 Link88/ 0.04 Link90/
 0.06 Link92/ 1.65 Link93/ 0.00* Link95/ 0.00* 348.1/
 0.00* m320F/ 0.00 352.1/ 0.00* M24 OF/ 0.00* 354.1/
 0.00 355.1/ 0.00* m28 of/ 0.00 357.1/ 0.00 387.1/
 0.00* 389.1/ 0.00* 391.1/ 0.00* 392.1/ 0.00* M21 OF/
 0.00 402.1/ 0.00 F070M04 OF/ 0.00 459.1/ 0.00* OR 1/
 1.26 OR 2/ 0.20 OR 3/ 0.20 e01 OF/ 0.00 060E01 OF/
 0.00 107 of/ 0.00 111 OF/ 0.00 OF F042M19/ 0.00 WR 1/
 0.00 WR 2/ 0.00 FREE # 1/ 1.66 FREE # 2/ 0.00 FREE # 3/
 0.00 FREE # 4/ 0.00 FREE # 5/ 0.00

Cycle 4500 Time 37 Hrs - 30.00 Min

Junction / Depth / Elevation ==> "*" Junction is Surcharged.
 F070M02/ 1.77 / 594.07 F070M01/ 0.29 / 587.31 F070E00/ 0.28 / 582.28
 F060E01/ 0.00 / 598.00 F050M01/ 0.00 / 597.83 F050E01/ 0.00 / 594.14
 F050E00/ 0.00 / 590.36 F042M18/ 0.00 / 600.38 F042M13/ 0.00 / 594.61
 F042M19/ 0.00 / 601.93 F042M24/ 0.00 / 644.20 F042M28/ 0.00 / 644.73
 F042M39/ 0.00 / 645.40 F042M61/ 0.00 / 645.52 F042M32/ 0.00 / 646.91
 F042M33/ 0.00 / 647.75 F060M02/ 1.03 / 594.07 F060I07/ 0.00 / 597.00
 F060I11/ 0.00 / 598.00 F060E00/ 0.00 / 584.32 F042M21/ 0.00 / 611.99
 F070M04/ 0.00 / 604.00 F070I05/ 0.00 / 595.50 E040I34/ 0.00 / 640.00
 PBMP F070/ 2.07 / 594.07 Node60/ 0.42 / 591.92 F050M100/ 0.00 / 596.00
 Node62/ 0.00 / 595.79

Conduit/ FLOW ==> "*" Conduit uses the normal flow option.
 LINE042/ 0.00* Link3/ 0.00 Link4/ 0.00* Link6/
 0.00* Link14/ 1.21 Link64/ 0.00* F043M33 OF/ 0.00 F042M61 OF/
 0.00* F042M39 OF/ 0.00* F060M02 OF/ 0.00 F070M02 OF/ 0.00 F070I05 OF/
 0.00 F050M01 OF/ 0.00 Link85/ 0.00 Link88/ 0.03 Link90/
 0.05 Link92/ 1.21 Link93/ 0.00* Link95/ 0.00* 348.1/
 0.00* m320F/ 0.00 352.1/ 0.00* M24 OF/ 0.00* 354.1/
 0.00 355.1/ 0.00* m28 of/ 0.00 357.1/ 0.00 387.1/
 0.00* 389.1/ 0.00* 391.1/ 0.00* 392.1/ 0.00* M21 OF/
 0.00 402.1/ 0.00 F070M04 OF/ 0.00 459.1/ 0.00* OR 1/
 1.20 OR 2/ 0.01 OR 3/ 0.01 e01 OF/ 0.00 060E01 OF/
 0.00 107 of/ 0.00 111 OF/ 0.00 OF F042M19/ 0.00 WR 1/
 0.00 WR 2/ 0.00 FREE # 1/ 1.21 FREE # 2/ 0.00 FREE # 3/
 0.00 FREE # 4/ 0.00 FREE # 5/ 0.00

Cycle 5000 Time 41 Hrs - 40.00 Min

Junction / Depth / Elevation	====> "*" Junction is Surcharged.	
F070M02/ 1.56 / 593.86	PF070M01/ 0.28 / 587.30	PF070E00/ 0.27 / 582.27
F060E01/ 0.00 / 598.00	F050M01/ 0.00 / 597.83	F050E01/ 0.00 / 594.14
F050E00/ 0.00 / 590.36	F042M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61
F042M19/ 0.00 / 601.93	F042M24/ 0.00 / 644.20	F042M28/ 0.00 / 644.73
F042M39/ 0.00 / 645.40	F042M61/ 0.00 / 645.52	F042M32/ 0.00 / 646.91
F042M33/ 0.00 / 647.75	F060M02/ 0.82 / 593.86	F060I07/ 0.00 / 597.00
F060I11/ 0.00 / 598.00	F060E00/ 0.00 / 584.32	F042M21/ 0.00 / 611.99
F070M04/ 0.00 / 604.00	F070I05/ 0.00 / 595.50	E040I34/ 0.00 / 640.00
PBMP F070/ 1.86 / 593.86	Node60/ 0.40 / 591.90	F050M100/ 0.00 / 596.00
Node62/ 0.00 / 595.79		

Conduit/ FLOW	====> "*" Conduit uses the normal flow option.	
LINE042/ 0.00*	Link3/ 0.00	Link4/ 0.00*
Link14/ 1.12	Link64/ 0.00*	F043M33 OF/ 0.00
F042M39 OF/ 0.00*	F060M02 OF/ 0.00	F070M02 OF/ 0.00
F050M01 OF/ 0.00	Link85/ 0.00	Link88/ 0.02
Link92/ 1.12	Link93/ 0.00*	Link95/ 0.00*
m32OF/ 0.00	352.1/ 0.00*	M24 OF/ 0.00*
355.1/ 0.00*	m28 of/ 0.00	357.1/ 0.00
389.1/ 0.00*	391.1/ 0.00*	392.1/ 0.00*
402.1/ 0.00	F070M04 OF/ 0.00	459.1/ 0.00*
OR 2/ 0.00	OR 3/ 0.00	e01 OF/ 0.00
i07 of/ 0.00	i11 OF/ 0.00	OF F042M19/ 0.00
WR 2/ 0.00	FREE # 1/ 1.12	FREE # 2/ 0.00
FREE # 4/ 0.00	FREE # 5/ 0.00	
Cycle 5500	Time 45 Hrs - 50.00 Min	

Junction / Depth / Elevation	====> "*" Junction is Surcharged.	
F070M02/ 1.37 / 593.67	PF070M01/ 0.27 / 587.29	PF070E00/ 0.26 / 582.26
F060E01/ 0.00 / 598.00	F050M01/ 0.00 / 597.83	F050E01/ 0.00 / 594.14
F050E00/ 0.00 / 590.36	F042M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61
F042M19/ 0.00 / 601.93	F042M24/ 0.00 / 644.20	F042M28/ 0.00 / 644.73
F042M39/ 0.00 / 645.40	F042M61/ 0.00 / 645.52	F042M32/ 0.00 / 646.91
F042M33/ 0.00 / 647.75	F060M02/ 0.63 / 593.67	F060I07/ 0.00 / 597.00
F060I11/ 0.00 / 598.00	F060E00/ 0.00 / 584.32	F042M21/ 0.00 / 611.99
F070M04/ 0.00 / 604.00	F070I05/ 0.00 / 595.50	E040I34/ 0.00 / 640.00
PBMP F070/ 1.67 / 593.67	Node60/ 0.39 / 591.89	F050M100/ 0.00 / 596.00
Node62/ 0.00 / 595.79		

Conduit/ FLOW	====> "*" Conduit uses the normal flow option.	
LINE042/ 0.00*	Link3/ 0.00	Link4/ 0.00*
Link14/ 1.06	Link64/ 0.00*	F043M33 OF/ 0.00
F042M39 OF/ 0.00*	F060M02 OF/ 0.00	F070M02 OF/ 0.00
F050M01 OF/ 0.00	Link85/ 0.00	Link88/ 0.02
Link92/ 1.06	Link93/ 0.00*	Link95/ 0.00*
m32OF/ 0.00	352.1/ 0.00*	M24 OF/ 0.00*
355.1/ 0.00*	m28 of/ 0.00	357.1/ 0.00
389.1/ 0.00*	391.1/ 0.00*	392.1/ 0.00*
402.1/ 0.00	F070M04 OF/ 0.00	459.1/ 0.00*
OR 2/ 0.00	OR 3/ 0.00	e01 OF/ 0.00
i07 of/ 0.00	i11 OF/ 0.00	OF F042M19/ 0.00
WR 2/ 0.00	FREE # 1/ 1.06	FREE # 2/ 0.00
FREE # 4/ 0.00	FREE # 5/ 0.00	
Cycle 6000	Time 50 Hrs - 0.00 Min	

Junction / Depth / Elevation	====> "*" Junction is Surcharged.	
F070M02/ 1.18 / 593.48	PF070M01/ 0.26 / 587.28	PF070E00/ 0.25 / 582.25
F060E01/ 0.00 / 598.00	F050M01/ 0.00 / 597.83	F050E01/ 0.00 / 594.14
F050E00/ 0.00 / 590.36	F042M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61

F042M19/	0.00 /	601.93	F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73
F042M39/	0.00 /	645.40	F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91
F042M33/	0.00 /	647.75	F060M02/	0.44 /	593.48	F060i07/	0.00 /	597.00
F060i11/	0.00 /	598.00	F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99
F070M04/	0.00 /	604.00	F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00
PBMP F070/	1.48 /	593.48	Node60/	0.38 /	591.88	F050M100/	0.00 /	596.00
Node62/	0.00 /	595.79						

Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/ 0.00	Link4/ 0.00*	Link5/ 0.00*
Link14/	0.98		Link64/	0.00*	F043M33 OF/
F042M39 OF/	0.00*		F060M02 OF/	0.00	F070i05 OF/
F050M01 OF/	0.00		Link85/	0.00	Link88/
Link92/	0.98		Link93/	0.00*	Link95/
m320F/	0.00		352.1/	0.00*	M24 OF/
355.1/	0.00*		m28 of/	0.00	357.1/
389.1/	0.00*		391.1/	0.00*	392.1/
402.1/	0.00		F070M04 OF/	0.00	459.1/
OR 2/	0.00		OR 3/	0.00	e01 OF/
i07 of/	0.00		i11 OF/	0.00	OF F042M19/
WR 2/	0.00		FREE # 1/	0.98	FREE # 2/
FREE # 4/	0.00		FREE # 5/	0.00	FREE # 3/
Cycle	6500	Time	54 Hrs - 10.00 Min		

Junction / Depth / Elevation	====> "*" Junction is Surcharged.
F070M02/ 1.01 / 593.31	PF070M01/ 0.25 / 587.27
F060E01/ 0.00 / 598.00	F050M01/ 0.00 / 597.83
F050E00/ 0.00 / 590.36	F042M18/ 0.00 / 600.38
F042M19/ 0.00 / 601.93	F042M24/ 0.00 / 644.20
F042M39/ 0.00 / 645.40	F042M61/ 0.00 / 645.52
F042M33/ 0.00 / 647.75	F060M02/ 0.27 / 593.31
F060i11/ 0.00 / 598.00	F060E00/ 0.00 / 584.32
F070M04/ 0.00 / 604.00	F070i05/ 0.00 / 595.50
PBMP F070/ 1.31 / 593.31	Node60/ 0.36 / 591.86
Node62/ 0.00 / 595.79	

Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/ 0.00	Link4/ 0.00*	Link6/ 0.00*
Link14/	0.89		Link64/	0.00*	F043M33 OF/
F042M39 OF/	0.00*		F060M02 OF/	0.00	F070i05 OF/
F050M01 OF/	0.00		Link85/	0.00	Link88/
Link92/	0.89		Link93/	0.00*	Link95/
m320F/	0.00		352.1/	0.00*	M24 OF/
355.1/	0.00*		m28 of/	0.00	357.1/
389.1/	0.00*		391.1/	0.00*	392.1/
402.1/	0.00		F070M04 OF/	0.00	459.1/
OR 2/	0.00		OR 3/	0.00	e01 OF/
i07 of/	0.00		i11 OF/	0.00	OF F042M19/
WR 2/	0.00		FREE # 1/	0.89	FREE # 2/
FREE # 4/	0.00		FREE # 5/	0.00	FREE # 3/
Cycle	7000	Time	58 Hrs - 20.00 Min		

Junction / Depth / Elevation	====> "*" Junction is Surcharged.
F070M02/ 0.85 / 593.15	PF070M01/ 0.24 / 587.26
F060E01/ 0.00 / 598.00	F050M01/ 0.00 / 597.83
F050E00/ 0.00 / 590.36	F042M18/ 0.00 / 600.38
F042M19/ 0.00 / 601.93	F042M24/ 0.00 / 644.20
F042M39/ 0.00 / 645.40	F042M61/ 0.00 / 645.52
F042M33/ 0.00 / 647.75	F060M02/ 0.11 / 593.15
F060i11/ 0.00 / 598.00	F060E00/ 0.00 / 584.32
F070M04/ 0.00 / 604.00	F070i05/ 0.00 / 595.50

PBMP F070/ Node62/	1.15 / 0.00 /	593.15 595.79	Node60/	0.34 /	591.84	F050M100/	0.00 /	596.00
Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/	0.00	Link4/	0.00*	Link6/	
0.00*	Link14/	0.81	Link64/	0.00*	F043M33 OF/	0.00	F042M61 OF/	
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	
0.00	F050M01 OF/	0.00	Link95/	0.00	Link88/	0.01	Link90/	
0.02	Link92/	0.81	Link93/	0.00*	Link95/	0.00*	348.1/	
0.00*	m32OF/	0.00	352.1/	0.00*	M24 OF/	0.00*	354.1/	
0.00	355.1/	0.00*	m28 of/	0.00	357.1/	0.00	387.1/	
0.00*	389.1/	0.00*	391.1/	0.00*	392.1/	0.00*	M21 OF/	
0.00	402.1/	0.00	F070M04 OF/	0.00	459.1/	0.00*	OR 1/	
0.81	OR 2/	0.00	OR 3/	0.00	e01 OF/	0.00	060E01 OF/	
0.00	i07 of/	0.00	i11 OF/	0.00	OF F042M19/	0.00	WR 1/	
0.00	WR 2/	0.00	FREE # 1/	0.81	FREE # 2/	0.00	FREE # 3/	
0.00	FREE # 4/	0.00	FREE # 5/	0.00				

```

=====
| 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)
F070M02	1.4826	3.7066	43200.0000
PF070M01	153.6062	300.0000	0.0000
PF070E00	300.0000	300.0000	0.0000
F060E01	12.7294	31.8236	60.0000
F050M01	1.9407	4.8518	150.0000
F050E01	137.6379	300.0000	0.0000
F050E00	300.0000	300.0000	0.0000
F042M18	1.6579	4.1448	30.0000
F042M13	300.0000	300.0000	0.0000
F042M19	3.0721	7.6802	150.0000
F042M24	3.6010	9.0024	450.0000
F042M28	4.5376	11.3441	60.0000
F042M39	1.6920	4.2300	360.0000
F042M61	0.6770	1.6924	3240.0000
F042M32	4.3474	10.8686	60.0000
F042M33	4.0809	10.2022	300.0000
F060M02	12.9715	32.4288	0.0000
F060i07	27.2536	68.1340	0.0000
F060i11	4.7777	11.9444	6570.0000
F060E00	300.0000	300.0000	0.0000
F042M21	4.5998	11.4996	90.0000
F070M04	0.3300	0.8251	390.0000

F070i05	1.2169	3.0422	155160.000
E040i34	300.0000	300.0000	0.0000
PBMP F070	73.2652	193.1630	0.0000
Node60	3.8736	9.6840	330.0000
F050M100	3.5126	8.7816	0.0000
Node62	6.9255	17.3137	5400.0000

The function requiring the smallest time step was...F070i05

```

=====
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
LINE042	30.2699	30.2699	120.6865	282.0000	-0.1771	4.9584	Normal Soln
Link3	22.6368	22.6368	123.2571	0.0000	0.2326	3.6658	Normal Soln
Link4	4.7734	4.7734	16.1032	775.5000	0.3110	3.4503	Normal Soln
Link6	20.2647	20.2647	70.9100	0.0000	-0.5033	2.8641	Normal Soln
Link14	23.1499	23.1499	44.1825	0.0000	0.1758	1.6058	Normal Soln
Link64	6.6510	6.6510	21.7146	9.5000	4.0625	11.6258	Normal Soln
F043M33 OF	46.5489	46.5489	73.0655	0.0000	0.2444	0.0255	Normal Soln
F042M61 OF	76.8378	76.8378	190.7731	0.0000	0.0909	0.0028	Normal Soln
F042M39 OF	300.0000	300.0000	300.0000	0.0000	0.4477	0.1980	Normal Soln
F060M02 OF	5.3966	5.3966	12.3859	0.0000	0.3568	0.1128	Normal Soln
F070M02 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
F070i05 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
F050M01 OF	31.0007	31.0007	48.5060	0.0000	0.1105	0.0052	Normal Soln
Link85	27.9907	27.9907	89.8226	0.0000	-0.1539	1.8732	Normal Soln
Link88	23.7795	23.7795	87.7120	0.0000	-1.5307	5.4000	Normal Soln
Link90	8.0180	8.0180	19.5775	2123.0000	3.1311	9.8216	Normal Soln
Link92	48.4376	48.4376	152.9346	0.0000	0.1866	2.9261	Normal Soln
Link93	47.2720	47.2720	213.6702	0.0000	0.6453	1.7266	Normal Soln
Link95	4.6903	4.6903	17.1756	111.5000	0.1318	4.3810	Normal Soln
348.1	21.4535	21.4535	87.8869	0.0000	0.2005	5.2397	Normal Soln

m320F	13.3485	13.3485	74.9381	0.0000	-0.3685	0.0115	Normal Soln
352.1	47.2998	47.2998	107.6027	0.0000	-0.3329	2.3359	Normal Soln
M24 OF	176.2329	176.2329	257.0541	0.0000	0.1279	0.0075	Normal Soln
354.1	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
355.1	8.4619	8.4619	28.6264	0.0000	-0.4285	3.9469	Normal Soln
m28 of	20.3536	20.3536	204.1174	0.0000	-0.5153	0.0322	Normal Soln
357.1	5.8574	5.8574	8.5016	0.0000	0.0986	0.9399	Normal Soln
387.1	3.3800	3.3800	16.3246	298.5000	0.3079	1.3496	Normal Soln
389.1	7.5502	7.5502	25.8628	0.0000	-0.2414	8.0972	Normal Soln
391.1	12.3948	12.3948	44.7480	0.0000	-0.1348	3.9334	Normal Soln
392.1	42.9792	42.9792	124.9983	0.0000	-0.1572	2.4947	Normal Soln
M21 OF	198.1726	198.1726	300.0000	0.0000	0.1153	0.0143	Normal Soln
402.1	27.0387	27.0387	71.9143	0.0000	-0.8578	2.8525	Normal Soln
F070M04 OF	137.5554	137.5554	269.0924	0.0000	0.0889	0.0153	Normal Soln
459.1	11.7508	11.7508	45.9957	0.0000	-0.2462	1.7122	Normal Soln
OR 1	48.5902	48.5902	114.1056	0.0000	-0.0696	21.5097	Normal Soln
OR 2	62.6445	62.6445	151.9979	0.0000	0.1027	5.6442	Normal Soln
OR 3	62.6445	62.6445	151.9979	0.0000	0.1027	5.6442	Normal Soln

The conduit with the smallest time step limitation was..Link90
 The conduit with the largest wobble was.....OR 1
 The conduit with the largest flow change in any
 consecutive time step.....Link64

 * Hydraulic design routine final results. *

Conduit Name	Height	Width	Barrels	Height	Width	Barrels
Link95	1.5833	2.5000	2.0000	2.2500	2.5000	2.0000
459.1	1.5833	2.5000	2.0000	2.2500	2.5000	2.0000
OR 1	0.4996	0.4996	1.0000	0.4996	0.4996	1.0000
OR 2	0.9997	0.9997	1.0000	0.9997	0.9997	1.0000
OR 3	0.9997	0.9997	1.0000	0.9997	0.9997	1.0000

 * End of time step DO-loop in Runoff *

Final Date (Mo/Day/Year) = 12/10/2012
 Total number of time steps = 3600
 Final Julian Date = 2012345
 Final time of day = 43200 seconds.
 Final time of day = 12.00 hours.
 Final running time = 60.0000 hours.
 Final running time = 2.5000 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
F070i05#1	0	0	F042M33#1	0	0
F042M61#1	0	0	F042M39#1	0	0
F042M19#1	0	0	F050E01#1	0	0
F050M100#1	0	0	F060M02#1	0	0
F070M02#1	0	0			

 # Rainfall input summary from Runoff Continuity Check #
 #####

Total rainfall read for gage # 1 is 5.1000 in
Total rainfall duration for gage # 1 is 1440.00 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. *

	cubic feet	Inches over Total Basin
Total Precipitation (Rain plus Snow)	2.370590E+06	5.100
Total Infiltration	6.579676E+05	1.416
Total Evaporation	4.648215E+04	0.100
Surface Runoff from Watersheds	1.669493E+06	3.592
Total Water remaining in Surface Storage	0.000000E+00	0.000
Infiltration over the Pervious Area...	6.579676E+05	1.416

Infiltration + Evaporation +		
Surface Runoff + Snow removal +		
Water remaining in Surface Storage +		
Water remaining in Snow Cover.....	2.373943E+06	5.107
Total Precipitation + Initial Storage.....	2.370590E+06	5.100

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.....

* Table R6. Continuity Check for Channel/Pipes *

* You should have zero continuity error *

* if you are not using runoff hydraulics *

Total Runoff Depth (in) 3.51094	3.47495	3.18983	3.23805	3.26428	3.96621
Peak Runoff Rate (cfs). 16.09867	19.78631	30.25332	6.74224	5.97695	53.14572
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) 3.51094	3.47495	3.18983	3.23805	3.26428	3.96621
Peak Runoff Rate (cfs). 16.09867	19.78631	30.25332	6.74224	5.97695	53.14572
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
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
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.....					
F070M04#1	F042M19#1	F050E01#1	F050M01#1	F050M100#1	F060M02#1
Area (acres)..... 13.86000	10.12000	3.06000	2.44000	1.47000	54.76000
Percent Impervious..... 0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total Rainfall (in).... 5.10000	5.10000	5.10000	5.10000	5.10000	5.10000
Max Intensity (in/hr).. 6.99210	6.99210	6.99210	6.99210	6.99210	6.99210
Pervious Area					
Total Runoff Depth (in) 3.55154	3.22600	3.30371	3.34007	3.65306	3.73609
Peak Runoff Rate (cfs). 42.55451	21.84988	13.32384	8.41898	6.96274	123.87650
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
Peak Runoff Rate (cfs)	0.00000	0.00000	0.00000	0.00000	0.00000
Total Area					
Total Runoff Depth (in)	3.22600	3.39271	3.34007	3.65326	3.73609
Peak Runoff Rate (cfs)	21.84938	13.32384	8.41898	6.96274	123.67650

Rational Formula

Pervious Tc. (mins)	0.00000	0.00000	0.00000	0.00000	0.00000
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
Impervious Tc. (mins)	0.00000	0.00000	0.00000	0.00000	0.00000
Imp. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area (Ha)	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area Tc.	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area Intensity	0.00000	0.00000	0.00000	0.00000	0.00000

Subcatchment..... F070M02#1
Area (acres)..... 3.16000
Percent Impervious..... 0.00000
Total Rainfall (in)..... 5.10000
Max Intensity (in/hr)..... 6.99210

Pervious Area

Total Runoff Depth (in) 3.47359
Peak Runoff Rate (cfs) 11.58656

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) 3.47359
Peak Runoff Rate (cfs) 11.58656

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 = 60.008 hours

Junction / Depth / Elevation ==> "*" Junction is Surcharged.

F070M02/	0.79 /	593.09/	PF070M01/	0.24 /	587.26/	PF070E00/	0.23 /	582.23/
F060E01/	0.00 /	598.00/	F050M01/	0.00 /	597.83/	F050E01/	0.00 /	594.14/
F050E00/	0.00 /	590.36/	F042M18/	0.00 /	600.38/	F042M13/	0.00 /	594.61/
F042M19/	0.00 /	601.93/	F042M24/	0.00 /	644.20/	F042M28/	0.00 /	644.73/
F042M39/	0.00 /	545.40/	F042M61/	0.00 /	545.52/	F042M32/	0.00 /	646.91/
F042M33/	0.00 /	647.75/	F060M02/	0.05 /	593.09/	F060i07/	0.00 /	597.00/
F060i11/	0.00 /	598.00/	F060E00/	0.00 /	584.32/	F042M21/	0.00 /	611.99/
F070M04/	0.00 /	604.00/	F070i05/	0.00 /	595.50/	E040i34/	0.00 /	640.00/
PBMP F070/	1.09 /	593.09/	Node60/	0.34 /	591.84/	F050M100/	0.00 /	596.00/
Node62/	0.00 /	595.79/						

Conduit/ Flow ==> "*" Conduit uses the normal flow option.

LINE042/	0.00*/	Link3/	0.00 /	Link4/	0.00*/
Link6/	0.00*/	Link14/	0.78 /	Link64/	0.00*/
F043M33 OF/	0.00 /	F042M61 OF/	0.00*/	F042M39 OF/	0.00*/
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
F050M01 OF/	0.00 /	Link85/	0.00 /	Link88/	0.01 /
Link90/	0.02 /	Link92/	0.78 /	Link93/	0.00*/
Link95/	0.00*/	348.1/	0.00*/	m32OF/	0.00 /
352.1/	0.00*/	M24 OF/	0.00*/	354.1/	0.00 /
355.1/	0.00*/	m28 of/	0.00 /	357.1/	0.00 /
387.1/	0.00*/	389.1/	0.00*/	391.1/	0.00*/
392.1/	0.00*/	M21 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	459.1/	0.00*/	OR 1/	0.78 /
OR 2/	0.00 /	OR 3/	0.00 /	e01 OF/	0.00 /
F060E01 OF/	0.00 /	i07 of/	0.00 /	i11 OF/	0.00 /
OF F042M19/	0.00 /	WR 1/	0.00 /	WR 2/	0.00 /
FREE # 1/	0.78 /	FREE # 2/	0.00 /	FREE # 3/	0.00 /
FREE # 4/	0.00 /	FREE # 5/	0.00 /		

Conduit/ Velocity

LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link14/	3.30 /	Link64/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
F050M01 OF/	0.00 /	Link85/	0.00 /	Link88/	0.03 /
Link90/	0.01 /	Link92/	2.03 /	Link93/	0.00 /
Link95/	0.00 /	348.1/	0.00 /	m32OF/	0.00 /
352.1/	0.00 /	M24 OF/	0.00 /	354.1/	0.00 /
355.1/	0.00 /	m28 of/	0.00 /	357.1/	0.00 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	459.1/	0.00 /	OR 1/	3.97 /
OR 2/	0.00 /	OR 3/	0.00 /		

Conduit/ Width

LINE042/	0.49 /	Link3/	0.78 /	Link4/	0.78 /
Link6/	0.88 /	Link14/	1.45 /	Link64/	0.78 /
F043M33 OF/	2.02 /	F042M61 OF/	10.00 /	F042M39 OF/	4.00 /
F060M02 OF/	20.03 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
F050M01 OF/	2.07 /	Link85/	0.98 /	Link88/	1.73 /
Link90/	3.22 /	Link92/	1.68 /	Link93/	1.37 /
Link95/	0.98 /	348.1/	0.49 /	m32OF/	6.87 /
352.1/	0.59 /	M24 OF/	2.00 /	354.1/	0.00 /
355.1/	0.78 /	m28 of/	3.51 /	357.1/	0.98 /
387.1/	0.59 /	389.1/	0.39 /	391.1/	0.39 /
392.1/	0.69 /	M21 OF/	2.01 /	402.1/	0.78 /
F070M04 OF/	2.02 /	459.1/	0.98 /	OR 1/	0.03 /
OR 2/	0.39 /	OR 3/	0.39 /		

Junction/ EGL

F070M02/	5.41 /	PF070M01/	0.30 /	PF070E00/	0.40 /
F060E01/	0.00 /	F050M01/	0.00 /	F050E01/	0.00 /
F050E00/	0.00 /	F042M18/	0.00 /	F042M13/	0.00 /
F042M19/	0.00 /	F042M24/	0.00 /	F042M28/	0.00 /
F042M39/	0.00 /	F042M61/	0.00 /	F042M32/	0.00 /
F042M33/	0.00 /	F060M02/	0.05 /	F060i07/	0.00 /
F060i11/	0.00 /	F060E00/	0.00 /	F042M21/	0.00 /
F070M04/	0.00 /	F070i05/	0.00 /	E040i34/	0.00 /
PBMP F070/	1.09 /	Node60/	1.17 /	F050M100/	0.00 /
Node62/	0.00 /				

Junction/ Freeboard

F070M02/	19.85 /	PF070M01/	24.82 /	PF070E00/	27.77 /
F060E01/	22.00 /	F050M01/	15.35 /	F050E01/	15.86 /
F050E00/	19.64 /	F042M18/	16.55 /	F042M13/	19.20 /
F042M19/	15.40 /	F042M24/	16.12 /	F042M28/	15.22 /
F042M39/	14.25 /	F042M61/	13.83 /	F042M32/	13.97 /
F042M33/	13.10 /	F060M02/	18.47 /	F060i07/	18.00 /
F060i11/	14.73 /	F060E00/	18.68 /	F042M21/	14.61 /
F070M04/	16.59 /	F070i05/	14.03 /	E040i34/	20.00 /
PBMP F070/	12.91 /	Node60/	16.16 /	F050M100/	14.30 /
Node62/	17.37 /				

Junction/ Max Volume					
F070M02/	95.46 /	PF070M01/	24.33 /	PF070E00/	21.31 /
F060E01/	4216.11 /	F050M01/	69.75 /	F050E01/	1019.26 /
F050E00/	14.80 /	F042M18/	63.64 /	F042M13/	0.00 /
F042M19/	81.80 /	F042M24/	79.80 /	F042M28/	81.87 /
F042M39/	73.45 /	F042M61/	71.59 /	F042M32/	62.40 /
F042M33/	51.94 /	F060M02/	108.79 /	F060I07/	12529.55 /
F060I11/	16015.29 /	F060E00/	6.49 /	F042M21/	61.67 /
F070M04/	86.67 /	F070I05/	77.37 /	E040134/	4.66 /
PBMP F070/	639364.11 /	Node60/	93.28 /	F050M100/	84.02 /
Node62/	81.89 /				
Junction/Total Fldng					
F070M02/	0.00 /	PF070M01/	0.00 /	PF070E00/	0.00 /
F060E01/	0.00 /	F050M01/	0.00 /	F050E01/	0.00 /
F050E00/	0.00 /	F042M18/	0.00 /	F042M13/	0.00 /
F042M19/	0.00 /	F042M24/	0.00 /	F042M28/	0.00 /
F042M39/	0.00 /	F042M61/	0.00 /	F042M32/	0.00 /
F042M33/	0.00 /	F060M02/	0.00 /	F060I07/	0.00 /
F060I11/	0.00 /	F060E00/	0.00 /	F042M21/	0.00 /
F070M04/	0.00 /	F070I05/	0.00 /	E040134/	0.00 /
PBMP F070/	0.00 /	Node60/	0.00 /	F050M100/	0.00 /
Node62/	0.00 /				
Conduit/ Cross Sectional Area					
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link14/	0.24 /	Link64/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070I05 OF/	0.00 /
F050M01 OF/	0.00 /	Link85/	0.00 /	Link88/	0.22 /
Link90/	1.86 /	Link92/	0.38 /	Link93/	0.00 /
Link95/	0.00 /	348.1/	0.00 /	m32OF/	0.00 /
352.1/	0.00 /	M24 OF/	0.00 /	354.1/	0.00 /
355.1/	0.00 /	m28 of/	0.00 /	357.1/	0.00 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	459.1/	0.00 /	OR 1/	0.20 /
OR 2/	0.00 /	OR 3/	0.00 /		
Conduit/ Final Volume					
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link14/	90.69 /	Link64/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.02 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070I05 OF/	0.00 /
F050M01 OF/	0.00 /	Link85/	0.01 /	Link88/	118.09 /
Link90/	388.03 /	Link92/	419.80 /	Link93/	4.15 /
Link95/	0.00 /	348.1/	0.00 /	m32OF/	0.00 /
352.1/	0.01 /	M24 OF/	0.01 /	354.1/	0.00 /
355.1/	0.00 /	m28 of/	0.00 /	357.1/	0.00 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.01 /	M21 OF/	0.01 /	402.1/	0.01 /
F070M04 OF/	0.01 /	459.1/	0.00 /	OR 1/	195.99 /
OR 2/	0.01 /	OR 3/	0.01 /		
Conduit/ Hydraulic Radius					
LINE042/	0.00 /	Link3/	0.01 /	Link4/	0.00 /
Link6/	0.01 /	Link14/	0.15 /	Link64/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070I05 OF/	0.00 /
F050M01 OF/	0.00 /	Link85/	0.01 /	Link88/	0.08 /
Link90/	0.49 /	Link92/	0.20 /	Link93/	0.01 /
Link95/	0.00 /	348.1/	0.00 /	m32OF/	0.00 /
352.1/	0.00 /	M24 OF/	0.00 /	354.1/	0.00 /
355.1/	0.00 /	m28 of/	0.00 /	357.1/	0.00 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	402.1/	0.01 /
F070M04 OF/	0.00 /	459.1/	0.00 /	OR 1/	0.13 /
OR 2/	0.00 /	OR 3/	0.00 /		
Conduit/ Upstream/ Downstream Elevation					
LINE042/	646.91/ 645.52	Link3/	645.52/ 644.73	Link4/	644.20/ 644.20/
Link6/	601.93/ 600.38	Link14/	587.26/ 582.23	Link64/	593.09/ 593.09/
F043M33 OF/	640.00/ 640.00	F042M61 OF/	644.20/ 644.20	F042M39 OF/	598.00/ 598.00/
F060M02 OF/	584.32/ 584.32	F070M02 OF/	582.23/ 582.23	F070I05 OF/	582.23/ 582.23/
F050M01 OF/	590.36/ 590.36	Link85/	600.38/ 597.83	Link88/	593.09/ 593.09/
Link90/	593.09/ 593.09	Link92/	591.84/ 587.26	Link93/	595.79/ 593.09/
Link95/	595.79/ 595.79	348.1/	646.91/ 646.91	m32OF/	647.75/ 647.75/
352.1/	611.99/ 611.99	M24 OF/	611.99/ 611.99	354.1/	594.61/ 594.61/
355.1/	644.73/ 644.73	m28 of/	645.40/ 645.40	357.1/	590.36/ 590.36/
387.1/	593.09/ 593.09	389.1/	593.09/ 593.09	391.1/	593.09/ 593.09/
392.1/	601.93/ 601.93	M21 OF/	601.93/ 601.93	402.1/	604.00/ 597.71/
F070M04 OF/	593.09/ 593.09	459.1/	596.00/ 596.00	OR 1/	593.09/ 592.43/
OR 2/	591.84/ 591.84	OR 3/	591.84/ 591.84		

Table E7 - Iteration Summary

```

Total number of time steps simulated..... 7200
Total number of passes in the simulation..... 68644
Total number of time steps during simulation.... 17334
Ratio of actual # of time steps / NTCYC..... 2.408
Average number of iterations per time step..... 3.960
Average time step size(seconds)..... 12.461
Smallest time step size(seconds)..... 1.000
Largest time step size(seconds)..... 30.000
Average minimum Conduit Courant time step (sec). 22.236
Average minimum implicit time step (sec)..... 14.073
Average minimum junction time step (sec)..... 14.073
Average Courant Factor Tf..... 14.073
Number of times omega reduced..... 7631
  
```

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.
Convr 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
F070M02	10	5.48	95051	802	501	400	334	127
PF070M01	0	1.82	31467	0	6	0	0	0
PF070E00	0	1.92	33229	0	8	0	0	0
F060E01	0	2.06	35698	5	203	424	37	5
F050M01	0	2.51	43434	57	383	36	31	26
F050E01	0	1.41	24483	1	7	0	0	0
F050E00	0	9.57	165917	328	487	327	324	323
F042M18	0	1.94	33702	3	12	1	0	0
F042M13	0	1.00	17334	0	1	0	0	0
F042M19	0	1.89	32688	6	489	17	2	1
F042M24	0	2.14	37051	81	113	12	3	2
F042M28	0	2.22	38497	141	257	21	11	4
F042M39	0	2.04	35276	73	26	10	1	0
F042M61	1	2.05	35456	38	501	12	3	2
F042M32	0	2.07	35953	83	456	24	7	7
F042M33	1	2.41	41806	58	501	39	26	23
F060M02	0	3.79	65730	971	96	455	37	4
F060I07	0	1.48	25574	0	20	9	0	0
F060I11	0	1.27	22007	15	20	5	0	0
F060E00	0	1.15	19970	0	18	1	0	0
F042M21	0	2.14	37078	10	111	11	1	1
F070M04	5	2.03	35208	10	501	20	10	9
F070I05	0	2.27	39287	169	50	65	24	1
E040I34	0	1.50	25994	12	480	13	12	12
PBMP F070	0	3.87	67080	1	92	6	1	1
Node60	0	13.19	228590	2546	495	2387	2332	2276
F050M100	0	4.20	72813	2128	313	1276	106	102
Node62	0	2.41	41719	93	42	1	1	1
Total number of iterations for all junctions..				1418092				
Minimum number of possible iterations.....				485352				
Efficiency of the simulation.....				2.92				

Good 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

Maximum Gutter Width feet	Maximum Gutter Velocity ft/s	Uppermost Ground Elevation feet	Maximum PipeCrown Elevation feet	Maximum Junction Elevation feet	Time of Occurrence Hr. Min.	Feet of Surcharge at Max Elevation	Freeboard of node feet	Maximum Junction Area ft^2	Maximum Gutter Depth feet
0.0000	F070M02 0.0000	612.9400	605.1000	599.8969	12 27	0.0000	13.0431	12.5660	0.0000
0.0000	PF070M01 0.0000	612.0800	589.5200	588.9564	14 17	0.0000	23.1236	12.5660	0.0000
0.0000	PF070E00 0.0000	610.0000	604.0000	583.6961	14 18	0.0000	26.3039	12.5660	0.0000
0.0000	F060E01 0.0000	620.0000	599.5000	601.6979	12 31	2.1979	18.3021	3245.7761	0.0000
0.0000	F050M01 0.0000	613.1800	605.1800	603.3809	12 12	0.0000	9.7991	12.5660	0.0000
0.0000	F050E01 0.0000	610.0000	596.6400	595.3186	12 25	0.0000	14.6814	2485.8843	0.0000
0.0000	F050E00 0.0000	610.0000	602.0000	591.5380	12 26	0.0000	18.4620	12.5660	0.0000
0.0000	F042M18 0.0000	616.9300	609.2000	605.4448	12 22	0.0000	11.4852	12.5660	0.0000
0.0000	F042M13 0.0000	613.8100	605.8100	594.6100	0 0	0.0000	19.2000	12.5660	0.0000
0.0000	F042M19 0.0000	617.3300	609.3300	608.4395	12 25	0.0000	8.8905	12.5660	0.0000
0.0000	F042M24 0.0000	660.3200	653.3200	650.5502	12 16	0.0000	9.7698	12.5660	0.0000
0.0000	F042M28 0.0000	659.9500	652.2500	651.2451	12 9	0.0000	8.7049	12.5660	0.0000
0.0000	F042M39 0.0000	659.6500	652.5000	651.2453	12 9	0.0000	8.4047	12.5660	0.0000
0.0000	F042M61 0.0000	659.3500	654.0000	651.2172	12 10	0.0000	8.1328	12.5660	0.0000
0.0000	F042M32 0.0000	660.8800	653.2500	651.8762	12 6	0.0000	9.0038	12.5660	0.0000
0.0000	F042M33 0.0000	660.8500	653.5000	651.8756	12 6	0.0000	8.9744	12.5660	0.0000
0.0000	F060M02 0.0000	611.5600	603.1000	601.6976	12 31	0.0000	9.8624	12.5660	0.0000
0.0000	F060i07 0.0000	615.0000	598.0000	601.1883	13 22	3.1883	13.8117	8332.3418	0.0000
0.0000	F060i11 0.0000	612.7300	602.0000	603.9898	12 49	1.9898	8.7402	10807.963	0.0000
0.0000	F060E00 0.0000	603.0000	602.0000	584.8368	12 31	0.0000	18.1632	12.5660	0.0000
0.0000	F042M21 0.0000	626.6000	618.6000	616.8976	12 20	0.0000	9.7024	12.5660	0.0000
0.0000	F070M04 0.0000	620.5900	612.5900	610.8970	12 19	0.0000	9.6930	12.5660	0.0000
0.0000	F070i05 0.0000	609.5300	605.1000	601.6577	12 29	0.0000	7.8723	12.5660	0.0000
0.0000	E040i34 0.0000	660.0000	648.5400	640.3709	12 7	0.0000	19.6291	12.5660	0.0000
0.0000	PBMP F070 0.0000	606.0000	596.0000	598.9889	14 17	2.9889	7.0111	114485.59	0.0000
0.0000	Node60 0.0000	608.0000	594.0000	598.9233	14 16	4.9233	9.0767	12.5660	0.0000
0.0000	F050M100 0.0000	610.3000	597.5833	602.6861	12 23	5.1028	7.6139	12.5660	0.0000
0.0000	Node62 0.0000	613.1600	599.2900	602.2832	12 29	2.9932	10.8768	12.5660	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

Ratio		Conduit	Maximum	Maximum	Time	Maximum	Time	Ratio of		Maximum Water			
d/D		Design	Design	Vertical	Computed	of		Computed	of		Max. to	Elev at Pipe Ends	
US	DS	Conduit	Flow	Velocity	Depth	Flow	Occurence	Velocity	Occurence	Design	Upstream	Dwnstrm	
		Name	(cfs)	(ft/s)	(in)	(cfs)	Hr. Min.	(ft/s)	Hr. Min.	Flow	(ft)	(ft)	
3.973	4.558	LINE042	3.2831	2.6753	15.0000	4.7778	11 46	3.8460	11 46	1.4553	651.8762	651.2172	
2.849	3.258	Link3	9.9376	3.1632	24.0000	6.4875	13 35	2.8639	13 40	0.6528	651.2172	651.2451	
3.258	3.175	Link4	16.0314	5.1030	24.0000	18.2123	11 47	5.7398	11 47	1.1360	651.2451	650.5502	
2.893	2.251	Link6	17.7254	4.4580	27.0000	23.0531	12 2	5.7565	12 2	1.3006	608.4395	605.4448	
0.775	0.678	Link14	43.5479	8.8715	30.0000	34.9798	14 18	8.6912	14 19	0.8033	588.9564	583.6961	
3.079	2.733	Link64	18.7016	5.9529	24.0000	19.7909	12 29	6.2188	12 29	1.0582	601.6573	599.8969	
0.188	0.185	F043M33 OF	2700.572	13.2381	24.0000	34.4083	12 7	4.4212	12 7	0.0127	651.8756	646.9109	
0.072	0.077	F042M61 OF	6674.147	7.1765	36.0000	9.3039	12 11	1.3731	12 11	0.0014	651.2172	650.5502	
0.187	1.000 *	F042M39 OF	241.3741	5.0078	47.8779	23.8974	12 9	2.1901	12 1	0.0990	651.2453	603.9898	
0.299	0.258	F060M02 OF	1379.873	5.7495	24.0000	77.7793	12 31	2.6643	12 31	0.0564	601.6976	600.5168	
.0000	.0000	F070M02 OF	6719.148	15.9980	24.0000	0.0000	0 0	0.0000	0 0	0.0000	583.6961	583.6961	
.0000	.0000	F070i05 OF	6719.148	15.9980	24.0000	0.0000	0 0	0.0000	0 0	0.0000	583.6961	583.6961	
0.100	0.096	F050M01 OF	3062.787	15.0137	24.0000	7.9657	12 12	3.3194	12 12	0.0026	603.3809	600.1919	
2.026	2.220	Link85	27.1456	5.5300	30.0000	22.7570	12 28	5.5942	11 57	0.8383	605.4448	603.3809	
2.164	1.899	Link88	49.8401	3.9661	48.0000	76.4095	12 8	6.0428	12 8	1.5331	601.6976	599.8969	
1.899	1.747	Link90	50.5345	4.0214	48.0000	134.2797	12 16	10.6764	12 15	2.6572	599.8969	598.9889	
2.969	0.775	Link92	24.3509	4.9607	30.0000	34.9799	14 17	7.1665	14 17	1.4365	598.9233	588.9564	
1.855	2.474	Link93	51.6417	5.3675	42.0000	35.0990	12 3	4.2121	11 52	0.6797	602.2832	601.6976	
4.223	4.101	Link95	10.5162	3.1867	19.0000	17.6126	12 4	5.2502	12 4	1.6748	602.6861	602.2832	
3.300	3.973	348.1	3.1793	2.5908	15.0000	4.2223	13 39	3.4058	13 39	1.3280	651.8756	651.8762	
0.313	0.513	m320F	1949.221	9.5550	24.0000	4.4592	12 6	-0.7967	13 34	0.0023	651.8756	651.8762	
4.233	3.272	352.1	16.4899	9.3314	18.0000	17.3621	11 48	10.4768	11 45	1.0529	650.5502	616.8976	
0.115	0.149	M24 OF	3769.624	18.4785	24.0000	14.2272	12 16	4.3849	12 13	0.0038	650.5502	616.8976	
.0000	.0000	354.1	2775.510	13.6054	24.0000	0.0000	0 0	0.0000	0 0	0.0000	594.6100	594.6100	
2.923	3.258	355.1	14.5842	4.6423	24.0000	15.4830	11 48	4.9062	11 47	1.0616	651.2453	651.2451	
0.498	0.798	m28 of	1647.393	8.0755	24.0000	-15.8932	12 1	-0.6826	13 29	-0.0096	651.2453	651.2451	
0.471	0.471	357.1	68.7539	14.0064	30.0000	31.0484	12 26	13.6445	12 26	0.4516	595.3186	591.5380	
2.465	4.225	387.1	20.8100	11.7760	18.0000	-6.4669	12 8	-3.5994	12 8	-0.3108	601.6979	601.6976	
4.188	5.738	389.1	2.8514	3.6305	12.0000	-4.3569	12 8	-5.4162	12 8	-1.5280	601.1883	601.6976	
5.990	6.338	391.1	3.5522	4.5227	12.0000	4.1260	13 57	5.1178	13 58	1.1615	603.9898	601.6976	
2.804	3.720	392.1	15.7314	6.5403	21.0000	17.0815	11 54	7.0404	11 54	1.0858	616.8976	608.4395	
0.149	0.555	M21 OF	2236.736	10.9644	24.0000	15.9974	12 21	1.8249	13 33	0.0072	616.8976	608.4395	
3.449	1.093	402.1	20.7443	6.6031	24.0000	28.4627	12 16	8.9692	12 15	1.3721	610.8970	599.8969	
0.154	0.151	F070M04 OF	1662.654	8.1503	24.0000	12.7183	12 19	2.3935	12 19	0.0076	610.8970	603.2430	
3.506	4.223	459.1	20.1320	6.1006	19.0000	14.2037	12 4	4.6571	11 47	0.7055	603.3809	602.6861	

13.99	13.88	OR 1	0.6670	0.4815	5.9947	1.7920	12	23	8.7640	12	22	2.6866	598.9889	598.9233
4.990	4.935	OR 2	3.7793	0.4815	11.9970	5.0941	19	59	6.9504	12	30	1.3479	598.9889	598.9233
4.990	4.935	OR 3	3.7793	0.4815	11.9970	5.0941	19	59	6.9504	12	30	1.3479	598.9889	598.9233
		e01 OF	Undefnd	Undefnd	Undefn	0.0000	0	0						
		060E01 OF	Undefnd	Undefnd	Undefn	-1.5270	12	18						
		107 OF	Undefnd	Undefnd	Undefn	0.0000	0	0						
		111 OF	Undefnd	Undefnd	Undefn	0.0000	0	0						
		OF F042M19	Undefnd	Undefnd	Undefn	28.8479	12	25						
		WR 1	Undefnd	Undefnd	Undefn	31.1844	13	2						
		WR 2	Undefnd	Undefnd	Undefn	5.4940	14	16						
		FREE # 1	Undefnd	Undefnd	Undefn	34.9798	14	18						
		FREE # 2	Undefnd	Undefnd	Undefn	36.3236	12	24						
		FREE # 3	Undefnd	Undefnd	Undefn	0.0000	0	0						
		FREE # 4	Undefnd	Undefnd	Undefn	77.7794	12	31						
		FREE # 5	Undefnd	Undefnd	Undefn	34.4081	12	7						

 | 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. |

Conduit Name	Duration of Dry Flow (min)	Duration of Sub-Critical Flow (min)	Duration of Upstream Critical Flow (min)	Duration of Downstream Critical Flow (min)	Maximum Hydraulic Radius-m	Maximum X-Sect Area (ft^2)	Maximum Vel*D (ft^2/s)
LINE042	2068.2500	1531.7500	0.0000	0.0000	0.3799	1.2707	12.2216
Link3	369.2500	3230.7500	0.0000	0.0000	0.6034	3.2780	9.7098
Link4	1896.5000	1703.5000	0.0000	0.0000	0.6084	3.2918	29.3461
Link6	1766.0000	1834.0000	0.0000	0.0000	0.6826	4.1676	32.7150
Link14	337.0000	3263.0000	0.0000	0.0000	0.7554	4.0247	15.7856
Link64	2269.7500	951.6250	0.0000	378.6250	0.5976	3.2796	36.0978
F043M33 OF	3499.5000	0.0000	0.0000	100.5000	0.1970	7.7848	1.6496
F042M61 OF	3555.4732	35.6855	0.0000	8.8413	0.1283	6.8231	0.2956
F042M39 OF	3504.2321	87.6964	0.0000	8.0714	0.5342	20.1058	2.5852
F060M02 OF	3521.9722	0.0000	0.0000	78.0278	0.3693	29.1928	1.4844
F070M02 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
F070i05 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
F050M01 OF	3531.5033	0.0000	0.0000	68.4967	0.1091	2.4000	0.6518
Link85	226.5000	3373.5000	0.0000	0.0000	0.7521	5.1242	24.3446
Link88	255.5000	3344.5000	0.0000	0.0000	1.2168	13.1356	44.9701
Link90	256.0000	3344.0000	0.0000	0.0000	1.2157	13.1533	61.0670
Link92	335.7500	3264.2500	0.0000	0.0000	0.7494	4.9386	33.5379
Link93	1547.0000	2053.0000	0.0000	0.0000	1.0459	10.0451	21.7863
Link95	1769.2500	1830.7500	0.0000	0.0000	0.6319	3.3635	29.6136
348.1	2237.2500	1362.7500	0.0000	0.0000	0.3800	1.2842	10.6985
m320F	3490.9167	105.7333	3.3500	0.0000	0.4289	37.5499	0.2234
352.1	1871.2500	1728.7500	0.0000	0.0000	0.4546	1.8519	53.6017
M24 OF	3526.5089	66.9911	0.0000	6.5000	0.1273	3.2782	1.1285
354.1	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355.1	2268.0000	1332.0000	0.0000	0.0000	0.6063	3.2930	19.6499
m28 of	3497.8542	95.1756	6.9702	0.0000	0.7774	122.5474	0.2285
357.1	2464.2500	1135.7500	0.0000	0.0000	0.6010	2.2758	16.0754
387.1	3283.2409	316.7591	0.0000	0.0000	0.4482	1.8461	14.9728
389.1	3109.2857	490.7143	0.0000	0.0000	0.2988	0.8201	20.4624
391.1	3203.4286	396.5714	0.0000	0.0000	0.2988	0.8198	26.6287
392.1	1803.5000	1796.5000	0.0000	0.0000	0.5228	2.5138	34.2355
M21 OF	3496.4911	90.7270	0.0000	12.7820	0.1982	10.8129	1.0384
402.1	308.7500	263.7921	0.0000	3027.4579	0.6083	3.2817	39.5171
F070M04 OF	3571.0625	0.0000	0.0000	28.9375	0.1627	5.3141	0.7297
459.1	1775.7500	1824.2500	0.0000	0.0000	0.6179	3.3510	24.1769
OR 1	325.5000	1240.6071	0.0000	2033.8929	0.1497	0.2122	27.9294
OR 2	1978.6667	396.5417	0.0000	1224.7917	0.2998	0.8049	14.5279
OR 3	1978.6667	396.5417	0.0000	1224.7917	0.2998	0.8049	14.5279

 | Table E12. Mean Conduit Flow Information |

Conduit Name	Mean Flow (cfs)	Total Flow (ft^3)	Mean Percent Change	Low Flow Weighting	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
LINE042	0.2818	60874.234	0.0006	0.6278	0.4031	0.1326	0.2996	0.0140
Link3	0.3283	70908.727	0.0010	0.6348	0.4058	0.1661	0.5669	0.0140
Link4	0.9144	197515.46	0.0018	0.6605	0.7043	0.1879	0.6465	0.0140

Link6	1.6489	356167.30	0.0020	0.6910	0.6199	0.2380	0.9424	0.0140
Link14	5.8326	1259843.4	0.0035	0.9531	1.3547	0.3739	1.4697	0.0140
Link64	0.5308	114658.12	0.0055	0.5812	0.1945	0.2143	1.0780	0.0140
F043M33 OF	0.2339	50519.551	0.0018	0.0942	0.1160	0.0088	0.2253	0.0140
F042M61 OF	0.0426	9195.5676	0.0003	0.0436	0.0209	0.0037	0.1542	0.0140
F042M39 OF	0.1920	41472.353	0.0013	0.0903	0.0144	0.0450	2.2004	0.0450
F060M02 OF	0.7866	169896.55	0.0037	0.0742	0.0488	0.0181	1.1743	0.0500
F070M02 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
F070i05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
F050M01 OF	0.0623	13460.941	0.0004	0.0659	0.0898	0.0047	0.0777	0.0140
Link85	1.6490	356194.58	0.0020	0.6991	0.9057	0.2412	1.0260	0.0140
Link88	4.6626	1007111.9	0.0081	0.9703	0.1352	0.7608	6.6253	0.0140
Link90	6.1999	1339182.7	0.0143	0.9703	0.2196	0.8779	7.8668	0.0140
Link92	5.8329	1259898.3	0.0032	0.9548	0.8329	0.3978	2.0049	0.0140
Link93	1.8142	391860.50	0.0031	0.7449	0.1685	0.3996	3.0251	0.0140
Link95	1.8143	391891.74	0.0016	0.6936	0.2938	0.2296	1.2144	0.0140
348.1	0.1742	37620.732	0.0005	0.5887	0.2903	0.1247	0.2790	0.0140
m320F	-0.0138	-2973.336	0.0006	0.1036	0.0030	0.0357	2.5276	0.0140
352.1	1.2719	274726.89	0.0017	0.6664	1.3636	0.1469	0.3818	0.0140
M24 OF	0.1456	31440.832	0.0009	0.0706	0.0998	0.0066	0.1385	0.0140
354.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
355.1	0.3607	77909.080	0.0017	0.5748	0.3441	0.1574	0.5369	0.0140
m28 of	-0.2261	-48837.45	0.0012	0.0958	0.0033	0.0544	6.6989	0.0140
357.1	0.4877	105336.47	0.0021	0.5362	1.0931	0.0718	0.1601	0.0140
387.1	-0.0006	-129.5945	0.0008	0.2546	0.0115	0.0902	0.3601	0.0140
389.1	0.0000	2.6931	0.0007	0.3270	0.0548	0.0737	0.2181	0.0140
391.1	0.1944	41989.928	0.0004	0.2971	0.0649	0.0628	0.1783	0.0140
392.1	1.2119	261770.59	0.0016	0.6822	0.9482	0.1758	0.5389	0.0140
M21 OF	0.2046	44190.311	0.0006	0.0985	0.0498	0.0133	0.5919	0.0140

402.1	0.7661	165488.11	0.0015	0.6761	1.1819	0.1437	0.3892	0.0140
F070M04 OF	0.0558	12056.772	0.0005	0.0280	0.0209	0.0033	0.0897	0.0200
459.1	1.7237	372318.65	0.0013	0.6918	0.7844	0.1854	0.8557	0.0140
OR 1	0.9937	195206.42	0.0010	0.9568	1.6529	0.1166	0.1248	0.0024
OR 2	0.7886	170341.38	0.0010	0.6226	0.2927	0.1420	0.3993	0.0039
OR 3	0.7886	170341.38	0.0010	0.6228	0.2927	0.1420	0.3993	0.0039
e01 OF	0.0000	0.0000						
060E01 OF	0.0003	67.8219						
107 of	0.0000	0.0000						
111 OF	0.0000	0.0000						
OF F042M19	0.3158	68218.409						
WR 1	3.1265	675328.71						
WR 2	0.2256	48722.415						
FREE # 1	5.8328	1259887.7						
FREE # 2	0.5500	118790.26						
FREE # 3	0.0000	0.0000						
FREE # 4	0.7866	169903.51						
FREE # 5	0.2339	50514.166						

 | 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 Name	Maximum Flow	Head Loss	Friction Loss	Critical Depth	Normal Depth	HW Elevat	TW Elevat	
LINE042	4.7747	0.2360	2.8622	0.8855	1.2500	650.0514	646.9568	Max Flow
Link3	6.4024	0.0848	0.3092	0.8956	1.1682	647.2198	646.8019	Max Flow
Link4	17.9176	0.4056	0.6172	1.5246	2.0000	646.9558	645.7118	Max Flow
Link6	22.9348	0.5082	2.5480	1.6751	2.2500	605.6314	602.5642	Max Flow
Link14	34.9798	1.0572	3.7426	2.0080	1.6961	588.9564	583.6961	Max Flow
Link64	19.7810	0.5989	1.1666	1.5977	1.7744	601.6522	599.8826	Max Flow
F043M33 OF	34.4079	0.0000	4.8866	0.4738	0.3709	651.8755	646.9109	Max Flow
F042M61 OF	9.2365	0.0000	0.6752	0.1660	0.2051	651.2142	650.5378	Max Flow
F042M39 OF	23.8973	0.0000	12.2358	0.6391	0.7436	651.2453	602.5707	Max Flow
F060M02 OF	77.7690	0.0000	1.0009	0.5167	0.5758	601.6975	600.5167	Max Flow
F070M02 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
F070i05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
F050M01 OF	7.9548	0.0000	3.0179	0.2533	0.1918	603.3808	600.1918	Max Flow
Link85	22.7570	0.3297	1.7686	1.6226	1.7527	605.4352	603.3378	Max Flow
Link88	76.4055	0.5658	1.7176	2.6447	4.0000	601.1097	598.8220	Max Flow
Link90	134.2550	1.7223	2.0653	3.4507	4.0000	599.6160	595.7620	Max Flow
Link92	34.9799	0.6918	9.0912	2.0080	2.5000	598.9233	588.9564	Max Flow
Link93	35.0677	0.2053	1.2595	1.8353	2.1156	601.0296	599.5790	Max Flow
Link95	17.5769	0.4254	0.5677	1.1963	1.5833	602.0250	601.0296	Max Flow
348.1	4.2183	0.0000	1.4486	0.8313	1.2500	651.0926	649.6338	Max Flow
m320F	4.4521	0.0000	0.0006	0.1937	0.1823	651.8761	651.8756	Max Flow
352.1	17.2743	0.0000	34.5213	1.4807	1.3080	648.7462	614.0987	Max Flow
M24 OF	14.2182	0.0000	29.4668	0.3265	0.2275	650.5502	616.8892	Max Flow

354.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
355.1	15.3580	0.0000	0.7330	1.4119	1.7572	649.5579	648.6657	Max Flow
m28 of	0.0000	0.0000	0.0000	0.0000	0.0000	649.9233	650.1666	Max Flow
357.1	31.0478	0.0000	3.7784	1.8985	1.1780	595.3186	591.5380	Max Flow
387.1	1.8011	0.0161	0.0196	0.5042	0.2982	600.5254	600.4833	Max Flow
389.1	2.6321	0.0000	0.8561	0.6950	0.7581	600.7147	599.8599	Max Flow
391.1	4.1256	0.0000	3.3800	0.8570	1.0000	603.2288	599.8401	Max Flow
392.1	17.0810	0.0000	11.6301	1.5126	1.7500	616.6048	604.9426	Max Flow
M21 OF	15.9974	0.0000	1.5045	0.3416	0.2339	616.8976	608.4246	Max Flow
402.1	28.4627	0.0000	11.3338	1.8360	2.0000	610.8815	599.5473	Max Flow
F070M04 CF	12.7101	0.0000	7.5276	0.3110	0.3029	610.8969	603.2429	Max Flow
459.1	14.1389	0.2798	0.8843	1.0661	0.9492	603.2071	602.0252	Max Flow
OR 1	1.7920	0.0000	3.3127	0.8735	0.4996	596.2280	592.8575	Max Flow
OR 2	5.0908	0.0000	1.8189	0.9208	0.9997	596.5552	594.7094	Max Flow
OR 3	5.0908	0.0000	1.8189	0.9208	0.9997	596.5552	594.7094	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.

Conduit	Mild Slope	Mild Slope	Steep Slope	Slug Flow	Mild Slope	Mild Slope			
Name	Critical D	Control	Control	Outlet/	TW > D	TW <= D	Outlet	Inlet	Inlet
	Control	Control	Control	Entrance	Control	Control	Control	Control	Configuration
LINE042	4.0000	1411.0000	2068.0000	0.0000	114.0000	0.0000	3.0000	0.0000	None
Link3	0.0000	1454.0000	2036.0000	0.0000	110.0000	0.0000	0.0000	0.0000	None
Link4	223.0000	480.0000	2651.0000	0.0000	109.0000	0.0000	137.0000	0.0000	None
Link6	147.0000	1584.0000	1766.0000	0.0000	102.0000	0.0000	1.0000	0.0000	None
Link14	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link64	0.0000	0.0000	2796.0000	430.0000	23.0000	301.0000	45.0000	5.0000	Square Edge
with Headwall									
F043M33 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F042M61 OF	7.0000	38.0000	3555.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F042M39 OF	8.0000	71.0000	3504.0000	0.0000	17.0000	0.0000	0.0000	0.0000	None
F060M02 OF	18.0000	60.0000	3522.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F070M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F070i05 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F050M01 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link85	428.0000	540.0000	2518.0000	0.0000	113.0000	0.0000	1.0000	0.0000	None
Link88	1.0000	2875.0000	255.0000	0.0000	469.0000	0.0000	0.0000	0.0000	None
Link90	406.0000	2363.0000	256.0000	0.0000	562.0000	0.0000	13.0000	0.0000	None
Link92	2729.0000	160.0000	336.0000	0.0000	0.0000	0.0000	375.0000	0.0000	None
Link93	6.0000	1615.0000	1547.0000	0.0000	432.0000	0.0000	0.0000	0.0000	None
Link95	15.0000	1452.0000	1770.0000	0.0000	363.0000	0.0000	0.0000	0.0000	None
348.1	0.0000	1244.0000	2237.0000	0.0000	119.0000	0.0000	0.0000	0.0000	None
m320F	0.0000	0.0000	3491.0000	109.0000	0.0000	0.0000	0.0000	0.0000	None
352.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
M24 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
354.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
355.1	4.0000	1218.0000	2268.0000	0.0000	110.0000	0.0000	0.0000	0.0000	None
m28 of	0.0000	42.0000	3498.0000	60.0000	0.0000	0.0000	0.0000	0.0000	None
357.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
387.1	0.0000	0.0000	3311.0000	146.0000	0.0000	141.0000	2.0000	0.0000	Headwall
389.1	0.0000	106.0000	3109.0000	53.0000	163.0000	168.0000	1.0000	0.0000	None
391.1	0.0000	0.0000	3310.0000	97.0000	136.0000	55.0000	2.0000	0.0000	None
392.1	0.0000	0.0000	3585.0000	0.0000	15.0000	0.0000	0.0000	0.0000	None
M21 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
402.1	2.0000	1.0000	3565.0000	0.0000	19.0000	0.0000	13.0000	0.0000	None
F070M04 OF	5.0000	6.0000	3589.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
459.1	0.0000	689.0000	2591.0000	105.0000	0.0000	165.0000	50.0000	0.0000	None
OR 1	273.0000	9.0000	338.0000	0.0000	372.0000	488.0000	2120.0000	0.0000	None
OR 2	775.0000	62.0000	1978.0000	0.0000	381.0000	0.0000	404.0000	0.0000	None
OR 3	775.0000	62.0000	1978.0000	0.0000	381.0000	0.0000	404.0000	0.0000	None

 | Kinematic Wave Approximations |
 | Time in Minutes for Each Condition |

Conduit	Duration of	Slope	Super-	Roll
Name	Normal Flow	Criteria	Critical	Waves
LINE042	2145.0167	2314.9845	1902.0000	0.0000
Link3	214.0833	1079.6597	0.0000	0.0000
Link4	2135.2500	2208.2500	2002.0000	0.0000
Link6	2111.7500	2936.4077	1874.0000	0.0000
Link14	0.0000	0.0000	3149.0000	0.0000
Link64	2113.5000	2858.2306	35.0000	0.0000
F043M33 OF	0.6528	0.6528	2890.5000	0.0000
F042M61 OF	2868.2778	2868.3333	2.1429	0.0000

F042M39 OF	2878.9286	2879.0714	0.1429	0.0000
F060M02 OF	0.0000	0.0000	2794.2153	0.0000
F070M02 OF	0.0000	0.0000	0.0000	0.0000
F070i05 OF	0.0000	0.0000	0.0000	0.0000
F050M01 OF	0.1250	0.1250	2876.6316	0.0000
Link85	14.4167	247.1310	43.3750	0.0000
Link88	39.2500	3173.0357	0.5000	0.0000
Link90	0.0000	2749.7143	142.3056	0.0000
Link92	0.0000	0.0000	0.0000	0.0000
Link93	2615.7500	3283.5000	35.2500	0.0000
Link95	2075.2500	3174.2143	1749.5000	0.0000
348.1	2350.6042	3175.8125	81.5000	0.0000
m320F	0.0000	29.8839	0.0000	0.0000
352.1	3213.3675	3222.3000	3271.5833	0.0000
M24 OF	2870.2937	2870.6984	67.2232	0.0000
354.1	0.0000	0.0000	0.0000	0.0000
355.1	2998.7250	3352.9750	3.0000	0.0000
m28 of	0.0000	0.0000	0.0000	0.0000
357.1	16.8736	30.8736	3243.5000	0.0000
387.1	2591.1275	2839.3167	0.0000	0.0000
389.1	2504.0000	2794.4024	0.0000	0.0000
391.1	2595.1581	2797.5415	0.0000	0.0000
392.1	3205.6930	3307.8487	3047.9750	0.0000
M21 OF	90.7895	2869.3520	2784.6570	0.0000
402.1	236.7518	245.4185	2968.8542	0.0000
F070M04 OF	0.1250	2845.8125	2846.1250	0.0000
459.1	2958.5000	3319.0000	1985.9583	0.0000
OR 1	0.0000	0.0000	2560.2917	0.0000
OR 2	0.0000	0.0000	181.9792	0.0000
OR 3	0.0000	0.0000	181.9792	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	Maximum	Total	Maximum	Maximum	##	Junction	Invert
Maximum							
Name	Flow	Flow	Velocity	Volume	##	Name	Elevation
Elevation	(cfs)	(ft^3)	(ft/s)	(ft^3)	##		(ft)
(ft)					##		
LINE042	4.7778	60874.2337	3.8460	587.3453	##	F070M02	592.3000
599.8969							
Link3	6.4875	70908.7271	2.8639	1141.9106	##	PF070M01	587.0200
588.9564							
Link4	18.2123	197515.4570	5.7398	297.1858	##	PF070E00	582.0000
583.6961							
Link6	23.0531	356167.3015	5.7565	1700.1936	##	F060E01	598.0000
601.6979							
Link14	34.9798	1259843.427	8.6912	494.1301	##	F050M01	597.8300
603.3809							
Link64	19.7909	114658.1162	6.2188	428.7952	##	F050E01	594.1400
595.3186							
F043M33 OF	34.4083	50519.5511	4.4212	186.2319	##	F050E00	590.3600
591.5380							
F042M61 OF	9.3039	9195.5676	1.3731	603.5762	##	F042M18	600.3800
605.4448							
F042M39 OF	23.8974	41472.3534	2.1901	12184.5832	##	F042M13	594.6100
594.6100							
F060M02 OF	77.7793	169896.5458	2.6643	413.7050	##	F042M19	601.9300
608.4395							
F070M02 OF	0.0000	0.0000	0.0000	0.0000	##	F042M24	644.2000
650.5502							
F070i05 OF	0.0000	0.0000	0.0000	0.0000	##	F042M28	644.7300
651.2451							
F050M01 OF	7.9657	13460.9411	3.3194	22.5531	##	F042M39	645.4000
651.2453							

651.2172	Link85	22.7570	356194.5766	5.5942	2493.7535	##	F042M61	645.5200
651.8762	Link88	76.4095	1007111.895	6.0428	6954.3939	##	F042M32	646.9100
651.8756	Link90	134.2797	1339182.674	10.6764	2753.2875	##	F042M33	647.7500
601.6976	Link92	34.9799	1259998.313	7.1665	2139.7376	##	F060M02	593.0400
601.1883	Link93	35.0990	391860.5044	4.2121	8740.2460	##	F060i07	597.0000
603.9898	Link95	17.6126	391891.7351	5.2502	593.6183	##	F060i111	598.0000
584.8368	348.1	4.2223	37620.7317	3.4058	382.4800	##	F060E00	584.3200
616.8976	m320F	4.4592	-2973.3359	-0.7967	1820.7775	##	F042M21	611.9900
610.8970	352.1	17.3621	274726.8877	10.4768	308.1095	##	F070M04	604.0000
601.6577	M24 OF	14.2272	31440.8324	4.3849	39.5212	##	F070i05	595.5000
640.3709	354.1	0.0000	0.0000	0.0000	0.0000	##	E040i34	640.0000
598.9889	355.1	15.4830	77909.0798	4.9062	455.0921	##	PBMP F070	592.0000
598.9233	m28 of	-15.8932	-48837.4483	-0.6826	9236.7110	##	Node60	591.5000
602.6861	357.1	31.0484	105336.4747	13.6445	82.2453	##	F050M100	596.0000
602.2832	387.1	-6.4669	-129.5945	-3.5994	104.5988	##	Node62	595.7900
	389.1	-4.3569	2.6931	-5.4162	113.2720	##		
	391.1	4.1260	41989.9278	5.1178	185.9677	##		
	392.1	17.0815	261770.5908	7.0404	1392.2546	##		
	M21 OF	15.9974	44190.3105	1.8249	3029.3245	##		
	402.1	28.4627	165488.1109	8.9692	724.7975	##		
	F070M04 OF	12.7183	12056.7719	2.3935	134.0771	##		
	459.1	14.2037	372318.6456	4.6571	1071.4775	##		
	OR 1	-1.7920	195206.4245	8.7640	212.0700	##		
	OR 2	5.0941	170341.3820	6.9504	822.9014	##		
	OR 3	5.0941	170341.3820	6.9504	822.9014	##		
	e01 OF	0.0000	0.0000	0.0000	0.0000	##		
	060E01 OF	-1.5270	67.8219	0.0000	0.0000	##		
	i07 of	0.0000	0.0000	0.0000	0.0000	##		
	i11 OF	0.0000	0.0000	0.0000	0.0000	##		

OF F042M19	28.8479	68218.4093	0.0000	0.0000	##	
WR 1	31.1844	675328.7068	0.0000	0.0000	##	
WR 2	5.4940	48722.4153	0.0000	0.0000	##	
FREE # 1	34.9798	1259887.736	0.0000	0.0000	##	
FREE # 2	36.3236	118790.2581	0.0000	0.0000	##	
FREE # 3	0.0000	0.0000	0.0000	0.0000	##	
FREE # 4	77.7794	169903.5122	0.0000	0.0000	##	
FREE # 5	34.4081	50514.1660	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)
F042M32	F042M61	4.7778	60874.2337
F042M61	F042M28	6.4875	70908.7271
F042M28	F042M24	18.2123	197515.457
F042M19	F042M18	23.0531	356167.302
PF070M01	PF070E00	34.9798	1259843.43
F070i05	F070M02	19.7909	114658.116
F042M33	E040i34	34.4083	50519.5511
F042M61	F042M24	9.3039	9195.5676
F042M39	F060i11	23.8974	41472.3534
F060M02	F060E00	77.7793	169896.546
F050M01	F050E00	7.9657	13460.9411
F042M18	F050M01	22.7570	356194.577
F060M02	F070M02	76.4095	1007111.90
F070M02	PBMP F070	134.2797	1339182.67
Node60	PF070M01	34.9799	1259898.31
Node62	F060M02	35.0990	391860.504
F050M100	Node62	35.2252	391891.735

F042M33	F042M32	-4.4228	40594.0676
F042M24	F042M21	31.3988	306167.720
F042M39	F042M28	16.8926	126746.528
F050E01	F050E00	31.0484	105336.475
F060E01	F060M02	-6.4669	-129.5945
F060i07	F060M02	-4.3569	2.6931
F060i11	F060M02	4.1260	41989.9278
F042M21	F042M19	30.6142	305960.901
F070M04	F070M02	40.7303	177544.883
F050M01	F050M100	28.4074	372318.646
PBMP F070	Node60	36.1676	1259940.31
F060E01	F060M02	-1.5270	67.8219
F042M19	F050E01	28.8479	68218.4093

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
LINE042	F042M32	F042M61	646.9100	645.5200	651.8762	651.2172	Circular
Link3	F042M61	F042M28	645.5200	644.7300	651.2172	651.2451	Circular
Link4	F042M28	F042M24	644.7300	644.2000	651.2451	650.5502	Circular
Link6	F042M19	F042M18	601.9300	600.3800	608.4395	605.4448	Circular
Link14	PF070M01	PF070E00	587.0200	582.0000	588.9564	583.6961	Circular
Link64	F070i05	F070M02	595.5000	594.4300	601.6573	599.8969	Circular
F043M33 OF	F042M33	E040i34	651.5000	646.5400	651.8756	646.9109	Trapezoid
F042M61 OF	F042M61	F042M24	651.0000	650.3200	651.2172	650.5502	Trapezoid
F042M39 OF	F042M39	F060i11	650.5000	600.0000	651.2453	603.9898	Trapezoid
F060M02 OF	F060M02	F060E00	601.1000	600.0000	601.6976	600.5168	Trapezoid
F070M02 OF	F070M02	PF070E00	603.1000	602.0000	583.6961	583.6961	Trapezoid
F070i05 OF	F070i05	PF070E00	603.1000	602.0000	583.6961	583.6961	Trapezoid
F050M01 OF	F050M01	F050E00	603.1800	600.0000	603.3809	600.1919	Trapezoid

Link85	F042M18	F050M01	600.3800	597.8300	605.4448	603.3809	Circular
Link88	F060M02	F070M02	593.0400	592.3000	601.6976	599.8969	Circular
Link90	F070M02	PBMP F070	592.3000	592.0000	599.8969	598.9889	Circular
Link92	Node60	PF070M01	591.5000	587.0200	598.9233	588.9564	Circular
Link93	Node62	F060M02	595.7900	593.0400	602.2832	601.6976	Circular
Link95	F050M100	Node62	596.0000	595.7900	602.6861	602.2832	H Ellipse
348.1	F042M33	F042M32	647.7500	646.9100	651.8756	651.8762	Circular
m320F	F042M32	F042M33	651.2500	650.8500	651.8762	651.8756	Trapezoid
352.1	F042M24	F042M21	644.2000	611.9900	650.5502	616.8976	Circular
M24 OF	F042M24	F042M21	650.3200	616.6000	650.5502	616.8976	Trapezoid
354.1	F042M18	F042M13	607.2000	603.8100	594.6100	594.6100	Trapezoid
355.1	F042M39	F042M28	645.4000	644.7300	651.2453	651.2451	Circular
m28 of	F042M28	F042M39	650.2500	649.6500	651.2451	651.2453	Trapezoid
357.1	F050E01	F050E00	594.1400	590.3600	595.3186	591.5380	Circular
387.1	F060E01	F060M02	598.0000	595.3600	601.6979	601.6976	Circular
389.1	F060i07	F060M02	597.0000	595.9600	601.1883	601.6976	Circular
391.1	F060i11	F060M02	598.0000	595.3600	603.9898	601.6976	Circular
392.1	F042M21	F042M19	611.9900	601.9300	616.8976	608.4395	Circular
M21 OF	F042M21	F042M19	616.6000	607.3300	616.8976	608.4395	Trapezoid
402.1	F070M04	F070M02	604.0000	597.7100	610.8970	599.8969	Circular
F070M04 OF	F070M04	F070M02	610.5900	602.9400	610.8970	603.2430	Trapezoid
459.1	F050M01	F050M100	597.8300	596.0000	603.3809	602.6861	H Ellipse
OR 1	PBMP F070	Node60	592.0000	591.9900	598.9889	598.9233	Circ Orif
OR 2	PBMP F070	Node60	594.0000	593.9900	598.9889	598.9233	Circ Orif
OR 3	PBMP F070	Node60	594.0000	593.9900	598.9889	598.9233	Circ Orif

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 -----			Remaining Volume	Beginning Volume	Net Flow Thru Node	Total Flow Thru Node	Failed to Converge
	Volume	% of Node	% of Inflow					
F070M02	14.0224	0.0005	0.0008	430.9198	0.0000	444.9422	2678341.022	10
PF070M01	-189.5046	-0.0075	0.0114	219.9835	0.0000	30.3789	2519741.740	0
PF070E00	-63.2564	-0.0025	0.0038	47.2664	0.0000	-15.9900	2519731.163	0
F060E01	82.0583	41.5661	0.0049	0.0003	0.0000	82.0586	197.4163	0
F050M01	-0.9785	-0.0001	0.0001	0.0055	0.0000	-0.9730	771556.7486	0
F050E01	-378.2033	-0.1799	0.0227	0.0006	0.0000	-378.2027	210250.9329	0
F050E00	-0.9034	-0.0004	0.0001	0.0014	0.0000	-0.9020	237587.6740	0
F042M18	-26.2706	-0.0037	0.0016	0.0058	0.0000	-26.2649	712361.8782	0
F042M13	-0.0010	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000	0
F042M19	54.6953	0.0064	0.0033	0.0108	0.0000	54.7061	848854.6066	0
F042M24	460.2741	0.0751	0.0276	0.0130	0.0000	460.2871	612796.6701	0
F042M28	92.2580	0.0233	0.0055	0.0034	0.0000	92.2614	395170.7122	0
F042M39	-9462.3979	-2.8935	0.5668	0.0129	0.0000	-9462.3851	327017.3175	0
F042M61	191.8191	0.1196	0.0115	0.0056	0.0000	191.8247	160410.7582	1
F042M32	18.7781	0.0154	0.0011	0.0041	0.0000	18.7821	121802.2285	0
F042M33	-20.4762	-0.0112	0.0012	0.0034	0.0000	-20.4728	182237.7788	1
F060M02	-774.2777	-0.0329	0.0464	194.1199	0.0000	-580.1578	2353709.641	0
F060i07	4.2119	156.3744	0.0003	0.0007	0.0000	4.2126	2.6931	0
F060i11	-516.3037	-0.6186	0.0309	0.0128	0.0000	-516.2909	83462.2812	0
F060E00	-0.0046	0.0000	0.0000	0.0002	0.0000	-0.0044	339800.0580	0
F042M21	163.5965	0.0267	0.0098	0.0201	0.0000	163.6165	612128.6214	0
F070M04	1129.5296	0.3171	0.0677	0.0067	0.0000	1129.5363	356224.6280	5
F070i05	-44.9427	-0.0196	0.0027	0.0009	0.0000	-44.9418	229066.8920	0
E040i34	-0.0388	0.0000	0.0000	0.0016	0.0000	-0.0372	101033.7171	0
PBMP F070	196.4304	0.0074	0.0118	79624.6049	0.0000	79821.0353	2599122.984	0
Node60	-118.9016	-0.0047	0.0071	271.7777	0.0000	152.8762	2519838.624	0

F050M100	-79.8094	-0.0102	0.0048	0.0030	0.0000	-79.8064	783702.9934	0
Node62	108.9287	0.0139	0.0065	6.9991	0.0000	115.9278	783752.2396	0

The total continuity error was -9159.7 cubic feet
The remaining total volume was 80796.0 cubic feet
Your mean node continuity error was Excellent
Your worst node continuity error was Excellent
* You were using an interface file but had no inflow.
* Check the output for important messages.

=====

Table E19 - Junction Inflow & Outflow Listing
Units are either ft^3 or m^3
depending on the units in your model.

=====

Evaporation	Inflow Junction	Constant Inflow from Node	User Inflow to Node	Interface Inflow to Node	DWF Inflow to Node	Inflow through Outfall	RNF Layer Inflow to Node	Outflow from Node
Name	2D Layer							
0.0000	F070M02	0.0000	0.0000	0.0000	0.0000	0.0000	39838.2510	9.3988
0.0000	PF070E00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2599E+06
0.0000	F050M01	0.0000	0.0000	0.0000	0.0000	0.0000	29579.1854	0.1264
0.0000	F050E01	0.0000	0.0000	0.0000	0.0000	0.0000	36686.1974	0.0000
0.0000	F050E00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	118790.2581
0.0000	F042M19	0.0000	0.0000	0.0000	0.0000	0.0000	118507.7532	0.1448
0.0000	F042M24	0.0000	0.0000	0.0000	0.0000	0.0000	99917.8797	0.1473
0.0000	F042M39	0.0000	0.0000	0.0000	0.0000	0.0000	158756.8909	0.0002
0.0000	F042M61	0.0000	0.0000	0.0000	0.0000	0.0000	19429.2998	0.0000
0.0000	F042M32	0.0000	0.0000	0.0000	0.0000	0.0000	20329.9493	0.0000
0.0000	F042M33	0.0000	0.0000	0.0000	0.0000	0.0000	91106.5204	0.0000
0.0000	F060M02	0.0000	0.0000	0.0000	0.0000	0.0000	742642.7497	0.0010
0.0000	F060E00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	169903.5122
0.0000	F070M04	0.0000	0.0000	0.0000	0.0000	0.0000	178670.1664	0.0000
0.0000	F070i05	0.0000	0.0000	0.0000	0.0000	0.0000	114408.1573	0.0000
0.0000	E040i34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	50514.1660
0.0000	F050M100	0.0000	0.0000	0.0000	0.0000	0.0000	19487.1469	0.3893

=====

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
F070M02	0.0000	0.0000	0.0000	95.4624	0.0000
PF070M01	0.0000	0.0000	0.0000	24.3329	0.0000
PF070E00	0.0000	0.0000	0.0000	21.3135	0.0000
F060E01	140.3036	0.0000	0.0000	4216.1111	0.0000
F050M01	0.0000	0.0000	0.0000	69.7524	0.0000
F050E01	0.0000	0.0000	0.0000	1019.2568	0.0000
F050E00	0.0000	0.0000	0.0000	14.8028	0.0000
F042M18	0.0000	0.0000	0.0000	63.6448	0.0000
F042M13	0.0000	0.0000	0.0000	0.0000	0.0000
F042M19	0.0000	0.0000	0.0000	81.7987	0.0000
F042M24	0.0000	0.0000	0.0000	79.7972	0.0000
F042M28	0.0000	0.0000	0.0000	81.8689	0.0000
F042M39	0.0000	0.0000	0.0000	73.4522	0.0000
F042M61	0.0000	0.0000	0.0000	71.5904	0.0000
F042M32	0.0000	0.0000	0.0000	62.4050	0.0000
F042M33	0.0000	0.0000	0.0000	51.8417	0.0000
F060M02	0.0000	0.0000	0.0000	108.7908	0.0000
F060I07	286.2125	0.0000	0.0000	12529.5483	0.0000
F060I11	159.4167	0.0000	0.0000	16015.2949	0.0000
F060E00	0.0000	0.0000	0.0000	6.4935	0.0000
F042M21	0.0000	0.0000	0.0000	61.6683	0.0000
F070M04	0.0000	0.0000	0.0000	86.6681	0.0000
F070I05	0.0000	0.0000	0.0000	77.3739	0.0000
E040I34	0.0000	0.0000	0.0000	4.6605	0.0000
PBMP F070	561.3958	0.0000	0.0000	639364.1113	0.0000
Node60	396.3750	0.0000	0.0000	93.2809	0.0000

F050M100	345.3333	0.0000	0.0000	84.0174	0.0000
Node62	171.0000	0.0000	0.0000	81.5930	0.0000

```

*=====
| Simulation Specific Information |
*=====
Number of Input Conduits..... 35
Number of Natural Channels..... 0
Number of Storage Junctions..... 5
Number of Orifices..... 3
Number of Free Outfalls..... 5

```

```

Number of Simulated Conduits..... 50
Number of Junctions..... 28
Number of Weirs..... 7
Number of Pumps..... 0
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..WR 1 with 0.036 percent
The Junction with the largest average change was.F070i05 with 0.214 percent
The Conduit with the largest sinuosity was.....OR 1 with 21.510

```

```

*=====
| Table E21. Continuity balance at the end of the simulation
| Junction Inflow, Outflow or Street Flooding
| Error = Inflow + Initial Volume - Outflow - Final Volume
*=====

```

Junction	Inflow Volume, ft^3	Average Inflow, cfs
F070M02	39843.4538	0.1845
F050M01	29582.5853	0.1370
F050E01	36696.0488	0.1699
F042M19	118507.9944	0.5486
F042M24	99917.9255	0.4626
F042M39	158798.4359	0.7352
F042M61	19432.2299	0.0900
F042M32	20333.9273	0.0941
F042M33	91124.1601	0.4219
F060M02	742650.6583	3.4382
F070M04	178679.7452	0.8272
F070i05	114408.7758	0.5297
F050M100	19492.6127	0.0902
F070M02	-9.3988	0.0000
PF070E00	-1.260E+06	-5.8328
F050M01	-0.1264	0.0000

F050E00	-118790.2581	-0.5500
F042M19	-0.1448	0.0000
F042M24	-0.1473	0.0000
F042M39	-0.0002	0.0000
F042M33	0.0000	0.0000
F060M02	-0.0010	0.0000
F060E00	-169903.5122	-0.7866
F070M04	0.0000	0.0000
E040i34	-50514.1660	-0.2339
F050M100	-0.3893	0.0000

Outflow Junction	Outflow Volume, ft^3	Average Outflow, cfs
F070M02	9.3988	0.0000
PF070E00	1.25989E+06	5.8328
F050M01	0.1264	0.0000
F050E00	118790.2581	0.5500
F042M19	0.1448	0.0000
F042M24	0.1473	0.0000
F042M39	0.0002	0.0000
F042M33	0.0000	0.0000
F060M02	0.0010	0.0000
F060E00	169903.5122	0.7866
F070M04	0.0000	0.0000
E040i34	50514.1660	0.2339
F050M100	0.3893	0.0000

| Initial system volume = 0.0000 Cu Ft |

| Total system inflow volume = 1.669360E+06 Cu Ft |

| Inflow + Initial volume = 1.669360E+06 Cu Ft |

=====

| Total system outflow = 1.599106E+06 Cu Ft |

| Volume left (Final volume) = 80795.6851 Cu Ft |

| Evaporation = 0.0900 Cu Ft |

| Outflow + Final Volume = 1.679902E+06 Cu Ft |

=====

| Total Model Continuity Error |

| Error in Continuity, Percent = -0.6315 |

| Error in Continuity, ft^3 = -10541.418 |

| + Error means a continuity loss, - a gain |

=====

Table E22. Numerical Model judgement section #
#####

Overall error was (minimum of Table E18 & E21) -0.5487 percent

Worst nodal error was in node F042M39 with -2.8935 percent

Of the total inflow this loss was 0.5668 percent

Your overall continuity error was Excellent

Good Efficiency

Efficiency of the simulation 2.92

Most Number of Non Convergences at one Node 10.

Total Number Non Convergences at all Nodes 17.

Total Number of Nodes with Non Convergences 4.

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 (ft)	Conduit	Diam. (ft)	Barrels	Max.Flow (ft ³ /s)
------------	------	-----------------	---------	---------------	---------	----------------------------------

==> Hydraulic model simulation ended normally.

==> XP-SWMM Simulation ended normally.

==> Your input file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Proposed Conditions for SWMP\Proposed South Pond_100-year.DAT

==> Your output file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Proposed Conditions for SWMP\Proposed South Pond_100-year.out

```
*=====
|                               |
| SWMM Simulation Date and Time Summary |
|                               |
| Starting Date... January      8, 2013 Time... 11: 6:43:92 |
| Ending Date...  January      8, 2013 Time... 11: 7:10:38 |
| Elapsed Time...   0.44100 minutes or 26.46000 seconds |
|                               |
*=====
```

APPENDIX D

SLAMM WATER QUALITY ANALYSIS

SOUTH CLOVERLEAF POND - InputData

Village of Allouez
SLAMM Input File
South Cloverleaf Pond
12-28-12

Data file name: W:\PROJECTS\A0012\900458\22 - Taft Pond\SLAMM\SOUTH CLOVERLEAF POND.mdb
WinSLAMM Version 10.0.0
Rain file name: C:\winSLAMM Files\Rain Files\WI Green Bay 69.RAN
Particulate Solids Concentration file name: C:\winSLAMM Files\WI_AVG01.pscx
Runoff Coefficient file name: C:\winSLAMM Files\v10 WI_SL06 Dec06.rsv
Residential Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\winSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\winSLAMM Files\WI_GEO02.ppx
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/02/69 Study period ending date: 12/28/69
Start of Winter Season: 11/25 End of Winter Season: 03/29
Date: 02-22-2013 Time: 15:04:21
Site information:

LU# 1 - Commercial: Strip Commercial_Non ROW Total area (ac): 0.210
1 - Roofs 1: 0.059 ac. Flat Connected
3 - Roofs 3: 0.011 ac. Pitched Connected
13 - Paved Parking 1: 0.122 ac. Connected
22 - Unpaved Parking 4: 0.004 ac. Disconnected Clayey Medium/High Density
No Alleys
25 - Driveways 1: 0.004 ac. Connected
31 - Sidewalks 1: 0.006 ac. Connected
73 - Other Pervious Areas 3: 0.003 ac. Clayey Medium/High Density No Alleys

LU# 2 - Freeway: Type1:4 Lane Urban XS with Median ADT=30000 Slopes1 Total area (ac): 22.550
1 - Paved Lane/Shldr Area 1: 8.946 ac. Poor/Flat C&G Freeway Length = 1.03279 mi ADT = 30000 veh/day Default Initial St. Dirt Loading
21 - Large Turf Areas 3: 13.604 ac. Clayey

LU# 3 - Residential: Medium Density Res. No Alleys_Non ROW Total area (ac): 25.910
3 - Roofs 3: 1.558 ac. Pitched Connected
8 - Roofs 8: 3.635 ac. Pitched Disconnected Clayey Medium/High Density
No Alleys
13 - Paved Parking 1: 0.069 ac. Connected
25 - Driveways 1: 1.454 ac. Connected
28 - Driveways 4: 0.658 ac. Disconnected Clayey Medium/High Density
No Alleys
31 - Sidewalks 1: 0.190 ac. Connected
34 - Sidewalks 4: 0.381 ac. Disconnected Clayey Medium/High Density

SOUTH CLOVERLEAF POND - InputData

No Alleys

47 - Large Landscaped Areas 3: 0.069 ac. Clayey
 53 - Small Landscaped Areas 3: 16.303 ac. Clayey
 59 - Undeveloped Areas 3: 0.138 ac. Clayey
 69 - Isolated Areas: 0.069 ac.
 73 - Other Pervious Areas 3: 1.385 ac. Clayey

LU# 4 - Residential: Multi Family Residential_Non ROW Total area (ac): 1.049
 1 - Roofs 1: 0.050 ac. Flat Connected
 3 - Roofs 3: 0.208 ac. Pitched Connected
 8 - Roofs 8: 0.047 ac. Pitched Disconnected Clayey Medium/High

Density No Alleys

13 - Paved Parking 1: 0.159 ac. Connected
 19 - Unpaved Parking 1: 0.007 ac. Connected
 25 - Driveways 1: 0.021 ac. Connected
 28 - Driveways 4: 0.013 ac. Disconnected Clayey Medium/High Density

No Alleys

31 - Sidewalks 1: 0.015 ac. Connected
 34 - Sidewalks 4: 0.031 ac. Disconnected Clayey Medium/High Density

No Alleys

47 - Large Landscaped Areas 3: 0.021 ac. Clayey
 53 - Small Landscaped Areas 3: 0.374 ac. Clayey
 59 - Undeveloped Areas 3: 0.044 ac. Clayey
 69 - Isolated Areas: 0.001 ac.
 73 - Other Pervious Areas 3: 0.056 ac. Clayey

LU# 5 - Institutional: Misc. Institutional_Non ROW Total area (ac): 50.320

1 - Roofs 1: 3.502 ac. Flat Connected
 3 - Roofs 3: 5.484 ac. Pitched Connected
 8 - Roofs 8: 0.377 ac. Pitched Disconnected Clayey Medium/High

Density No Alleys

13 - Paved Parking 1: 17.679 ac. Connected
 25 - Driveways 1: 1.462 ac. Connected
 31 - Sidewalks 1: 0.715 ac. Connected
 47 - Large Landscaped Areas 3: 3.469 ac. Clayey Low Density
 53 - Small Landscaped Areas 3: 11.649 ac. Clayey Low Density
 59 - Undeveloped Areas 3: 1.189 ac. Clayey Low Density
 63 - Paved Playgrounds 1: 1.105 ac. Connected
 66 - Paved Playgrounds 4: 1.105 ac. Disconnected Clayey Low Density
 73 - Other Pervious Areas 3: 1.722 ac. Clayey Low Density
 80 - Other Part Con Imp Areas 3: 0.864 ac. Disconnected Clayey Low

Density

LU# 6 - Commercial: Office Park_Non ROW Total area (ac): 9.720

1 - Roofs 1: 1.512 ac. Flat Connected
 13 - Paved Parking 1: 4.923 ac. Connected
 25 - Driveways 1: 0.397 ac. Connected
 31 - Sidewalks 1: 0.078 ac. Connected
 47 - Large Landscaped Areas 3: 0.668 ac. Clayey Medium/High Density

No Alleys

53 - Small Landscaped Areas 3: 1.812 ac. Clayey Medium/High Density

No Alleys

73 - Other Pervious Areas 3: 0.263 ac. Clayey Medium/High Density No

Alleys

80 - Other Part Con Imp Areas 3: 0.065 ac. Disconnected Clayey

Medium/High Density No Alleys

LU# 7 - Other Urban: Parks_Non ROW Total area (ac): 0.440

1 - Roofs 1: 0.000 ac. Flat Connected

SOUTH CLOVERLEAF POND - InputData

3 - Roofs 3: 0.001 ac. Pitched Connected
 8 - Roofs 8: 0.001 ac. Pitched Disconnected Clayey Low Density
 13 - Paved Parking 1: 0.020 ac. Connected
 22 - Unpaved Parking 4: 0.001 ac. Disconnected Clayey Low Density
 25 - Driveways 1: 0.004 ac. Connected
 31 - Sidewalks 1: 0.001 ac. Connected
 47 - Large Landscaped Areas 3: 0.354 ac. Clayey Low Density
 53 - Small Landscaped Areas 3: 0.004 ac. Clayey
 63 - Paved Playgrounds 1: 0.004 ac. Connected
 66 - Paved Playgrounds 4: 0.004 ac. Disconnected Clayey Low Density
 69 - Isolated Areas: 0.033 ac.
 80 - Other Part Con Imp Areas 3: 0.012 ac. Disconnected Clayey Low Density

LU# 8 - Commercial: Strip Commercial_ROW Total area (ac): 0.130
 25 - Driveways 1: 0.002 ac. Connected
 31 - Sidewalks 1: 0.009 ac. Connected
 37 - : 0.051 ac. Smooth Street Length = 1.937022E-02 curb-mi Default
 St. Dirt Accum. Annual Winter Load = 2500 lbs
 38 - Streets 2: 0.038 ac. Intermediate Street Length = 0.0149709 curb-mi
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs
 53 - Small Landscaped Areas 3: 0.026 ac. Clayey Medium/High Density
 No Alleys
 59 - Undeveloped Areas 3: 0.001 ac. Clayey Medium/High Density No
 Alleys
 73 - Other Pervious Areas 3: 0.004 ac. Clayey Medium/High Density No
 Alleys

LU# 9 - Residential: Medium Density Res. No Alleys_ROW Total area (ac): 8.900
 25 - Driveways 1: 0.495 ac. Connected
 31 - Sidewalks 1: 0.195 ac. Connected
 37 - : 1.309 ac. Smooth Street Length = 0.7081797 curb-mi Default St.
 Dirt Accum. Annual Winter Load = 2500 lbs
 38 - Streets 2: 2.688 ac. Intermediate Street Length = 1.412822 curb-mi
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs
 39 - : 0.531 ac. Rough Street Length = 0.2833426 curb-mi Default St.
 Dirt Accum. Annual Winter Load = 2750 lbs
 53 - Small Landscaped Areas 3: 3.682 ac. Clayey

LU# 10 - Residential: Multi Family Residential_ROW Total area (ac): 0.310
 25 - Driveways 1: 0.005 ac. Connected
 31 - Sidewalks 1: 0.011 ac. Connected
 37 - : 0.066 ac. Smooth Street Length = 3.662265E-02 curb-mi Default
 St. Dirt Accum. Annual Winter Load = 2500 lbs
 38 - Streets 2: 0.092 ac. Intermediate Street Length = 4.736171E-02
 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs
 53 - Small Landscaped Areas 3: 0.136 ac. Clayey

LU# 11 - Institutional: Misc. Institutional_ROW Total area (ac): 1.830
 25 - Driveways 1: 0.061 ac. Connected
 31 - Sidewalks 1: 0.089 ac. Connected
 37 - : 0.325 ac. Smooth Street Length = 0.154353 curb-mi Default St.
 Dirt Accum. Annual Winter Load = 2500 lbs
 38 - Streets 2: 0.549 ac. Intermediate Street Length = 0.2623676 curb-mi
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs
 39 - : 0.107 ac. Rough Street Length = 5.104523E-02 curb-mi Default
 St. Dirt Accum. Annual Winter Load = 2750 lbs
 53 - Small Landscaped Areas 3: 0.700 ac. Clayey Low Density

SOUTH CLOVERLEAF POND - InputData

LU# 12 - Commercial: Office Park_ROW Total area (ac): 2.640
 25 - Driveways 1: 0.199 ac. Connected
 31 - Sidewalks 1: 0.117 ac. Connected
 37 - : 0.535 ac. Smooth Street Length = 0.1682656 curb-mi Default St.
 Dirt Accum. Annual winter Load = 2500 lbs
 38 - Streets 2: 1.375 ac. Intermediate Street Length = 0.4346719 curb-mi
 Default St. Dirt Accum. Annual winter Load = 2500 lbs
 53 - Small Landscaped Areas 3: 0.414 ac. Clayey Medium/High Density
 No Alleys

LU# 13 - Other Urban: Parks_ROW Total area (ac): 0.990
 25 - Driveways 1: 0.043 ac. Connected
 31 - Sidewalks 1: 0.036 ac. Connected
 37 - : 0.143 ac. Smooth Street Length = 8.882779E-02 curb-mi Default
 St. Dirt Accum. Annual winter Load = 2500 lbs
 38 - Streets 2: 0.325 ac. Intermediate Street Length = 0.198 curb-mi
 Default St. Dirt Accum. Annual winter Load = 2500 lbs
 47 - Large Landscaped Areas 3: 0.443 ac. Clayey Low Density

Control Practice 1: Wet Detention Pond CP# 1 (DS)

Particle Size Distribution file name: C:\WinSLAMM Files\NURP.CPZ

Initial stage elevation (ft): 9

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 0.01

2. Weir crest width (ft): 0.01

3. Discharge Coefficient (ft): 0

4. Height of weir opening (cfs): 0.01

5. Height from datum to bottom of weir opening: 15.99

Pond stage and surface area

(cfs)	Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow
	0	0.00	0.0000	0.00	
0.00	1	1.00	0.5200	0.00	
0.00	2	5.00	0.9200	0.00	
0.00	3	7.00	1.1300	0.00	
0.00	4	8.00	1.2500	0.00	
0.00	5	9.00	1.5900	0.00	
0.00	6	9.20	1.6200	0.00	
0.09	7	9.40	1.6500	0.00	
0.31	8	9.60	1.6800	0.00	
0.74	9	9.80	1.7100	0.00	
0.70	10	10.00	1.7400	0.00	
0.82	11	10.20	1.7700	0.00	

SOUTH CLOVERLEAF POND - InputData				
0.92	12	10.40	1.8000	0.00
1.01	13	10.60	1.8200	0.00
1.45	14	10.80	1.8500	0.00
1.18	15	11.00	1.8800	0.00
1.24	16	11.50	1.9500	0.00
2.93	17	12.00	2.0200	0.00
6.76	18	14.00	2.3200	0.00
31.77	19	16.00	2.6300	0.00
36.47				

SOUTH CLOVERLEAF POND - Output Summary

Village of Allouez
SLAMM Output File
South Cloverleaf Pond
12-28-12

SLAMM for windows Version 10.0.0
(c) Copyright Robert Pitt and John Voorhees 2012
All Rights Reserved

Data file name: W:\PROJECTS\A0012\900458\22 - Taft Pond\SLAMM\SOUTH CLOVERLEAF POND.mdb
Data file description:
Rain file name: C:\winSLAMM Files\Rain Files\WI Green Bay 69.RAN
Particulate Solids Concentration file name: C:\winSLAMM Files\WI_AVG01.pscx
Runoff Coefficient file name: C:\winSLAMM Files\v10 WI_SL06 Dec06.rsv
Residential Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\winSLAMM Files\Freeway Dec06.std
Pollutant Relative Concentration file name: C:\winSLAMM Files\WI_GEO02.ppd
Start of Winter Season: 11/25 End of Winter Season: 03/29
Model Run Start Date: 01/02/69 Model Run End Date: 12/28/69
Date of run: 02-22-2013 Time of run: 15:03:43
Total Area Modeled (acres): 124.999
Years in Model Run: 0.99

Particulate	Percent	Runoff	Percent Particulate
Solids Particulate		Volume	Solids
Yield	Solids	(cu ft)	Conc.
(lbs)	Reduction		(mg/L)

Total of all Land Uses without Controls:		4.036E+06	-	132.4
33348	-			
Outfall Total with Controls:		4.036E+06	0.00%	22.41
5645	83.07%			
Annualized Total After Outfall Controls:		4.092E+06		
5723				

Pollutant	Pollutant Yield	Pollutant Yield	Concentration - Pol. Yield	Concentration - Yield	Conc.	
		No Controls	Units	with Controls	Units	No
Controls	with Controls			Reduction		
Total Phosphorus		0.4101	lbs	0.1554	mg/L	
103.3	39.14			62.11 %		